Encounters at the Water Point –
An Ethnography of the Travelling Model of Community-based Water Management and its Application to Rural Water Supply in Namibia

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Abstract

This study takes an anthropological perspective on a globalized political environment – more particularly on the fields of global environmental governance and development cooperation and their interplay with national and local arenas and actors. I offer an anthropological account of the rise of the global environmental governance agenda, of the international arenas where it has been generating debates and joint decisions, and of their consequences for national politics and local resource management regimes in the Global South. Furthermore, this study contributes observations and findings on how ideas, discourses, and processes at different scales affect the emergence and change of local institutions. The analysis focuses on institutions that regulate the management and supply of water in Namibia's rural areas, and more particularly in Kunene Region – and in similar ways in many other countries in the Global South. For Namibia, a new set of standardized management institutions was introduced in a blueprint-like manner to groups of water users through a national reform programme and through various development interventions starting in the 1990s. The connecting thread underlying my account is based on the way in which natural resource management concepts and models emerge on the international scene of water experts, policy-makers, and practitioners, and how the models travel between international, national, regional, and local scales, reaching Namibia's communal areas, and being translated and transformed during their travelling.

In the process, this study also generates findings that can inform further research and debate around the interaction of 'the state' and its agents with civil society organizations and citizens, particularly in more remote parts of a relatively recently independent country in the Global South; as well as the recently developing field of the ethnography of infrastructure, based on the example of water infrastructure in a water-scarce environment.

The study at hand can certainly be read against the background of the anthropology of development which, as others have recently postulated, must be transformed and complemented in order to become an 'anthropology of global social engineering' (Bierschenk 2014:75). My work presented here can contribute to such a broadening of the view of this field by presenting an account which integrates the different steps of a translation chain of a policy model emerging in the context of international debates, negotiated in the national setting among others in the context of development projects, and implemented in local settings in Namibia.

Having applied the framework of travelling models previously elaborated by a group of anthropologists and other social scientists to my particular case, to the field work I did, and to the documents I collected, I draw some conclusions from my own experiment, following ethnographically a travelling model of community-based water management across scales and

between locations. The main contribution of the study at hand is to devise and refine ways of grasping the dynamics behind discourses and blueprint-like models at different scales, conceptually and methodologically. My account serves to demonstrate the potential of the travelling models approach in ethnography and anthropological analysis, especially by focusing on the travelling of a particular model for local behaviour in situations of connectivity between actors from different spheres and scales, such as in the realm of development anthropology, and in interactions of representatives of the state with civil society organizations and of both of these with local individuals and groups.

This study meets the challenge of not only concentrating on the local consequences of global tendencies as others have done before, but also of applying the toolbox of anthropological methods to scenarios where 'the global' becomes tangible, and to the spaces of connectivity, movement, and friction in between the different scales. In so doing, the aim has been to also test the theoretical paradigm of 'travelling models' based on researchers from STS and ANT, and applied to other ethnographic contexts more recently by a group of mainly Germany-based anthropologists, regarding its applicability to my particular research questions and context and to some of the advantages and limitations it has to offer.

My case is situated in the broader research context of a project dealing with the emergence and change of institutions. It complements a set of case studies which deal with the local implementation at the water points in Namibia of an institutional blueprint designed by a group of national and international water-sector experts. Based on the ethnographic experiment of following a travelling model of community-based water management across scales and between locations, I offer an exemplary case of how such a standardized model for the management of rural water supply, prescribed by the state and introduced at the water points by a group of external actors, emerges from and is influenced by discourses and actors at the national and global level. The historical perspective that I provide on prominent ideas and concepts in the water-management sector in the colonial past informs the account of present-day water management institutions and practice, because these historical concepts have shaped the emergence and travelling of the community based water management model in question.

In order to collect the relevant data, field work was characterized by a pursuit of those concepts and political approaches most globally influential in the sphere of rural water supply, and the effects they have had on debates, decisions, and practices in Namibia, both nationally and in the Kunene Region. Field work was thus split into different phases in very different surroundings, and involved travelling with the 'travelling ideas' – depending on the availability of information and the 'observability' of events. My field settings ranged from the Windhoek office of the European

Union Delegation's Attaché for Rural Development to the Republic of Namibia, to the water point in a rural community of ten households in Omuhiva (Opuwo Constituency).

Facing numerous challenges with this methodological approach, but learning and benefitting from it in the process, at the end of my five months in Namibia I had visited the country's capital, Windhoek; the two regional centres, Khorixas and Opuwo, with their regional branches of the Directorate of Water Supply and Sanitation Development; and 26 villages, representing the diversity of water point infrastructure typical for most parts of Kunene Region as a whole: hand-dug wells with hand-pumps; boreholes with hand-pumps; hand-pumps built on protected springs; piped systems connecting protected springs to households; and boreholes with wind pumps, diesel pumps, or solar pumps.

In addition to the guided interviews I carried out with extension staff in Kunene Region, some of the Extension Officers also took me along when establishing Water Point Associations and Water Point Committees, and when doing 'follow-up visits' in order to assess the performance of previously established WPAs.

The findings from these Namibian settings were complemented by my attending the 6th World Water Forum and at the Forum Alternatif Mondial de l'Eau (FAME) – which took place in parallel in Marseille in March 2012 and provided me with a wealth of impressions of a water-related mega-event and its countermovement.

Key findings

The establishment of the Namibian community-based water management (CBWM) model is shaped by global discourses which 1) conceive of water as a scarce resource per se; 2) have led to approaches of water governance following the idea of a 'hydraulic mission', augmenting water supply as part of a state-run 'environmental engineering' approach; 3) having realized that the hydraulic mission had failed to lead to increased sustainable water supply, have advocated ideas of participation, decentralization, and demand-orientation as guarantors of sustainability and equality, as well as of cost efficiency in the realm of water management. These ideas are actively propagated by NGOs and state actors in Namibia and elsewhere within the framework of community meetings, institutional blueprints, and training guidelines. The decentralization program's success is measured by the same actors implementing and monitoring the CBWM model, and they evaluate their achievements according to the extent to which the water-point user associations implement their own developed rules and water point constitutions.

Pending further analysis I would state from the information gathered among the established WPAs that the CBWM-related component did not quite lead to the outcomes that the Ministry would have called for. The major criteria, defined by the WPA model constitution, which the national

water administration usually takes into account when assessing the functionality of a WPA, include regular WPC and WPA meetings, regular collection of user fees; financial and management-related reporting, and the adherence to management plans and budgets adopted upon establishment of the WPA. Many of these criteria were not met in most of the places I visited. At the same time, however, only a few of the WPAs visited reported any shortcomings in terms of accessibility of sufficient quantities of water. In a nutshell, water in these places seems to be managed in a generally reliable and satisfactory way for local users, even though WPAs do not comply with the official management rules introduced by the state. That is not to say that other criteria, such as satisfactory water quality, or 'fairness' (in terms of the water fees postulated by the state's facilitators and by the user groups) are being met.

The situation reveals the picture of a complex and costly administration and implementation process around a model that seems to have neglected to establish whether its guidelines suit the living conditions of the rural water users. While one of the underlying motivations of reforming the rural water supply sector starting in the 1990s was to mitigate the detrimental effects that a century of colonization and Apartheid rule had had on the society and the environment, questions such as for instance: 'Is there any distributional justice in regard to the access to water?', or 'Is water affordable for all?', are not currently priority matters of discussion in Namibia's water sector or politics. To some extent, this might have to do with the fact that the actors involved have significant vested interest in the decentralization program continuing as it is, such as retaining employment in the public administration, decentralized presence in the local communities, political influence, and voters' consent; yet it would be worthwhile to (re-)evaluate these and other aspects of the CBWM measures.

In the meantime, the debate around the human right to water and sanitation is ongoing. Even five years after this right was officially declared by the UN in July 2010, its supporters still claim that generally not enough is being done, or not enough of the right things are being done, in order to enforce it worldwide. Another continuing debate is the longstanding confrontation and sometimes probably fruitful engagement of supporters of the idea that water as a public, common good should be managed publicly in order to ensure equitable access and sustainability, and proponents of the idea of water as an economic good and commodity, which ought to be managed based on commercial principles.

The fifteen years of global action for the Millennium Development Goals (MDGs) between 2001 and 2015 included the target of halving the proportion of people without sustainable access to safe drinking water and basic sanitation which shaped many of the discourses this study sheds light on. The 193 UN member states who adopted the new set of Sustainable Development Goals

(SDGs) following up on the MDGs in September 2015 have decided to include an independent water-related goal which aims to ensure available and sustainable management of water and sanitation for all by 2030. I hope that some of the content discussed here may be of interest not only to scientists, but also to people working in and on the water-sector in other ways towards achieving this SDG.

Cologne, April 2016

Thekla Kelbert

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List of Abbreviations

AECID	Agencia Española de Cooperación Internacional para el Desarrollo
ANT	Actor Network Theory
CBM	Community-based Management
CBNRM	Community-based Natural Resources Management
CBO	Community-based Organization
CBWM	Community-based Water Management
DRFN	Desert Research Foundation
DRWS	Directorate of Rural Water Supply
DWSSC	Directorate of Water Supply and Sanitation Coordination
EC	European Commission
ECOSOC	Economic and Social Council
FAME	Forum Alternatif Mondial de l'Eau
FINNIDA	Finnish International Development Agency
GIZ	Gesellschaft für Internationale Zusammenarbeit
HIPO	Hizetjitwa Indigenous Peoples' Organization
ICEIDA	Icelandic International Development Agency
IMF	International Monetary Fund
IRDNC	Integrated Rural Development
IWRM	Integrated Water Resources Management
LAC	Legal Assistance Centre
LINGS	Local Institutions in Globalized Societies
NACSO	Namibian Association of CBNRM Support Organizations
NNFU	Namibia National Farmers Union
NRCS	Namibian Red Cross Society
NWRMR	Namibian Water Resources Management Review
O&M	Operation and Maintenance
MAWF	Ministry of Agriculture, Water and Forestry
MCA	Millennium Challenge Account
MDG	Millennium Development Goal
NGO	Non-Governmental Organization
RUWIS	Rural Water Information System
RWS	Rural water supply
SDG	Sustainable Development Goal
Sida	Swedish International Development Cooperation Agency
STS	Science and Technology Studies
SWA	South West Africa
UN	United Nations
UNCED	UN Conference on Environment and Development

UNCHE	UN Conference on the Human Environment
UNCSD	UN Commission on Sustainable Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNICEF	United Nations Children's Fund
USAID	United States Agency for Development
WatSan	Water and Sanitation
WB	World Bank
WCED	World Commission on Environment and Development
WHO	World Health Organization
WPC	Water Point Committee
WPA	Water Point Association
WWF	World Water Forum

1. Scope and aim of the research

1.1. Water as a topic

Water is the main topic on which this study is focused. The topic of water is omnipresent in public discourse, due to the many meanings that it has, the diverse physical conditions its presence or absence affects, and the range of impacts it has on the conditions encountered by human individuals and societies. As a precondition for well-being and indeed for survival, and also for economic development and sustainability, water has been in the foreground of international development discourse and practice in many ways. Following the Millennium Development Goals (MDGs) also the newly adopted Sustainable Development Goals (SDGs) include the goal to 'Ensure availability and sustainable management of water and sanitation for all' by 2030 (United Nations 2015). The water-related impacts described as being connected with climate change include an increasing frequency of droughts and an increase of water scarcity (Schewe et al. 2014), and at the same time an increase in the frequency and scale of devastating floods (Milly et al. 2002) – including the possibility that small island states could disappear altogether (McGranahan et al. 2007).[1] In recent conceptual plans proposed by the UN and other multilateral and bilateral donors, water is treated as part of a 'water-energy-food nexus' that – as many currently claim (Hoff 2011; UN-Water 2014) is 'essential for human well-being, poverty reduction and sustainable development' (FAO 2014).[2] And to round up all of the above, 2015 was the concluding year of the UN 'Water for Life' Decade, which was intended 'to promote efforts to fulfil international commitments made on water and water-related issues by 2015' (United Nations 2015). Parts of these water-related discourses in international development will be scrutinized here in terms of their interplay with models of and prescriptions for how to manage rural water supply (RWS).

When investigating and writing about water and the way people's concepts and actions impact water policies and management institutions, I found it important to initially recognize the abundance of uses and meanings that water can have – e.g. as a vital resource for animals and their owners; as a substance required for the performance of religious rituals; as a natural resource which is sometimes completely beyond human control, the presence or absence of which may even have life-threatening effects, for instance when too much or too little rain falls. As

[1] Waterworlds is an example of an anthropological project which has focused its attention on climate-change-induced threats to human society connected to water as well as on social resilience (http://waterworlds.ku.dk/ppillars/; Hastrup 2009; Hastrup and Rubow 2014).

[2] For a critical approach to the recent promotion of the 'WEF' nexus by global policy actors and its context see Allouche et al. 2014.

Cless and Hahn have put it in the introduction to their recent interdisciplinary collection of very diverse scientific accounts of the nature, meanings, and uses of water: '[…] both the need to use water and the desire to view it as meaningful or even holy […] are intertwined and can only be disclosed and discovered through detailed studies of specific cases' (Cless and Hahn 2012:9). The different dimensions that water has for humankind, and which also play a role in political decision-making and in the way water points are managed locally, can equally well be demonstrated by citing the speech in which the then Namibian Deputy Minister of Agriculture Paul Smit motivated the tabling of a new water law for Namibia in September 2004 when he said: 'Water is not renewable. Yes, it can be recycled, but not forever. That is why we need proper tools for effective management and best practices to ensure sustainability of this sacred resource' (Dentlinger 2004b).

Namibia is one country where surface water is strikingly scarce. In fact it is the most arid country south of the Sahara, measured by common hydrological parameters: 'Water resource management in Namibia is complicated by the fact that the mean annual precipitation is unpredictable, low, unreliable, variable, erratic and spatially unevenly distributed across the country. Namibia is the most arid country in Southern Africa because only about 2% of the rainfall ends up as surface run-off and a mere 1% becomes available to recharge the groundwater' (IWRM Plan Joint Venture Namibia 2009:3). Due to its scarcity and its unpredictable and variable distribution across the country, water is something that my Namibian friends and informants have discussed frequently; for instance when the extraordinary rainy season of 2010/ 2011 destroyed many roads and bridges countrywide and damaged some of the dams which are crucial for the country's water supply, or when drinking water was supposed to be trucked to one of the settlements I visited in the North of Kunene Region – necessitating a week-long community meeting. An analysis of articles in Namibia's most widespread daily newspaper *The Namibian* demonstrates the importance attached to making water available in sufficient quantity and quality in Namibia, a motivation which has also contributed to shaping the colonial policy in Namibia's communal areas, as will be briefly discussed below.[3]

It is in the sense of the connectivity between different social spheres that I am scrutinizing water here – and a specific model to manage the rural supply of water in a community-based manner in particular. As Orlove and Caton state, 'Getting water from something as apparently simple as a spigot [or a hand-pump – put in the context of my case study] is, in fact, no simple matter because

[3] On the political ecology of water in today's Kunene Region, see van Wolputte 2004; 2006.

it depends on a physical infrastructure that is both extensive and complex, not to mention a bureaucracy ranging from the most local unit (a Water Point User Association – WPA – or a village water works utility, for example) to national authorities and international governance structures such as the World Bank. Water's management and control also entail legal systems, oversight agencies, and courts of law to regulate water use and adjudicate violations or conflicts' (Orlove and Caton 2010:402).

1.2. Water in anthropology

The range of contributions in the recent interdisciplinary volume on water edited by anthropologists cited above (Hahn et al. 2012) shows that water is just as fluid as a topic as it is as a substance, and demonstrates how it can be approached from a very wide range of different perspectives that shape and re-shape its meaning and presentation. In their overview of anthropological approaches to the topic of water and sustainability, Orlove and Caton show not only how fluid water is in terms of the way it can be seen, embedded, and approached, but also how – maybe due to this fluidity – it also has the property of connecting different domains of individual and social life (Orlove and Caton 2010). Given that water plays key roles in such a variety of social domains and across cultures, studies of its uses and management have not hitherto been very common in ethnography and anthropological analysis as a specific object of research, and little has been written about the way in which water can be the connecting element between interacting or intertwined social spheres or in fact touching upon many different realms of a society through its fluidity.

There are a number of ethnographies that have focused on particular waterways, watersheds, or – as some call them – 'waterworlds'. Veronica Strang's work is a case in point, being based on ethnographic work on water in a variety of contexts and ethnographic settings, from the River Stour in Dorset, Great Britain (Strang 2004) to the Cubbie Station irrigation scheme in Australia's Murray-Darling Basin (Strang 2013). Strang's *The Meaning of Water* considers how the symbolic meanings encoded in water affect patterns of water use, attitudes to water conservation, and political controversies surrounding water management. Similarly, Hugh Raffles engages in a deep ethnographic account focusing around one particular waterway from a political ecology perspective, in his 'natural history' of Amazonia (Raffles 2002), showing how the presently contested terrain around the Amazon and its tributaries has been subject to change by human intervention over a long period of time. Water as a substance, and the way it invokes a wide range of diverse sensations embedded in social practices and cultural values, is in the focus of Limbert's ethnography on the 'senses of water in an Omani town' (Limbert 2001). The volume centring on

waterscapes from a political economy perspectives edited by Amita Baviskar (2007) examines questions of power and inequality, conflicts and compromises around water against the background of changing social relations and institutional arrangements involving the resource and its management.

Contrary to these examples of rather wide-angled perspectives adopted in anthropological accounts of water, water management, and water use, the way in which water has most often been approached in anthropology has generally implied approaching it from a certain, specific angle, such as in studies on the role water plays in the economic sphere, most prominently in agriculture and especially in irrigation (Geertz 1972; Fleuret P. 1985; Lansing J. S. 1991; Ilahiane 1996; Gelles 2000; Rodríguez 2006; Eguavoen 2012, among many others); on its political-economic role (Peters 1994; Mehta 2005; McNeish J. A. 2006; Whiteley, Ingram, and Perry 2008); on its role in ritual and religion; or its relation to gender (Cleaver 1995; Tortajada 2003; Bennet et al. 2005; Achterberg-Boness 2012).

Although urban water access and water infrastructure have not generally been given similar attention in anthropological accounts, there are some insightful recent works, such as the study by Eguavoen on the introduction of a national community-based water management paradigm in rural and peri-urban areas in Northern Ghana, where state policy was translated in a context of robust pre-existing water management institutions and related norms and values (Eguavoen 2007). Schnitzler presented a study on the history and present role of water meters in Soweto, Republic of South Africa, against the historical background of resistance to payment for services and the current 'cost recovery' based neoliberal reform agendas (Schnitzler 2008). Anand's recent ethnography of urban water infrastructure in Mumbai touches upon the role of the water infrastructure – including Anand's understanding of the legislation, bureaucracy, and technocrats 'behind the pipes' – in questions of access to services and of the urban identity politics attached to them (Anand 2011, 2012).

The water-management institutions and related policy models that are the main topic of my study have not generally been a focus of anthropological theorizing or ethnography. There is however a relatively pronounced focus in existing anthropological analyses of water management institutions on the topic of irrigation and the way they are embedded in the wider socio-cultural setting (Geertz 1972; Mosse 1997; see above). Closer to the topic of my study, Nordmann (2010) and Achterberg-Boness (2009) have analysed water policy reforms in Tanzania starting in the 1990s – some of their outcomes as well as their embeddedness in global water-related discourses and governance processes. Their focus is on the same era when the Namibian Government embarked

upon the water-related reforms that my research concern. Another more recent institutional regime in the focus of anthropological analysis is the Integrated Water Resources Management (IWRM) paradigm, which has its roots in international development cooperation and global environmental governance and has been discussed relatively widely in its local application, including in Namibia (Laube 2005; Allan 2006; Caton 2007; Kluge et al. 2010).

1.3. Approaching travelling models in natural resources management

After the end of the colonial period, clearly the institutions that regulate the use and management of natural resources in Africa were no longer negotiated only locally (Anderson 2002; Bollig 2006; Carruthers 1995; Fairhead 1996; Schnegg 2007). Various external actors, ideas, and power relations within an increasingly globalized world have come to influence national policy-making and local institution-building in a variety of ways. The World Bank's structural adjustment programmes of the 1980s are one example. Overarching governance ideas such as decentralization and citizen participation – or, as it is frequently termed in the African context and elsewhere in the Global South, community participation – are others. One sphere in which these relationships of mutual influence between countries of the 'Global North' and those of the 'Global South'[4] have been particularly prominent is the sphere of environmental governance, and in particular the governance of global common goods. Development programmes and projects, budget funding, sector-wide approaches, and supranational events related to the increasingly topical issue of environmental governance have constituted some of the instruments that have helped spread ideas and prompted the travelling of certain resource-management models. My account of such a travelling model here follows along the lines of the substantial work done in the framework of the concept of 'travelling models' by Rottenburg (2009), Behrends et al. (2014a).[5]

On a terminological note, after considering the concept of 'travelling model' also against the background of more common uses of the verb 'travelling', I would like to point out that I chose to use this terminology despite the fact that it might seem less appropriate as a descriptive term for what happens when a model, having emerged in one place or different places at a time, is

[4] These terms are meant here as analytical terms. Though of course pointing to structural differences, they are not meant to label any clear-cut dichotomy that fully captures any of the complexities of the relations and interdependencies in different parts of the world.

[5] Richard Rottenburg has also headed a multi-annual research project called 'Travelling Models in Conflict Management: A comparative research and network building project in six African countries', funded by the Volkswagen Foundation (2006-2009):
http://www.scm.uni-halle.de/forschung/ergebnisse/travelling_models/, last accessed 10 April 2016.

successfully taken on in a new area (while not necessarily 'leaving' the old area).[6] Usually by travelling we imply a person, object or model in this case which is going from one place to the other, leaving the old place behind. However, conscious of this terminological pitfall, I choose to use 'travelling model' mainly to follow the way that others have applied it in conceptual ways close to how I conceptualize this movement of models here.

There are aspects of globally travelling models that have resulted in interesting case studies and theoretical contributions over the past years – such as studies of technologies, material objects, and particular types of infrastructures travelling from their contexts of origin to be appropriated and socially embedded in other local contexts (Hahn and Kibora 2008; Collier 2011), studies on globally travelling policy models (Peck and Theodore 2010) and political concepts (Merry 2006; Steur 2011), as well as studies on travelling ideas and concepts in urban planning (Tait and Jensen 2007; Parnreiter 2011). Some recent studies have shown how infrastructures themselves, and particular infrastructural gadgets such as water meters and water pipes, can be treated fruitfully as part of actor-networks, being integrated into webs of meaning in interaction with other actors (Schnitzler 2008; Anand 2011). Many of these studies have drawn critical inspiration from actor-network theory (Callon 1986; Latour 1993, 2005) and the approach to travelling ideas, objects and practices formulated in organizational studies by Czarniawska-Joerges and Sévon (1996, 2005).

I have also drawn on insights from disciplines such as geography, political science, and development studies to complement my anthropological perspective. My thinking and work on the topic of water-management policy models and the institutions influenced by them; their embeddedness[7], travelling and translation from one setting to the other, and the social dynamics and networks attached to them has also been inspired by studies from environmental governance and policy (Conca 2006), urban planning, policy and environmental studies in geography (Heinelt et al. 2002; Swyngedouw 2004), sociology (Goldman 2007) and development studies (Mehta 2003a; Molle 2008, 2009; Mollinga and Bhat 2010; Nicol, Mehta, and Allouche 2012b). There is a somewhat larger body of literature from the social sciences that I consulted on the IWRM

[6] Alternative suggestions could be models 'spreading' or 'disseminating'. Ideas tend to 'propagate' in a more reproductive or growth-oriented fashion which could also be said for infrastructure reaching out to more places from their places of origin or initial use (often changing as they do so).

[7] In the scope of my research I refer to embeddedness as 'the dependence of a phenomenon, […] a set of relationships, an organization, or an individual on its environment, which may be defined alternatively in institutional, social, cognitive, or cultural terms'. Using the concept of embeddedness when discussing water management institutions, their negotiation and implementation I thus imply the importance of also taking into account 'the different conditions within which various modes of social action take place and upon which they depend' (see http://www.britannica.com/topic/embeddedness, last accessed 28 February 2016).

paradigm, as one particular water governance model mentioned above (Kluge 2005; Laube 2005; Allan 2006; Mollinga, Dixit, and Athukorala 2006). For many if not most of the case studies mentioned it is striking that the authors can show how models in the form of standardized blueprints, for instance for policy-making in a particular sector, exist in different locations and settings geographically and culturally far apart, they use this as an indicator of the fact that these models travel. At the same time however, they seem to have much greater difficulty showing more concretely how these models travel in between settings.

1.4. Project context and research objectives

I carried out my research and wrote up this thesis between April 2010 and December 2015. From April 2010 to April 2014 I was employed as a member of an anthropological research project called 'Local Institutions in Globalized Societies' (LINGS), run by the Universities of Hamburg and Cologne which – during the then first project phase – comprised a team of four PhD candidates including myself, and the two project leaders. The overall project objective is to better understand the processes of institution-building around the management of drinking water in Namibia's communal areas of Kunene Region following the adoption of Namibia's national Community-Based Water Management (CBWM) strategy. A contribution is thereby being made to existing theorizing around the management of common-pool resources and the emergence and change of institutions.

The overarching theoretical questions with which the LINGS project is concerned include how resource management institutions emerge and are transformed in present-day Africa; how these institutions are culturally embedded; and what social and ecological impacts they have. The topic of the emergence and transformation of institutions – and in particular of institutions for the management of natural resources – is one of the key concerns of the social and cultural sciences (Evans-Pritchard and Firth 1954; Durkheim 1976; Ensminger 1992; Ostrom 2005; Henrich 2006, among others). It has been and is currently being researched from diverse theoretical perspectives, and has been the subject of a wide array of case studies and theoretical contributions and debates in a variety of disciplines. In addition to or apart from focussing on selected dimensions of institutional change, anthropologists have also postulated institutional emergence and change as embedded in the wider socio-cultural context (Juul 2001; Cleaver 2002). According to Juul's approach, research into the emergence, functioning, and transformation of institutions should 'entail studying tactics and strategies', as well as research into the institutions' 'embeddedness in specific political and economic structures' (Juul 2001:73). Gaining a picture of the cultural embeddedness of water management institutions in rural Namibia is a central aim of

the LINGS research project. To complement this theoretical focus, the LINGS project design also includes a historical perspective on the communities and the localized water-management institutions studied.

So far, the travelling of models in the realm of resource management and the practices and actors involved in their translation within the context of institutional emergence and change has not been researched to such an extent. However, research conducted by myself and within the overall LINGS project has shown that unless the globalized influencing factors that lead to blueprint-like models aimed at prescribing to local actors how they should manage natural resources are investigated, the emergence and change of resource-management institutions at the local level cannot be fully explained. In the scope of my study within the LINGS project context I propose to connect the localized analysis of water-management institutions and their socio-cultural context in Northern Namibia conducted by my project colleagues with a perspective on globalized networks of prevalent ideas, discourses, and travelling resource-management models, and on the actors involved in their negotiation and translation.

Through a multi-sited, multiscalar research design I have traced some of the paths these models take on their travels while being shaped through translations in global, national, and local settings between Rio de Janeiro and Okarukoro in north-western Namibia. My research, drawing on a variety of sources, has helped me illustrate the embeddedness of the CBWM model historically and politically, the decision-making process that led to its adoption by the Namibian Parliament soon after the country's independence from colonial rule, and the administrative and development practices involved in introducing the model in Kunene Region, where it is shaping the way rural water supply is organized and managed by rural communities today. Although my analysis and field-work have not focused on the local scale or the management practice on the ground, my interviews and observations in Kunene Region have also led me to reflect on the implications of the current water governance approach for local users of water from boreholes in a remote rural area of an arid land.

Research Questions

The overall LINGS research questions are as follows:

i) What resource-management institutions emerge under the diverse influences of global models and social, economic, and political structures and systems of belief in the local arenas?

ii) How are these institutions shaped by the local context?

iii) Under which circumstances can cooperation or conflict result from those institutions?

iv) What effects do the institutions in question have on other social fields and on the environment?

During the initial four-year phase of the project, which is designed to last for a total of nine years, ending in 2019, the LINGS team concentrated on the first two of these research questions. Three long-term, localized comparative field studies, undertaken by my three colleagues from 2010 to 2011, were complemented by my own case study, which is different in terms of its scope and underlying research questions, and thus its methodological approach.

My specific research questions for this case study, which are related to the first of the overall LINGS research questions above, are:

1) How were the water-management institutions for the communal areas that emerged and were promoted in Namibia in the 1990s influenced by global models and discourses, and paradigms of global environmental governance?

2) How were these institutions shaped in Namibia through the national political decision-making process and development interventions?

3) How were the models and institutional arrangements in question then translated and introduced to Kunene Region, and by whom?

In the research presented below I take these guiding questions as the basis for an analysis of the context and influencing factors that have set the stage for the transfer of a particular CBWM model, and the water management institutions it promotes to the Namibian context. Based on archival research, interviews, and ethnographic observation, the units of analysis will be decisive phases of translation along the CBWM model's trajectory from international water governance discourse to policy- and law-making in the Namibian national context, and on to Kunene Region. I will also focus on interstitial spaces – defined here as moments of connectivity between water-sector stakeholders engaging in the construction of meaning and practice together by presenting, negotiating and agreeing upon CBWM-related concepts and decisions over differing periods of time.

Aside from contributing to the existing body of thought on natural resource management institutions and the travelling of policy models, the findings also have the potential to generate relevant insights for future policy-making not only in the water sector, but in the context of decentralised resource governance in general, especially in rural areas. The results of this study can be drawn upon when evaluating the impacts of the Namibian water-sector reform process which has been ongoing since the second half of the 1990s. With the new Water Resources

Management Act for Namibia still being under review at the time of writing, I hope that this thesis provides policy-makers, administrators, and development practitioners with some useful insights into the way that the current institutional regulations in the country's communal areas are being applied by the water administration, by NGOs, and by groups of water users in Kunene Region. The results can also serve to inform international and national donors in future strategy-setting processes and in their cooperation with the Namibian Government and administration in relation to the water sector and to rural water supply in particular.

1.5. Central concepts and terminology

1.5.1. Embedded actors in multiple roles

People and their relationship with water-management concepts and practices are a major focus of this thesis. People both influence the way water is managed in Namibia's rural areas – be it as policy-makers, donor agency representatives, NGO staff, or members of local water committees – and are themselves influenced, as water users, by the management arrangements in place. Some of the individual actors I came across during my data collection simultaneously both influence and are influenced by the way water is managed: for instance, a member of the Namibian National Assembly in Windhoek will often be the owner of large cattle herds somewhere in the countryside where his or her animals are using borehole water, and where he or she would thus be represented by a locally elected Water Point Committee (WPC). The same would be true for most of the NGO staff I met who were active at national and/or regional levels, as well as for most of the public servants in the national or regional water administration. Most of them have a strong connection to a place – be it in Kunene Region or somewhere else in Namibia – which they would call 'my farm' and where part of their identity as farmers, cattle-breeders, as well as part of their economic well-being, would depend on the way water is managed in that location. I am thus investigating a network of partly interconnected actors who in many cases share a common social and/ or professional environment, just as they share the natural environment they all live in.

The agency of actors at the different scales observed is important when explaining how reform decisions have been made and why certain management rules have been applied in the way they have. In order to achieve the greatest possible understanding and contextualization of the role that people play in connection to water management in Namibia, the social embeddedness of actors and their statements has to be taken into account. I have thus incorporated the position of the various actors within their respective social networks in my analysis as far as possible, although my main aim was not to acquire a deep understanding of the social fabric and

relationships between actors within a narrowly defined group, as can be achieved by conducting long-term field work in a relatively bounded location or in one or only a few communities, as my three PhD-candidate colleagues in the project have done. As my analysis is based mostly upon the questions of when, where, and how different actors relevant to the Namibian water sector appropriate and sometimes modify the guiding discourses of Community-Based Management (CBM) and the CBWM model, adapting it to different settings, goal systems, and audiences, my main approach to data-gathering rather involved 'following the CBWM model and the actors discussing, shaping and implementing it – mentally in some cases, physically in others, and sometimes spontaneously 'zooming in' on one particular point in the conceptual web of meaning around CBWM and rural water supply in Namibia. My focus only remained narrowly centred on individuals or smaller groups of actors for small periods of time, before returning to a broader view once again. The individual actors and groups that play a role in the analysis below will mainly be presented in terms of their positions and roles in the web of meaning woven through events and debates over the past twenty-five years, and not so much as members of families and ethnic groups, or as occupying certain positions of power. I often use the term 'mediator' when the focus is on an actor or a group of individual actors at a particular point (or interstitial space – explained further below) that plays a role in the translations of the CBWM model. The embeddedness of actors in certain social and professional contexts will be taken into account and described here as far as is necessary in order to explain and embed the way they engage in water-management-related practices and discourses.

1.5.2. Scales – On the use of 'local', 'national' and 'global'

The usage of the terms 'local' (and sometimes 'regional', implying a geographically or administratively broader entity than the term 'local') and 'global' here is not meant to introduce any clear-cut division between these scales, but rather is intended as a heuristic device pointing to a continuum between different poles. As Sara de Wit put it in her recent ethnography of travelling discourses on climate change: '[…] the terms global and local are used as analytical (permeable) constructs rather than merely as geographical denominators, or empirical realities' (De Wit 2011:27). These two (interpenetrating and interconnected) scales themselves are products of discursive practices, just as the CBWM paradigm itself is. They are partly results of a globalized setting in which the boundedness of the 'local' is put into question in accounts of connectivity (Tsing 2005; De Wit 2011) and of flow and closure (Appadurai 1996; Geschiere and Meyer 1998; Nyamnjoh 2004) as aspects of globalization. Although characterizing the two scales in terms of flows, continua, and connectivity seems more appropriate than doing so in terms implying

boundedness, both the local and the global can be and have been considered in social-scientific writing as mutually constitutive, as 'two sides of the same coin'. In this study, which emphasizes the linkages, interfaces, and interdependences occurring between different scales, some set of terms must be applied in order to refer to these scales in order to differentiate them during analysis and discussion. I would like to present two examples in order to illustrate my usage of the two terms: the 'global' scale might refer for example to a segment of relevant donor policies and views on 'developing' the rural water sector in the Global South which were prominent and powerful at the beginning of the 1990s. The 'local', on the other hand, includes for instance the boreholes in Kunene Region in Namibia's North-West, where people use different pumping technologies to cater for their drinking-water needs, to water their cattle and their gardens, and where they also apply different strategies in the management of the water supplies and in lobbying for their interests politically.

A third scale I will be referring to is the 'national' – being of a somewhat different nature than the local and the global because it originally refers to a political entity, namely the nation state. I use it here to designate a scale 'in between' the global and the local, at which some of the key events relevant for the travelling of the CBWM model in the Namibian setting have taken place. An example of national-scale processes is the debates in the Namibian Parliament about the adoption of the new Water Resources Management Act in 2004 (Republic of Namibia 2004a), for instance when the obligation of rural water users in Namibia to pay for the use of the water infrastructure led to heated discussions over the idea that water should be provided for free, and that certain groups of people might not be able to afford the water payments.

John Friedman's ethnography on Imagining the Post-Apartheid State (Friedman 2011) provides an inspiring example of showing how local people, their cultural norms and institutions are not simply products of the state, but also themselves constituting the state through their political imaginations. Although my own work is not putting the same weight on Namibian local communities and individuals' ways of seeing the state and its practices and representatives in history and at present, my own account, too, is meant to provide an example of how space can be created in an ethnography to analyse the interrelatedness of state processes and manifestations such as policies and laws, with the everyday lives and practices of ordinary people.

1.5.3. Travelling models of water management

I have approached my research object – a model of community-based water management – with the intention of identifying and tracking its movements across scales, in multiple directions, and in

relation to networked locations, events, and actors. This thesis takes its title from the 'travelling models' of water management which evolve and are passed on from one discursive event to another, often involving moving between different scales – from the level of global policy processes to the national scene, and then on to the water point, and sometimes back again in the form of donor 'best practice projects' and evaluation results.

I will go further than just tracing some of the individual events and actors, and the connection lines and channels between them through which the model and the ideas connected to it travel. I will also adopt the concept of a network or 'web of meaning', similar to what Peck has in mind in her article on policy mobility, where she refers to 'networks of policy advice, advocacy, and activism', exhibiting a 'precociously transnational reach' (Peck 2011:773). Following Callon (1986), Latour (1986), and others, she also refers to a process which I will later refer to as the 'translation' of ideas and the negotiation processes involved, when she says that 'Policies are not, after all, merely being transferred over space; their form and their effects are transformed by these journeys, [...]' (Peck 2011:793). The term 'translation' will be used here to describe the process of transmitting and handing on ideas from one context to the other, whereby some of their wording and/or content is transformed or shaped with a view to adapting it to the respective audience. As Weisser et al. have shown for the discourse on adaptation to climate change, 'by travelling across different scales, the idea of adaptation is altered. Actors and organisations encountered on the journey have their own understandings of adaptation and modify the idea accordingly' (Weisser et al. 2013:2).[8] Looking at the interfaces between the global and the national, the national and the regional or local, and the regional and the local scale respectively, I am scrutinizing some of the translation processes through which CBM and water-related management concepts make their way from one scale to another, understanding them as 'processes of shared construction […] which were produced in and between networked institutional sites' (Peck 2011:788), or – as Weisser et al. have it – as a 'co-production of institutions' (Weisser et al. 2013:10 f.).[9]

1.5.4. Interstitial Spaces

The different scales upon which I focused in the various phases of the research conducted for the overall LINGS project were all aspects of the same continuum between the global and the local, which to some extent automatically led to a concentration of thinking and research processes on those spaces where actors 'met somewhere in the middle' – e.g. during the interactions between

[8] See also De Wit 2011 on the travelling discourses on climate change between the Bamenda grassfields and international levels.
[9] See chapter 2 for a more extensive elaboration of the theoretical scope of this study.

members of the regional water administration in Namibia and local water users and staff from the national head office of the Ministry of Agriculture, Water and Forestry (MAWF); or when representatives of donor agencies and NGOs involved with Kunene Region met to coordinate their strategies and initiatives in the management and reform of rural water supply. In order to analyze the role these interactions play in the shaping of water-management institutions I have chosen as the item of analysis some key interfaces where differing sets of individual actors, organizations, and knowledge resources meet or have met in a nodal event which further shaped the movements and translations of the CBWM model. I refer to these interfaces as 'interstitial spaces', following Rottenburg (2009), characterizing them as the moment of connectivity between the members of the relevant network engaging in the construction of meaning and practice together by presenting, negotiating and agreeing upon important concepts and decisions over differing periods of time.[10] Some examples of typical interstitial spaces at different scales I will be dealing with are:

i. The sequence of international environmental conferences and other donor-driven processes since the beginning of the 1990s, which set important agendas for the water sector prior to the adoption of the CBM approach for the management of Namibia's rural water supply;

ii. A number of events as part of development projects, political and legislative processes in Namibia at the national and at the regional level;

iii. An extensive series of standardized community meetings and training sessions conducted by the water administration and local training providers with WPAs and elected WPCs during and after WPA establishment, as part of the CBWM implementation at community level.

These events are all part of the web of meaning shaping the water-management institutions in place in the rural areas of Namibia today. The nodes in this network may be persons or groups of people, e.g. water-sector organizations, the regional water administration, or local water point committees; they may be the documented outcomes of the design and implementation process of CBWM, such as project reports, policies and international conventions, as well as scientific publications and pieces of media coverage; or they may be the technological network of water

[10] In understanding and developing the concept of what I term 'interstitial space' (following Richard Rottenburg: 'the practices of organizing that occur in interstitial spaces – neither entirely where the model ostensibly originated nor entirely where it is supposed to be implemented' Rottenburg 2009:xiv; see also Mosse 2005, I have also been inspired by the work of de Wit, who calls the same phenomenon a 'translation regime', 'constituted by a specific set of actors, knowledge resources, networks of communication and institutional patterns of interaction' De Wit 2011:18.

infrastructure in the form of fortified boreholes and pumps. The connections in this network embody the translation and negotiation processes taking place in the interstitial spaces described above. It is important to add in this context that the translation processes which occur between nodes endowed with different kinds and amounts of power (see Callon 1986) not only have the potential to transform the idea that is passed on through the network, but may also affect and transform the entire web of meaning and its individual nodes as such (Tait and Jensen 2007; Peck 2011).

2. Theoretical Framework and Approach

The following subchapter serves to situate my research and findings within a broader theoretical context. As a first step, I will introduce an approach informed by science and technology studies (STS) and Actor-Network Theory (ANT) to conceptualizing and analyzing travelling ideas and models and their translations. After giving a summary of the central concepts and terminology of this framework, I will outline my own approach to applying it to my own case study – that of the CBWM model introduced in Namibia. In a second step, I argue for the inclusion of a historical dimension in the analysis of a travelling model in order to gain a more elaborate picture of some of the central translation phases it has passed through, as well as of the ideas and discourses that have influenced its travels. Finally, I will sketch how an approach towards discourse analysis can inform the analysis of travelling models by disclosing the way in which, how and where certain ideas and narratives are talked about influences the emergence and travelling of models – models of water governance in my particular case.

This study should be read and discussed mainly as an attempt to combine 'travelling models thinking' with multi-sited ethnography, following ideas, discourses, technologies, practices, and actors, and doing participant observation and archival research on some of the very different steps on the trajectory of the water-management model in question. The focus will lie on the perspectives the 'travelling models' approach offers for the analysis of a setting where institutional reforms prescribed by a national government and implemented by a national administration, but based on supranational impulses and concepts among others, move across scales, are presented to – or translated for – different audiences, and eventually contribute to shaping local water-management practice. The resulting account of the current rural water-supply governance arrangements in Namibia's communal areas relates institutional rule, as designed in global arenas and translated to the Namibian context, to the way in which mediators of the CBWM model and water users in Namibia who I observed and interviewed during the ethnographic encounter perceive the outcomes of the CBWM model.

As I make clear further below and in particular in my account of how the CBWM model is translated in Namibia and influencing water management practice at the local scale, an ethnography which is based on the travelling models approach gains when being combined with a perspective of political ecology. My case has shown that some of the dynamics of how a natural resources management model is perceived and translated in the different settings can only be understood by taking into account factors such as the relative power, interests and spheres of

influence of the actors involved, as well as their social relationships and their interaction within the broader socio-political context.

2.1. 'Travelling Models' in the focus of anthropology

In the social sciences, concepts and theories about moving objects of various natures between different settings and along various routes, which also imply changes made to these objects, are of course not a new topic.[11]

Following a concentration on the micro-level, localized phenomena and actors in social anthropology in particular, which may be termed 'classical', and which shaped the constitutive approach for the discipline as such, with an increasing emphasis on the conditions and consequences of globalization since the 1980s, there have been parallel trends in different disciplines and strands of research that place the interconnectedness of global developments and local life in the foreground. One example is that of approaches in political ecology that gradually broadened their field of view in the age of globalization research to take into account the influences of global trends and discourses on local living conditions and the ways in which people deal with these influences locally. One such theme, evident in many case studies, is that of soil degradation and desertification in Africa. In particular regarding the African Sahel, starting during the era of European colonization and later influenced by global environmental movements and development interventions, a hegemonic discourse evolved that blames desertification largely on population pressure and indigenous environmental mismanagement such as poor agricultural practice, and more recently also on other man-made factors such as global warming. This has led to a large body of scientific literature being produced which shaped the issue of desertification in that region as one of great global concern, generating massive research funding and a host of policies and environmental books that mainly aim at further investigation and control of the issue. Others have argued convincingly, however, that the process of desertification as an objectively measurable scientific reality does not actually exist, and that the driving forces behind attempts to demonstrate the 'ever-expanding desert' and its negative consequences for the environment and for humankind stem mainly from social, political, or environmentalist priorities (Thomas and Middleton 1994; Leach and Mearns 1996; Bassett and Zuéli 2000; Benjaminsen and Lund 2001).

[11] Early approaches that have centred on the concept of cultural traits or ideas spreading – in this case from centre to periphery – go back to theories of diffusionism as they were formulated and debated by German, British, and American anthropologists (Ratzel 1882, 1891; Frobenius 1898; Graebner 1905; Schmidt 1926; Smith et al. 1927, among others). Compare Petermann 2004; Rössler 2007; Behrends et al. 2014b:11f.).

Another case in point is the discourse that presents water scarcity as a generic condition of human-environment systems, resulting in blueprint-like actions intended to counteract the assumed scarcity through the creation of water infrastructure, as opposed to analyzing water scarcity as being generated or exacerbated by social and political factors. I will come to discuss this in more detail in chapter 5.

The intellectual and social-scientific approaches to interactions between 'the global' and 'the local' outlined above have posed certain methodological challenges to anthropologists, connected with the need not only to concentrate on local consequences of global tendencies, but also to apply the toolbox of anthropological methods to scenarios where 'the global' becomes tangible, and to the spaces of connectivity, movement, and friction in between the two. The main contribution of the study at hand is to devise and refine ways of grasping the dynamics of discourses and blueprint-like models at different scales, conceptually and methodologically.

Theoretical approaches to the movement of objects and people have gained currency in the context of anthropological analyses of globalization, thereby moving away from mere centre–periphery concepts to an understanding of movements between a multiplicity of nodes, such as in Appadurai's '–scapes' (Appadurai 1996); to concepts of 'connectivity' (Law and Mol 2002; Bruijn and van Dijk 2012), or connectivity through 'awkward engagement' (Tsing 2005); 'fluids' (Mol and Law 1994); and 'liquidity' (Bauman 2000). Among other things, all of these approaches have also pointed to the necessity of developing methodologically new forms of ethnographic research, as Marcus and others have called for (Marcus 1995).

The concept and terminology of 'travelling', however, has been applied to the above-mentioned phenomena only relatively recently, in several different disciplines.[12] This included the use of the term 'travelling' in combination with several other terms, such as 'travelling ideas', 'travelling paradigms', 'travelling blueprints', 'travelling mobile policies', etc. In a diverse range of disciplines and research topics such as urban studies, climate, conflict, ethnicity, health policy, and – in fact – drinking-water supply, researchers currently ask how globally designed and negotiated blueprints for institutional arrangements are being transferred to other settings, negotiated and potentially altered in the process, and eventually implemented (Behrends et al. 2014a; Ille 2012; Kroeker 2012; Merry 2006; Mosse 2008; Parnreiter 2011; Peck and Theodore 2010; Peck 2011; Steur 2011; Tait and Jensen 2007; Weisser et al. 2013).

[12] See for example Said 1983; Clifford and Dhareshwar 1989; Clifford 1997; Czarniawska-Joerges and Sevón 2005.

All the above mentioned theoretical approaches have inspired my thinking and research on travelling models. Finding my own approach to my topic included deciding on some of the main underlying conceptual frames and heuristic tools, and adopting (or sometimes inventing or modifying) a suitable set of terminologies in order to think, talk, and eventually write about my topic. It is from Rottenburg, Behrends, and others from the social sciences who have worked gainfully on travelling models that I borrow most of the terminology and components of the theoretical framework for this study.

Over the recent decades, the 'travelling models' approach and associated terminology has been developed mainly by Richard Rottenburg (2009, orig. 2002; 2005), rooted in theories and case studies developed in the framework of STS and ANT, mainly by Michel Callon and Bruno Latour (Callon 1986; Latour 1986). Since then this approach has gained significant currency in researching the question of how models – sometimes also referred to as ideas, paradigms, or blueprints – evolve as packages that travel between 'global' and 'local' settings and into and through spaces between the two, designed to alter particular aspects of reality in certain ways. Subsequently a group of researchers has developed the theoretical/conceptual basis further and used it in various empirical studies (Behrends et al. 2014a).

In my understanding, there are three features that are relatively new in the recent approaches to research into travelling models: The first is an understanding of the movements the 'travelling' objects make, not so much (only) from centres to peripheries or along linear trajectories, but rather as circulating in multi-directional ways around and between different centres or nodes that emerge as part of the travelling process itself. As Behrends et al. have put it: 'Situations thus become globally entangled with the help of criss-crossing, travelling and historically changing tokens that thereby become established as models' (Behrends et al. 2014b:12). The second aspect that demands particular attention in the analysis of a travelling model, based on the work of Czarniawska and Joerges and the group of authors represented in their collection on 'translating organizational change' (Czarniawska-Joerges and Sevón 1996), among others, is that of the changes and re-arrangements that are brought about during the translation process – including changes to the model itself. Thirdly, in recent analyses of travelling models, not only are the travelling objects themselves and the routes that they take scrutinized, but so are the driving forces behind every single step on the journey.

In the paragraphs below I will introduce the concept and terminology of the 'travelling models' approach briefly, in order to then relate it to my research to clarify my own usage of the 'travelling models' approach and terminology in the context of this study.

Model

In scientific contexts – generally speaking – the concept of a 'model' can be understood as embodying a relationship between theoretical concepts and empirical observation (Behrends et al. 2014b:6). The concept of 'model' has not been playing a very prominent role in social anthropological research and theorizing up to the 2000s.[13] The recent work on travelling models by mainly Germany-based anthropologists and a small, but growing group of scientists from other disciplines of the social sciences models has as one of its main theoretical foundations the notion of 'model' which played a central role for authors of STS and ANT. Their analyses and understanding of models have resulted in accounts of the relations between human and non-human actors, with a detailed focus on the social constructions of scientific knowledge in a bounded setting, such as for example in a research project (Callon 1986; Latour 1999).

The concept of 'models' is also central to spheres that try to link scientific findings resulting in established theoretical concepts with practical application. This process of linking or transferring models from one setting to another implies an understanding of models as mobile, as able to 'travel', which is also the understanding of models underlying my approach to my research subject. In policy-making and policy-transfer for instance, models are a means of 'transferring policy knowledge and technology from A to B' (Peck and Theodore 2010:170). The exemplary model of rural water supply management that my observations focus on shows that processes of policy-transfer based on blueprint-like models being translated from one setting to another also take place in the context of development cooperation. In this context models come in various forms – ranging from models of institutional governance arrangements to models of infrastructure and technologies, such as for instance a particular water pump design that was introduced widely by development projects in the countries of the Global South (Laet and Mol 2000, see chapter 8 below). Richard Rottenburg, in his ethnography of travelling models, '*Far-fetched Facts*', goes as far as to say that 'The practice of development is primarily a matter of selecting one of the existing globally circulating and highly esteemed models for development and adapting it to a local context' (Rottenburg 2009:xxvi–xxvii) . For the purpose of my study, I will follow the summary of the concept of model as given by Behrends, Park, and Rottenburg in their introduction to 'travelling models as an analytical concept':

[13] There are of course a few exceptions, such as the volume on 'The Relevance of Models for Social Anthropology' by Banton (1968) and Barth's 'Models of Social Organization' (Barth 1969).

> '[…] a model can be understood essentially as an analytical representation of particular aspects of reality created as an apparatus or protocol for interventions in order to shape this reality for certain purposes.'
>
> (Behrends et al. 2014b:1f.)

Based on Behrend's, Park's, and Rottenburg's understanding, the concept underlying this study is furthermore based on an understanding of models as objects which are at the same time coupled with specific 'technologies', defined here as procedures that serve to disseminate and translate the model within and between diverse sets of socio-cultural contexts, times, scales, or audiences.

'Models – and the ideas about reality inscribed into them – always come objectified and combined with material technologies to put them into practice and to transfer them as blueprints to new sites. The notion of the model implies that the travelling apparatus is already circulated widely – otherwise it would not have the status of a model' (Behrends et al. 2014b:2), and:

> 'A model as apparatus is itself a technology of ordering that comes with a protocol for its own handling. Yet the interpretation of a protocol depends on a multitude of implicit assumptions, tacit knowledge and surrounding technological and institutional networks that were all left "at home". In the new context this leads to a frequently amazing interpretative flexibility. The practice that follows the deployment of a model is never sufficiently explained by reference to the transferred apparatus and the protocol accompanying it. This is the tipping point between transfer and translation' (ibd.).

Although Behrends et al. speak here of 'material technologies' in particular, I would argue that 'social technologies', mostly documented in writing, can serve the same purpose – such as, in the case of my research, the technology of defining and compiling the list of members of a Water Point Association, of designing and writing a WPA constitution or management plan, or of electing the Water Point Committee and facilitating constitutive WPA meetings and WPC training (see the detailed descriptions of these processes further below).[14]

Drawing on Latour's influential analysis of 'objects' as 'matters of concern' rather than as 'matters of fact', and of models as being part of the same actor-network as human beings as well as other non-human objects, possessing agency of their own (Latour 2005), I will focus in my analysis on

[14] In the context of this study, the concept of 'technology' as introduced above is seen to be very much the same as what Callon has termed 'intermediary', of which he defines four main types, namely texts, technical objects, embodied practices, and money, ordering and forming the network (Callon 1990). For the sake of greater distinguishability from the concept of 'mediator', I chose to go along with Behrend's and Rottenburg's terminology, and use 'technology' instead.

the agency that a particular water-management model, internationally influential at a certain time, acquires in the processes of its translation in the Namibian context. As Rottenburg has it when analyzing models that get to travel within the framework of development programmes in the Global South: 'These models and technologies acquire an agency of their own precisely because they are disseminated and duplicated and in this process come to be endowed with an authority to define the best solution to a particular problem. At times the causality is even completely reversed, with traveling [sic] models searching for problems they might be able to solve' (Rottenburg 2009:xxvi–xxvii) .

In the case of CBWM in Namibia, one can go as far as to say that the dynamics involving the implementation of a policy and resource-management model which was introduced not only in Namibia but also across a group of countries in Sub-Saharan Africa and elsewhere even leads to the creation of a new common-pool resource (CPR). Whereas borehole water supply in the country's communal areas was controlled, managed, and financed solely by the state up until the 1990s, the introduction of CBWM leads to rural water users managing the water infrastructure and water supplied through this infrastructure communally.[15] The rich body of CPR-related field research by Ostrom and others has rather dealt with CPRs that have existed in more or less the same way over long periods of time, such as communal grazing or irrigation systems. Research on legal settings and institutional arrangements and change, such as in Namibia where state reforms create new CPRs, is somewhat less pronounced. Bromley and Cernea however present a very insightful account of how so-called development interventions touch upon tenure arrangements of natural resources, and frequently induce changes in property regimes (Bromley and Cernea 1989).

Translation

Callon and Latour (both 1986), and later on Rottenburg, Behrends, and others have analyzed the travelling of models as processes of 'translation' – a concept which is of central importance in their approach to the framework of travelling models, as they see it as a defining property of travelling models. It implies the manifestation of certain aspects of reality in a 'packaged' form which enables these aspects to be picked up as a model by a variety of actors – which may be human or non-human actors – and to be imported into other contexts, whereby the model itself is embedded in the new context, including potential changes to the model itself. Studying these processes in detail thus requires taking a detailed look at the model itself, at its place(s) of origin

[15] While the water itself remains state property.

and the place(s) of destination, and also – importantly – at the various steps that may be involved in translating the model between sites and audiences (see also the passage on 'interstitial spaces' below).

> 'Looking at processes of transfer, adaptation and appropriation as translations allows us to follow travelling elements on their journeys between different sites – both in a fine-grained minute fashion or by tracing larger, more encompassing trajectories. Opening the "black box" of transfer means not only to observe how ideas assembled in one site connect with meanings and practices in another, but also to focus on the many steps of the trajectory when an idea is de-territorialised and re-territorialised in any given site or problem-space. In this perspective, the sending and the receiving sites are considered to be of equal importance for the translation of the token that makes it travel. […].' (Behrends et al. 2014b:4)

I follow the considerations by Rottenburg (2009) and others (Tait and Jensen 2007; Peck and Theodore 2010; Behrends et al. 2014b) that move beyond an understanding of the travelling of a model as a process of mere technocratic transmission of a rather clear-cut and complete package of ideas or practices from one setting to the other, toward a notion of a translation process that is structured by dominant power relations, ideological discourses, and epistemic communities, and which implies alterations to the original model as the transfer is underway. The national and local outcomes of the processes of translation of the CBWM model are influenced by encounters between different sets of actors at different scales and in different scenarios, such as development cooperation and policy-making, and engagement in negotiation and facilitation processes.

'Translation chains' and 'web of translations'

In order to grasp the 'steps of the trajectory' of the travelling model that I followed both ethnographically and analytically, I found it necessary to take several steps to identify suitable elements for ethnographic observation and analysis in order to later be able to formulate my account of the processes and relationships between different mediators involved in the translations of the CBWM model in question.

The movement of models between cultures, countries and/ or scales through a number of steps of translation along a trajectory can be termed a 'translation chain' (Rottenburg 2009:xxxii). In his study of field research conducted on the forest/savanna boundary in Brazil by scientists who try to establish whether the forest is advancing into the savanna or vice versa, or indeed whether the boundary is stationary, Latour visualized what he calls a chain of transformations (Latour 1999:73).

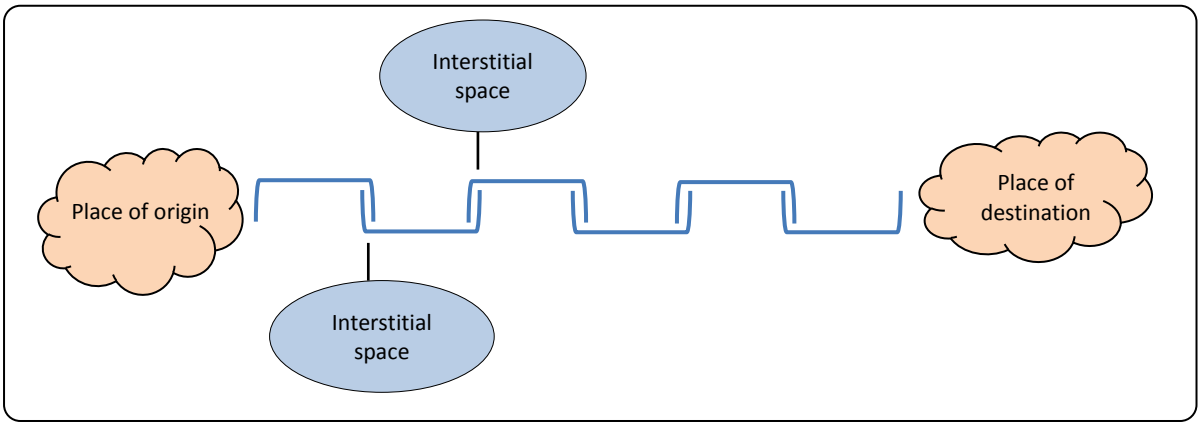


Figure 1: Visual representation of a translation chain, inspired by Latour (1999) and Rottenburg (2009)

Based on ANT's theoretical considerations sketched above, but also on my particular case study and on the empirical data I collected however, I find that in terms of the linearity that this representation implies, the image of a chain falls short of actually depicting the travelling of a model. The translation chain image seems to imply a sequence of steps along a clear-cut route that follow one another chronologically. Conceptually, I rather picture the movement of a given model in today's globalized society to be occurring in a web-like manner, with translation 'sub-chains' branching off the main translation chain, with some of them at the same time being connected at certain points, and translation processes at different scales taking place simultaneously. This fits the image used by Latour when he describes modern societies as 'having a fibrous, thread-like, wiry, stringy, ropy, capillary character that is never captured by the notions of levels, layers, territories, spheres, categories, structures, systems' (Latour 1996:370). It also of course strongly corresponds to Deleuze and Guattari's image of the 'rhizome' (Deleuze and Guattari 1987:1–26).

In my understanding, travelling models thus connect 'global', 'national', and 'local' scales, actors, and events by moving across a spectrum of other imaginable scales in between, not in linear processes, but rather in a web-like manner in varying directions and involving processes of translation and negotiation.[16] The idea of 'opening the "black box" of translations', as quoted above, sounds both like a logical necessity if one wants to acquire a clearer understanding of the processes, mediators, and influencing factors that make a model travel and lead to the transformations mentioned above, and also like a promising opportunity to gain key insights into

[16] On another terminological note however, 'travelling' is rather an inadequate term for a motion through a web-like structure. A web of translations thus brings to mind a propagating, spreading, evolutionary process. 'Travelling' does apply when one is dealing mainly with a single given trajectory within the wider web of translations, which is what I will be concentrating on in my account.

those nodes of the web of translations that were taken for granted by many before, and sometimes not analyzed in more detail.

Translation phases

Given the complexity of the processes involved in the movement and translations of models, and the challenges this poses to ethnographic research, I had to devise concepts and techniques to limit the scope of my research and analysis in order to keep it manageable. Although my favoured representation of the travelling process of the model in question a web-like representation of interlinked translation chains at different levels, I still found the concept of a single translation chain a useful heuristic tool for handling the complexity of my research topic. I found that I would always only be able to focus on one particular section of a translation chain or web of translation at a time. While gaining an overview of the phases in the process of translating CBWM at the national, regional and local level in Namibia, I found it feasible to divide this process analytically into translation phases that can be ordered chronologically, and upon which I concentrated my data collection. In order to handle the analysis of my data I use the concept of *translation phases*, encompassing interstitial spaces where mediators actively debate, negotiate, or propagate the model – thus contributing to its translation, the technologies used in these processes, and the material and documented outcomes of the translation phase (see figure 2 below).

For my case there were several main translation phases I identified in the process of translating the CBWM model in the Namibian context upon which I focused my data collection. Some of them centred on the national scale, while others were of regional scope – in Kunene Region, as CBWM was rolled out under the coordination of the regional water administration – at the same time targeting local conditions and management arrangements at individual water points.

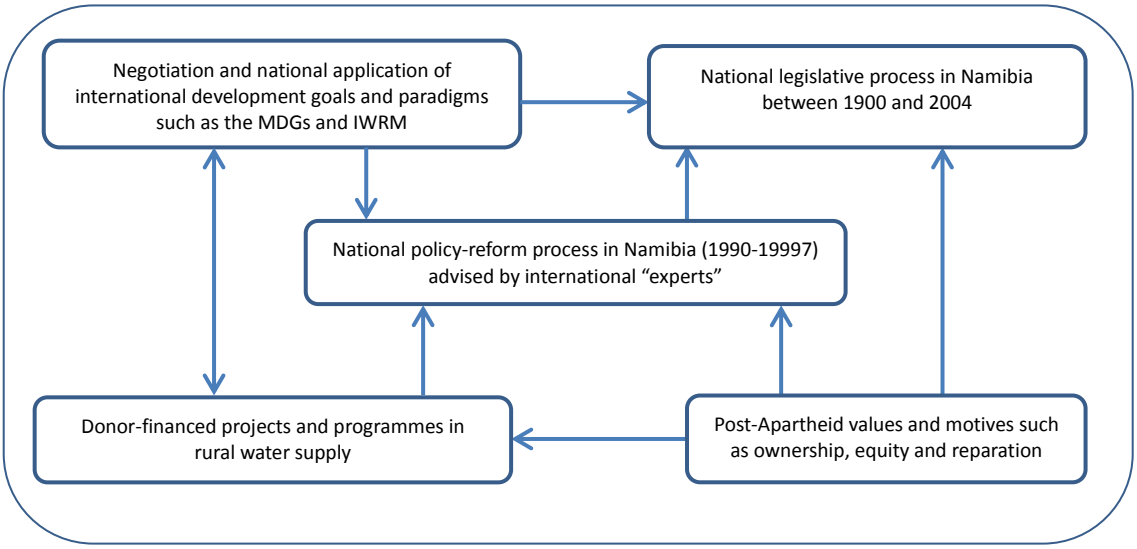


Figure 2: Part of the web of translations of the CBWM model based on my findings at the national level in Namibia

Mediators

The process of translation encompasses processes of transferring, interpreting, and recounting models from one setting to the other. It is the 'translation' of a model that defines it as '*travelling* model' through processes of dissemination and propagation, interpretation and translation, which are facilitated by various actors termed 'mediators' here, as used by Behrends et al. (2014b): 'Models, however, do not diffuse by themselves and they cannot be transferred without being translated. Translating models means that they travel by being conveyed, carried, picked up, called for and interpreted by various actors or – as we will call them – mediators', and: 'Mediators […] can be individual carriers, but they are best represented by professional groups or experts […] who appropriate a model and relate it to their own understanding of both the model's origin and intention and the situation into which it is supposed to be immersed' (Behrends et al. 2014b:2; 14). As other researchers before have shown, mediators play important roles in conveying ideas and models, for example in the field of human rights (Merry 2006), as well as in development initiatives and international policy (Bierschenk, Chauveau, and Olivier de Sardan 2000; Mosse and Lewis 2006; Mosse 2008; Rottenburg 2009). It is this role of mediators as central actors 'bridging the interstitial spaces between what we call a model's travel and its local reception' (Behrends et al. 2014b:14) that is of central interest in my study.

2.2. Embedding models and translations historically

A particular challenge I experienced when conceptualizing my research was that clearly the specific moments of those translation phases when the model was first transferred to the Namibian context through development cooperation and policy-making had passed by the time when my research commenced. From my literature and web-based research into internationally influential and prevalent water-governance models, I had found that CBWM had gained currency in international debates around the end of the 1980s. It had reached Namibian policy-making mainly through development programmes and Namibia's integration into multilateral policy- and governance processes after the country's independence in 1990. The first water-sector policy that laid down most of the foundations for the implementation of CBWM in Namibia had been formulated in 1993. It was thus clear that a fair amount of my research, which began in 2010, had to include revisiting the recent history of water-related policy-making, development cooperation, and water-related discourses in Namibia and elsewhere.

When considering the set of assumptions underlying the theoretical framework of travelling models it becomes clear that pretty much any web of translations is unbounded in terms of space, as well as to a certain extent in terms of time. Even when observing a relatively clear-cut model at any given point in time, it is clear that there will have been ideas and discourses historically that influenced the emergence of the model as an objectified form, and the technologies for its transfer that it encompasses, as well as the translation steps it has taken in the past. It can also be assumed that there may have been mediators who influenced a model's travels in the past and who shaped the form the model acquired before being scrutinized by the present-day observer and researcher.

Kaufmann and Rottenburg offer a very interesting case in point with their study of the translations of – as they call them – 'circulating ideas' and 'narratives', including legal terms, concepts, and arguments, sometimes including entire sets of legal institutions from one socio-cultural and historical context to another – sometimes even across timespans of centuries (Kaufmann and Rottenburg 2012). Another example is presented by Parnreiter, who draws upon a broad base of sources to draw a picture of the 'making of a transnational urban policy', showing that 'Planning ideas have traveled [sic] across borders for a long time. They were exported by colonial powers to, or even imposed on, the dominated territories (King 1980); they were exchanged between urban reformers and municipal officials from European and North American cities at the turn of the nineteenth to the twentieth century (Kenny 2009); and they were brought by national

governments and development agencies to the now postcolonial cities after World War II (Ward 2010)' (Parnreiter 2011:1). Furthermore, some of the examples of research in the framework of environmental narratives and political ecology mentioned above have shown that tracing such narratives historically, and taking into account historical sources that provide information on their genesis and evolution, provides crucial insight in order to interpret what can be observed today.

This is also of relevance for the study of a travelling model because in addition to the specific translation phases the model itself has undergone previously, another important element is that of those influencing factors that have contributed to creating the settings in which translations of the model have occurred, such as 'webs of beliefs', as Quine called them (Quine and Ullian 1978), institutional arrangements, power relations, dominant narratives, and discursive practices. All of these have undergone a historical development as well. De Wit, in her account of what she calls a travelling discourse, traces the discourse around climate change, global warming, and related concepts of environmental governance back through history (De Wit 2011:76 ff.). Regarding the particular case of CBWM that I have observed, ideas and discourses around concepts such as 'participation', 'sustainability', 'equity', 'governance', and 'community' have spread widely themselves, and the long history of their use and appropriation has influences on the trajectory along which the CBWM model is moving. What is more, the networks of actors relevant to the travelling of a model have also often been connected, intensified, and expanded historically, as Peck and Theodore show for the connections between institutions engaged in providing policy advice that offer technocratic experience and form 'model knowledge' contributing to the travelling of policy norms (Peck and Theodore 2010:172).

When summarizing the opportunities offered by analyzing situations of connectivity or (for instance socio-cultural, institutional) change using the concept of travelling models, Behrends et al. have mentioned the taking into account of historical developments as important points of reference:

> 'This form of analysis covers larger historical developments by, simultaneously, focusing on very detailed and particular events – or, most importantly, the relations between them. "Travelling models" offer a frame that is sufficiently encompassing to include studies that not only focus on recent forms of global entanglements, but also account for events and technologies related to the times before the last wave of globalisation became one of the main referential frames' (Behrends et al. 2014b:20).

My own research started, as stated above, roughly twenty years after the CBWM model that was later transferred to the Namibian context was put on the agenda in international discourses of

environmental governance, development cooperation, and water policy-making. I thus struggled from the outset to discern historical references to the international CBWM-related debates and the policy-making steps that the Namibian model had gone through, together with some of the relevant actors, mediators, and technologies. I ended up including translation phases in my account that took place before I reached the scene – acquiring data through archival research and retrospective interview sequences with some of my informants. Doing research in multiple locations and within multiple timeframes can be a tedious task – but it may be the only way to open up pathways for understanding some of the mechanisms behind the travelling of a model that impacts upon the lives of people here and now.

2.3. Discursive representations and travelling models

The key importance of the way in which prevalent concepts, ideas, and narratives (in general: 'webs of meaning') set the stage for the translations of a travelling model has been outlined in detail above, and emerges from the data I collected during my research. The way these concepts, ideas and narratives are represented in discourse and practice becomes important especially with regard to the technologies applied in the model's transfer, and to the mediators carrying and translating it. The application of discourse theory and analysis to the conceptualization and operationalization of travelling model research thus suggests itself. As Tait and Jensen pointed out: 'The importance of representation and the techniques by which this may be achieved seems important in understanding travelling ideas. Thinking about the way ideas are represented to actors suggests that the linguistic and visual imagery in which such ideas are embedded must become pivotal. To our mind the notion of "discourse" is central here' (Tait and Jensen 2007:114). In relation to the analysis of travelling models, the notions of representation and discourse offer insights into the nature and role of technologies in transferring, unpacking, and implementing the model in new settings (particularly those that come in the form of texts), and into the actions of mediators within the web of translations. Although it goes beyond the scope of this study to delve deeply into the evolution and current framing of discourse theory and discourse analysis as it has developed over the past decades, linguistic representation of some of the main constitutive content of the CBWM model itself and of the context in which it was translated into in Namibia was seen as important, and was followed to varying extent during the different phases of my research.

Discourse is going to be understood here by the rather broad definition used by Wetherell et al., who summarize that '[...]the study of discourse is the study of human meaning-making'

(Wetherell et al. 2001:3). Looking not only at the language and what it represents, but also at the practical application of the topic, not only does discourse shape the way people talk about a topic, but also the way people act. As Hall puts it: 'Meaning and meaningful practice is therefore constructed within discourse' (Hall 2001:73). Following Foucault's terminology (Foucault 1972), and assuming that a particular strand of the international discourse around ideas for rural water supply management refer to the same object, share the same style, and support a strategy, a common institutional, administrative, or political drift and pattern, one can term the community-based paradigm for the management of natural resources currently being followed in the rural areas of Namibia, as well as in many other parts of the so-called 'global South', a 'discursive formation'.

It is assumed that any representation or practice within such discursive formations entails questions about the relative power of actors to articulate themselves and to 'attempt to include or exclude certain understandings, institutions, agents and ideas' (Tait and Jensen 2007:114), thereby creating hegemonies and constituting an 'inside' and 'outside' to the discourse. As Tait and Jensen have it: 'Through "re-presenting" the world, texts, speech and other constituents of "discourse" may help define what the world is and define possible actions to change it. Furthermore, they may help provide a stability to the actor-networks and allow certain concepts to remain valid' (Tait and Jensen 2007:115). In relation to water-management paradigms that have gained prevalence in international water-sector discourse, both the IWRM paradigm and the economic valuation of water as brought forward through the so-called 'Dublin Principles' and Agenda 21 are results of discursive elements that were seized upon by powerful actors endowed with the necessary resources to put certain messages and formulations through (see chapter 6.1 below for more detail).

In order to gain a broader understanding of the wider 'web of meaning' that has had an influence on the travelling CBWM model, I followed some of the strands of discourses on influential concepts and ideas such as 'participation' and 'water scarcity' through the accounts and discourse analyses of others[17], as well as through my own interviews and through historical sources that I

[17] Since much of the discourse that I saw relevant for my topic was connected to 'development' policy and practice, I gathered insights in particular from the studies from a group of researchers around Andrea Cornwall and Deborah Eade, who have worked on deconstructing development discourse, including 'black-box'-like concepts that are very central to CBM-related discourse as well, such as 'participation', 'empowerment', and 'sustainability' Cornwall and Eade 2010 – see chapter 6.2 below in particular. It is important to also mention in this context the critical ethnographies and analyses of concepts of development and the 'Third World' – or how it is presently called the 'Global South' – by Escobar 1995, and Ferguson 1990.

could access directly – stemming for instance from water-related mega-events or from political debates in the Namibian Parliament.

Needless to say that rural communities at water points in Namibia's communal areas and similar places elsewhere remain largely 'outside' the related discourses and debates – at least until a new management model based on such policy discourses hits the ground in their location. The way in which these discourses affect them however, for instance in the form of natural resource management models that are imposed on them by the state or by external donor agencies, is subject to influences by local politics, local history, and differences between actors in terms of relative power and resources – in similar ways to what occurs at the global and national levels. This said, it is important to mention some of the limitations which the travelling models approach can have in such a context, judging from my research experience: Such a research approach almost automatically poses the challenge of scrutinizing settings, actors, and events at several different scales in order to capture the emergence of the model and follow at least part of its trajectory, re-constructing translation phases and translation chains. Through this it demands – and enables – a broad focus and an eye for connectivity between actors and scales. At the same time however, it also almost automatically means a loss in detail, in the "thickness" of accounts at each of the scales – and maybe increasingly so when moving towards the more local settings where anthropologists have classically shown the strength of their subject by collecting large amounts of data on the functioning of local society and culture and the socio-cultural embeddedness of individual actors. I would argue, and it can be seen from my account below, that when collecting and analysing ethnographic data through a travelling models lens, one cannot help but lose detail regarding the individual actors who contribute to shaping and re-shaping the model and its environment. At the same time however, compared to other research approaches and ways of doing ethnography, one gains relevant data on the interplay between the local, the national, and the global.

As far as possible, given the challenges and critical reflections mentioned above, the theoretical framework applied here to the Namibian regulation and practice of rural water supply takes into account a historical perspective, as well as the local embeddedness of the travelling model of community-based management of rural water supply and its mediators and translations during the time of my field research. The national and local outcomes of these translations are influenced by encounters between different sets of actors that I observed in different contexts, such as in development cooperation and policy-making, at international water-related mega-events, and at individual water points in Kunene Region. In view of what I have outlined above regarding the

limitations of the travelling models approach, in most cases the biographies and socio-cultural background of these sets of actors are only touched upon to a rather limited extent. How I methodologically operationalized my approach is described in the following section.

3. Methods and Data

Taking the research questions and the theoretical framework outlined above as point of departure, the planning of the methodological approaches and the discussion of the datasets were undertaken in close cooperation and communication with the entire team of LINGS researchers as far as possible – given the geographical distances which were sometimes involved and the limitations of even the modern telecommunication technologies in place in present-day Namibia. Research preparation and reviews of preliminary results mostly took place during the phases during which one half of the LINGS team was based in Hamburg and the other half in Cologne, so that team members had to either travel for 1- or 2-day meetings for some of the in-depth planning, or organize regular Skype conferences if exchanging emails or bilateral phone calls was insufficient. The planning and modification of some of the data-collection instruments then continued when in the field in Namibia. During the phases in which all of the team members were in Namibia simultaneously, occasional meetings in different locations became possible, and I had the chance to visit all three sites of long-term ethnographic research for at least a few days each. It was of great value to be able to discuss my plans, to jointly review some of what had been found out so far, to readjust my focus, and to develop or modify certain parts of the research methodology. Based on the comparisons of preliminary results from the intensive field studies conducted by my colleagues, and my findings in relation to the policy-making and implementation process, I also conducted a number of interviews jointly with my colleagues. The deep local insights my colleagues had already gained by the time I arrived in Kunene Region greatly facilitated my stay in the field in several ways and contributed to my understanding of local translations of the ideas and models I had been exploring at the global and national levels.

Some of my personal entry points into Namibia, into the topic of natural resources governance, and into the way that global development paradigms influence national policy-making and local practice result from earlier stages of my professional career. I had spent close to two years, on and off, in Namibia between 1997 and 2002, as a volunteer field worker and later as a consultant for a regional NGO working with the San population in different parts of the country. In connection with my involvement in supporting the establishment of a CBNRM project with that NGO and the local communities, I conducted local-level anthropological field work in Tsumkwe District West, which also formed the basis for my Master's Thesis. During later phases of my career I gained experience with some of the actors engaged in development cooperation at the global level when working for the United Nations in Tajikistan between 2004 and 2007.

3.1. 'Locating the field' in the study of a Travelling Model – Dublin, Rio, Windhoek and Okarukoro

Looking at how ideas and practices are translated while travelling from one place, one scene, and one group of actors to another necessitated creativity and innovation when finding my own way of defining my 'field' in the ethnographic sense in order to study these processes. If ideas about rural water supply management travelling between different actors and scales were to be at the centre of observation, it was clear that ideally my research would also involve me travelling, in order to reconstruct some of the processes involved and to collect ethnographic and archival data in several places, from an extremely diverse range of informants. It was clear from the outset that I had to move along these translation chains – sometimes physically, sometimes only mentally – and travel with the model and the underlying ideas that I was going to document and observe.

Following Marcus' thoughts on multi-sitedness as a methodological approach in anthropology (Marcus 1995), working on multi-sited ethnographies is something that has since been applied by others to a broad array of topics and diverse social and geographical settings (Markowitz 2001; Krauss 2009; Weißköppel 2009; Coleman and Hellermann 2011; Rajak 2011; Whyte et al. 2011). Since anthropologists have made the world system, globalization, and 'modernity' their field of research, ethnographic approaches have shown that social phenomena in today's increasingly interconnected, globalized world cannot be understood through an in-depth study of only one locality and social setting alone, but that actors, ideas and/or goods have to be followed by the ethnographer in certain cases in order to reveal the connections and processes they are involved in, the effects that their flow has on other actors, and the way in which these flows construct social realities. Looking back, I can only affirm this methodological – and, in fact, theoretical – necessity. Describing this in the context of the field of development anthropology, Bierschenk argues that 'With this change in development policy, the "old" anthropology of development must also expand to include the ethnographic research of global policies and become an *anthropology of global social engineering*. Methodologically, this involves the challenge of *focusing on the entire policy chain* - from the production of development policy models in the context of the development agencies, to the different translation points (for example, state ministries in the recipient countries and large international NGOs) and local intervention points' (Bierschenk 2014:75 – emphasis mine).

However, I must also emphasize that doing multi-sited ethnography has repeatedly reminded me of the virtues of long-term fieldwork being characterized by some degree of immersion in a single

local social setting, and the accompanying opportunity to build deeper ties between the researcher and the researched. The downsides to doing ethnography 'on the move' are obvious when thinking of the time needed to gain an in-depth perspective on local culture, to acquire the local vernacular language, and to be able to conduct long-term participant observation. These are some of the aspects that researchers including myself have had to compromise in order to gain insights into the interconnectedness of actors and events in different places and at different scales in a relatively limited amount of time – given the usual periods of fieldwork available for a PhD or for any anthropological project.

My 'field' was thus determined by tracing CBWM-related ideas and management models and their various representations and translations, which I assume can and do travel from one scale and discussion platform to the other – and in some cases back again. It also involved finding the mediators and technologies involved in the different translation steps and phases, in the form of speeches, debates, written documents and management practices. Figure 3 below provides a visualization of some of my fields of research based on a schematic representation of a translation phase at the local level, such as the establishment of a Water Point Association.

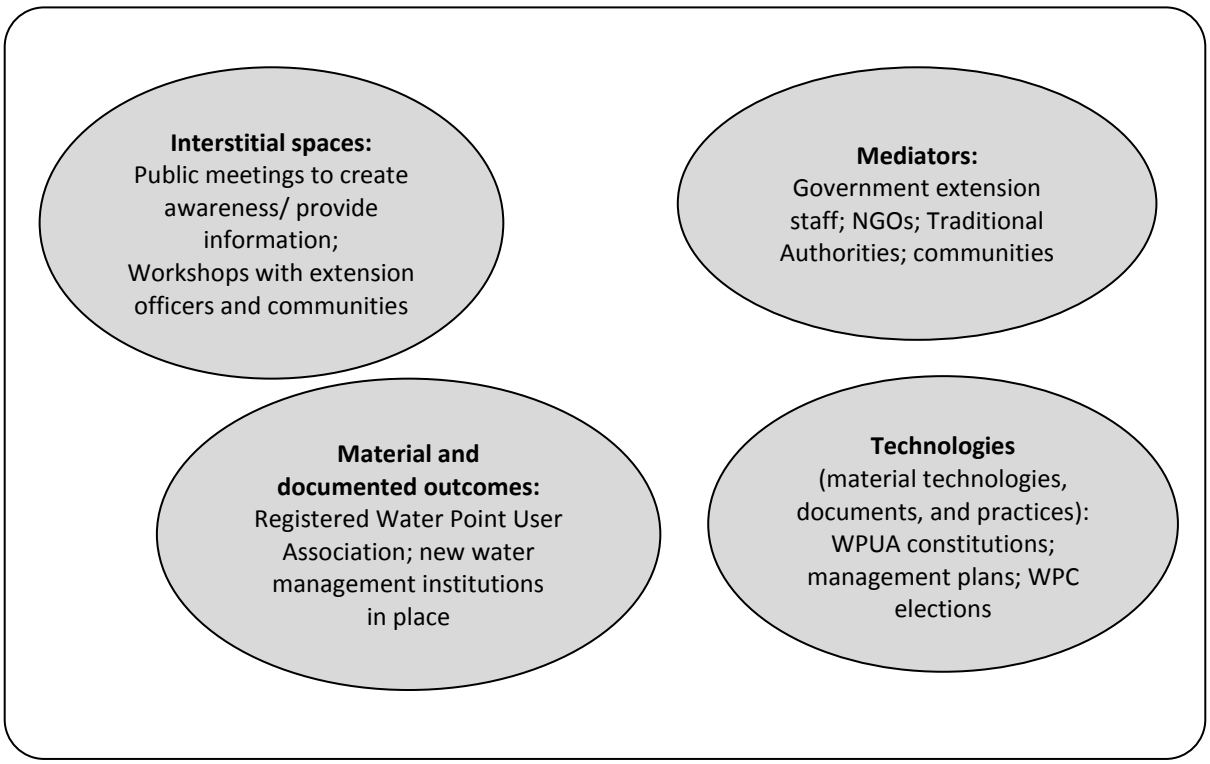


Figure 3: Schematic representation of the components of a translation phase

Another suitable image to further portray the resulting research process might be that of the adjusting of a lens which can zoom in and out, and which is searching first for the routes that the

relevant concepts in the water sector have taken on their discursive journey, and which then zooms in more closely in order to trace some of the relevant actors, and their discussions and products which form part of the discursive process. During those phases where the focus was on more close-up issues, and hence relatively narrow, it was seen as important to apply as many of the ethnographic methods that would be used during long-term localized field work as possible, such as embedding the actors biographically, engaging in participant observation, and discerning the social ties and networks into which actors (including their ideas, their discourses, and the way they are documented) are woven.

For my case study, the different sites which played a role in pursuit of the relevant discourses, ideas and events included the sites of boreholes used by communities and managed by WPCs in Namibia's North-West; the two branches of the MAWF in Kunene Region situated in Khorixas and Opuwo as well as the MAWF head office in Windhoek; and the national policy-making scene of parliamentarians, donor representatives, NGOs etc. in Windhoek where important reform directions and strategies for the sector of rural water supply were and are determined. Furthermore, though necessarily investigated only by accessing secondary literature and Web-based research – I also took into account the international scale, which encompasses for instance the headquarter locations of relevant bilateral donors and international organizations active in the water sector. The venues – or archives – of decisive water events like the United Nations environmental mega-conferences or the biannual World Water Forums organized by the World Water Council – one of which I attended – also had to be added to that list. Engaging in a process which was not only multi-sited but also multi-scalar, I was looking at a 'field' reaching from Bonn, Marseille, Dublin, New York, and Rio de Janeiro to Windhoek and Khorixas, and eventually to the newly drilled borehole in Okarukoro in Kunene Region, northwest Namibia, where I attended a meeting for the establishment of a new Water Point Association.

Given the constraints on time and other resources eventually faced by every research project, it was clear that in order to define 'the field' for my anthropological work in a more targeted manner, I had to frame and focus it carefully, so it would not become too broad for a single person to study. This is one of the two areas I would stress where this case study met its most significant limitations and where, speaking from my own experience, the biggest challenge for this kind of research lies. Apart from the intellectual challenge of comprehending a network of ideas and translations with so many sites and points in time connected to actors and interstitial spaces, and also taking into account the available secondary analyses of these events, I was faced with constraints in terms of logistics and finances. On several occasions I wished that some

groundbreaking invention enabling a person to be in two places at once existed. I also had to juggle my professional life and research interests with my family life as a wife, a mother of two young sons, and a daughter of parents who would have preferred me to be closer to them in Germany. As a consequence of the nature of the subject and research questions, from the outset it had been part of the project concept to organize the data collection for my case study into several intermittent phases at different sites. I eventually spent a total of six months in Namibia, split into two phases, the longer of which lasted five months. My family joined me in the field for two months in mid-2011. In March 2012 I attended the World Water Forum in Marseille, France, to observe a water-related mega-event, which I will elaborate upon in more detail below.

In addition to the sites I was able to visit physically there was also the ever-expanding virtual space of the World Wide Web, where water-sector organizations present and debate their political views, strategies and programmes, which have had an influence on the CBWM model under discussion here.

3.2. Data collection from Web resources

Before reaching the water points in Namibia's Kunene Region 15 months into my project, guided by a review of scientific literature (e.g. Mehta 2000; Conca 2006; Molle 2008; Nicol et al.2012a) I started out with extensive Web-based research. This process was my priority task for about four months of my research schedule before going to Namibia, and I would later go back to it in order to identify further pieces of information over the course of the study.

To start off with, I was looking for several categories of information: firstly, water-policy paradigms that would feature prominently on the Web, prescribing how water resources should be managed – with a focus on rural water supply – and how national policy should ensure and organize certain ways of water resources management. Secondly, I did Web-based research on big international water-related conferences and their outcomes – including a series of so-called mega-conferences that had a very concrete focus on water. Most of them were convened by the UN or had a direct link to big UN conferences, but I also ended up including the triannual World Water Forums organized by the World Water Council – an international conglomerate of water-sector specialists and organizations which is actively shaping international water-sector discourse. Thirdly, I identified key organizations active in the field of water-resources management both practically and scientifically. I mainly searched their organizational profiles, strategies, activities, and major publications on the management of rural water supply. This included for instance UN

organizations relevant to the water sector; international NGOs, and later those NGOs that had been active in Namibia in particular; bilateral donor organizations; and research organizations.

By and large I was using a snowball system, largely determined by the relative openness of my searches at the outset and by the way that both thematic and organizations' own websites are usually designed, using web links to direct the viewer further. For all three mentioned categories I soon identified some central nodes – i.e. web pages where key information on my themes or on particular strands of it (such as for example the internationally influential paradigm of Integrated Water Resources Management) would be pooled, and from which I continued to identify further nodes in this virtual web around the topic of water resources management and CBWM. The search also served to discover linkages between certain actors with relevant discourses and ideas. I concentrated mainly on discerning those discursive strands in relation to the management of rural water supply which favoured an adoption of community-based management principles.

I also targeted my search at project documentation from the sphere of development cooperation to identify the different water-sector 'trends' over time and the kinds of inputs and impulses provided by development projects and policy advice. I decided to focus on the timespan from the first international conferences on environmental governance in the 1970s up until the 1990s – which is when the CBWM paradigm was adopted in Namibia. During that initial phase of my research however, I was never a hundred per cent sure which of the events and formations that crossed my way would prove to have had any tangible effect on the Namibian situation that could then also be demonstrated by the data I was later going to gather there. The link that the sources I consulted had with Namibia was of some importance, however, as I was interested in following translation chains and in drawing webs of how ideas and actors that would have influenced these models travelled, I kept the scope of my search rather open at first and tried to trace the connections to the Namibian setting in a second step.

In order to gain a first overview of potential connection lines between ideas, events, and actors at the international and the Namibian level, I simultaneously collected information on the chronology of political events and decision-making processes in the water sector internationally and on the chronology of the Namibian reform process, which served later on to reveal some of the interactions between those scales and to further focus the scope of research in Namibia. I slowly gained an overview of internationally influential water sector debates and concepts supported by bilateral and multilateral donor organizations and NGOs since roughly the 1970s, and of development initiatives targeting the Namibian water sector over the course of the past 20 years. I reviewed processes like the water-related mega-conferences and the outcomes and

declarations of the UN's environmental summits as well as some of the internationally relevant actors, in order to trace the emergence of ideas and concepts underlying the community-based management approach, such as *participation*, *equity*, *sustainability, ownership,* and *community.* A further focus lay on those development programmes based on the strategies and policies of Governmental and non-Governmental actors in the water sector which had a direct connection to Namibia.

Challenging Sources

Concerning the different kinds of data and sources I used when doing anthropology on travelling models, I can only agree with Bierschenk, who recently described the epistemological challenges involved in such research – and in development anthropology in general:

> 'In the field of anthropology of development, the majority of the literature is available in the form of expert literature compiled by practitioners from the development institutions. Although this actor literature takes the form of analytical literature and is based on scientific investigation, unlike academic literature it has a normative objective: it is usually published to justify a particular policy and constantly shifts from descriptive to normative statements and back again' (Bierschenk 2014:90).

This was true for a large part of the 'water sector actor literature' I referred to as well. It is important in such contexts, as also in other anthropological research, to continually reflect on the origin of sources and the contexts in which their authors operate, and to remain sensitive to their changing perspectives and audiences. As Bierschenk notes further:

> '[...] The traditional distinction between primary sources and secondary literature is no longer effective in such situations as, strictly speaking, expert literature should not be treated as secondary literature but as a primary source, or as an expression of emic views in the sense of the Malinowskian paradigm. The differentiation between academic and actor literature should, of course, only be understood in ideal-typical terms' (ibid.).

3.3. Data collection in Windhoek in 2010 and 2011

Yet another methodological challenge resulted from the difficulties involved in determining where to start collecting data and making observations, given the presumably long translation chain of the Namibian CBWM model at different scales and with the various ideas and actors that had influenced its travels. During the Web-based search for relevant data I had a tendency to focus on the global level as I had no other sources of information on global-level actors and ideas but the academic and actor literature mentioned above. The search for relevant data thus involved the

potential danger of lacking focus and turning out to be unconnected in many parts with the translation chain that I was trying to reconstruct. Five months into my research project I realized I needed to anchor this reconstruction effort somewhere – at a particular scale or with a particular actor that I needed to single out first – in order for it to remain manageable by an individual researcher. During my first stay in Namibia's capital, Windhoek, in September/October 2010, the initial contacts with organizations and 'experts' involved in the water sector, and – very importantly – the assessment of archival sources available in the National Archives and in the resource centre of the MAWF, I decided to make the Namibian, national level and the emergence and translation points of the CBWM model in the country's sector of rural water supply the actual starting point for my thinking about the ideas and actors involved at the other scales, as well as for the methodological planning of the longer-term field phase in 2011.

In order to identify the central actors who had a connection to the planning and implementation of CBWM in Namibia at the national, policy-making level, and to be better able to plan which organizations and individuals I was going to target through initial interviews, and potentially later also participant observation, I acquired an initial overview and orientation regarding these actors through expert interviews and archival research in Windhoek along the lines of a stakeholder analysis.

I considered the concept of 'stakeholder' as quite fitting for the group of actors I was looking for, and had come across the instrument of stakeholder analysis when engaged in development cooperation in previous phases of my professional life. A current, commonplace definition of 'stakeholder' would be: 'an actor with an interest or concern in something' – including groups of individual actors such as for example organizations or corporations. According to Ramirez, who discusses the potential role of stakeholder analysis of conflictive situations in the context of community-based natural resources management, 'stakeholder analysis refers to a range of tools for the identification and description of stakeholders on the basis of their attributes, interrelationships and interests related to a given issue or resource' (Ramirez 1999). Although it is a tool which is often used in applied contexts in order to induce change in a given situation, such as in business management or conflict resolution, it can also be used empirically to discover existing patterns of interaction and connection to a pre-defined object, topic, or issue. The different steps involved in a stakeholder analysis would usually imply identifying the stakeholders in a relevant issue first, then prioritizing them according to criteria such as their power to influence that issue and/or the extent of their interest in the issue, and then acquiring more concrete information about the way they see and approach the issue through direct interviews

and other additional sources. The results of a stakeholder analysis are frequently displayed visually in the form of a network or stakeholder 'map' (for one of the first approaches to developing a stakeholder model for organizational and business management, see Freeman 1984, and for 'institutional and stakeholder mapping', see Aligica 2006).

Following Web-based research and consultations with my supervisor and project colleagues in order to compile an initial list of potential stakeholders in the CBWM policy and roll-out process in Namibia, I started out by conducting key interviews with representatives of the European Commission (EC), it being the largest donor in Namibia in the sector of rural water supply at present, with a consultant working as an advisor in the Department of Water Affairs in the MAWF, as well as with the *Icelandic International Development Agency* (ICEIDA) who were in the process of completing and handing over to the MAWF the outcomes of their project '*Supply of water to Epupa and Opuwo Constituencies, Kunene Region, Namibia*'. Using a 'snowball' procedure, getting in touch with additional potentially relevant informants through the suggestions of those I had already met, my inventory of relevant actors started to grow. I also began using different categories that I assigned to the stakeholders – largely based on the type of organization they belonged to or the role they had played in the Namibian CBWM process.

Through my interviews and document review, the involvement of actors and organizations in the formulation and implementation of the CBWM model in Namibia and the linkages within the group became more obvious. The exercise also helped me to further identify some of the central processes and events in Namibia's water-sector reforms that had led to the adoption of the CBWM model. Another outcome of the contacts I made was that I started more concrete planning of phases of participant observation with the national water administration and the Namibian Red Cross Society (NRCS) in Windhoek – two organizations among the key players in rural water supply in Kunene Region – for my field research in 2011. Furthermore, the preliminary results from the expert interviews served to further refine the guidelines for expert interviews for 2011 when I was back in Cologne.

The challenge of doing fieldwork with busy people

A second major set of challenges I faced in my research became obvious during my initial weeks in Windhoek in 2010. My aim was to do 'fieldwork' – i.e. conducting in-depth qualitative interviews and potentially even participant observation with people in an urban setting, some of whom held positions in Namibia's public administration, or had office jobs as donor representatives or NGO managers, not to mention those who were high-ranking members of political parties and members of parliament. The need for anthropologists to 'study up' in order to comprehend

certain actors and their social relations and cultures, such as for example of international organizations, has been postulated from as early as the 1960s (Nader 1969).

Since then many have described and demonstrated not only the challenges faced by anthropologists when 'studying up', but also the need to do so, and the benefits to be gained from such approaches in different thematic realms, such as for example in development anthropology (Ferguson 1990; Rottenburg 2009; Bierschenk 2014), in the anthropology of organizations (Crozier 1971; Markowitz 2001; Goldman 2007; Mosse 2013) – as well as that of anthropologists working *within* organizations (Hüsken 2006; Mosse 2006), and in the ethnography of public policy and the state (Abrams 1988; Eckert et al. 2003; Das and Poole 2004; Heyman 2004:487–500; Wedel 2005; Blundo and Le Meur 2009; Anders 2010; Friedman 2011; Schweitzer 2012; Bierschenk and Olivier de Sardan 2014a).

Judging from the amount of work done on fields such as development organizations, NGOs, corporations, banks, and government agencies, however, this remains a promising and at the same time challenging field for the discipline. As Hugh Gusterson stated almost thirty years after Nader's article on 'studying up': 'participant observation is a research technique that does not travel well up the social structure' (Gusterson 1997).

Going to such fields rather than focusing on rural communities, where joining people in their every-day chores or free-time activities is often much less complicated and happens almost automatically while staying in their neighbourhood, had various implications. One aspect was the time frequently needed to gain access to my informants, who had busy schedules including work-related travel, and were not exactly waiting to welcome an anthropologist from Germany to hang around their offices. The assertion some of them made that Namibia was a small country in terms of its population, and already over-researched – as I was not the first scientist to appear in the corridors of the Ministry of Agriculture, Water and Forestry asking for interviews, for instance – did not make my task easier.

I faced very similar constraints to those Nieswand experienced when – in his own terms – he embarked on an 'infiltration' of a public administration in Germany: '[...] there are no formal procedures […] to apply for "field access" and no departments in charge of granting it. There are no counters, no forms, no responsible officers, no information signs, no numbers to draw at the entrance and no waiting zones. Nevertheless, it has to be done - somehow. In particular, it requires the most characteristic of all activities in approaching public administrations: waiting...' (Nieswand 2009b). In many of the organizations and departments I contacted I was made to

understand that potential informants were not easily accessible and not in fact eager to share information about their roles and views regarding the policy- and implementation processes in question. Again citing Nieswand, who must have felt very much as I did in many instances of initial – or sometimes prolonged – non-communication from the side of my potential informants: 'In this context, the most significant practical problem was that persons who I approached did not reply to my requests. My first research result was that non-communication is a rather ambiguous form of communication. It has – somehow contraintuitively [sic] – too much meaning (and not too little): Has he or she just not yet answered? Should I wait for some more time? Has he or she forgotten to answer? Doesn't he or she want to answer? Does he or she reject the project? ....' (Nieswand 2009b). In some cases I found the answers to these questions when a first meeting finally took place and people just turned out to have been busy with so many other things, or when my repeated requests were – luckily in only a few cases – eventually turned down rather bluntly, and the answer to Nieswand's latter question turned out to be a yes. My own previous experience as an employee of the United Nations engaged in aid coordination and managing a rather busy unit in a country office of the United Nations Development Programme (UNDP) prompted me to recall my own attitude to unexpected phone calls from researchers asking for a spontaneous meeting in order to learn my views on the country's development in general, or on rather specific sector-related topics which were sometimes far from my own current thinking and activities. I can only agree with some of the considerations Wessendorf makes in her account of 'doing fieldwork with busy people' (Wessendorf 2009) when she says, 'How could I justify taking people's time? How could I accomplish the anthropological task of "hanging out with people" if they did not actually hang out that much and, if so, in their private space? These questions came up after going through many years of anthropological training which emphasised the importance of participant observation, describing it as at least as, if not more valuable than, interviews' (Wessendorf 2009). Over time and from meeting to meeting I figured out two useful strategies for gaining access to some of the organizations which were of central interest in my research. First of all it helped me get access when I provided as much information about myself, the research project, and its aims and institutional context as possible, or as asked for by the informant at the beginning. In some cases – though not in all – it also was helpful to at least have a loose connection to the University of Namibia which I could prove with a letter of affiliation. Finally, I was most successful in those cases where I could initially rely on the help of individuals who happened to show a deeper interest in my research topics based on their own needs and motives and who then acted as a kind of gatekeeper, facilitating access and making further contacts for me. Participant observation proper, however, proved to be feasible only in the regional offices of organizations like the water

administration and NRCS in Kunene, where time schedules were slightly more flexible, the handling of information more relaxed, and, perhaps, the interest in the outcomes of my endeavours somewhat more immediate.

3.4. Collection of archival data

Initially as a result of the need to pass my time waiting for interview appointments during my first period of fieldwork in the country in 2010, I started spending time regularly in the MAWF resource centre, reviewing the entire filing system in search of information relevant to the sector of rural water supply. After continuing my work in this archive, which proved to be better organized and more fruitful for me than I had initially expected, I obtained copies of a relatively rich collection of administrative and policy papers, project documentation from development interventions, strategy and planning documents, and surveys and case studies concerning water supply in Namibia's communal areas. These data in particular helped to focus my research in terms of the timespan I included in my analysis.

It became clear from my review of some of the key administrative and policy documentation on the water-sector reform process after Namibia's Independence in 1990 in the MAWF resource centre that the major political reform decisions leading the Namibian water supply sector towards the principles of demands-based, communal management were made in the second half of the 1990s. The focus of retrospective investigation at the national level would thus be the years – roughly from the adoption of the Water Supply and Sanitation Sector Policy of 1993 to the first reformulation of the Water Resources Management Act of 2004 – during which a lot of resources had flowed into the policy-making discourse, and when the stage was being set by the state for the management of water in the manner in which it is in Namibia's communal areas today. My search for documents in connection with that central phase would thus concentrate on the documentation of the reform process in files in the MAWF resource centre in Windhoek as well as in the filing systems in the MAWF's regional branches in Kunene Region and the archive of Namibia's biggest independent daily newspaper, *The Namibian*. When comparing the accessibility of past issues of The Namibian with those of *Allgemeine Zeitung*, a German-language independent newspaper, and of *New Era*, a daily owned by the Namibian Government and relatively widely read, I found that only *The Namibian* offered the tools – including a digital archive – to conduct broader searches more efficiently.

Filling the periods of waiting for more encounters and interviews with water experts in Windhoek, which were unfortunately also unavoidable during my second stay there, I added to my archival

data by reviewing the complete archived issues of *The Namibian* for the years 1993, 1997, 1999, 2000, and 2004, which were the years during which important steps in the Namibian reform process in the sector of water management were taken and introduced through policy papers and review processes (1993, 2000), implementation strategies (1997, 1999), and new water-sector legislation (2004). The media coverage of important political decisions in the water sector that were debated and made in those years helped me grasp and follow the Namibian national RWS reform process based on public opinion. The data from the archives of *The Namibian* include the coverage and original transcripts of some of the National Assembly debates in connection with the adoption of the CBWM policy and legislation. The results of the search for news items in *The Namibian* related to water governance and policy in Namibia were complemented by selected articles from archival research I conducted at the *Allgemeine Zeitung* and from *New Era* and other news sources available from the '*AllAfrica*' website (www.AllAfrica.com).

The information acquired during my initial data collection in 2010 formed the basis for the planning of a second visit to Namibia in 2011. I had singled out some central discursive strands around policy- and law-making in Namibia related to CBWM, as well as the underlying discourses around water as a human right vs. water as an economic good, and around public versus private management of water supply, all of which seemed of relevance for the national-level processes. I also had an idea of some of the actors and products which formed important nodes in the web of meaning I was looking at. In terms of the actors I was going to scrutinize further I selected those most actively involved in present and previous development interventions and policy-making processes at the national level in connection with the water-sector reforms, and another group involved in the implementation process in Kunene Region as presented in the two tables below.[18]

[18] Also see for more detail on each of the organizations at the regional level of Kunene Region table 25 in chapter 8 below.

Table 1: Key actors involved in CBWM at national level in Namibia

Organization	Category	Role/ Activities
AgriFutura	Local NGO	Involved with advisory and trainings in the development of the national CBWM strategy and with capacity-building for Directorate of Water Supply and Sanitation Coordination (DWSSC) staff with varying intensity starting in 1993.
Desert Research Foundation of Namibia	Local NGO	Advisory role related to water and sanitation sector policies. Participation in relevant policy-making and review processes such as the NWRMR and IWRM planning. Lead consultant in the review of the water- and sanitation-sector policy commissioned by the Namibian Government in 2008.
European Union	Multilateral donor	Providing budget financing to MAWF along with technical expertise and advice; monitoring and evaluation of MAWF strategies and activities.
Finnish Government / Finnish International Development Agency (FINNIDA)	Bilateral donor	Financing the *Community Water Supply Management Support Programme* (CWMSP) 1997-2004.
German Government/ Gesellschaft für Internationale Zusammenarbeit (GIZ)	Bilateral donor	Long-term financing of programmes related to natural resources management; Providing policy advice to MAWF among others through the *Communal Areas Water Supply (CAWS) Project* (1997-2001) to develop the community-based management strategy for rural water supply and capacity-building in the water sector, and through the *Namibian Water Resources Management Review* (NWRMR) – 2001-2013 to implement IWRM and set up basin committees.
Ministry of Agriculture, Water and Forestry (MAWF), Windhoek	Government/ administrative entity	Leading policy-making, strategic planning and implementation of programmes in CBWM.
Namibian Red Cross Society (NRCS)	Local NGO	National WatSan approach and coordinator; part of the national coordination meetings chaired by the MAWF.
United Nations (various UN Agencies and Funds)	Multilateral donor	Providing policy advice, strategy-setting; Assisting and financing in the elaboration of the National Water Policy 2000; Co-financing of the Namibian Water Resources Management Review of 1998-2001 through UNDP; Financial assistance through the *Northern Regions Livestock Development Project* (NOLIDEP) channelled by UNOPS and IFAD 1994-2003, targeting Kunene and other regions.
World Bank	Multilateral donor	Providing policy advice, strategy-setting, Assisting and financing in the elaboration of the National Water Policy 2000; Co-financing of the Namibian Water Resources Management Review of 1998-2001.

Table 2: Key actors involved in CBWM in Kunene Region, Namibia

Organization	Category	Role/ Activities
Icelandic Government / Icelandic International Development Agency (ICEIDA)	Bilateral donor	Financing a rural water supply project in Kunene North 2007-2011: 39 new boreholes with solar-powered pumps in Kunene North.
Millennium Challenge Account (MCA)	Bilateral donor	Community-based rangeland and livestock management (CBRLM) – March 2010 to June 2014, introducing grazing management schemes, which includes the expansion of water-supply infrastructure, with DWSSC Kunene.
Gopa/ Namibian National Farmers' Union (NNFU)	German private consulting firm/ national federation of regional farmers unions	Implementing partners in MCA project on Community-based rangeland and livestock management (CBRLM) – March 2010 to June 2014 (see above).
Desert Research Foundation (DRFN)	Local NGO	Pilot projects on community-based groundwater monitoring in the Kuiseb basin.
Namibian Red Cross Society (NRCS)	Local NGO	Implementing water-supply-related projects in Kunene Region since 1990s; *de facto* responsible for the maintenance of hand-pump infrastructure in Kunene Region.
Integrated Rural Development and Nature Conservation (IRDNC)	Local NGO	Implementing rangeland management projects in Kunene Region, which include the drilling of new boreholes for livestock watering.
Hizetjitwa Indigenous Peoples' Organization (HIPO)	Local NGO	Community-based advocacy for local Himba, Zemba, Tjimba, and Twa population, including advocacy for improvements of general sanitation and water situation. Collaboration with the NRCS in hand-pump rehabilitation in Kunene North. Funding of construction of earth dams and material input in maintenance of boreholes and wells.
HUIRADS Construction	Local NGO	Conducting training of WPAs and WPCs on behalf of the DWSSC.
AgriFutura	Local NGO	Training of water user associations and water point committees as part of the ICEIDA project intervention.
Agri Enviro	Local NGO	Conducting training of WPAs and water point committees as part of the ICEIDA project intervention.

The activities and staff of these actors of course have multiple connections, including between the national offices, mostly situated in the Namibian capital of Windhoek, with their activities at the national scale, and their branches and/ or activities in Kunene Region. A significant proportion of

them are also part of global networks and take part in global development and other policy discourses.

Even though I had used this preliminary analysis to develop a rough plan and time schedule before embarking on a second, five-month-long research trip in 2011, it remained hard to plan ahead and select my research sites to some extent throughout my field phase. With a rough plan laid out, I travelled to Namibia with my family in June 2011 and based myself in Windhoek to begin a phase of more detailed data collection at the national scale.

Regularly visiting the MAWF, and among other activities completing my archival research there, I conducted individual expert interviews and a focus-group discussion with Ministry staff from different hierarchical levels within the Directorate of Water Supply and Sanitation Coordination (DWSSC), mainly concentrating on the division of community support services and training.

In trying to pursue as many of the different links as possible in the chain of CBWM implementation down to the regional level, I had an in-depth interview with the head of one of the local NGOs that had successfully applied to tenders of the MAWF, through which the training required for newly established WPCs is outsourced to the most competitive bidders – mostly local NGOs specializing in community-level training. The same NGO, as well as another civil-society actor, also told me that they had been actively involved in designing the community training from the outset together with people from the administration, and in policy-making and advisory fora coordinated by the MAWF respectively.

I also established closer contacts with the NRCS, mainly through an expatriate staff member who had recently arrived and taken on responsibility for the implementation of a new water supply and sanitation project in Kunene Region. Given their underlying interest in information regarding the outcomes of their previous project interventions, we had an entry point to engage in concrete joint planning for a later research phase in Kunene North with the aim of analyzing some of the outcomes of and perceptions with regard to the recently completed *Water Supply and Sanitation Project for the Rural Communities in North Namibia*. Before embarking on my trip to Kunene Region we jointly designed a questionnaire based on two pre-existing questionnaires which played important roles in data-gathering for the LINGS project and for my case study in particular: one was the questionnaire designed by the LINGS team which had formed the basis for an initial assessment of the water supply situation, water point infrastructure, and management institutions of a sample of communities in the surroundings of the three long-term field-research sites of my colleagues. The other was the questionnaire internally referred to as the ‘extension

service job card', which is commonly used by DWSSC extension staff when conducting follow-up visits to WPAs. A combination of the two was designed and then adapted in a second step to the particular case of hand-pumps, which are the form of technology on which the NRCS has been focusing in the above mentioned project – as well as in many of their project activities implemented previously.

3.5. Data collection in Kunene Region – mobile and multi-sited

When my family had left to head back to Germany after two initial months in the field together, I underwent one more transformation of my own status and logistical situation as a researcher in order to access the local and regional scales for the remaining time in the field. In order to become as mobile as possible and be able to respond to interesting topics and informants spontaneously across the vast North-West of the country, I loaded all my necessary belongings and equipment into a four-wheel-drive vehicle to spend three months of field work 'on the move' in Kunene Region between August and October 2011. A preselection of sites being largely impossible due to a lack of concrete information as to what kind of water-related activities might be planned, where, and when, my research sites were determined by the linkages I had established with the regional branches of the DWSSC as well as with the NRCS in Opuwo, and by the rhythm and priorities of their extension work at the water points in Kunene. During these three months I drove over 3,000 kilometres, slept in in my tent for varying durations in seven different places, and visited a total of 25 settlements where I conducted interviews and focus-group discussions with water users, and witnessed various meetings at the water points with representatives of the Government and/or the NGO and the local water users and management committees.

Field Assistants

During the time that I spent using mostly Opuwo as my base I was supported by Ms. Uetupa Upora, who worked as my field assistant and helped me mainly with her excellent translation skills from Otjiherero into English, but who also kept me company on the long roads and at the fireside at our various campsites, as well as opening up some of the contacts with our informants with her friendly and appreciative attitude. Mr. Charles Kaee joined our team during the water point visits in relation to the NRCS project activities in the Southern parts of Opuwo Constituency, and saved us many times from getting lost in the savannah woodland in between settlements. His local knowledge, which included most of the communities we ended up visiting, also helped us a great deal when gathering people for our focus group discussions.

Doing Ethnography on a regional water administration

During an exploratory field trip outside Windhoek which I had embarked upon together with my family – including a visit to my LINGS colleague Theresa Linke, who was then based in Grootvlakte in Kunene South, not far from the regional centre, Khorixas – I had established a very fruitful contact with the regional office of the DWSSC, and especially with Mrs. Mary Goagoses and Ms. Viviane Gamises[19], two members of the DWSSC extension staff. After interviews we conducted together with Theresa Linke I agreed on a joint field phase later on with these two very open-minded women, who showed a great interest in us and our research topics.

Upon my return to Khorixas, where I based myself in the local Government rest camp in August, they took me along for several weeks during their routine extension work in communities at a total of six water points in the area surrounding Khorixas. This gave me the opportunity to engage in participant observation of the water administration's day-to-day practice during the establishment of a new WPA, the monitoring of construction work going on at a newly drilled borehole, and the monitoring of the management institutions at another four water points.

Later on I had the privilege of spending time with Mr. John Kasuto, an extension officer from the DWSSC in Kunene North, sharing part of his routine extension work with me with the same openness and readiness he displayed when he had me join a week-long process of establishing a WPA near Opuwo.

Apart from witnessing the routine practices of establishing and training WPAs, handing over the water points into community management, and assessing the performance of previously established WPAs and WPCs, I had the chance during the weeks which we spent together to have a lot of spontaneous conversations with the three members of the DWSSC extension staff in order to get direct feedback from them about how they saw the water situation and management arrangements in the communities we visited, as well as their general views on the CBWM reforms in Namibia's rural water supply sector. From those spontaneous, informal discussions with the extension officers I joined during field visits, I gained an impression of the way they discuss their tasks and the overall goal of introducing CBWM at all the water points in the region internally, and was able to contextualize their direct interaction with the communities I had witnessed. In

[19] For the sake of anonymity of my informants their names have been changed throughout. Although none of them made me aware expressly of a wish not to be identifiable in my PhD thesis or in other publications I would be working on, I may have decided in some cases where individuals might otherwise have been identified – by mentioning their exact positions in the water administration for instance – not to do so, or to disguise them even further than merely by changing their names.

addition to that I conducted in-depth interviews with a total of eight DWSSC extension staff in the two offices in Khorixas and Opuwo. Among the most important topics I tried to assess in the interviews were the informants' viewpoints regarding concepts like equity, successful versus unsuccessful management of a water point, the functioning of the WPCs and of CBWM implementation on the whole, and their views on the financial aspects of WPA management.

While I was using Opuwo as my base I continuously collected information from the DWSSC archives, which proved to be a fruitful place from which to collect detailed information about the history of Government interventions at the water points, complementary to the central MAWF archive in Windhoek. There was a database called 'Rural Water Information System' (RUWIS) to which I was kindly granted access by the DWSSC branch in Khorixas. This database covering the years between 1994 and 2008 contains detailed statistical information in relation to the WPAs, and information on technical as well as training inputs related to the introduction of CBWM in Kunene South. Unfortunately, comparable data for Kunene North is currently not accessible for the purposes of my research. The main office in Opuwo kept hard copies of WUA constitutions and management plans, which are their key founding documents and operation plans, and I was able to attain copies of the constitutions of sixteen of the WPAs I had visited. Furthermore, the data included the so-called 'service job cards' which were used as standardized instruments for information collection during monitoring visits conducted by the DWSSC extension officers.

Field sites of my fellow researchers – Grootvlakte, Ombaka, Omao

During my research phase in Kunene Region I spent differing amounts of time at all the three sites at which my LINGS project colleagues were conducting their long-term field research:

Two days directly in Grootvlakte, where Theresa Linke was based for most of her fieldwork, and then again two weeks in the surrounding areas, working from the Southern regional centre of Khorixas.

Two days in Ombaka – the research site of Diego Menestrey – using it as a base from which to visit several water user groups in Epupa Constituency.

Ten days in Omao – the research base of Kathrin Gradt – conducting daily trips to surrounding villages to meet water user groups.

NGO activity in Kunene's water supply sector – working with the Namibian Red Cross Society

The general accounts of and views on the management of rural water supply in Kunene Region and the nationwide introduction of CBWM in the country's rural communal areas, as well as the input and practices of the NRCS into the water sector, were among the topics in four guided

expert interviews conducted with NRCS staff in Opuwo. Based on the earlier decision to focus a large part of my research on the recently completed *Water Supply and Sanitation Project for the Rural Communities in North Namibia, 2007-2010* which had followed the aims of rehabilitating hand-pumps and protecting wells and springs in Kunene North, as well as training WPAs and creating awareness in relation to improved hygiene practices, I reviewed NRCS project documentation together with the Opuwo-based regional manager of the NRCS for Kunene and pre-selected potential research sites which had been targeted by the project. I then spent three weeks visiting a total of 19 of these communities in Opuwo and Epupa Constituencies together with my two field assistants. We usually started out by looking for members of the Traditional Authority, and most importantly the WPC, in order to explain the reason for our visit, and our interest in the existing water infrastructure and water management institutions. The interview guide developed together with the NRCS was then used for focus-group discussions which we conducted at a total of 13 of these water points with members of the water point committees and other water users. As we only spent one day at a time in each of the communities, and in some cases less, the composition of the groups of interviewees/ discussants remained random to some extent – depending on who was present and had the necessary time and willingness to remain with us at the water point, usually for roughly one hour. Both men and women were represented in each group, although usually young and middle-aged men formed the majority of informants as they were mostly the ones either visiting the water points with cattle at the time we arrived, or who were responsible for the water point in one way or other, so that they were called to come and talk to us by other community members.

Back in Opuwo I succeeded in collecting information from the archives and the databases kept in the two regional DWSSC offices on sixteen of the WPAs I had visited, including WPA constitutions, reports from monitoring visits by extension officers and information from the DWSSC database on technical as well as training inputs related to the introduction of CBWM.

3.6. Conference anthropology, including at mega-events

In between the field visits to Namibia and the phases of data analysis and re-planning I had the opportunity to add to my ethnographic experience of 'travelling with models' during a one-week journey to France. When attending the sixth World Water Forum (WWF) and the Forum Alternatif Mondial del'Eau (FAME) in Marseille from March 12th to 17th in 2012 I was able to witness the particular nature and intensity of a mega-event as an interstitial space in the translation chain of a travelling model as part of international water-related discourses. At the WWF, every two years, a

huge collection of actors from various organizational settings, continents and countries, drawing from a vast array of different sources of information, expertise and political convictions, meet in one location – a rather rare occurrence. They reserve the period of six days to take up the strands of the ongoing discussions around the human right to water and its implementation, the international mobilization around water as a common good and against the commercialization of water supply, as well as some of the latest discussions and trends with regard to rural water supply in particular.[20]

Events of the size and complexity of the WWF with its over 400 open thematic sessions and 35,000 participants, including Government officials from 173 different countries – 15 of them Heads of State – and 3,500 NGO and civil society representatives (World Water Council 2012), certainly pose particular challenges to an individual researcher trying to grasp as much relevant information as possible with his or her toolbox of anthropological methods. (Brumann 2011:26–27) and (De Wit 2012:34) in an unpublished research report she kindly shared with me have provided accounts of similar research settings. Arriving at the conference venue – the 'Parc Chanot - Palais des Congrès et des Expositions de Marseille' – on the morning of the first conference day I started to understand that the physical constraint of being on my own would be the biggest challenge in several ways: it would be challenging to find my way around and to learn the 'cultural codes' of the participants in this event in an extremely limited amount of time. It would be difficult to maintain an overview of the event in order to get the maximum benefit out of it in relation to my research questions. Due to the different status attached to categories of visitors that were assigned based on affiliation to organizations, professional groups, and organization types (e.g. NGOs versus Government representatives; journalists versus PhD students) there would be limited access to some of the sessions which could be of central interest to me. Especially the Government representatives were engaged in a number of 'closed sessions' that the other visitors were not allowed to observe. And although I could plan my daily programme in terms of which sessions to attend and which parts of the exhibition of country programmes and water-sector organizations and companies, and which or of the so-called 'Village of Solutions' to take a closer look at, there would still remain the factor of coincidence and limited plannability, at least regarding the informants I could potentially meet. Most of the thematic sessions and debates which I attended had the form of panel events with invited speakers and presentations, and were thus lacking the option of active interaction between audience and speakers except for question-

[20] See Weisser et al. 2013 for the potential role of detailed ethnographic documentation of what they call 'situations' like conferences and mega-events in the analysis of 'travelling idea' research.

and-answer sessions. It was also usually impossible to move about during the session in order to contact other members of the audience, not to mention the panellists themselves.[21] Later during the rather exhausting week I also began to miss the chance to reflect – ideally together with other researchers – in between data collection, planning, and re-planning in this very dense and compressed amount of time. Not only in this particular setting of the mega-event, but also in the study of the travelling of ideas and models across scales and locations, a teamwork approach to research would have greatly benefitted my ethnographic endeavour and led to different, if not necessarily more complete, results. [22]

The complexity in the case of my week-long stay in Marseille was exacerbated even further by the alternative Forum – FAME – taking place in the same city, but a different quartier around a 30 minutes train ride away, at exactly the same time. This proved to be both a blessing and a curse: it opened the exciting opportunity for me to observe debates and collect information around some of the most politically controversial discursive strands concerning the management of the world's water resources being disputed by actors from diverse contexts, affiliations and convictions at two discursive events in parallel, which appeared antipodal in terms of a number of criteria: accessibility, size, financial resource base, local setting and facilities, and official political representation. At the same time the concurrence of the two forums made it yet more difficult for me to cover them by physical presence, to overcome the natural initial feeling of disorientation, and to adopt any more planned, structured approach to data-gathering on site.

Having seen the conference programmes beforehand I had chosen three areas on which I planned to focus in order to keep myself from getting lost: first of all I wanted to focus on the sub-sector of rural water supply which is at the heart of this thesis. Secondly I had identified some discursive strands featuring strongly here at the international level which I had found important for the Namibian national-level water debates, namely the human right to water and its implementation, the discussion around cost-recovery versus free water access, and the debate around private versus public water management. A third way of filtering the huge number of impressions and amount of information I was exposed to was to concentrate on my regional research focus and thus look for information and actors relevant for Southern Africa or Namibia in particular.

[21] See Brumann's article on UN high-level conferences related to the UNESCO World Heritage regarding the implications for participant observation and the limitations of individual researchers during such events (Brumann 2011:27).

[22] On the need for and benefits of teamwork approaches in doing anthropology once it 'takes an interest in modern society or the modernity of society, in Africa or elsewhere', see Bierschenk and Olivier de Sardan 2014b:22; and also: Bierschenk 2014:91.

My methodological approach to data gathering also ended up being threefold, and involved: (1) 'wandering about' the two sites with their numerous displays of country-level and/or organizational strategies and actions in the water sector, as many other visitors would do, in order to observe the 'cultural codes' of the two events, the way participants behaved and expressed their opinions, and to collect written documentation which was available to everyone in huge quantity and variety; (2) attending and recording as many sessions as possible to follow the discussions around the three focal themes mentioned above; and (3) participant observation and interviews during two selected sessions at the WWF – one of them focusing on rural water supply and following up on the 6th Rural Water Supply Network Forum which took place in Kampala from 29 November to 01 December 2011, the other one on public management of water as a common good. At the FAME I attended the opening ceremony and the 'Deconstructing WWF discourse' session, as well as the workshop focusing on research titled 'Economics, politics, law, culture and social sciences: water issues and alternatives'.

In this context it is also important to stress that in the case of such mega-events as the World Water Forums some of the main outcomes and messages to be distributed at the end of the events, such as for instance the Forums' Ministerial Declarations, are usually negotiated between the main stakeholders well before the meetings and subject to detailed preparation by conference facilitation teams and/or debates and negotiations without the participation of the public, so that the meetings that take place during the mega-event itself in some cases have more of a representational and almost ritualistic character, in addition to being effective networking events – rather than being the most important events when it comes to making decisions. They are still the only part of the whole process around a mega-event that an anthropological researcher would witness; unless he or she was to engage in time-consuming participant observation of the preparatory process beforehand. It helped me at least to some extent in contextualizing and understanding the official World Water Forum in Marseille that I had gained some general background knowledge about how such big, high-level events are prepared and organized by the UN system, as I had worked as UN staff during three years prior to my research for this study.

Another particular aspect of doing conference ethnography is that one often has big additional quantities of written preparatory material and documentation which needs to be processed both prior to and following the event itself (Brumann 2011:25). Based on my experience at WWF and FAME I would agree with Brumann that on the one hand without the conference documentation and application of modern-day communication and media techniques in that context, an attempt by an individual researcher to cover such events in any meaningful way is almost ridiculous, unless

one was to pick an extremely narrow thematic focus or to concentrate on only a very limited group of participants and their particular conference experience through the nonparticipant observation technique of shadowing (Bryman 2004). So the availability of written documentation is a great opportunity to keep an overview and put into context the actual data one is gathering on site. On the other hand the processing of the information which is usually available in print or online is yet one more very time-consuming task in its own right, which has to be planned for realistically.

For the purposes of this study I mainly analyzed messages that different civil society actors, states and international organizations were publishing online prior to the event, requesting forum participants to take into account their views and political calls; declarations made during or immediately after the forum by different groups of participants; and other documents summarizing or reporting on the outcomes of the forum, including press articles. I also took into account a number of current strategic documents and situation reports published by actors in the water sector in the run-up to the Marseille events, e.g. the EC, different UN bodies, the Rural Water Supply Network and some of the donor Governments represented in Marseille. Furthermore, I used the written documentation and outcomes of the sessions which I attended and of others relevant to my research topics which I had not had the chance to attend in order to add to the basis of my analysis.

Table 3: Overview of data

Research Phase	Data	Themes	Place	Sources
Preparatory Phase Germany	Development documentation	Water-sector strategies; Project documentation	Internet	Water-sector organizations: Donors, NGOs, think tanks and advocacy networks
	'Water reports'	Status quo of water situation globally/ in Namibia; Water-related international development goals	Internet, libraries	Water-sector organizations – mostly multilateral
	Water- and Environmental Conferences – Reports and declarations	Predominant paradigms and ideas in global water governance across time; envisaged outcomes of water-sector initiatives	Mostly Internet; in some cases libraries	Conference organizers and participants
	Organizational strategies/ missions/ visions	Incorporation of water sector strategies into the broader portfolio of relevant organizations	Internet; documents collected during interviews in Windhoek	Organizations' homepages; individual informants
Exploratory phase Windhoek	Policies, legal documents, strategies and other national-level administrative documentation	Water supply in Kunene region; CBWM planning and implementation; legislative processes	Windhoek	MAWF archives
	Development documentation	Project documentation; Evaluations and baseline data; Implementation manuals	Windhoek	MAWF archives; DRFN archive; Informants during interviews
	Expert interviews 1	CBWM reforms in Namibia: identification of main actors and international influences	Windhoek	Donor representatives and independent consultants
Second field phase Windhoek	Expert interviews 2	Roles and views of the national water administration in CBWM	Windhoek	MAWF staff
	Newspaper articles	Coverage of water-related themes	Windhoek; Web archives	*The Namibian*, AZ archives
	Reports on National Assembly proceedings	Debates around the CBWM reforms	Windhoek	*The Namibian* archive; National Assembly; National Council
	NRCS project documentation	Water supply projects in Kunene Region and their connection to CBWM	Windhoek/ Opuwo	NRCS
	Visual representations of water-sector activities/ campaigns	Public awareness-raising on water issues	Windhoek/ Kunene Region	Posters, stickers etc. publicly visible

Research Phase	Data	Themes	Place	Sources
Field phase Kunene Region	Expert interviews 3	Roles and views of DWSSC regional staff in relation to CBWM adoption and implementation	Khorixas/ Opuwo	DWSSC regional staff
	Expert interviews (conflict)	Conflict case around WPA establishment in Opuwo Constituency	Opuwo	DWSSC regional staff
	Participant observation of administrative practice	Approaches to CBWM implementation; Interaction between DWSSC and water users	Khorixas and Opuwo Constituencies (some specific villages)	DWSSC extension officers and groups of water users
	NRCS/ hand-pump survey	Approaches to CBWM implementation; NRCS' role in water supply; their interaction with water users	Opuwo and Epupa Constituencies	19 communities
	DWSSC administrative documentation	Water point information; WPA constitutions; CBWM interventions	Khorixas and Opuwo	DWSSC database on Kunene South
World Water Forums Marseille	Participant observation	Opening ceremonies; thematic sessions and workshops; high-level panels	Marseille	-
	Claims and messages to conference participants; declarations	Human right to water; water as a common good	Marseille/ online documentation	Civil-society coalitions; diplomats; multilateral organisations
	Relevant sector reports; conference documentation	Status of global water situation; human right to water; water as a common good	Marseille/ online documentation	Conference organizers; multilateral organizations, NGOs

4. Introducing water in Namibia as a research subject

4.1. Water resources in Namibia

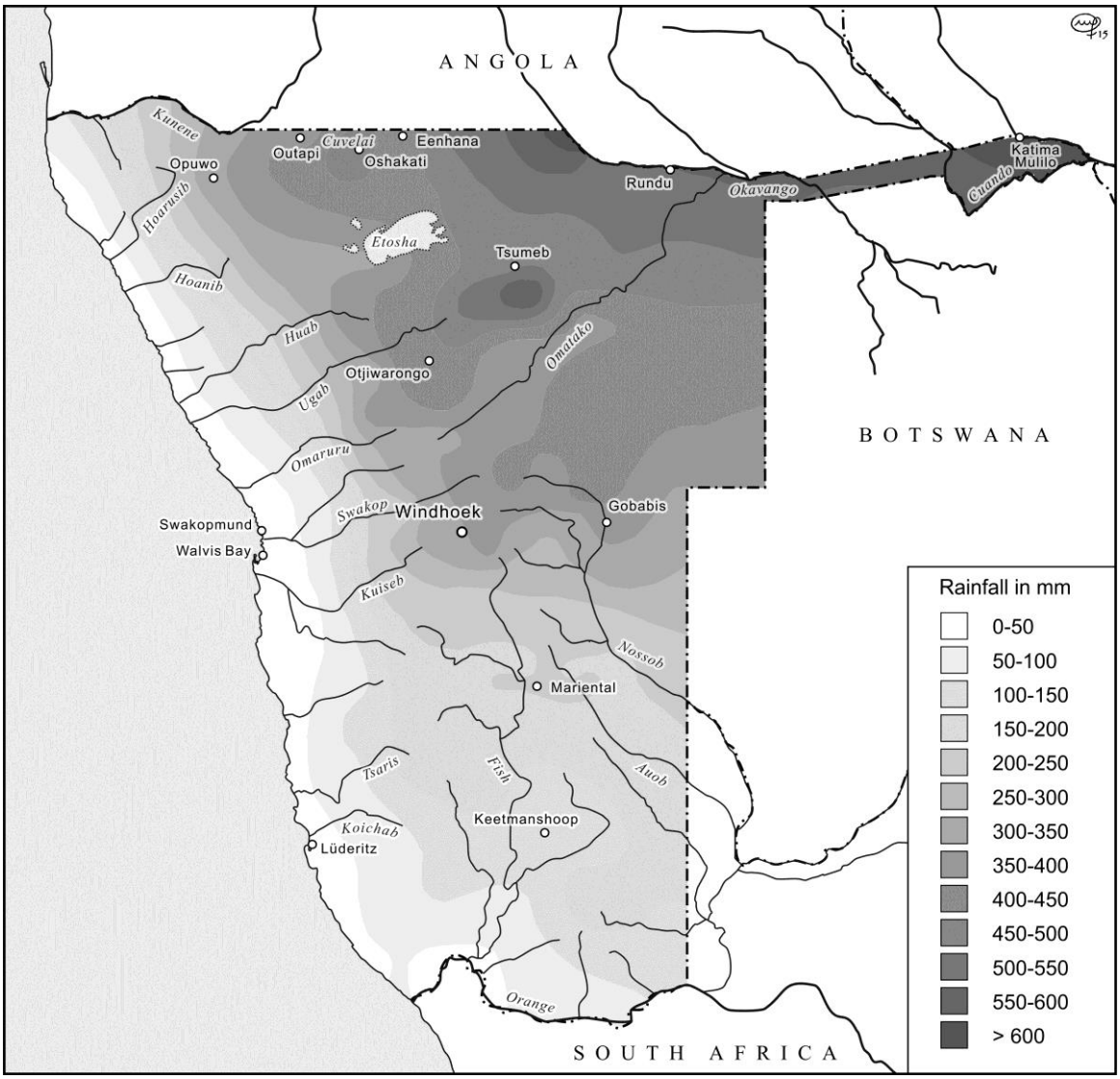
In descriptions of Namibia's physical environment, one of the first, if not the first thing one usually reads is that by common hydrological parameters, Namibia is the most arid country south of the Sahara (see for instance Niemann 2000:12; Republic of Namibia. Ministry of Agriculture, Water and Rural Development 2000c:7; Klintenberg et al. 2007:337; Kluge et al. 2010:153). To be more precise, according to the Food and Agricultural Organisation's 'AQUASTAT Information System on Water and Agriculture' Namibia's climate is characterized by hot and dry conditions and sparse and erratic rainfall, with 92 per cent of the land area defined as hyper-arid, arid, or semi-arid. The average mean annual rainfall is 285 mm per year.[23] The rain that falls during the rainy season, which is generally expected between October and April, is characterized by a high temporal and spatial variability, ranging from sometimes below 200 mm annually in the south to between 500 and 700 mm in the north and north-east (Blümel and Leser 2002:98), see map 1 below.

As a result of the extremely dry climate and resulting high rates of evaporation, it is estimated that only 2 per cent of the precipitation constitutes the surface runoff, while 1 per cent recharges the groundwater (see FAO, Aquastat Profile Namibia). Rainfed agriculture is possible only on about 0.4 per cent of Namibia's land surface (Mendelsohn et al. 2002), mainly in the central northern area along the Angolan border, and in the neighbouring Kavango and Caprivi Regions towards the east.

Most of the water that is made available for use is derived from the few perennial rivers, all of which mark parts of Namibia's international borders with the neighbouring states, and from groundwater resources or dams in the ephemeral rivers. Map 2 below shows the six perennial rivers Kunene, Kwando, Linyanti/Chobe, Okavango, Orange, and Zambezi, and the westward-flowing ephemeral rivers which are of central importance for Kunene Region.

None of Namibia's permanent waterways have their source within the country. Without permanent rivers flowing through the interior of the country, Namibia's central regions are sustained and fed mainly by groundwater reserves and by the ephemeral rivers that carry water for very brief periods during and after the rainy season. These two types of water resources support approximately 50 per cent of Namibia's population across 80 per cent of the country's territory (Heyns et al. 1998:61).

[23] http://www.fao.org/nr/water/aquastat/countries_regions/NAM/index.stm, last accessed 10 April 2016.

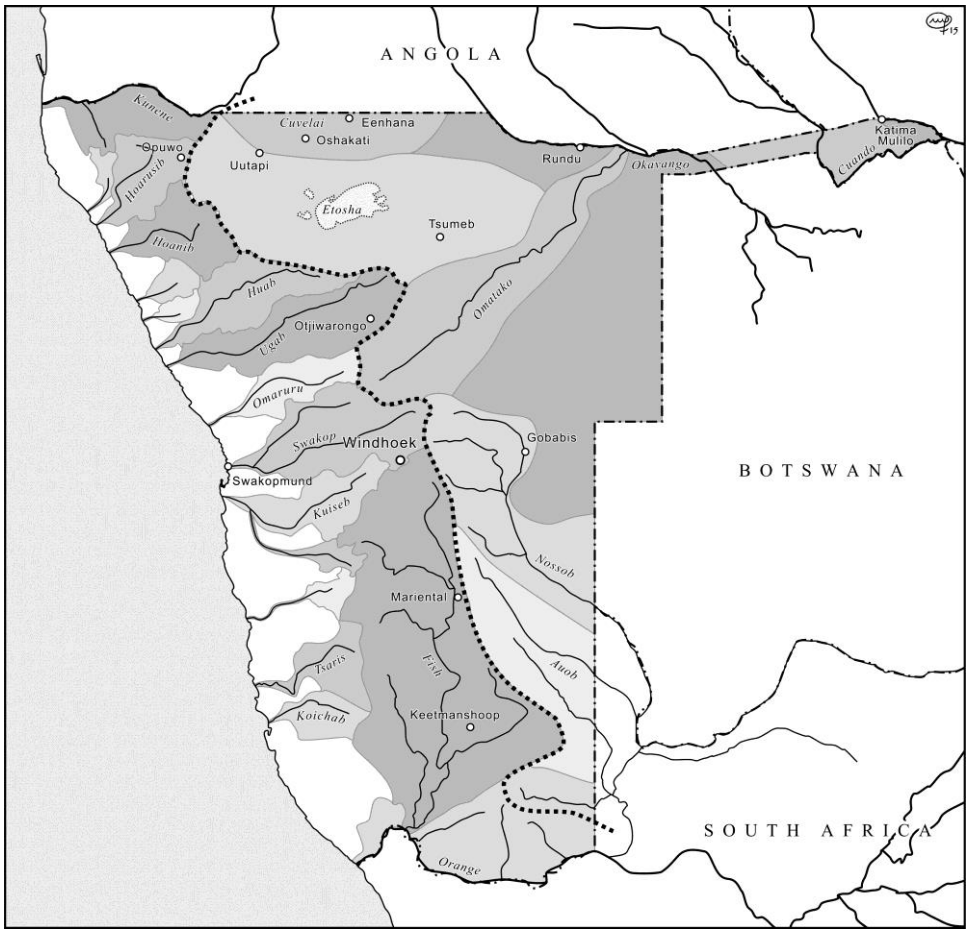


Map 1: Namibia, average annual rainfall[24]

As Namibia has invested in related technology, e.g. for desalination, there also is a small proportion of water coming from unconventional sources such as recycled, reused, or reclaimed water (Heyns et al. 1998:58). The overall proportions of water sources available for use in Namibia are shown on figure 4 below.

Total water consumption in Namibia was 300 million m^3 in 2000. Out of that, agriculture was the largest water user accounting for 213 million m^3, of which 136 million m^3 for irrigation, and the remaining 77 million m^3 for livestock husbandry. The municipal sector accounted for 73 million m^3 of water consumed annually, and the industrial sector for 14 million m^3.

[24] Produced by Monika Feinen.



Map 2: Catchments of perennial and main ephemeral rivers of Namibia[25]

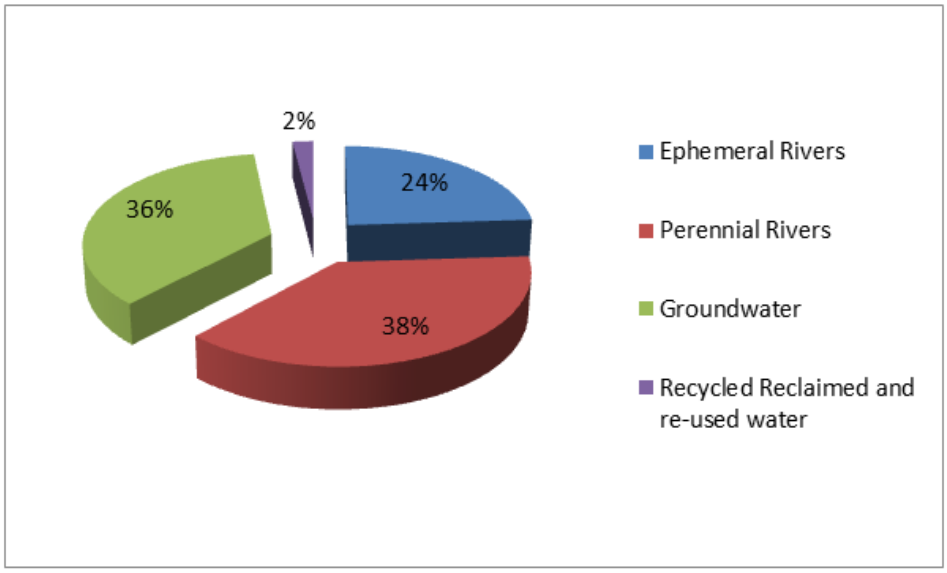


Figure 4: Sources of water available for use in Namibia – 1998
Re-produced from: (Heyns et al. 1998:58)

[25] Produced by Monika Feinen.

4.2. Socio-economic facts about Kunene Region

Namibia is administratively subdivided into thirteen regions, one of which is the Kunene Region far in the Northwest. Kunene Region is comprised of six constituencies: Epupa, Kamanjab, Khorixas, Opuwo, Outjo, and Sesfontein. Kunene Region encompasses vast stretches of extremely arid land, covering an area of 114,293 km^2. According to the national census of 2011, 74 per cent of Kunene's population live in rural areas – compared to 57 per cent of Namibia's population in general. The three biggest centres of Kunene Region population-wise are Khorixas and Outjo in the south, and the regional capital Opuwo in the north, the latter of which accounts for about 7,700 inhabitants. Opuwo and Khorixas are also regional administrative centres with offices of the regional branch of the DWSSC.[26]

With an average population density for the whole region of 0.8 persons/km^2, compared to the corresponding figure of 2.6 persons/km^2 for the entire Namibian territory, Kunene is the most sparsely populated region in the country according to the 2011 census. In comparison with the census of 2001, population figures slightly increased in the urban areas of Kunene Region as opposed to a small decrease in the rural areas. Kunene Region is marked by relatively high levels of illiteracy and unemployment. Out of all inhabitants above 15 years of age, 35 per cent cannot read and write, and out of all economically active people above 15 years of age, 36 per cent were counted as unemployed. There is a marked variation in many of the socio-economic indicators for Kunene Region, just as for the entire country between rural and urban areas. For Kunene Region in 2011 the literacy rate in urban areas stood at 85.2 per cent, while in rural areas it was as low as 56 per cent. When looking across the LINGS research area it is notable that the literacy rate was highest in Khorixas Constituency (83.8 per cent) in Kunene South, and lowest in Epupa Constituency, with a predominantly Himba population, in the north of the region (29.4 per cent). In comparison with other Namibian regions such as Caprivi, where poverty is as high as 35.2 per cent, Kunene has a medium poverty rate at 15.9 per cent, with a decreasing tendency over the past ten years, close to the overall national poverty rate of 15.3 per cent. Between 1993 and 2003, inequality declined in almost all regions of Namibia, followed by a renewed increase between 2004 and 2010 in seven out of a total of 13 regions, Kunene being one of them. Poverty indicators however recorded significant reductions at national and regional levels during the same period (Republic of Namibia. Namibia Statistics Agency 2012:5). The percentage of female-headed households is comparably low – 40 per cent in Kunene, 44 per cent at the national level, and a

[26] Population figures in the following paragraphs are based on Republic of Namibia. Namibia Statistics Agency 2014a, 2014b.

maximum level of over 55 per cent in Omusati and Ohangwena Regions (Republic of Namibia. Namibia Statistics Agency 2014b).

4.3. Water resources in Kunene Region

In terms of its hydroclimate the Kunene Region extends across the driest, western-most stretch of the Namib Desert along the north-western coast towards the Omusati and Oshana Regions in the east – a zone with around 300 mm of mean annual rainfall (compare Blümel and Leser 2002; Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1991). Water resources found in the Kunene Region mostly originate from its only perennial river – the Kunene – constituting Namibia's border with Angola in the far north-west, as well as from a cluster of ephemeral rivers in the west and the aquifers connected to them. According to FAO's Country Profile for Namibia: 'Although the ephemeral rivers of Namibia have dry sandy or rocky river beds for most of the year, they are conduits for subsurface flow and contain a number of wetlands defined as "shallow, swampy or marshy areas with little or no water flow" or "waterlogged solid dominated by emergent vegetation". In Namibia this description applies to most sections of all westward flowing rivers north of the Kuiseb River' (FAO 2005:5). These frequently dry riverbeds, several of which are located in Kunene Region, are thus an important resource for the local economy as water can be found at least seasonally on their surface, but water can also be found in dug wells in the riverbeds during most part of the year.

The locations of settlements in Kunene Region are determined by two main factors: the availability of grazing for livestock, and of drinking water for both humans and livestock. Subsistence agriculture is adapted to the arid local conditions and mainly based on livestock production, and only to a lesser extent on irrigated cultivation of crops. Livestock breeding and gardening still constitute the prevalent forms of land use. Both ethnically and economically in terms of sources of household income, the southern part of Kunene Region shows a higher diversification than its north. Tourism- and community-based wildlife management have become increasingly important since the end of the 1990s. The two latter economic activities are often linked together in areas where groups of people can apply for so-called 'communal area conservancies', which have to be officially gazetted by the government, and which give local communities the opportunity to take part in the management of wildlife and tourism, and to benefit financially and in terms of workplaces. Two other CBM models present in Namibia's Kunene Region are community forests, which regulate access to and economic benefit from the use of plant resources, and the

communal area conservancies that regulate access to and economic benefit from wildlife resources, both of which work along similar lines.[27] Both of these CBM models are regulated through national legislation, and refer to bounded territories and local 'communities' – the boundaries of which define membership of community forests or conservancies. While some of the communal area conservancies cite measurable economic outcomes for their members, the community forests are not yet successful in terms of generating income. In general terms though, the trend to grant local people access to previously state-owned natural forest and wildlife resources has added to the opportunities for local people to obtain a cash income based on regular wages and/or occasional paid labour in the sector of community-based natural resources management.

The IWRM booklet produced for Kunene Region in 2010 provides a chart displaying the proportional water-use allocations to different sectors for 2008 – unfortunately not displaying any percentage values, and thus not being particularly clear. It shows however, that by far the biggest proportion of water available in the Kunene River Basin is used for livestock (around 70 per cent), while irrigation and tourism take the next biggest pieces of the pie. Smaller amounts of water are allocated to urban supplies, rural domestic use, and mining.

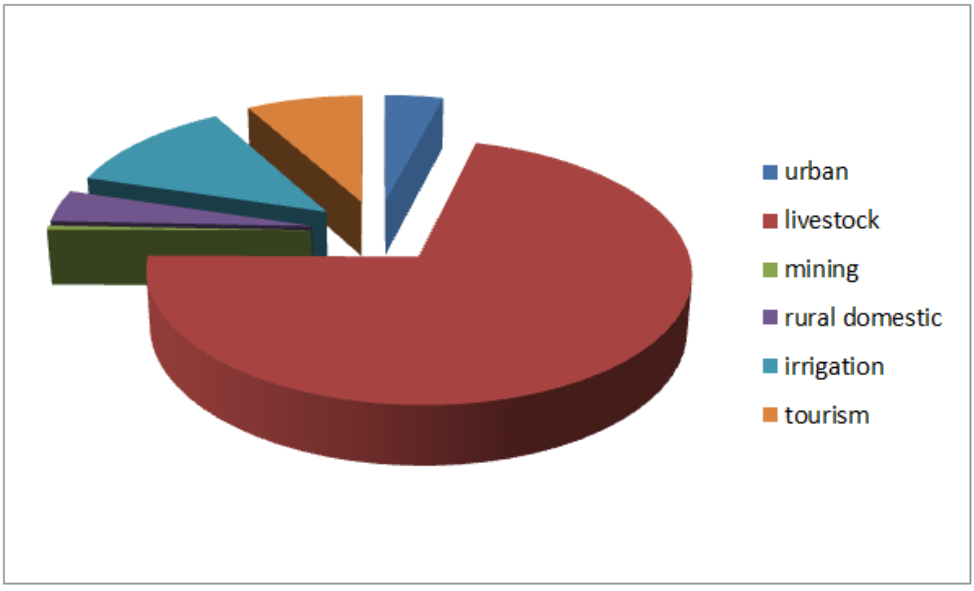


Figure 5: Water-use allocation - Kunene River Basin[28]

[27] Kunene Region currently has 36 registered communal area conservancies and 6 community forests on its territory (as of October 2014), see: http://www.nacso.org.na/SOC_profiles/Registered%20Communal%20Conservancies.pdf, and: http://www.nacso.org.na/dwnlds/refs/Community%20forests.jpg; both of them last accessed 28 February 2016.

[28] Source: IWRM Plan Joint Venture Namibia 2010b:8.

Water infrastructure for household supply in Kunene Region consists mainly of boreholes previously drilled by the colonial administration, and more recently by the DWSSC. There are areas where on average more than one borehole is available per community (Menestrey Schwieger 2015b:64). The pump infrastructure installed on these boreholes consists variously of hand-pumps, diesel pumps, solar installations, wind pumps, and electrical pumps. In addition there are protected springs and hand-dug wells, some of which have also been equipped with pumps. As well as the pumps, the water-point infrastructure includes water tanks or open reservoirs, and frequently basic infrastructure to water livestock (see some exemplary photos in Appendix 11.2). The kind and condition of water storage facilities ranges from open cement constructions left over from colonial times, which are frequently porous and leaking, to closed polyethylene tanks and troughs, sometimes additionally equipped with taps. The existing infrastructure can also be divided into categories depending on its construction date and context – with building material that changed over time, and certain types of pumps that were installed by certain donors. All the solar pumps existing in Kunene Region, for instance, were installed by a project funded by ICEIDA between 2007 and 2012. The hand-pumps and wind pumps mostly originate from colonial times. Handpumps have often been rehabilitated several times, and more were installed after Namibia's independence by the NRCS. The most frequently installed hand-pump types in Kunene Region in 2000 were the 'Zimbabwe Bush Pump' and the 'India Mark III' Pump (Windhoek Consulting Engineers 2001).[29]

Except in the population centres, the vast majority of people in Kunene Region do not have a tap water supply in their private houses or on their premises, but have to go to the communal water point in order to collect water, either directly from the pump where installed, or from a reservoir – sometimes closed and equipped with a tap water outlet specifically for drinking water supply.

[29] See for more detail on the pump types and their spread throughout countries of the Global South chapter 8.3.3.

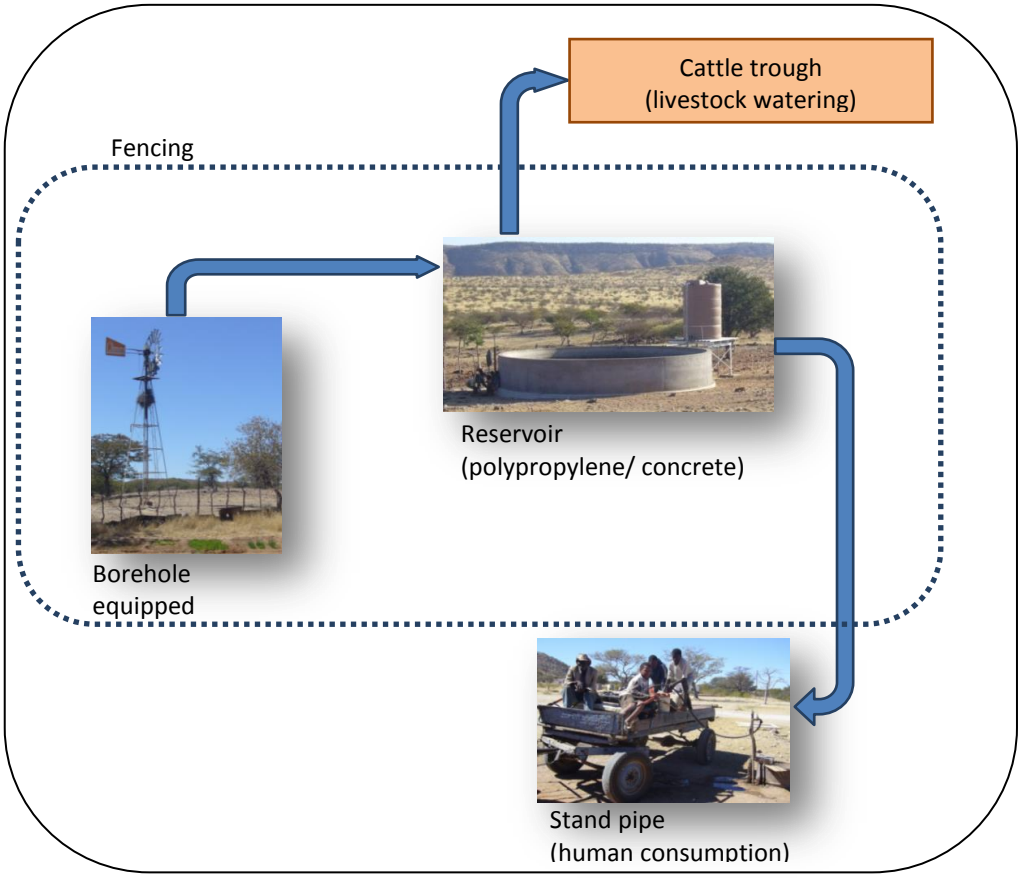


Figure 6: Typical layout of a water point in Kunene Region

Provision of access to safe drinking water has been one of the development priorities of the independent government and it has been increasing steadily nationwide between 1990 and 2010. In 2012 according to the WHO and UNICEF, the proportion of people without access to an improved source of drinking water was 13 per cent of the rural population and only 2 per cent of the urban population (World Health Organization and United Nations Children's Fund 2014:65).[30] Questions concerning data accuracy or rather the exact indicator used can be posed here though, as the national census conducted by the Namibian authorities in 2011 quoted above had indicated the figure for lack of access to 'safe drinking water' at 37 per cent for Namibia's rural areas. In any case some progress has been made as at Independence in 1990 that proportion had been 45 per cent and 1 per cent respectively, marking the vast difference in coverage between rural and urban areas at the end of the Apartheid era.

[30] As the Joint Monitoring Programme of WHO and UNICEF defines elsewhere, an improved drinking-water source is one that, by nature of its construction or through active intervention, is protected from outside contamination, in particular from contamination with faecal matter (http://www.wssinfo.org/definitions-methods/, last accessed 09 March 2016).

Recent statistics on the accessibility of safe drinking water in the two population and housing censuses of 2001 and 2011 continue to pose questions for some of Namibia's rural areas in particular (see figures from the 2011 census below). According to the national census, over the ten-year period since 2001 in eight out of the 13 regions the proportion of households with access to a safe water source has actually gone down – with the national figure having gone down by 7.2 per cent during that period from 87.2 per cent in 2001 to 80 per cent in 2011. The regions with the biggest decline according to those figures are those along Namibia's northern borders – Omusati (-30.5%), Ohangwena (-21.5%), Oshikoto (-18.2%), and Caprivi (-13.3%).

While in 2001 Kunene was the region with the second lowest proportion of households with access to a safe drinking water source, at 72.8 per cent, by 2011 there were three regions where conditions were worse than in Kunene. However, conditions have not improved on the whole, as the proportion of households with access to a safe water source in Kunene Region over the ten years between 2001 and 2011 has gone down by 5.8 per cent to 67 per cent. By 2011 only Kavango, Ohangwena, and Omusati Regions were showing lower percentages.

Across Kunene Region the constituency with the lowest rate of households with access to a safe water source in 2011 was Epupa at 28.3 per cent. Epupa Constituency mirrors the negative trend of the entire Kunene Region as access to safe water sources has gone down since 2001 when it stood at 36.3 per cent. At the time of the 2011 census in Epupa Constituency 13 per cent of all households reported to rely on unprotected wells as their main source of water.

What remains striking is the difference between Namibia's urban and rural areas in coverage rates of almost 20 per cent on the national level (urban coverage in 2011 was at 97.7 per cent – and at 98.4 per cent in 2001 – while rural coverage lagged behind at 62.8 per cent in 2011 compared to 79.9 per cent in 2001). In Kunene Region, the difference between urban and rural coverage is vast at 39 per cent (Republic of Namibia. Namibia Statistics Agency 2014a).

At the time of writing I have not found any explanation for this downwardly trend in terms of access to safe water sources in Kunene Region and in fact across Namibia. In any case it does not speak positively for the outcomes the implementation of community-based water management has had at the rural water points in communal areas, 18 years after its introduction. It does not become entirely clear from the census reports available however, whether part of it might be based on differences in data collection and the definition used for 'safe water access'. The data contained in the report on the 2011 census provides more detail on the type of main water source used by households (see table 5 below), and it is not explained in the report text which of those sources were falling into the category of 'safe drinking water source'.

The WHO defines 'improved drinking water sources' as: 'bottled water; rainwater; protected boreholes springs and wells; public stand-pipes and piped connections to houses' (World Health Organization 2007:49). As the World Health Organization (WHO) itself points out regarding health indicators in relation to water access, the definition of safe drinking water is not made very clear by the list of MDG indicators, as it mostly only speaks of 'access to an improved drinking water source'. 'Improved sources', however, may or may not actually be 'safe drinking water', according to the WHO. What is more, the water-related MDG in itself has been criticized for not necessarily reflecting trends of access and water quality for those people with the greatest needs.[31]

For the LINGS research areas, the quality of the water could not be tested during the field stays between 2010 and 2012. Based on the information from some of the communities, there are cases where even the borehole supply was not a hundred per cent suitable for human consumption, as it contained too much salt (such as in the cases of Kleinrivier and Omuangete). Another danger for human health can result from cattle water points that are too close to the water point for human consumption, which was observed in many communities in the research area. Such a situation can lead to potential groundwater contamination that can also affect the borehole water. Development initiatives in rural water supply in Kunene Region such as the long-lasting hand-pump rehabilitation and improvement of sanitation at the water points by the Red Cross have been motivated by the objective of preventing water contamination and thus improving the health status of local communities (Swedish Red Cross Society 2010:16).

Table 4: Water-related statistics on Kunene Region, based on the 2001 national census report

	Epupa	Kamanjab	Khorixas	Opuwo	Outjo	Sesfontein	Kunene	Namibia
Population	13,129	6,454	11,501	20,892	9,154	7,605	68,735	1,830,330
Households with safe water (%)	36.0	87.0	82.1	69.6	89.2	67.7	72.9	87.2
Households less than 1km from water source (%)	15.0	68.5	62.6	29.6	68.7	27.1	45.4	54.1
Households more than 1km from water source (%)	20.3	1.8	1.3	19.0	1.0	9.5	9.4	9.2

Source: Population and Housing Census of 2001, National Report and Report on Kunene Region

[31] http://www.who.int/hia/green_economy/indicators_water.pdf, last accessed 08 April 2016.

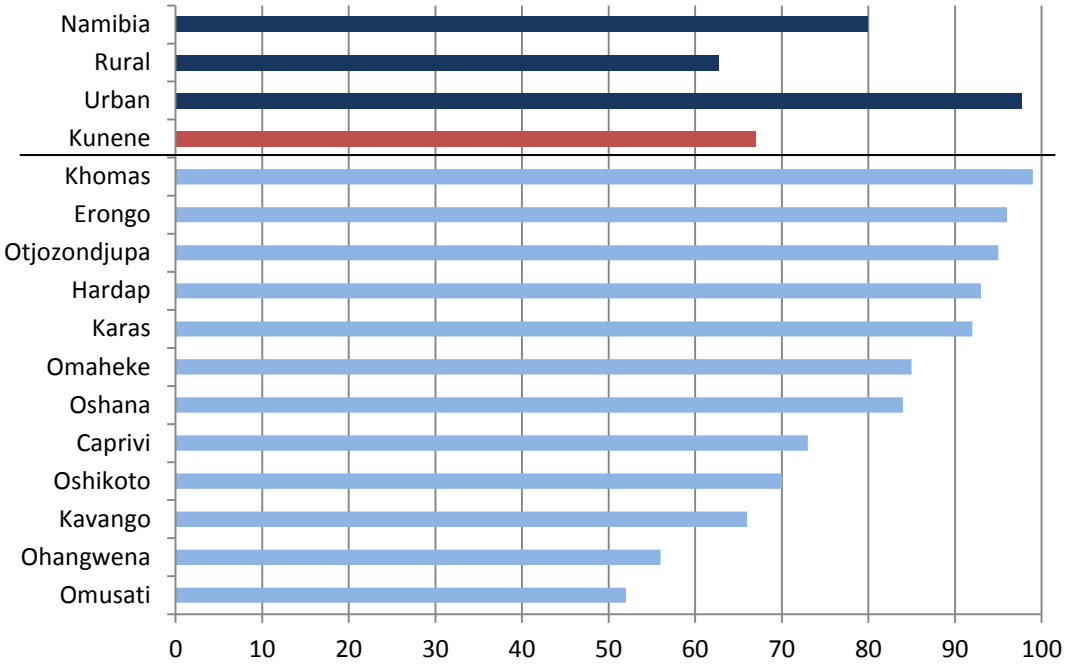


Figure 7: Percentage of households with access to safe drinking water – Namibia[32]

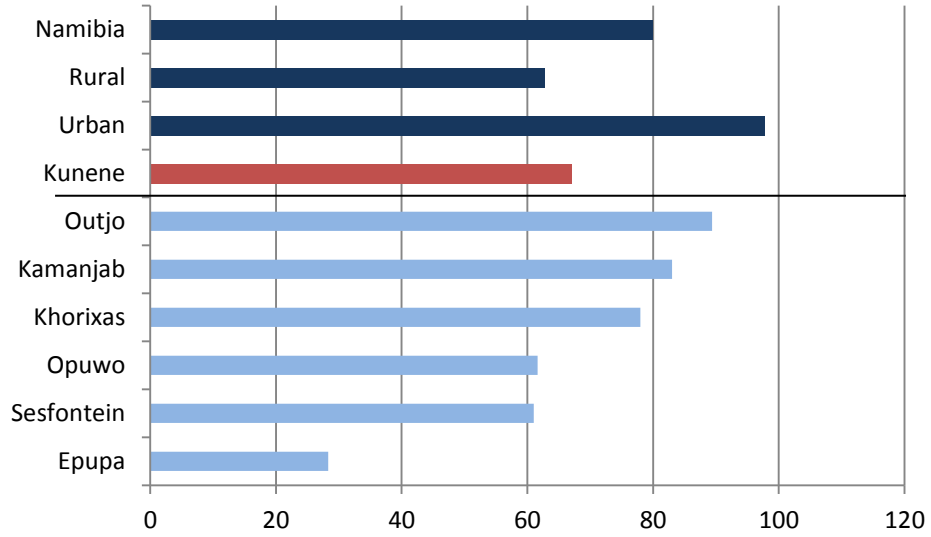


Figure 8: Percentage of households with access to safe drinking water – Kunene Region[33]

[32] Source: Population and Housing Census of 2011 Republic of Namibia. Namibia Statistics Agency 2014b.
[33] Source: Population and Housing Census of 2011, Kunene Region Republic of Namibia. Namibia Statistics Agency 2014a.

Table 5: Households by main source of water for cooking/ drinking

	Epupa	Kamanjab	Khorixas	Opuwo	Outjo	Sesfontein	Kunene	Rural	Urban	Namibia
Population	17,325	7,760	12,137	26,236	11,863	8,229	83,550	61,494	22,056	
Households with safe water (%)	28.3	83.0	78.0	61.6	89.4	61.0	67.1	55.0	94.0	80.0
…water from public pipe	3.2	11.45	14.2	19.0	30.0	11.8	16.2	8.0	34.0	21.5
…piped water outside	2.8	40.1	25.3	14.6	19.4	16.6	19.0	14.6	28.7	19.7
…piped water inside	1.19	13.76	24.5	8.6	23.7	6.0	13.3	5.4	31.0	30.1
…water from borehole with open tank	11.3	5.8	4.05	11.4	5.0	11.5	19.0	12.0	0.08	no data
…water from borehole with tank covered	19.0	17.1	13.5	15.0	15.0	25.0	16.6	24.0	0.1	6.8
...water from protected well	2.66	0.4	0.44	4.2	0.8	1.4	2.0	2.8	0.12	1.9
…water from unprotected well	13.3	0.04	0.12	6.2	0.2	2.5	4.0	5.6	0.57	no data
…water from canal	0.07	0.04	0.06	0.01	0.15	0.2	0.07	0.1	0.01	no data
...water from river/ dam/ stream	14.3	9.95	14.4	15.0	4.8	23.0	18.0	26.0	0.17	8.3
…water from other sources	0.03	1.33	3.2	5.6	0.4	1.8	14.9	1.4	5.0	11.6

Source: Population and Housing Census of 2011, Main Report and Regional Tables for Kunene Region[34]

[34] Available at http://nsa.org.na/page/publications, last accessed 28 February 2016.

People in Kunene mostly use plastic or metal containers of various sizes to fetch water – depending on the economic situation of the household and the means available to transport the containers, ranging from going on foot to using a donkey cart or – in rare cases – a private vehicle. At the homestead, people either fill bigger tanks with the water they fetch so they can store it for several days in containers of up to around 1,000 litres storage capacity, or they just keep it in the smaller containers of around 20 litres until they need to go fill them at the water point again. It hereby becomes obvious that both the quantity and size of water containers that people possess and the distances from their houses to the nearest water point will cause large variations in the way in which taking care of the household's daily water needs affects their lives – and their patterns of water consumption.[35] According to the WHO, 'in urban areas, a distance of not more than 200 metres from a house to a public stand post or any other adequate point source may be considered reasonable access. In rural areas, reasonable access implies that people do not have to spend a disproportionate part of the day fetching water for the family's need' (World Health Organization 2007).

Household water consumption in Kunene Region is also affected significantly by seasonal variations of water supply, as is shown in Linke's ethnography of Kunene South (Linke 2015:142ff.), and in Menestrey's analysis for Kunene North (Menestrey Schwieger 2015b:76). Apart from the water points with boreholes, alternative natural and man-made water sources for population and livestock, such as natural springs and rivers, hand-dug wells and earth dams, also exist, though they are used mainly during the rainy season and in the three to six months afterwards. Rainwater is also collected in the vicinity of the houses and stored to be used for various kinds of domestic consumption (see for the LINGS research area in Kunene South Linke 2015:141ff.). Communities use these alternative water sources mostly for livestock and in addition to the boreholes, and sometimes exclusively, during the rainy season, and as long as these natural sources still hold water after the rainy season.

4.4. Namibian legislation and administrative structures for rural water supply – 1920 to 1990

After the first water legislation, which had focused on the development and use of artesian water sources in South West Africa (SWA) in the beginning of the 1920s, and after the water division which was functioning under it had expanded its activities from drilling boreholes and conducting

[35] For details on water infrastructure, household water supply and consumption in two of the LINGS research areas, namely in the areas of Fransfontein in Kunene South and of Okangwati in Kunene North see Linke 2015; Menestrey Schwieger 2015b.

groundwater explorations to the development of farm dams and the construction of hydrological gauging stations, the Water Ordinance of 1932[36] became the second, more encompassing piece of legislation to regulate the diversion, storage, and use of water in SWA. The establishment of a water board as advisory body to the Secretary for SWA on water issues, which was also provided for under the 1932 Water Ordinance, created the conditions and administrative structure for the development of a water-related policy to deal with decision-making around the longer-term management of water resources (Heyns 2005:94–95). However, as Heyns also states: 'Neither South Africa nor SWA had any formal, generic water policy document for Namibia up to 1990 and most of the water policy decisions remained in the minutes of the water board meetings or the institutional memory of the board members' (ibd.).

This advisory board on water issues continued to exist when in 1969 – due to the adoption of the South West Africa Affairs Act – the existing water division in the Department of Works was incorporated into the South African Department for Water Affairs, and all other water legislation in SWA was repealed. As part of this process, parts of the South African Water Act of 1956 were adopted for SWA as well. The economic interest of the South African colonial administration and its active involvement in resources management in some of the more remote rural areas of the then SWA increased further in connection with the Commission of Inquiry into South West Africa Affairs, commonly known as the 'Odendaal Commission', which was appointed in 1963. This included the development of water supply, in the case of the Northern parts of today's Kunene Region through the drilling of additional boreholes (see below). The Department of Water Affairs in South Africa also prepared the '*Ovamboland Master Water Plan*' of 1968, foreseeing the drilling of a total of 800 boreholes (Republic of South Africa 1971:19), and a 'Master Water Plan' for SWA in 1974 for the construction of large-scale water carriers to transport water from the rivers on the international borders to the country's interior, among other projects. Such schemes were still influenced by an overall motivation and focus congruent with the hydraulic mission of the earlier colonial phases to increase the existing water supply. Piet Heyns – himself an active civil engineer in the South African Department of Water Affairs at the time, in his account of the institutional reforms in the South West African water sector before 1990, states that the 'Master Water Plan' for South West Africa 'could support the water needs until, at least, 2000' (Heyns 2005:94–95).

The Department of Water Affairs responsible for SWA had been incorporated in the South African Department of Water Affairs in 1969. This move was reversed once again in 1980 upon the

[36] Administration of South West Africa: *Water Ordinance of 1932*. In: Official Gazette of South West Africa. Windhoek. No. 478. 22.6.1932. (Ordinance amending the laws relating to water diversion, storage, and use).

creation of a new administrative structure for SWA. From then on, water management on Namibian territory has been administered by a stand-alone Department of Water Affairs.[37]

Rural Water Supply as a function of the Homeland administration – 1970s to 1990

The publication of the 'Odendaal Report' of 1964 (Republic of South Africa 1964), a key planning document which formed part of the South African Government's endeavour to restructure the administration of SWA, laid the cornerstone for the expansion of the South African *Apartheid* policy of 'separate development' of different ethnic groups to Namibia and led to the proclamation of a total of ten 'homelands' on Namibian territory between 1968 and 1980 which were supposed to be ethnically homogeneous and self-administered. As Tapscott has summarized the South African Government's objectives behind creating the homeland authorities as a local class presumably loyal to the colonial state: 'As salaried officials of the state, they were expected to dissipate or control resistance in the rural areas, and increasingly served as surrogates for state control and repression. […] As in South Africa at the time, the creation of a black middle class was intended to act as a hedge against the growing militancy of the masses and to counter their growing antipathy towards capitalism' (Tapscott 1993:155f.). The 'homelands' encompassed large parts of today's communal areas and Kunene Region incorporates the previous Kaokoland and parts of Damaraland (both established as 'homelands' in 1970). Apart from defense, security, foreign affairs and utilities and including the water management functions, the self-governing homeland administrations took over the functions of the previously responsible centralized Department of Bantu Administration and Development.

Starting with their establishment, and until independence in 1990, the full financial and logistical responsibility for the provision of rural water services lay with the homeland administration. The day-to-day management and regulation of access to the communal water sources, including the boreholes drilled by the colonial administration, was under the control of local traditional leaders to whom had been transferred certain political powers by the colonial rulers, and of local big-men (Falk 2008). As my informant who used to be a high-ranking official in the Department of Water Affairs before and after Namibia gaining independence summarized the way that the water administration was structured before 1990:

> 'Ok, so under the Apartheid system we had the Homelands. And the idea was that they should be self-governing. And because there were certain government departments that had a better overview of everything in the country, they were performing functions that what we called the second-tier authorities could not do. So for example small water schemes like a borehole

[37] See figure 9 for a timeline on the historical development of Namibia's water administration and figure 10 for its current organizational structure.

> and a community around the borehole, that - to operate and to manage that - was the responsibility of the second-tier authority. The Department of Water Affairs was responsible for the large water schemes. That means the large dams and the long pipelines. And the bulk water schemes.
>
> Rural Water Supply normally fell under agriculture in the second-tier authorities. The reason for that is that all these communities were actually living in the rural areas where the main activity was stock farming' (Interview on 26 July 2011).

After Independence in 1990 the responsibility for rural water supply, including in the former homelands, was taken over by the state and initially centrally managed, until the national water reforms and policy-making and replanning in the direction of CBWM began around 1992. One of my informants who was directly involved in the restructuring of the water supply function in the 1990s presented me with his view on it:

> 'So after Independence, they did away with the second-tier authorities with just a stroke of a pen. And the next day, the responsibility from the second-tier authority was taken away from the second-tier authority agricultural department and given to the central agricultural department. And the staff that were employed in these local authorities - because it was a rather technical business - they were all white. So they were all fired and retrenched. So the whole rural water supply system collapsed. And then we in Water Affairs who had nothing to do with this business were called in by the President and shouted upon, as if it was our fault that it didn't work anymore. So we said ok, if that's the old man's [Nujoma's] attitude, then we must do something about this. So we suggested that the water function for RWS which had been taken away from the second-tier authorities and given to agriculture, should rather be given to Water Affairs, because all the water engineers are sitting in Water Affairs. So they agreed to that. And then we immediately organized ourselves by creating the DRWS to manage this and we staffed it with competent people. […] And all the planning for this was done in the Planning Division' (Interview on 26 July 2011).

This meant that at the onset of the decentralization of rural water supply down to the level of water users in the rural communities, in what are today Namibia's communal areas, boreholes, pumping technology – including the diesel to run the diesel engines – and storage facilities were supplied and maintained fully through subsidies for more than a generation. All related costs were covered by public funds, and water in the rural areas was thus supplied free of charge for the users until the mid-1990s.

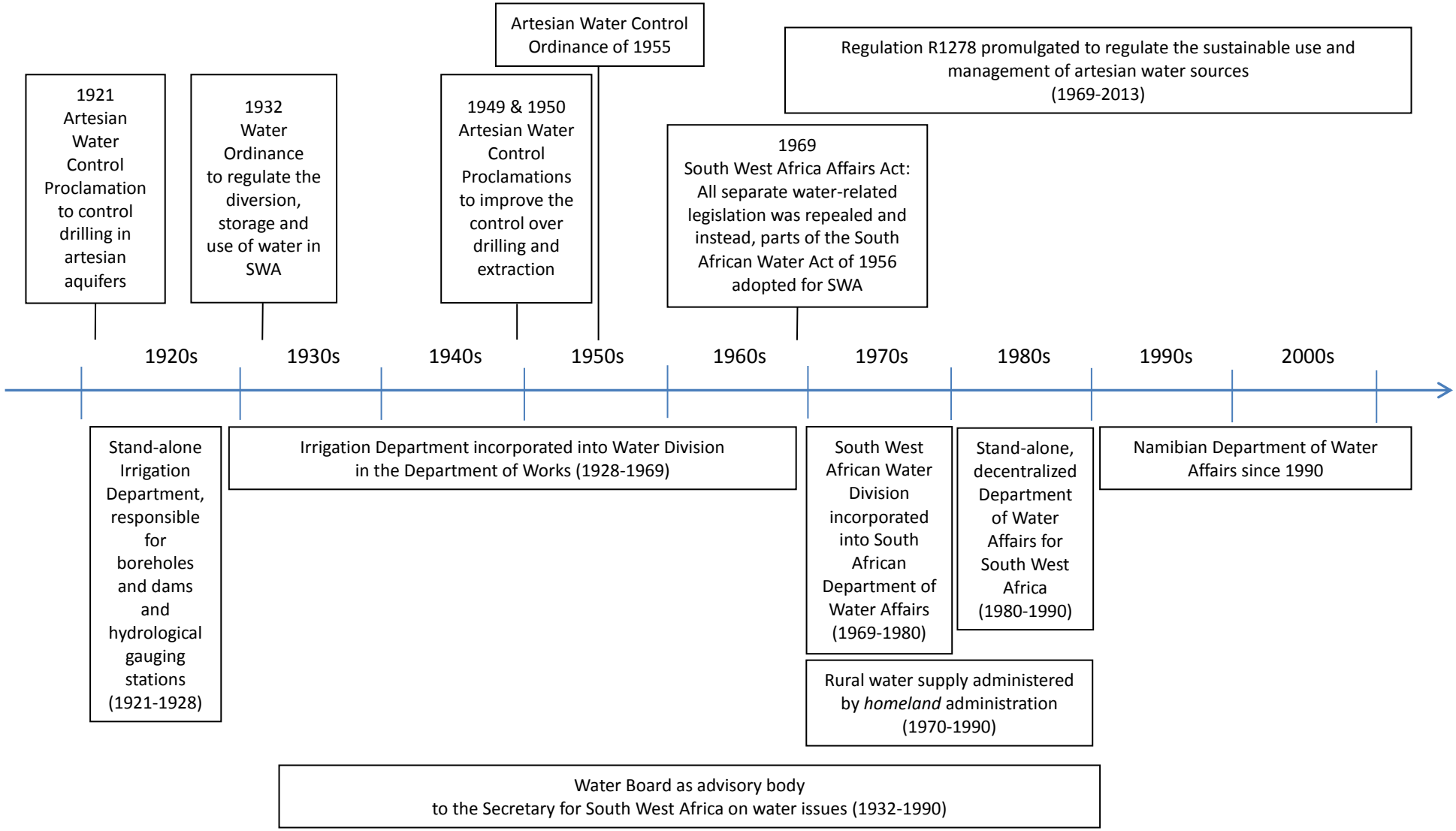


Figure 9: Timeline with administrative and legislative structure of the rural water supply function for Namibia, 1920-2013

Based on: (Alker undated); (Heyns 2005); (Ruppel and Ruppel-Schlichting 2013).

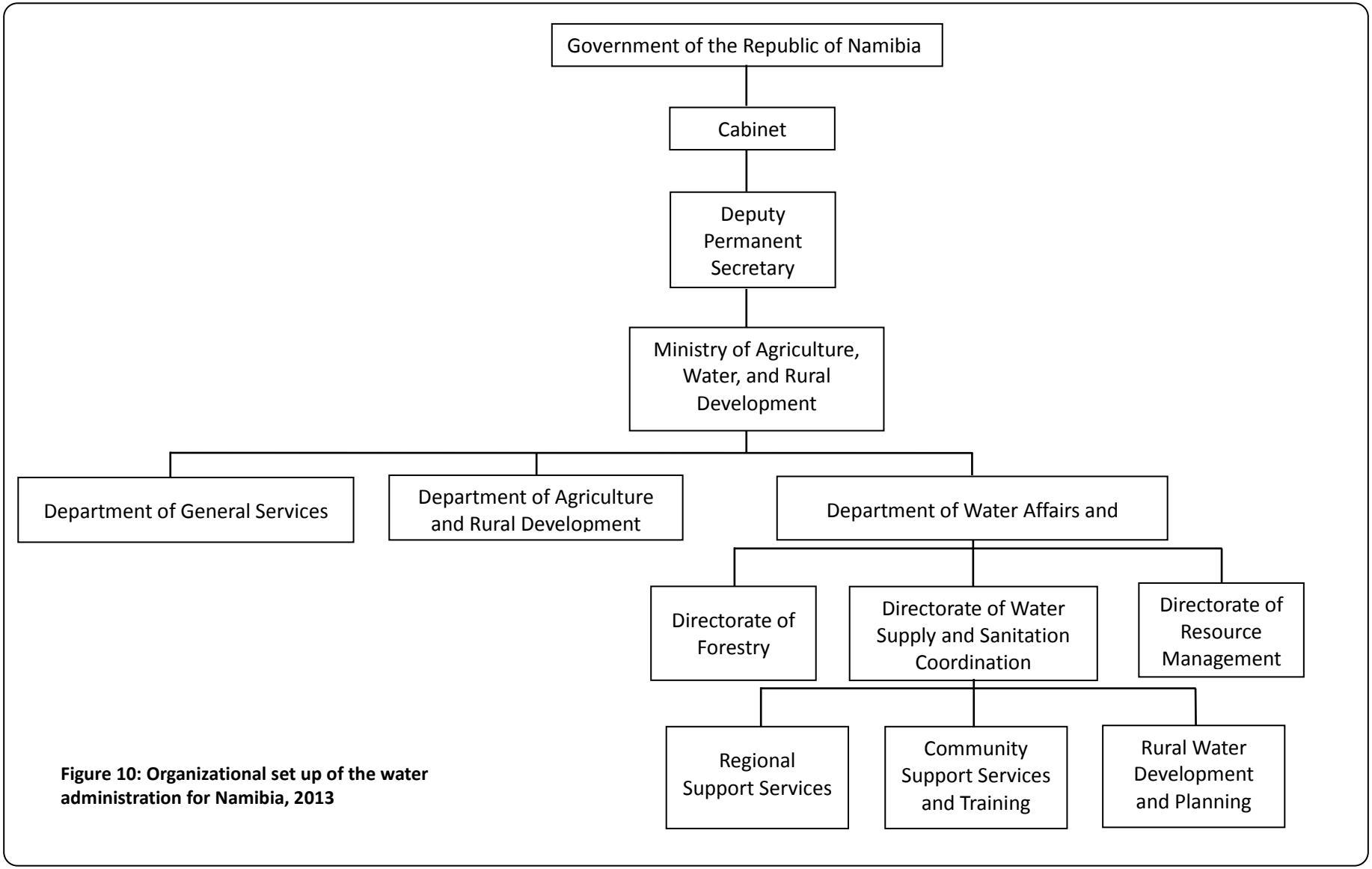


Figure 10: Organizational set up of the water administration for Namibia, 2013

Source: Ministry of Water, Agriculture and Forestry - http://www.mawf.gov.na/Directorates/ResourceManagement/resourcemanagement.html

Box 1: Rural water supply programmes and services[38]

Rural Water Supply Programmes & Services

Programmes

Water Point Management;
Promoting CBM;
Improving cost recovery on the pipeline schemes;
Community Training;
Rural Water Supply infrastructure development;
Construction of dams, drilling of boreholes;
Construction of pipeline schemes;
Bulk water supply infrastructure development;
Strategic water supply infrastructure development.

Permits

1. Boreholes completion;
2. Borehole/Well/Spring in a Subterranean Water Control Area or a Public Stream;
1. Utilize a Controlled Water Source;
2. Industrial Water.

[38] Based on information on MAWF website: http://www.mawf.gov.na/web/mawf/water-services, last accessed 10 April 2016.

5. The Management of Rural Water Supply – Global Ideas and Local Translations since the 19th Century

Ideas about water, its meaning, and its management that have emerged and gained relevance globally over the past two centuries are among the factors affecting the way in which water is managed in Namibia's rural areas today. In introducing the content of this chapter it is important to stress that as much as Namibia's colonial history has influenced the way natural resources management has been approached there since the 1990s, on a broader scale the blueprint of the CBWM model adhered to internationally must also be seen as emerging on the basis of former historical approaches to water management in the Global South and elsewhere. Before turning to more recent phases in the emergence of the CBWM model, the focus of this thesis at the global level, and to the trajectory along which it then was introduced to Namibia's national policy-making setting and to the local context at water points in the far north-west, I thus take a look back into the more distant history of water management in Southern Africa. As discussed in chapter 2 as part of the theoretical considerations, the moment when a model emerges and starts travelling is frequently not clear-cut or easily discernible, but rather a phase which becomes visible in retrospect. Translation chains evolve organically and do not have clear starting and end points. This chapter serves to set the scene and explain the background of dominant water-management ideas and paradigms historically, against which the CBWM model I describe gained salience.

While the CBWM model in question has taken up some of the strands previously in place, it has replaced others. It exists nowadays while parts of the older paradigms are also still valid and relevant for parts of the water management scene. I will present some of those ideas and the related discourses and processes of policy-making and implementation in this and the following chapter, starting from the 19th century, spanning the phase of the emergence of global environmental governance in the 1960s, which spurred a series of international environment- and water-related processes and events, to finally arrive at the beginning of the 21st century, when hegemonic paradigms in water policy and management evolved from development discourse and practice and became internationally influential.

Taking as a starting point the discourse on water scarcity, and related ways of measuring the extent and determining the different kinds of water scarcity, I then move to what others have termed the 'hydraulic mission' (see for instance Reisner 1993; Swyngedouw 1999; Turton and Ohlsson 1999), in referring to a mindset and related approach to water management that focuses on the supply side of water resources management. Policy-making and water resources management based on the hydraulic mission generally aims to make more water available for

users, which involves overcoming extreme technological and engineering obstacles, to satisfy what is perceived as a growing water demand. During the colonial period, the rationale behind the hydraulic mission was transported from South Africa to what was then South West Africa – today's Namibia – by water-sector politicians and, more importantly, engineers who were educated and gained work experience in South Africa and were sometimes getting advice from water engineers in other parts of the world. The two ideas influential for the emergence of community-based water management will be sketched in particular in their capacity to connect different regional and national settings, in their relevance for the Southern African region, and in their relationship to country-level discourses in Namibia.

5.1. The idea of water scarcity

Out of the water available on Earth, 97.5 per cent is salt water, with only 2.5 per cent suitable for human consumption. Seventy per cent of the globally available freshwater is frozen as snow in mountainous regions or as ice in the planet's glaciers and polar ice caps, while another 30 per cent is stored in underground aquifers and not readily accessible. As a result, only 0.3 per cent of total global water is available for human consumption as surface water (Gleick 1993b:3; United Nations-UN Water 2013). The freshwater available in the global water system is a renewable resource as such, and replenishes when used carefully, with groundwater however being renewable to a far lesser extent than surface water. The Earth's groundwater reserves are steadily decreasing and it is still unclear to what extent this depletion can be balanced by natural renewal (Gleeson et al. 2012).

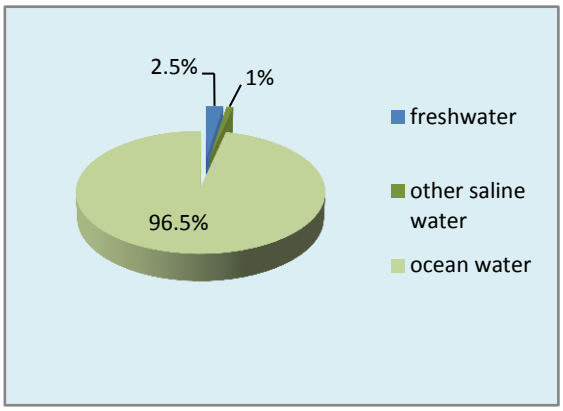


Figure 11: Breakdown of different types of total water resources globally

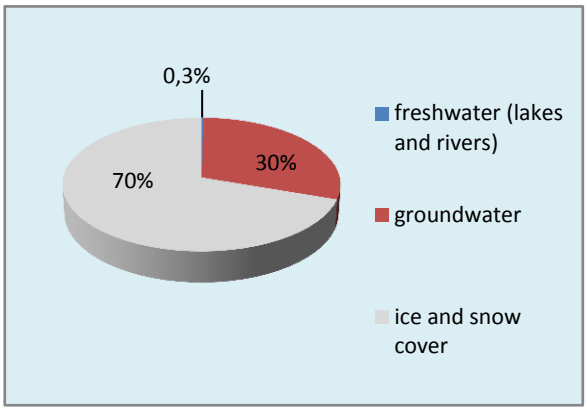


Figure 12: Breakdown of different types of freshwater resources

The idea of water being scarce, and thus a resource which must be managed carefully and sustainably, has been a dominant idea underlying water-related decision-making, policy processes,

and development interventions globally since the second half of the 20th century.[39] Scarcity – in general and as a universalized notion – came to be a major underlying premise of neo-classical economic thought in the 18th century which, has also had an influence on the social sciences (Xenos 1989; Mehta 2003a:5067). The understanding of scarcity not as temporally and/ or regionally bounded or cyclical under certain local conditions, but rather as 'a kind of open-ended myth' which had to be fought actively through progress (Xenos 1989:35) may well have influenced notions of scarcity of resources such as water and fertile soil in the European colonies of the late 19th century.

Endeavours to avoid and/or mitigate the effects of water scarcity are still among the driving factors of many development initiatives and donor funding globally. The UNDP, for instance, dedicated one of its Human Development Reports to the issue of water scarcity and the effects that actual scarcity has on especially the poorer population groups globally, being exacerbated through unequal access to resources and power relations (UNDP 2006). In addition to referring to scarcity resulting from inadequate water management and inappropriate use of water in certain parts of the world (Cosgrove and Rijsberman 2000), common rhetorics of popular, scientific, and political discourse have also presented a generalized notion of a 'global water crisis', exacerbated by the planet's growing population and by climate change (National Geographic; Holmgren 2013) as one of the major threats impacting Earth (World Wildlife Fund; BBC News 2004).[40]

A particular strand in political discourses that describe a global water crisis, and which gained prevalence in the 1990s, also supports the view that water scarcity might, or even will inevitably lead to increasing inter- and intra-state conflicts, as then UN Secretary General Kofi Annan pointed out: 'Fierce national competition over water resources has prompted fears that water issues contain the seeds of violent conflict' (Annan 2002). And as UN-Water summarizes: 'An assessment of past water-related conflicts shows that water scarcity, dam construction, water abstraction, and chronic and accidental water pollution by industry, as well as neglect or non-acceptance of existing treaty provisions, often lie at the root of water tensions' (UN-Water 2008b:2).

Taking stock of violent water-related conflicts in the past though, the same UN-Water publication on transboundary watercourses cited above also states that 'since 1948, history shows only 37 incidents of acute conflict over water, while during the same period, approximately 295 international water agreements were negotiated and signed. Clearly, averting disputes is often a strong political driver for initiating cooperation with regard to transboundary waters, as riparian

[39] See for instance FAO 2012; Gleick 1993b; Postel 1996, 2000; The World Bank 1993; UNDP 2006; https://www.un.org/waterforlifedecade/scarcity.shtml, last accessed 10 April 2016.

[40] A more differentiated analysis of global water-related challenges is offered by Dobner (2010:86–92) in her analysis of their various dimensions and of some potential solutions.

states recognize that they must safeguard their greater common interests' (UN-Water 2008b:3). This holds particularly true for countries such as Namibia which share their main or only perennial water sources with neighbouring states in the form of border rivers.

The theme of water-related conflict or 'water wars' is also present in scientific water-related discourse in various disciplines (Gleick 1993a; Ohlsson 1999; Villiers 1999; Kürschner-Pelkmann 2013, as well as Fröhlich 2008 on the threat of mostly subnational violent conflicts), and it has been stressed for certain regions more than for others, such as in Starr's and Stoll's collection on water in the Middle East (Starr and Stoll 1988). Other researchers however have argued, and shown based on empirical evidence, that for instance in the management of transboundary waters, states more often chose cooperation over conflict (Turton et al. 2006), and that in other cases potential water shortages in a given country or region can be circumvented through trade and food imports (Allan 1999, 2002).

Allan pointed out that more serious obstacles being posed to social and economic development and/ or conflicts over water can more frequently be attributed to underlying conditions of poverty where 'for example, settled communities can be at odds with herders who need water and feed in the dry season and during periods of drought. In such economies, farmers may also be at odds with one another over irrigation shares.' However, regarding the intensity of water-related conflicts observed in recent history, Allan stresses that 'armed conflict over water between national entities has not occurred, however, in either region since the early 1960s. Even these early events in upper Jordan were minor conflicts that have not recurred. The period is remembered selectively by those inclined to construct the notion of water wars' (Allan 2002:30).

In summary, one could thus say that although there have been abounding predictions that water scarcity combined with other factors will lead to conflict over water, I have not found any solid empirical case studies, nor evidence in my own and the work of my LINGS colleagues, that conflicts related to water scarcity occurred in Southern Africa or our research area.

Water scarcity indicators

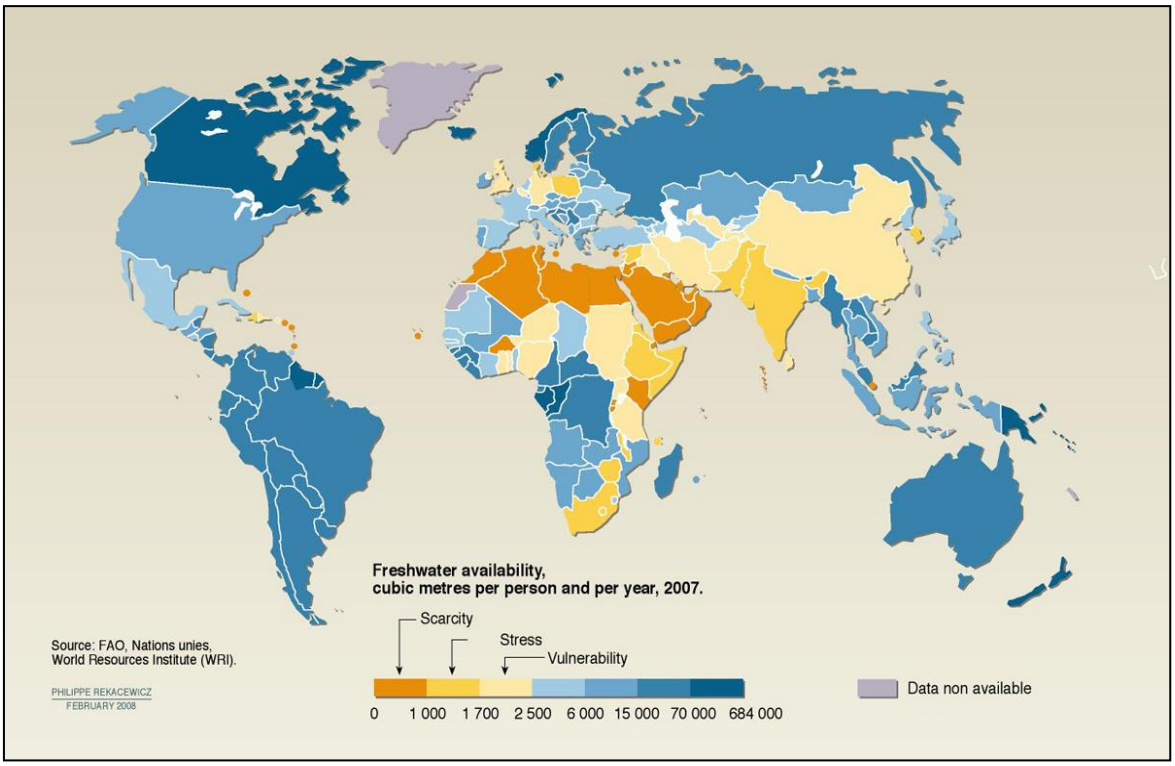
As Rijbersman discusses in '*Water Scarcity: Fact or Fiction*' (Rijsberman 2004), a number of water scarcity indicators exist, based on different kinds of criteria and data.[41] A number of globally applicable water scarcity indicators related to discourses of global water governance were developed starting in the late 1980s. Depending on how exactly water scarcity is measured and which underlying definition of water scarcity is used by researchers, differing results are generated

[41] Also see for descriptions and discussions of some of the most widely applied water scarcity indicators: Gleick 1993a; Molle and Mollinga 2003; Rijsberman 2004; Kummu et al. 2010; Brown and Matlock 2011.

when it comes to determining 'whether water is truly scarce in the physical sense (a supply problem) or whether it is available but should be used better (a demand problem)' (Rijsberman 2004:1). The Namibian example is a case in point, as can be seen from the results on water scarcity measured along just three of the existing water scarcity indicators depicted below. Rijsberman stresses that 'there is no commonly accepted definition of water scarcity. Whether an area qualifies as "water scarce" depends on, for instance: a) how people's needs are defined – and whether the needs of the environment, the water for nature, are taken into account in that definition; b) what fraction of the resource is made available, or could be made available, to satisfy these needs; c) the temporal and spatial scales used to define scarcity' (Rijsberman 2004:1).

It is commonly agreed among scholars, based on analyses of the global water situation, that a large number of countries in the arid regions of the world are suffering from water stress or water scarcity in the physical sense (Rijsberman 2004:4). An index frequently used to measure water stress and water scarcity, in terms of renewable freshwater availability per capita per year on a national scale, is the '*Falkenmark index*' or '*water stress index*' (Falkenmark 1989). The Falkenmark index uses three categories to define the status quo for water availability in any given country (those being water stress, water scarcity, and absolute water scarcity). It is important to note that the Falkenmark index does not refer to water availability for household use, but only for food production. According to this measure of yearly per capita renewable freshwater availability, while in 2008 parts of Southern Africa[42] belonged to the group of water-stressed countries with between 1,000 and 2,000 m^3 available for food production per capita per year by 2000, Namibia and the two neighbouring countries, Angola to the North and Botswana to the East, were not found to be acutely water-scarce, stressed, or vulnerable (see map 3 below).

[42] Namely the Republic of South Africa, Lesotho, Malawi, and Zimbabwe.



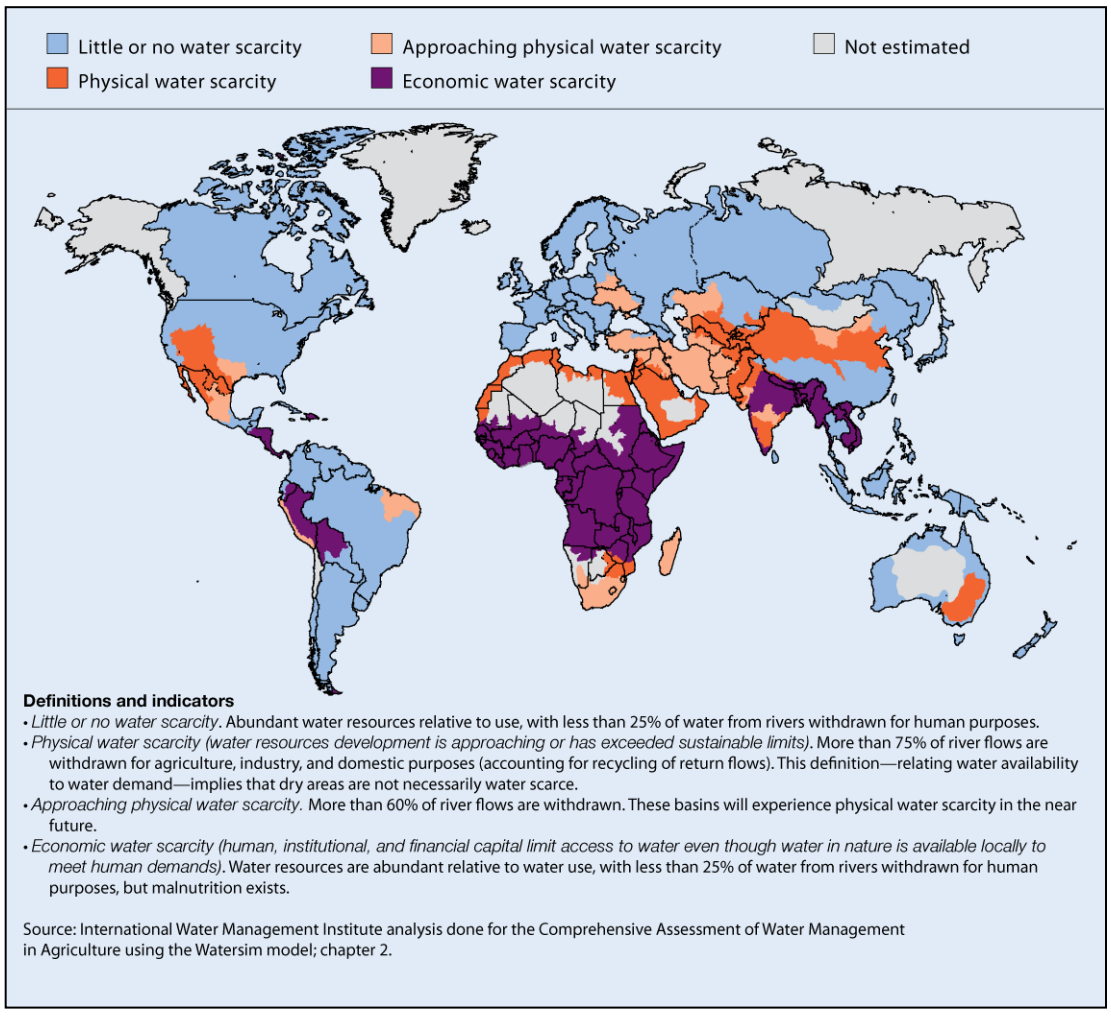
Map 3: Freshwater availability, cubic metres per person per year, 2007

There are two types of water scarcity commonly mentioned in scientific literature and also in development-related discourse, i.e. physical water scarcity, and economic water scarcity. Physical scarcity implies that water resources management is approaching or has exceeded sustainable limits. A common definition of physical water scarcity is that 'there is not enough water to meet all demands, including environmental flows. Symptoms of physical water scarcity are severe environmental degradation, declining groundwater, and water allocations that favour some groups over others' (FAO 2012:6).

Economic scarcity, which has connecting lines to the anthropogenic dimension that Mehta identifies (Mehta 2003a), is defined by a lack of capacity or investment to manage the available water in such a way that all demands can be met.[43] Situations where people have trouble accessing water for drinking or agriculture although sufficient water quantities physically exist, or situations of inequitable distribution of water, are thus often referred to in terms of economic scarcity. According to the UN, 'much of sub-Saharan Africa is characterized by economic scarcity, so further water development could do much to reduce poverty' (FAO 2012:6–7).

[43] Allan uses the two corresponding terms 'first-order' and 'second-order' scarcity instead. He defines second-order scarcity briefly as the '[scarcity] of the capacity to adjust to the scarcity', or: '[lack of] adaptive capacity to deal with such scarcity' (Allan 2002:30). See also Ohlsson 1999.

It is however important to note that – given the wide array of different methods used to measure water stress or scarcity that have been developed – each of them stresses different aspects of water availability and access, and there is currently no scientific or political consensus on a common definition or measurement of water scarcity. A scientific definition also used in the context of global environmental governance or policy-making refers to water scarcity as: 'the point at which the aggregate impact of all users impinges on the supply or quality of water under prevailing institutional arrangements to the extent that the demand by all sectors, including the environment, cannot be satisfied fully' (United Nations - UN Water 2006:2). For the purposes of this thesis I chose to follow White in his broad understanding of water scarcity as 'the lack of access to adequate quantities of water for human and environmental uses' (White 2012:1).

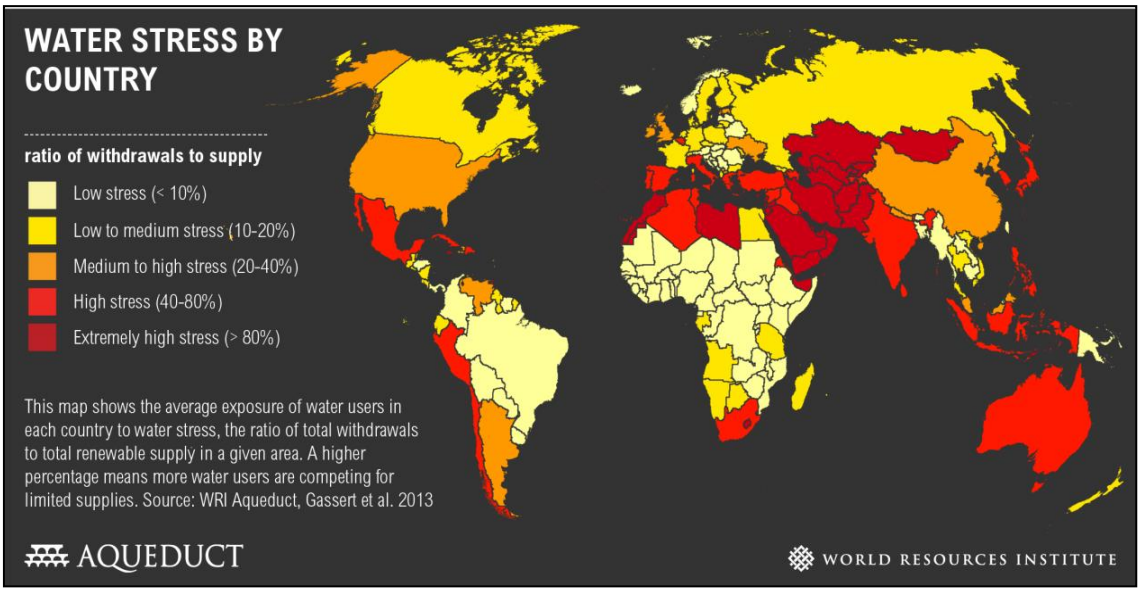


Map 4: Areas of physical and economic water scarcity

It is notable that in the above map of physical and economic water scarcity compiled by the International Water Management Institute in 2007 for the 'Comprehensive Assessment of Water

Management in Agriculture' (International Water Management Institute 2007), the entire Western stretch along the Namibian coast as well as a portion in the central East of the country could not be classified for reasons that are not exactly known to me, but might have to do with the generally low availability on groundwater data available for some of Namibia's communal areas. As stated in a newspaper article of 2009: '"A quantitative analysis of available groundwater data is on the books, but will take three years to complete", says Greg Christelis, deputy director of Geohydrology at the Ministry of Agriculture, Water and Forestry. He says there is no data indicating that aquifers are depleting countrywide, but acknowledges that existing studies are confined to particular geological sites' (van den Bosch 2009). This status quo of the availability of groundwater data, for Kunene Region at least, was also confirmed to the LINGS project team again by Mr. Christelis in October 2010.

In a 2013 ranking of countries experiencing 'water stress' drawing on a range of indicators including sector-specific indicators for agricultural, domestic, and industrial water use, Namibia is ranked in the mid-field at 88 out of 177, which means a category of low to medium water stress levels (see map 5 below).



Map 5: Water stress by country (ratio of withdrawal to supply)

Source: (Gassert et al. 2013)

Dimensions and Manifestations of Water Scarcity

Water scarcity is very present in development discourses, in the media, and in wider public discourse. As UN-Water predicts on their website: 'In 2030, 47% of world population [sic!] will be living in areas of high water stress. Most population growth will occur in developing countries, mainly in regions that are already experiencing water stress and in areas with limited access to

safe drinking water and adequate sanitation facilities. Source: WWDR, 2012' (United Nations - UN Water 2013).

Despite the diversity of water scarcity indicators and the nuances of water availability vs. scarcity that they are capable of demonstrating, depending on the criteria used, water scarcity in many of the aforementioned political and developmental discourses has frequently been presented in 'absolute and monolithic' terms: 'The water problem is seen as "natural", something beyond human agency, even though rainfall and drought patterns are characterised [sic!] by high uncertainty and variability' (Mehta 2003a:5069; 5071). Sometimes suggesting a diversionary tactic, a rather essentialized way of talking and writing about water scarcity seems to suit different kinds of political arguments and interests better than presenting the multi-faceted problems that exist with water availability.

A discussion of cases from Southern Africa, including Namibia, that point to the political construction and anthropogenic nature of some of the dimensions of water scarcity in the region in the focus of this thesis, will be presented in the subsequent sub-chapter.

Although these cases demonstrate the influence of socio-political constructions in situations and representations of water scarcity, my aim here is of course not to postulate the nonexistence of water scarcity or people facing water shortages, but rather – as Mehta has pointed out before (Mehta 2003a) – that water scarcity must be analyzed both at the discursive and at the material level, and that from an anthropological point of view it remains important to see what scarcity really means for different contexts and actors. Water is in fact subject to a high degree of variability depending on ecological, temporal, and socio-political factors, so that actual scarcity can have cyclical, temporal, as well as distributional and relational dimensions.

Furthermore, water scarcity will likely not be felt by individuals or groups of people in different settings in the same way at any given point in time. The way in which water scarcity affects and is perceived by human actors will rather depend on the coping strategies available to them, and thus be more dramatically felt by the poorer parts of the population – frequently dwelling in the rural areas of the world – for whom the lack of access to water for household use and hygiene, as well as for productive purposes, may have severe consequences. Although the world met the Millennium Development Goal of halving the proportion of people without sustainable access to safe drinking water in March 2012, at that time 11 per cent of the world's population were still without access to safe drinking water, according to the UN. Most people without an improved drinking water source live in the world's rural areas (United Nations Children's Fund and World Health Organization 2012).

It is important to note that physical water scarcity as identified by the measurements based on the widely used Falkenmark indicator (Falkenmark et al. 1989) generally relates to insufficient water being available for food production, and not to water shortages for domestic purposes as these are negligible in quantity. At the same time, when water scarcity and shortages of supply are invoked in the context of development projects and public information and fundraising campaigns concerning the water sector both in the Global North as in the Global South, actual constraints on access to drinking water are frequently in the foreground, as can be seen in the example images below.

Image 1: African woman in an arid environment getting clean tap water used as part of an appeal to donate money to Welthungerhilfe, Germany[44]

[44] Source: www.welthungerhilfe.de/ueber-uns/mediathek/whh-artikel/trinken-wenn-man-durst-hat.html; last accessed 10 April 2016.

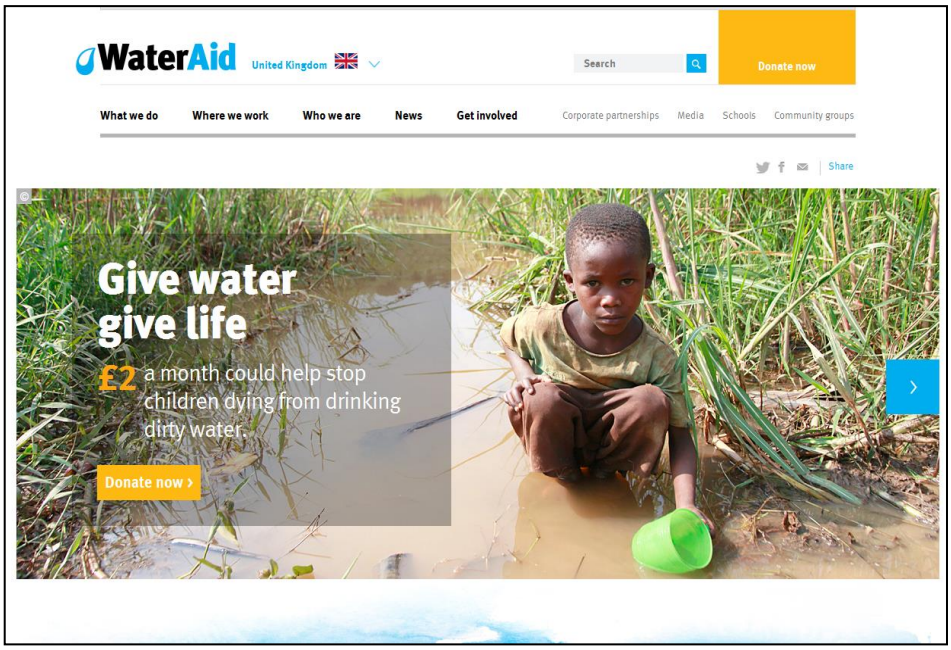


Image 2: African boy at a contaminated water source; campaign for donations by Water Aid, UK[45]

While recognizing the visible and tangible impacts of water scarcity where they exist at household level, one can take the way in which such images are presented as examples of the discursive constructions which are applied in their particular context and by certain actors to further their aims – for example, that of raising money for water supply projects – thereby having an influence on generalized ideas and representations of water scarcity. A notion of absolute (physical) scarcity that can be instrumentalized in related policy-making and resource governance is frequently taken as a given in the dominant discourses, and used as a justification for water-related interventions. At the same time, as Mehta has shown, some of the anthropogenic root causes of actual water scarcity are sometimes obscured in water-related interventions and narratives (Heyns et al. 1998).

In Namibia's arid environment, where both quality and availability of water, especially for economic purposes, pose challenges for large fractions of the population anyway, according to the Government's Water Policy White Paper of 2000, the population growth and the spread of economic development has 'altered the situation to the point where naturally occurring surface supplies are seriously inadequate and vulnerable to pollution' (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 2000c:11). Starting in colonial times, the way in which decision-makers and water users have chosen to exploit and allocate the resource has led to situations where scarcity is exacerbated (Ardinger et al. 2009:2). As President Nujoma formulated it in a foreword to the 'Decision Makers' Guide' for policymakers on water in Namibia: 'In the arid

[45] Source: http://www.wateraid.org/uk/; last accessed 19 December 2013.

areas of the world, the rainfall is normally low, variable and unreliable. Namibia is the most arid country in the Southern African Region and therefore our water is scarce and often does not always occur at places where it is required or is most useful to our people' (Heyns et al. 1998:iv).

5.1.1. Politically constructed water scarcity in Southern Africa

Based on the five types of water scarcity described by Molle and Mollinga in their review of water poverty indicators, they state that 'The cases of Zimbabwe, South Africa and other countries from southern Africa provide vivid examples of an extreme case of politically constructed water scarcity […]' (Molle and Mollinga 2003:531). This categorization refers to what they term 'Political scarcity [which] occurs in cases where people are barred from accessing an available source of water because they are in a situation of political subordination' (ibd.). Molle and Mollinga base this categorization of South Africa and Namibia, as well as other countries in the region, largely on measures through which colonial and Apartheid politics have resulted in changing patterns of human settlement, in changing agricultural practices, and in a focus on forwarding the colonies' development through irrigated agriculture, mines, and industries. Swatuk's account of the political economy of water and water scarcity in Southern Africa documents some of the general impacts of colonial land dispossession and resettlement schemes, of the introduction of water-guzzling crops alien to the local environment, and of the development of urban centres not according to the availability of water resources, but as a consequence of mineral exploitation – all of which hold true for parts of Namibia as well (Swatuk 2002:509–10). Some of the colonial resource-management policies and interventions also continue to have an impact in Southern Africa regarding access to safe water, which is revealed through intranational disparities along the lines of rural/urban dwelling, class, and sometimes ethnic affiliation. As Swatuk states: 'Taken together, these circumstances reveal a picture of water security for the few and insecurity for the many. As stated […], this is a "crisis" that is socially constructed. Its roots are historical, the result of deliberate actions taken in the service of settler and colonial interests. […] the region's water is merely a pool reflecting back to us the contradictory faces of unlimited privilege for the few and limitless poverty for the many' (Swatuk 2002:510–11).

5.1.2. Dimensions of water scarcity in Namibia

The information value of some of the various indicators commonly used to measure water scarcity is subject to ongoing scientific discussions, as mentioned above (Mehta 2003a; Rijsberman 2004; Kummu et al. 2010). However, Namibia's history and political economy of water resources management, together with the global discourse around water scarcity, can be taken as social facts which play their part in forming water-related discourses in Namibia, and which are created

and translated in differing contexts and to different audiences through scientific publications (see for example Niemann 2002; Heyns 2005), media articles (e.g. Pretorius 2011), documents generated in the framework of development interventions and policy-making processes (World Bank 1996). One example is the writing of a new national Water Policy in 2000, which derived the need to have people pay for water consumption from the conditions of 'scarcity and vulnerability' of Namibia's water resources:

> 'Water is both a natural resource and commodity. As a matter of law and practice, 'raw water' is free of charge, what people are paying for is the service to have water supplied to or close to their houses. Water services have been heavily subsidized on the basis that water is a free natural resource and is functional to all areas of social and economic life. *In this regard the scarcity and vulnerability of Namibia's water resources require that their economic value be recognized, and that its abstraction, management, conservation and use is [sic!] efficient and cost effective* (emphasis mine)' (Du Plessis et al. 2005:11).

Much of the Namibian discourse around water scarcity as in the example above is based on the country's basic ecological and climatic conditions, characterized by low, highly variable and unpredictable rainfall, describing what Mehta would term the 'biophysical and ecological dimension' of water scarcity.

Interventions by the state, both before and after the end of the colonial era, and by external actors in the context of development assistance, have targeted rural water supply issues which have often been connected to ideas of water scarcity. Halving the proportion of people without sustainable access to safe drinking water became one of the eight Millennium Development Goals in 2000, resulting in increased donor funding in the sector of water supply, and in the formulation of national strategies and reports on progressing towards this goal, also in Namibia. As a matter of fact, although considerable progress has been made by Namibia's independent Governments since 1990 toward achieving the water-related target of MDG 7, and the aim of halving the proportion of people without access to clean drinking-water has actually been reached, up until today many of Namibia's relatively dispersed rural inhabitants have to adapt to the lack of reliable and/or clean drinking water sources and to sometimes vast seasonal changes in water availability for agricultural activities, and also to the risks associated with drought. Namibia's urban centres are still deeply characterized by their colonial history resulting in a division into well-to-do and economically secure parts in the formerly exclusively white centres and in the newly emerging mixed urban middle-class on the one hand, and on the other hand townships and informal squatter settlements where the inhabitants face economical and infrastructural problems, including with water supply.

Following Namibia's independence and after two droughts that had incurred country-wide damage in Namibia in 1981/82 and in 1991/1992, a number of public campaigns centred on creating awareness of water as a limited resource which must be used efficiently and sparingly:

> 'Creating water awareness and stimulating a national water culture are seen by the government is one way of improving efficiency in water utilization. In this regard, a National Water Awareness Campaign was launched in Namibia on 22 March 1995 to mark World Water Day. This also coincided with the water conservation theme selected for World Environment Day in June 1995. The creation of water awareness is based on four pillars, namely to:
> 1. inform the public about water availability, consumption, and misuse;
> 2. advise the public on water conservation measures;
> 3. encourage public participation in reducing water demand;
> 4. improve efficiency and financial accountability for water supplied'
> (World Bank 1996:147).

Some of the related images and messages displayed on posters and stickers that can be found for instance in public buildings in Namibia are shown below. According to the World Bank, water consumption was reduced by 30 per cent after that water conservation and awareness campaign (World Bank 1996:147).

Water-related public campaigning was also used as a tool once the decision had been made to introduce user payments for urban and bulk water supply in the 1990s. At a time when non-payment by users to water supply institutions for water and water-related services had already become a major concern, in 2004, the 'Namibia Water Awareness Committee' (NAWAC) was established, consisting of various ministries, NGOs, NamWater, the Association of Local Authorities in Namibia (ALAN), the Namibia Association of Local Authority Officers (NALAO), trade unions, churches, regional councillors, and representatives of the media. The committee's tasks were to raise public awareness and understanding regarding water scarcity, the costs of water, and the need for water conservation. NAWAC was further tasked to investigate the issue of non-payment for water (Du Plessis et al. 2005).

Figure 13: Sticker from a national water awareness campaign, in the MAWF resource centre in Windhoek. Photograph: Thekla Kelbert, 2011

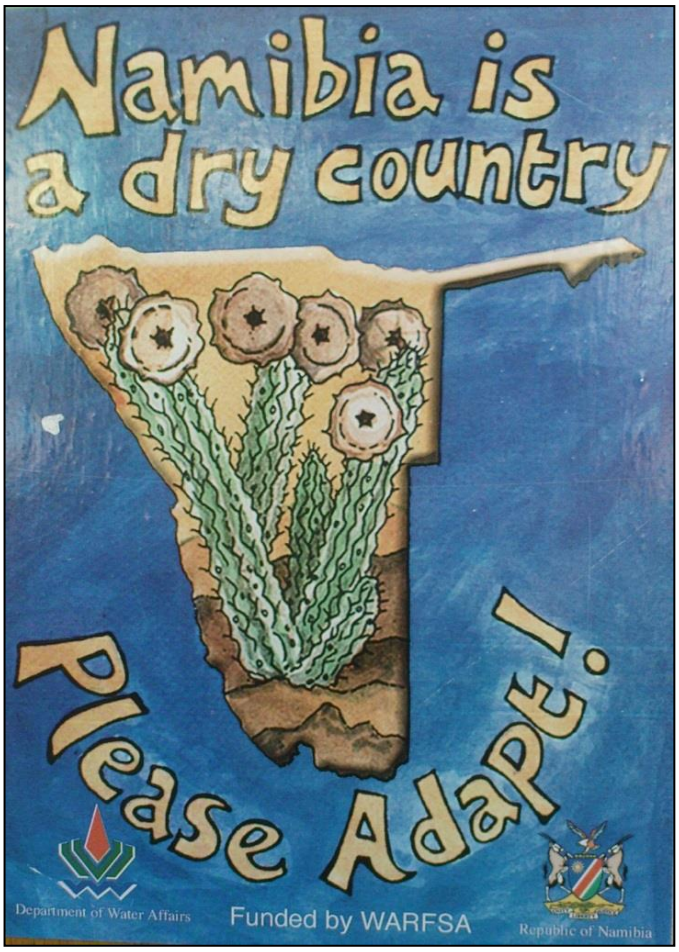


Figure 14: Poster from a national water awareness campaign, found in the MAWF resource centre in Windhoek. Photograph: Thekla Kelbert, 2011

Image 3: Poster, previous World Water Day national water awareness campaign Namibia found in the MAWF resource centre in Windhoek. Photograph: Thekla Kelbert, 2011

Complementary to water saving and awareness campaigns, alternative and unconventional water sources have been explored and partially developed in Namibia in order to augment the existing freshwater supply through measures such as desalination of brackish groundwater and seawater, and reusing waste water for industries and irrigation, as well as attempts at rainwater harvesting, weather modification, and fog harvesting (World Bank 1996:138).

As has been shown in the discussion above, biological and climatic reasons for water scarcity are frequently not the only dimension of water scarcity. As in other cases, in Namibia, too, distributional, relational, anthropogenic, and political dimensions are part of the bigger picture of water scarcity (Mehta 2003a; Molle and Mollinga 2003).

In what was then Apartheid South-West Africa, 'grand' (white) water engineering became part of the overall approach towards harnessing the country's resources in the interests of the dominant group with privileged access to power, land, and water. While water access for urban centres and white-owned commercial farms was developed, those parts of the black majority living south of the cordon fence inside the so-called Police Zone were confined to homelands, many of which were characterized by generally unfavourable environmental conditions and a lack of water. Other parts of the black population were allowed temporary residence in peri-urban locations during periods of formal employment. Starting in 1959, the black inhabitants of the so-called Old Location in Namibia's capital Windhoek were forcibly moved closer to its outskirts – to Katutura (Otjiherero for 'The place where people do not want to live') – a township where before Namibia's independence infrastructure was rather basic, and municipal services not sufficiently developed. Starting in the 1950s, in some of the rural areas north of the Police Zone, water development schemes were launched in order to expand the colonial economy (see for Kunene Region further below in this chapter).

As Swatuk has pointed out in his work on the historical development and political economy of Southern Africa's water sector, the colonial agricultural, industrial, and urban expansion led to increased and altered requirements for water. Among other things this also led to a need to capture storm water runoff through enhanced storage capacity, making use of both on-farm small dam construction, and state-initiated large dam construction. To facilitate this transformation in water resources management, a comprehensive review of existing water legislation was undertaken during 1950-52, eventually leading to the Water Act 54 of 1956. According to the new legislation, water continued to be divided into private and public domains. Individual rights to water resources continued to be based on riparian rights that were thus connected to land ownership, following the rules of some of the well-watered European countries. The state, however, could exercise much greater control of public water resources that were categorized as

'normal' and 'surplus' (i.e. storm water). This period of policy-making and related water resources management marks the beginning of the rapid acceleration of inter-basin water transfer and dam-building in South Africa, but also impacted on the Southern African region as a whole (Swatuk 2010:530).

Some of the consequences of the colonial past for Namibia at independence were peri-urban settlements and rural homelands that were infrastructurally underdeveloped and partly environmentally degraded. In Namibia, until today, some of the denser population congregations like the Southern mining towns and Swakopmund in the arid West are situated relatively far from freshwater resources – a phenomenon that Swatuk describes for the region on the whole, ascribing to it a 'long history of large-scale water transfer and storage schemes' (Swatuk 2002:510). Namibia's water resources are unevenly distributed over the country. While some of the country's few perennial rivers are located in highly populated rural areas with urban centres that have been showing high growth rates since independence, such as in the north-eastern regions along the Cuvelai, Kwando, and Zambezi, other centres of urban and industrial demand, such as the capital city Windhoek itself and the mining towns along Namibia's west coast are located far from larger water resources. This has led in some parts to expensive schemes that transport water over long distances to the users, such as the two major national water carriers: the *Calueque-Oshakati Water Scheme* – a system of canals and pipelines that carries water from the Kunene River in southern Angola to the densely populated Cuvelai Basin in northern Namibia; and the *Eastern National Water Carrier*, which carries water to Windhoek from Grootfontein. Some of Namibia's larger freshwater resources on the other hand, e.g. the north-western ephemeral rivers in Kunene Region, and the Fish River in the South, are situated far from large-scale consumers and remain largely untapped.

Decisions to prioritize schemes of potential economic development over related environmental concerns such as resulting water scarcity can still be observed in Namibia today where the arid western parts of the country have become the centre of uranium prospection activities (Weidlich 2008; Ardinger et al. 2009).

Although much has been done to improve the living conditions in Namibia's peri-urban settlements, there are still informal settlements and parts of townships where the inhabitants' situation is exacerbated by water scarcity resulting from pre-paid water meters and price structures that hurt those who are economically unable to pay and can result in lack of access (McDonald and Ruiters 2005:268; Unknown Author 2006).

At the same time, most of the public and political discourse around water and water resources management in Namibia continues to reproduce notions of water scarcity focusing on its

biophysical and ecological dimension rather than mentioning the recent colonial past or other man-made impacts on the distribution and availability of water in the different parts of the country: 'Water scarcity in Namibia is a result of low rainfall, few perennial rivers, few dams, and unsuitable ground conditions. Water resources in Namibia are already utilized to full or near-full capacity. Although most people are aware of the scarcity, water is still wasted irresponsibly' (Republic of Namibia. Ministry of Environment and Tourism 2006:49).

Looming water scarcity has also come to play a role both in Namibia and internationally in the context of rising concerns and discussions around the effects of climate change in scientific publications, as part of the Intergovernmental Panel on Climate Change (IPCC) process and other international water-related initiatives, as well as in regional news coverage (Kabat 2003:29; Pretorius 2011). As stated in an IPCC technical paper on climate change and water in 2008: 'Many semi-arid and arid areas (e.g., the Mediterranean Basin, western USA, southern Africa and northeastern Brazil) are particularly exposed to the impacts of climate change and are projected to suffer a decrease of water resources due to climate change' (Intergovernmental Panel on Climate Change 2008:3).

5.2. The hydraulic mission

Situations where notions of water scarcity and the need to counteract it dominate public discourse and policy-making in the water sector have been seen as triggering the development of an emphasis on the supply side of water resources management. The resulting supply-orientation among politicians and water engineers, stressing the centralized development of large-scale water infrastructure, has repeatedly been termed the 'hydraulic mission'. As Turton put it: 'Significantly, the "adaptive behaviors" by the decision-making elites are manifest as a set of "coping strategies" [to counteract water scarcity] that are based largely on major feats of hydraulic engineering. […] In this context, "water scarcity" is the first trigger that results in the supply-sided hydraulic mission within a given social entity' (Turton and Ohlsson 1999:6–7).

The political motivation and the mindset behind it are important here in particular due to their relevance for policy-making in Apartheid South Africa and Namibia, and also because they represent an antipode to the current paradigm of community-based water management which is at the centre of my analysis. It is important to understand the underlying rationale and some of the practical outcomes of the era of the hydraulic mission because it shaped the conditions, both nationally and locally, which were met by later politicians and development practitioners wanting to improve water supply and water governance in many countries of the Global South.

The hydraulic mission – relevance and definition

The era from the mid- 19th century until the end of the 20th century was dominated by a 'hydraulic mission' mindset in hydropolitics internationally.[46] This mindset was widespread among politicians and water engineers and can itself be described as a travelling idea, as its rise in some places affected the adoption of very similar rhetoric and approaches in others, as will be shown below. Reisner (1993) was the first to refer to this phenomenon as the 'hydraulic mission' in his insightful account of the colonization of the American West and the harnessing of its water resources through grand dam-building schemes for America's development.

Others have pointed out how the hydraulic mission and resulting approaches to water resources management began travelling across different settings along networks of hydraulic engineers and policy-makers in centralized, state-centred water administrations that took the lead in 'capturing as much water as possible for human uses' (Wester et al. 2009:395), and how these approaches still impact on countries of the Global South today (Molle 2009:492).

In my understanding of the hydraulic mission I follow Turton and Meissner who – in their work on South Africa – have characterized it as follows: 'The hydraulic mission is the overarching rationale that underpins the state's desire to establish conditions that are conducive to socio-economic and political stability. As such, it can be regarded as a form of ideology in the study of hydropolitics, infusing itself into the dominant or sanctioned discourse, serving to legitimize (and thereby sanction) this discourse' (Turton and Meissner 2002:38). And: '[...] a national hydraulic mission can be defined as that discourse which underpins the quest for hydrological security as a foundation for economic development in a land that is fundamentally hydrologically insecure' (Turton 2009:10).

The hydraulic mission – emergence

Allan (2005) presents the emergence of the hydraulic mission as based on the general striving towards modernity connected to economic (capitalist) development in industrialized countries and in the colonies, starting in the second half of the 19th century and spreading and reinforcing itself until the 1980s (Allan 2005:188–89) . Molle et al. (2009) provide a general account of some of the factors leading to the emergence of the hydraulic mission in the second half of the 19th century, drawing from various case studies that represent different regions of the world

[46] The notion of 'hydraulic societies', which is connected to the hydraulic mission, dates back much further into the past, however, and forms the focus of Wittfogel's much cited, but also contested analysis of the role that the control and management of water resources has played in state formation and stability Wittfogel 1957. On some of the criticism of Wittfogel's analysis see: Barker and Molle 2004:8–9; and Evers and Benedikter 2009.

(Brummelhuis, 2007 for Thailand, Ravesteijn and Kop, 2008 for Indonesia, Swyngedouw, 1999 for Spain, Vésin, 1992 for Chinese Yunnan, Wester, 2009 for Mexico).

The phase in colonial history (mostly between 1850 and the 1960s) during which states embarked on the process of creating hydraulic bureaucracies based on the mindset of a hydraulic mission, i.e. the goal of providing the necessary infrastructure and finance for larger-scale waterworks such as water storage and irrigation schemes, and water resources management to further economic development, took place against the background of intensive agricultural development, and the discovery of minerals and establishment of mining areas[47]. During this phase land and agricultural development came to be seen as a national priority, and frequently neither the settler farmers themselves who were looking for irrigation options nor the private entrepreneurs in water provision had the means to cater for the growing water needs of the rural economy. A 'general craze for irrigation development' (Molle et al. 2009:329) and 'agricultural modernity' based on experiences from the Global North connected to visions of a blossoming 'Garden of Eden' in the middle of otherwise climatically unfavourable environments in the colonies of the Global South.

Aridity and the lack of water and fertile soil for agricultural purposes were seen by European and American engineers as problems which had to be overcome, which led to an emphasis on hydrological engineering to achieve the vision of creating 'blossoming deserts' (see for instance Smythe, 1905 for North America, Costa, 1911 for Spain, and Kanthack, 1909 for South Africa as cited in Turton et al. 2004: 'Any person who saw irrigation as a sin, should read Genesis 2:10. Herein it is stated that: "A river rose in Eden to water the garden, and from there it divided and became four rivers"'). Another example for the South African context is William MacDonald, who in his book 'The Conquest of the Desert' of 1913 (MacDonald 1913) provides the reader with an account of his travels in the Northern Cape, and the visions that he and the white farmers, traders and Government employees he meets have for the 'conquest' of the Kalahari Desert – including afforestation, the settlement of increasing numbers of farmers, and borehole drilling to turn it into arable land:

> 'The aspect of the country was dreary and desolate, for it was still in the grip of a withering drought. But an all-wise Providence has planted the grey-green karroo bush here among the ironstone gravel, hot as fire, and those round, black, glittering rocks which seem to smile in sheer malice at the tiny grass struggling to exist in a rainless, sunscorched land. The vital need of this region is a second Van der Stel who would compel men to plant trees to check the terrific evaporation, to temper the wind, and to shade the soil from a pitiless sun. Trees—

[47] See for the aspect of mining in the emergence of the hydraulic mission in South Africa: Turton and Meissner 2002:40–41.

> trees—trees; the deep bore and the deep plough; and verily you will make this part of the karroo to blossom as the rose' (MacDonald 1913:168f.).

Much later, the same vision of deserts turned into fruitful land was invoked in South Africa again in 1962 by the Minister of Water Affairs, P.M.K. Le Roux, who – in connection with the construction of the Orange River Project – stated in parliament that: 'The project will change the face of South Africa. […] The Orange River Project will transform the desert into a paradise' (Republic of South Africa. Department of Water Affairs 1962, as cited in Turton et al. 2004:184).

During my field work in Namibia in 2011, one of my interview partners from the old white-dominated group of hydraulic engineers of the South West African – and later Namibian – water administration formulated the situation as follows:

> 'Because we are in a desert and there is no water, the whole vision of engineering and technological and scientific practice was that we must not be without water. Otherwise we cannot do anything. So when the people came back from exile [after Namibia's independence], anyway you could open a tap and drink the water. So they don't know or have any idea of where this comes from. That is a dedicated ongoing structure, assessment and evaluation and planning and designing and constructing and operating a system. Otherwise it will not work, and it's a continuous business, because as development goes on, you need more water and things become more sophisticated' (Interview 12.07.2011).

Much of the influence and longevity of the paradigm of the hydraulic mission may have resulted from the coalition of groups like politicians, engineers, development practitioners, international donors, and farmers themselves as a strong driving force, all aiming at progressively larger water withdrawals, even against steadily rising environmental concerns in the lack of a globalized awareness of environmental risks and associated public awareness and governance mechanisms. Engineers, who constituted a group of key actors facilitating the travelling of the idea of the hydraulic mission along their professional networks, and frequently also by migrating themselves from Europe to the colonies, were seen as elite, sophisticated intellectuals taking a lead role in their countries' development and colonial expansion by performing grand technical deeds. Reisner notes that the engineers who staffed the United States Reclamation Service responsible for water development and land reclamation in the American West founded early in the 20th century 'tended to view themselves as a Godlike class performing hydraulic miracles for grateful simpletons who were content to sit in the desert and raise fruit' (Reisner 1993:114).

5.2.1. The hydraulic mission in South Africa

In South Africa, according to Turton, the quest for an intensification of agriculture with the help of irrigation started around 1870 in the Witwatersrand, when the first white settler farmers were

secure enough from raids by other groups (Turton et al. 2004:36–37). The need for increased water resources for agricultural purposes led to increasing expectations that colonial administrations would cater for those needs of individual farmers:

According to Turton, who regards the 1870s as the time when the hydraulic mission started to become an influential paradigm in the Cape Colony (Turton 2009:9–10), one of the earliest proponents of the larger-scale development of water infrastructure by the state who put his rationale and vision behind it in writing was John. C. Brown[48], author of a book titled 'Hydrology of South Africa' (1876), which was followed by 'Water Supply of South Africa' in 1877. In these two books he describes the challenges that the lack of sufficient water resources posed to economic development, at least in parts of the colony, and stresses the need for water storage and irrigation.[49] Brown, quoting a report compiled by the Commissioner of King Williamstown writing for the annual *Blue Book of the Colony of the Cape of Good Hope* in 1873, writes:

> 'Such a measure [engaging in better planned timber cutting and reforestation, as he has previously proposed], combined with an irrigation scheme suited to the circumstances of the Colony, are matters affecting so immediately the interests of the agricultural classes, and are of such vital importance to the progress of the Colony by supplying the means of developing the resources of the country, that they deserve and claim the earliest and most earnest attention and consideration of the Parliament' (Blue book for the Colony of the Cape of Good Hope 1873, as cited in Brown 1877:642–43) .

Although it would take some time before the colonial Government would make any tangible moves towards furthering irrigation development and dam-building, and fully embark on a hydraulic mission, a first Irrigation Act for the Cape Colony was passed through the British parliament in 1877, and a water administration was set up. Two hydraulic engineers working for the colonial administration, who favoured a similar approach to using the existing water resources, and especially the rivers in order to augment the available water resources for agriculture, were Thomas Bain, a civil engineer in the public works department of the colonial administration in the Cape, and John G. Gamble, a hydraulic engineer. Gamble was appointed in 1876 as the Cape Colony's first hydraulic engineer, a position which he held until 1885 (Turton et al. 2004:114). Already in his first official report of 1877 it became evident that he would be a

[48] Brown is considered by researchers to have been one of the first conservationists in modern history, and bore the following offices and titles: 'Government Botanist at the Cape of Good Hope, and Professor of Botany in the South African College, Capetown, Fellow of the Royal Geographical Society, Fellow of the Linnean Society, and Honorary Vice President of the African Institute of Paris, etc.' (Brown 1877, cover page).

[49] At the same time as describing recurring droughts and a general water scarcity and aridity, Brown also mentions recurring floods in different parts of the Cape Colony. (Brown 1875 as cited in Turton et al. 2004:109).

proponent of Government support for irrigation works, e.g. in the Eastern Cape, and also for larger-scale drinking water supply, e.g. in Port Elizabeth and Grahamstown (Office of the Commissioner of Crown Lands and Public Works 27th 1877:1–2). Interestingly, in Gamble's strategic vision regarding the nature of Government involvement he also considers a division of roles between the Government and the recipients of the envisaged support, i.e. the European settler farmers, which bears resemblances to modern-day community-based management approaches. I will elaborate more on this in the following sub-chapter. Later on, Thomas Bain, on his trips through the Karoo, began promoting dam-building and irrigation while interacting with the settler farmers. He would then include recommendations on irrigation schemes, including the diversion of rivers, in his reports to the Government and in his book of 1886, '*Water-Finding, Dam-Making, River Utilization, Irrigation*' (as cited in Turton et al. 2004:119). It was the engineers together with some members of the British Parliament who started lobbying actively for the establishment of irrigation schemes under the auspices and with the financing of the Government. Bain for instance was involved in early plans for irrigation schemes at the Orange River near Prieska, and near Upington (Turton et al. 2004:130).

A separate Department of Irrigation was later set up shortly after the establishment of the Union of South Africa in 1910, and the Union Irrigation and Conservation of Water Act No. 8 was passed. However, it took more than sixty years, from the first Irrigation Act in the Cape Colony and the early activities by the hydraulic engineers and politicians motivated by a hydraulic mission, before a number of larger irrigation and water resources development projects were implemented by the Government starting in the 1930s.

In his account of the effect that changing technological approaches to farming have had on land use and the ecology in the Karoo in the nineteenth century, Archer dates the arrival of wind pumps on boreholes run by private commercial farmers back to the 1870s. In this early phase wind pumps were mainly imported from the United States (Archer 2003:120ff.). According to Beinart's environmental history of the Cape Colony, farmers had started to sink wells to tap shallow underground water which was the least expensive investment in the initial exploitation of groundwater. By 1891, 5,000 shallow wells were counted in the colony's census (Beinart 2003:170).

The Government also installed a Government service for borehole drilling in the late 1870s with 'Government Boring Engineers' exploring and supporting the development of groundwater resources (Archer 2003). Government drilling services had to be paid by the farmers – whether water was found or not. By 1903, around 4,000 boreholes had been sunk in the cape colony, 20 per cent out of these however had been proven not to provide suitable amounts or quality of

water (Beinart 2003:170f.). From MacDonald's travel account it becomes clear that white settler farmers at that time organized the search for reliable groundwater sources by themselves. Borehole drilling however was beyond the resources available to many of them and as long as they were able to pay, they were seeking for Government support from the side of the boring engineers in terms of human resources and equipment. MacDonald recounts: 'Saturday, 11th May.—Started at 6.15 a.m. Crossing sand-dunes. Arrived three hours after at Obobogorop which, being interpreted, means "the hole dug out by the ant-bear in which water was found." We are only now 21/2 miles from the German border, and dim against a red sand-dune can see International Beacon No. 92. Here we had a chat with Mr H. C. Botha, who owns 7000 morgen, and has struck fresh water at 64 feet. Farmer Botha wants : (1) a Government bore ; (2) a telegraph or telephone ; (3) a post office' (MacDonald 1913:42). With private drilling services developing in parallel, and later partly replacing Government services, the census of 1911 reported 7,513 boreholes in total.

5.2.2. The hydraulic mission in Namibia

The context of rural water supply in Namibia's communal areas is characterized by historical developments which have led to significant changes over the past one hundred years in the basic conditions of water management, mainly in terms of the nature and extent of state intervention.

Before the advent of water management planning by the national administration and the introduction of related policies and technologies during the colonial era, local communities depended solely on the varying availability of surface and ground water for their economic activities, for religious practices just as for basic household necessities. Local knowledge and techniques were applied to ensure their supply of water for drinking, cooking, washing, and the watering of livestock and gardens. People would mostly use water from springs, natural and hand-dug wells, and surface water sources during and immediately after the rainy season. Vast areas of the country were rarely and only intermittently used for hunting and gathering, grazing, or small-scale agriculture (Budack 1972; Lau and Stern 1990; Niemann 2000, 2002; Bollig 2009:155).

Water resources development and administration during German rule – 1884 to 1915

Namibia was under German colonial administration from 1884, when it was first proclaimed an imperial protectorate and later a colony by Germany under the name of '*Deutsch-Südwestafrika*' (German South-West Africa). Early during the First World War in 1915 it was occupied by South Africa under the name of South West Africa (SWA). After the First World War, the League of Nations mandated the Union of South Africa with the further administration of the German protectorate and thus made it responsible for the territory's further socio-economic development.

The South African Government would appoint an administrator for SWA who had far-reaching powers over the colony, being accountable to the South African Government.

As the colonial period before 1990 is not the major focus of this thesis, I will give a brief historical account of the arrangements for water resources development and management only to further the aim of providing some important background to what followed during the phase of water-related political and legislative reforms in independent Namibia during the 1990s. To this end, I draw on archival records, interviews with long-standing staff members of Namibia's national water administration, as well as secondary sources.

Activities by the German colonial administration concerning water resources assessment and development commenced in the 1890s, when investigations into the availability and potential utilization of water resources including the possibility of dam-building and groundwater usage were carried out.[50] Available water sources were included in early mapping exercises as can be seen for instance from a map produced in the context of the Herero-Nama wars fought by the German colonizers at the beginning of the 20th century (1904).

Pieter Heyns, himself a former civil engineer in the South African Department of Water Affairs based in Windhoek from 1973 until he retired as Head of Department of Water Affairs and Forestry in 2007 after more than 30 years in that post, shows in his account of water-related institutional reforms in South Africa and Namibia that in the early phase of German colonial rule, there was almost no regulation of the water sector by the colonial Government, with no institution responsible for water matters or any specific water policy or water legislation in place. Heyns further points out that water prospecting by means of test drilling was largely motivated by political decisions to expand the railway routes from the coast around Lüderitz into the interior of the colony, to found new urban settlements and stock farms, as well as by irrigation and mining projects (Heyns 2005:93–94) .

According to an account of the history of groundwater exploration in SWA contained in a festschrift on the occasion of '25th years of water supply to South West Africa (Department of Water Affairs 1979), the first person to be in charge of water boring in then German South West Africa, a Mr. Kubisch, arrived in the colony in 1903. The drilling equipment he used at the time, before the arrival of imported, more modern machines soon after, consisted of an iron rig which was steam-powered, but drawn by oxen or donkeys. Sometimes using up to 40 oxen to pull that machine when boreholes had to be drilled through hard-to-pass layers, he allegedly sunk the very first borehole on the territory (Department of Water Affairs 1979:19f.). In order to find and

[50] See for more detail on water resources development during the German colonial period: Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1991:21–22.

develop further groundwater sources, two government drilling teams, or 'imperial drilling squads' (which is the verbal translation of the German original '*Kaiserliche Bohrkolonne'*), were established starting in 1904 under the supervision and coordination of a geologist, Dr. Lotz, who was called from Germany to fulfil this task (Department of Water Affairs 1979; Lau and Stern 1990). The drilling squads were initially responsible for exploring groundwater for the German soldiers of the *Schutztruppe* and in connection with the construction of the railway. The two drilling squads were called 'borehole drilling squad north' and 'borehole drilling squad south', using imported diamond drills to look for groundwater. With 40 skilled personnel and 220 labourers belonging to the two squads by 1914, organized hierarchically under the supervision of a 'boring inspector' and 'boring master', their tasks became more comprehensive, to also include the repair of old boreholes, the installation of pumps, wells and troughs, as well as gauging weirs for measuring seasonal floodwaters of the country's river courses, and the recording of meteorological observations (Lau and Stern 1990:65). In her 1990 account of early colonial water management in Namibia, Lau reconstructs from colonial archival records (which unfortunately I could not recover during my archive research in 2011) that in addition to the official drilling teams a water diviner was used to discover promising sites for borehole drilling, and that he was officially endorsed by the colonial administration (ZBU P.IV.b.1 – P.IV.b.2 Bde. 1-6, as cited in Lau and Stern 1990). According to Lau, between 1906 and 1915 a total of 50 to 100 new boreholes were drilled in central Namibia each year (Lau and Stern 1990:63).

Another strong motivation that caused the drilling of new boreholes to gain momentum was the provision of farm land to German settlers, frequently ex-soldiers recruited and willing to settle permanently. Drilling continued in the country's farming sector inside the so-called *Police Zone*[51] until the end of German rule in 1915. What Lau does not report is that the drilling of new boreholes on farm land did not come as a free government service, but was to be paid for at fixed rates and in cash by settlers. Small loans were granted up to a maximum cost of 250 South African pounds per borehole at an interest rate of 4 per cent, repayable over 10 years. For unsuccessful boreholes, only half the fixed costs were charged and settlers could apply for repayment in instalments against registration of a mortgage on their farms. From 1912 onwards there were also private service providers active in the German protectorate carrying out boring operations (Union of South Africa 1935:150 as cited in Werner 2009:12).

During this phase of active intervention of the colonial administration in water development for economic purposes within the Police Zone and throughout German colonial rule, the rural North of the protectorate, to which Kunene Region belonged, remained unaffected by the borehole-

[51] On the meaning and creation of the *Police Zone*, see Silvester et al. 1998:3.

drilling activities. It would take until the 1950s for borehole drilling in Kunene to be intensified under South African rule, based on a hydraulic mission with a view to developing the availability of water supply for the colonial rural pastoral economy.[52]

The rise of a hydraulic mission during initial South African administration – 1915 to 1930

The need for more reliable and stable water supplies for the settler economy developing in the south-central parts of the Namibian territory grew with the growing number of white stock-owners immigrating in the wake of the South African invasion after 1915. The main aim behind the drilling of new boreholes was to develop farmland for white farmers, and initially to create the conditions for large-scale irrigation. An intensive drilling programme by the Department of Water Affairs was begun and successful boreholes on farms were equipped, largely with wind pumps. According to the Department of Water Affairs (1979:20), between 1920 and 1932, 1,261,598 South African Rand were spent on drilling – a large sum for that time. One may thus identify the 1920s as the phase during which the hydraulic mission of the South African administration, which later also became relevant for water resources development in the communal areas, gained influence in Namibia.

As the initial regulations and institutional setup of the water administration for the Namibian territory were based on the South African model, in 1921 an Irrigation Department became responsible for water development in SWA too, although clearly, Namibia's climatic and soil conditions in most parts of the country are not conducive to irrigation agriculture. Drilling for groundwater was continued under the coordination of the drilling division belonging to this department, which was comprised of 30 staff headed by a 'boring engineer', and equipped with drills imported from South Africa. Werner (2009) presents a detailed account of the amount of drilling equipment operating for groundwater development in Namibia in the course of the 1920s which resulted in a total of 2,560 boreholes drilled between 1920 and 1933 (see table 6 below). In 1923 alone, 450,000 ha of land had been made available for settlement by a total of 167 new boreholes drilled (Union of South Africa 1924b:41 as cited in Werner 2009:12).

The policy governing the financing of water development on white-owned commercial farms changed slightly in the 1920s, under the South African colonial administration. In order to make recommendations on how drought-related losses to commercial (white) stock farmers could be prevented, a Drought Investigation Commission was appointed in June 1923. It found that during droughts, farmers were not able to utilize all their land for grazing due to the lack of widely distributed water points across their farms.

[52] See a detailed account for Kunene based on the relevant literature below.

Recommendations were made by the Commission that – because, according to its analysis, the volume of water that a given water point provided was less important than the correct siting of water – more water points should be developed on the farms (Union of South Africa 1924a:65). This was the same logic that would be pursued through other recommendations and schemes by the South African administration several decades later in some of Namibia's reserves and homelands outside the white commercial farming sector.

The Commission of 1923 also recommended that the state should provide loans to farmers to encourage water development (Union of South Africa 1924a). The payment for water drilling was reformed and became based on water delivered rather than on the number of days spent drilling. Drilling was subsidized in cases where 'water development in other ways is impossible' (Union of South Africa 1924a:106f.). With the help of small loans and initially for free to the prospective farmers, borehole drilling by the South African administration during the early years peaked in 1929 at 350 (Werner 2009:14).

While initially consisting mainly of wooden frame percussion drills also called 'jumper machines' and a smaller number of rotary shot drills (Union of South Africa 1923, 1924b), drilling equipment became more modern in the 1940s with the advent of steel-frame rigs, initially driven by paraffin engines and starting from the 1950s by air-cooled diesel engines (Department of Water Affairs 1979:20).

Table 6: Boring completed in Namibia between 1920 and 1933

Year	No. of boreholes	Average yield per day (l)	Average depth (m)	No. of drilling machines available from the water administration
1920	15	65,768	no data	4
1921	68	132,437	no data	no data
1922	134	69,873	78	32
1923	167	68,191	78	42
1924	246	55,462	80	45
1925	212	60,463	82	45
1926	262	77,284	87	56
1927	244	60,918	77	65
1928	290	78,647	77	72
1929	350	91,831	84	76
1930	318	91,490	70	73
1931	221	60,918	79	46
1932	27	45,461	no data	0
1933	6	85,012	no data	no data

Source: Union of South Africa reports as cited in (Werner 2009:14).

The Irrigation Department was functioning under the Artesian Water Control Proclamation of 1921 – the first formal water legislation for SWA – which had been adopted from South Africa to regulate the development and use of artesian water resources (Heyns 2005:94). Under this legislation, licences from the Administrator were required, on the recommendation of the Land Board, for boreholes to be sunk in an artesian water area. As it became clear soon afterwards that irrigation had extremely limited potential in SWA, in 1925, the Irrigation Department was transformed into a Water Division of the Department of Works of the newly established SWA Administration[53]. In addition to being responsible for finding groundwater and for the drilling of new boreholes inside the Police Zone, the Irrigation Department also dealt with the building of farm dams for rainwater storage and the supply of water to government installations. The South African legislation continued to regulate overall water resources policy and legislation in SWA until Namibian Independence in 1990.

During the same time period however, doubts as to the environmental sustainability of using artesian boreholes were also voiced, as becomes obvious in the report of a 'Water Investigation Commission' tasked by the Administrator of SWA in 1928 to 'formulate and report upon a scheme for effecting in the most expeditious and economical manner: (1) the conservation of water in the Territory by means of dams and other works; (2) the tapping of underground water supplies' (Gathemann et al. 1929:1). Based on a field survey and interviews with farmers in 1929, the commission found that in many cases boreholes and wells had depleting effects on the limited groundwater supplies. The commission came to the conclusion that the building of dams for water conservation was central to mitigating these effects and should thus be given priority over the drilling of new boreholes. A decision was made that the cost of farm dams should be added to the purchase prices of farms (Gathemann et al. 1929:3).

Furthermore – in keeping with the hydraulic mission of the time – the commission recommended the construction of a large-scale government irrigation scheme, which would 'provide an occupation for a considerable number of citizens', and 'by diversifying and increasing the country's products, have a makred [sic!] effect on its economic structure' (Gathemann et al. 1929:6). For the various tasks that the commission recommended – the advisory to farmers on dam-building, the investigations into a large-scale Government irrigation scheme and other general hydrographic investigations – the commission also made concrete recommendations in terms of the need for

[53] As in other cases in this historical account, differing dates are mentioned in different publications for the formation of the South African Department of Works. The 1925 date is from Heyns (2005:94), while Lau indicates 1928 as the date when the new department was formed (Lau and Stern 1990:64). 1928 is mentioned in the same way in a Department of Water Affairs report Republic of Namibia (Ministry of Agriculture, Water and Rural Development 1991:23–25).

human and financial resources, and proposed an increase in both staff and budget for the Department of Works.[54]

The economic crisis of the 1930s resulted in a phase of limited activity in borehole drilling and irrigation development. A great part of the drilling equipment was sold or fell out of use, and by 1933 boring by government had practically come to a standstill. A scheme of loaning drilling machines to private individuals against payment was established instead, and 26 machines were operating in 1933 under this scheme. (Union of South Africa 1934) Over the course of the 1930s the Works Division lost its engineering staff and remained with only the Director by 1937. Only after the Second World War was it possible to recruit new engineering staff again, and by 1954 a separate Department of Water Affairs for SWA was created, staffed by a number of engineers and geologists, under the lead of Dr. Otto Wipplinger as its Director, who later became professor in civil engineering at the University of Stellenbosch. The engineering staff working in the Departments of Works, Irrigation and later Water Affairs since the 1920s was mostly South African educated white engineers with German or Afrikaans background (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1991:23f.)

Water resources development in the 'native reserves'

Contrary to the generally strong driving force behind the development of water supply for the white-owned farms, the motivation to increase the water supply in the 'native reserves' seems to have depended largely on the potential of their natural resource base and the general economic potential the different reserves had as perceived by the South African colonial administration.

Controlled by the Department of Native Affairs (later re-named into Department of Bantu Affairs, the 'native reserves' were administered by so-called Reserve Boards, also commanding the Reserve Administration Trust Funds in which the reserve's revenues, mainly taxes, were deposited. Along with the general task to administer the internal affairs of the reserves, the Reserve Boards will in most cases have ensured that the pre-existing socio-economic objectives of the colonial South African Government such as supplying white farms and mining enterprises with black labour supply continued to be pursued – rather than focusing on attaining a sustainable livelihood for indigenous Namibians (Rohde et al. 2000:327; Werner 2004:292).

Werner provides an informative account for the *Nama Reserves* in the South of Namibia, which were largely seen as potential sources of labour supply for the settler farms. Rather than analyzing

[54] For another account of the commission's role and findings in connection to artesian water development Tasks and recommendations of Water Investigation Commission 1929 regarding the development of artesian water resources and dam-building, see Werner 2009:14–15.

existing water demands and trying to develop the necessary water infrastructure to satisfy the water needs of the rural population confined to the reserves, the colonial administration looked at water supply infrastructure mainly as a means of enabling more reserve inhabitants to go to the settler farms to work, and so preventing them from using the time needed to fetch water as an excuse: 'In 1928, the Commission recommended that water facilities should be improved in 'native reserves', as this would induce more Black people to go out to work' (Werner 2009:16–17).

On the whole however, during the first ten years after the reserves had been proclaimed at the beginning of the 1920s, funding for water development in the 'native reserves' by the administration was negligible. As shown in table 7, a total of £20,491 was spent by the colonial administration on water boring in the 'native reserves' between 1923 and 1932. By contrast, the total spent on boring for water on settler farms from 1924 to 1928 alone amounted to more than ten times the total amount for the 'native reserves', at £243,905 (Union of South Africa 1925:18, 1930:16). In addition, between 1926 and 1932, the Agricultural Bank extended 335 loans amounting to a total of £80,380 to settlers for water boring (Werner 2009:17).

Water development in the 'native reserves' was initially paid for by the administration, and from 1932 onwards was supposed to be catered for with financial resources from the *Reserve Trust Funds*[55], i.e. monies raised from levies within the reserves, mostly deriving from grazing fees (Werner 2009:17). However, the actual implementation of the Reserve Trust Fund was postponed until 1952 and only introduced in some of the reserves. For the 'native reserves' in Kunene Region, levies such as grazing fees were never raised (pers. comm. Bollig).

Table 7: Expenditures on water-boring in the white farming sector as compared to in the 'native reserves', 1924-1928

Year	Budget for white farming sector (South African Pound)	Expenditure in 'native reserves' (South African Pound)
1924	45,277	(1923/24:) 4,706
1924/25	65,351	3,379
1925/26	82,765	1,797
1926/27	22,353	1,036
1927/28	28,159	1,377
1928/29	-[56]	908
1929/30	-	1,000
1930/31	-	1,533
1931/32	-	4,755
Total	**243,906**	**20,491**

Source: (Werner 2009:13; 18)

[55] Established according to *Proclamation 9 of 1924* Union of South Africa (1925).
[56] No separate figures for water-boring budget available as from 1928-29 onwards it was integrated into the public works budget (Werner 2009:13).

'Hydrological Revolution' in Kunene North, 1950 - 1990

Between 1915 and 1950, initially, in 1923, three separate reservations had been established by the South African colonial administration on the territory of what later became the Kaoko Native Reserve[57] (Rizzo 2000:194). This was followed by a process of forced removals and resettlements, and the drawing of imposed borders between groups of people perceived as different by the colonial administration in the north of today's Kunene Region. After a process of restructuring of the administration of the area, which was substantially informed by ethnographic surveys conducted by the then Government Ethnologist in the Department of Native Affairs, Nicolaas Jacobus van Warmelo, the former smaller reserves became obsolete to make way for a larger area to be proclaimed Kaoko Native Reserve in 1947 according to Government Notice No. 374, of 1947. It was in the 1950s that the interest in the economic potential and natural resources of the Kaoko Native Reserve began to grow among the colonial administration (Bollig 2013).

In the 1930s only a few boreholes had been sunk in Kaoko. Following the declaration of Kaoko as a 'native reserve', scientific studies of different topics and sectors were undertaken, mostly commissioned by the colonial administration, resulting in ideas and plans for the re-structuring of natural resource use for local livestock husbandry on the part of the administration. This included the extensive drilling of boreholes with the aim of 'opening up' new areas for human exploitation and cattle production. In a letter to the Native Commissioners in 1955, the Chief Bantu Commissioner in Windhoek argued that borehole drilling was an important step to support '*ontwikkeling*' (Afrikaans: development) in reserve areas (Bollig 2009:158). A regular borehole development programme for the north of today's Kunene Region was thus launched in the mid-1950s. Bollig terms the introduction of extensive borehole drilling to Northwestern Namibia starting in the 1950s a 'hydrological revolution', expanding and stabilizing the availability of water sources and with it the accessibility of pasture.

The 'Odendaal Commission', in its findings, points out that in order to achieve more than a subsistence economy in the reserves, the amalgamation and expansion of some reserves, together with the 'further training and active co-operation of their inhabitants', would ensure that all so-called 'homelands' would 'provide a proper livelihood […] for their respective population groups' (Odendaal 1964:81), quoted in Werner 1991: 51.

[57] 'Kaoko' or 'Kaokoland', which during colonial times was also called the 'Kaokoveld', is still frequently used to refer to the north of Kunene Region. 'Kaoko' is the Otjihimba name referring to the land south of the Kunene River (van Wolputte 2003:31).

Between 1950 and 2000, more than 400 boreholes were drilled in Kaoko alone (Bollig 2009:161).[58] According to Bollig's account these developments have led to changes in local resource tenure and management, in mobility patterns, in local power relations, and in the social-ecological dynamics (Bollig 2013).

Dams and piped water supply systems were also among the water-related infrastructure financed by the colonial administration in Namibia from the 1920s which served the water needs of rural communities. In Kunene Region however, piped systems have played a minor role until today, except for in the urban centres. Dams were not built in Kunene Region at least until 1965 (Wipplinger undated:38).

Table 8: Expenditure on water in 'native reserves' for the period 1920-65[59]

Item	Cost (ZAR)
310 dams	1,330,817
669 boreholes (estimate)	850,000
Pumping plant on successful boreholes (estimate)	500,000
Etaka Canal Ovamboland	300,000
First stage Oshakati Canal (up to 1963)	477,000
Second stage Oshakati Canal (up to 9.3.1965)	1,067,518
Pipeline Oshakati to Ondangua (up to 5.3.1965)	268,214
Total	**4,793,549**

Source: (Wipplinger undated:47).

Until today, the water infrastructure in Namibia's communal areas consists mainly of boreholes bringing groundwater to the surface using different pumping technologies such as windmills, hand-pumps, diesel-engine pumps, and solar-driven pumps, and of piped systems tapping into natural springs and rivers to a limited extent. A more detailed description of the water supply technology in use in Kunene Region can be found in chapter 8. Borehole development and the installation and rehabilitation of pump infrastructure and other water supply technologies through the regional branches of the national water administration and through various donor organizations and private companies has continued up until today.

[58] For the sake of proportion and comparison: In total, since the beginning of the 20th century in Namibia over 100,000 boreholes have been drilled, out of which an estimated 50,000 are presently providing water and in use (Christelis and Struckmeier 2001).

[59] The currency must originally have been South African pounds, converted by Wipplinger. The Pound was then replaced by the Rand when South Africa became a republic and left the Commonwealth in 1961.

5.3. Preliminary Summary

The aim of this chapter was to sketch the historical context and basis for the development of water-sector governance debates in the 20th century which eventually brought to the fore paradigms of participatory, community-based water management. This was done by providing the accounts of two of the previously dominant – and still very influential – ideas and related discourses about water management and water governance, internationally and in Southern Africa. These two inter-connected paradigms are: firstly, that of water scarcity, understood as an absolute and generalized precondition underlying all water-sector policy-making and practice; and secondly that of the 'hydraulic mission', i.e. the ambition of state actors to create security and development though an augmentation of the water supply. Through the analysis of archival and secondary sources, and the representations of current water-sector concerns and management approaches presented on water-sector organizations' websites, I found that both these ideas still exert a degree of influence on water-sector discourses, even today.

The theme of water scarcity in its generalized sense can be traced in scientific and public discourse in Namibia and elsewhere, and it contributes to the underlying rationale for water-sector strategies, funding appeals, etc. As various other case studies have shown before however, the reiteration of this notion of water scarcity suppresses a more detailed analysis of the political ecology of water access, which could provide a better basis for decision-making so as to include marginalized groups and improve water access more widely.

The hydraulic mission is frequently built upon and reinforced by the assumption of absolute water scarcity. Having strong historical roots in contexts of colonization, reclamation, and economic advancement, the hydraulic mission has led to a focus on expanding water supply by the state. It is characterized by emphasizing infrastructure, including 'grand schemes', as the solution to problems caused by water scarcity, and has brought with it the formation of early expert networks of water-sector practitioners, most of whom were water engineers educated in the Global North or in the colonial education system. This group of actors became mediators of the reigning water-sector paradigm, and defined themselves by means of building large-scale water infrastructure in order to 'make the desert bloom'. This was also a phase in which – maybe for the first time in history – environmental issues such as water management, nature conservation, and desertification were talked about by such groups of experts, who were internationally linked and travelling themselves – frequently from the colonizing states to the colonies and back – with the predominant ideas about environmental governance of the time travelling along with them.

The idea of the 'hydraulic mission' and related approaches to water policy and resource management that I have elucidated above had constituted the dominant water-management

paradigm globally since the first half of the 19th century. The supply-orientation underlying this approach to managing water resources led to an emphasis on expanding the existing water infrastructure in the context of population growth, increasing water demands, and in particular the expansion of irrigated agriculture (Gleick 2000:128).

The two ideas which set the stage for the later emergence of community-based water management were sketched in this chapter in particular in terms of their capacity to connect different regional and national settings, their relevance for the Southern African region, and their relationship to country-level discourses in Namibia. In many countries of the Global South, and especially those where colonial administrations had used a supply-oriented approach to water resources planning to further economic development and to counteract a perceived threat of water scarcity, this paradigm was longer-lived than in the industrialized North. Among water experts and policy-makers the hydraulic mission thinking resulted in a focus on heavily infrastructure- and capital-intensive interventions that continued in the postcolonial era. This focus on infrastructure shaped the transfer of technologies and the injection of technical know-how into national water administrations, often in the context of development interventions (Allan 2006). As was shown above, the spread of the hydraulic mission from South Africa to Namibia implied expanding the existing water supply in the rural areas through the drilling of new boreholes and the building of storage dams – systematically excluding the African population, however. Until today the intention of augmenting access to water mainly by installing new infrastructure is part of water-sector policy-making and development cooperation internationally. This includes the claim to mitigate water scarcity (as an obstacle to human development and well-being), as also formulated in the different sets of international development goals adopted by the international community since 2000.

At later stages – as will be shown below – other paradigms that emphasized demand-based management and community participation over augmenting water supply through new infrastructure from the side of the state, with the expectation of fostering sustainability and ownership, gained ground in water-sector policy-making. However, along with new paradigms and models which have been promoted since, the principles and thinking behind the hydraulic mission are still influential. The most recent water supply development programme in Namibia's Kunene Region for instance, which will be the focus of my account in chapter 8, was also largely built on the augmentation of water access through the drilling of new boreholes and equipping them with modern technology in the shape of solar-powered water pumps.

In the next chapter I continue my account by retracing some of the global dynamics and discourses around environmental governance and natural resource management which have

created a favourable context for a turn from supply-driven water management – influenced by the 'hydraulic mission' approach and the motive of preventing or managing water scarcity, among other factors – towards demand-driven management and community-based management models for water resources management.

6. User Participation in water management – Global Ideas, Actors, and Events Since the 1970s

Following the outline provided in the previous sections, of some early ideas on water management which started to influence the objectives of water administrators and policy-makers in the early 20th century, including in the colonial territories, I will now introduce the reader to some of the water-management paradigms that have emerged more recently. Their emergence falls into the phase of a rising tendency towards global environmental governance which will be depicted along a sequence of environment-related mega-events organized by international actors in this field. Due to its Apartheid past, such events initially took place without Namibian participation, but following the country's independence included the presence and interventions of Namibian Government and NGO representatives as will be shown for some exemplary cases below. Various policy paradigms and management approaches have emerged at that global level of interconnected expert groups for different environment-related fields such as for instance the water sector, nature conservation, and eco-tourism, which have then been translated to national-level policy-making and donor funding. Some of them have rather direct connections to the objectives pursued in the reform of the Namibian water sector and the institutional changes resulting from it. Others have created the ground for the rise of ideas of user participation in natural resource governance more in general. The same paradigms and related discourses have influenced water-sector reforms in many other countries of the Global South – mainly in the 1980s and 1990s. The two paradigms being focused on here –demand-based management, and user participation – formed central nodes in the evolution of the discursive web of policies and practices around rural water supply which fed into the community-based policies in place in many countries today.

Events, actors, documented outcomes

In the description of the emergence, translations, and travelling of the ideas in question I will describe and analyze three main categories of nodes in the discursive network in which the water-management paradigms are enmeshed, namely the categories of events, actors, and documented outcomes. The chapter will thus include an overview and background on international events focusing on the water sector that took place between 1970 and 2002. I will introduce the reader to the role that different actors have played at various scales in developing and transmitting water-management ideas. The 1990s in particular were a time when individual experts and international organizations formed an internationally influential web of stakeholders which played an important role in the discourse by confirming and reinforcing a bias towards particular water-

management concepts and by promoting the corresponding policies and strategies. These outcomes of water events, water-sector debates, and policy-making processes form the third category of discursive nodes that will be dealt with. They appear in the discourse in a multitude of forms, for instance in the form of conference declarations, signed agreements between states, plans of action, and policies and implementation strategies at the national level.

The process around the development of global environmental governance mechanisms for a number of environmental issues and resources, such as for instance the oceans and international rivers in the water sector, as well as the climate and biodiversity, served to further expand and strengthen a transnational web that encompasses ideas, actors at many different levels, and outcomes from international events such as political declarations and implementation strategies. The increasing intensity and dynamic of global environmental discourses and processes formed a background conducive to the spread of situational assessments, particular policy models, and implementation approaches for natural resources management, such as models for demands-based management and increased user participation globally. This also led to impacts at the national level when states participated in the joint stock-taking, agenda-setting, and policy-making processes, sometimes resulting in signed agreements on the implementation of the global paradigms at the national and local levels. Ideas, policies, project documents, and in fact also the individual actors involved in the water sector as politicians, experts, or NGO activists started travelling in a more extensive and focused way, revolving around some of the concepts of water governance reform that were being spread widely and gaining in prominence. As Yahia Abdel Mageed, Secretary-General of the first UN conference on water in Mar del Plata in 1977, described in his opening statement: ‘The very process of preparation [of the Mar del Plata conference] has generated a certain momentum on a global scale. A new consciousness was created. National committees were created or re-activated in some countries. New laws or decrees were promulgated in others. This momentum has not only to be maintained, but further developed’ (Biswas 1978c:19).

Timeframe

The timeframe in question here – the period between the first international UN conference on the environment in 1972 in Stockholm, and the Johannesburg Environmental Summit in 2002 – is the phase when the ideas of demands-based management and participation in water management that form important foundations of the CBWM policies and reforms adopted mainly in the 1990s became more salient, and began to travel widely on a global scale. It was during this phase of the emergence of global environmental governance that major cornerstones of international water-sector paradigms were laid which proved to be influential in the context of Namibian water

reforms commencing in the early 1990s, and in particular of the introduction of CBWM in rural water supply. Thus, instead of providing far-reaching and all-encompassing conference summaries concerning the water sector, which has been done elsewhere, when providing the following account of events, actors and outcomes at the global scale, I will maintain the connection with the main theme of this thesis by focusing on developments concerning CBWM in the management of rural water supply in particular.

In order to provide the reader with a general overview in advance, table 9 below demonstrates the three categories of what Varady & Iles Shih (2009) have termed 'global water initiatives' – organized events that touched upon environmental issues including the water sector (UN events presented in blue, and private, non-UN events in orange); intergovernmental and non-governmental water initiatives (presented in yellow); and designated periods (in green) for the water sector. They are ordered chronologically for the past 43 years, starting with the Stockholm Conference on the Human Environment of 1972 when the theme of global environmental governance began to gain significant salience. The representation of organized events includes information on their documented outcomes in relation to international water-sector objectives, and their connection to RWS and CBWM.

Table 9 includes among others those events that will be at the core of the analysis here, and shows them as embedded in a chain of events concerning the water sector which has continued up until today. This is meant mainly for the purpose of orientation for the reader, and should not obscure the fact that the discursive strands related to the different events are often overlapping and more complex than can be expressed in the form of such an overview. They also are generally hard to ascribe to a bounded timeframe, event, or set of actors. However, the table conveys an idea of dominant themes and tendencies. The role of expert networks in pushing certain discourses and concepts will be elaborated further in sub-chapter 6.1.6. below. The detailed analysis in the following sub-chapters concentrates on those events that were expressly focusing on and dedicated to the global water governance, and also on the sequence of high-level environmental mega-events under UN auspices, as these can be seen to have the highest degree of political influencing power, and contribute strongly to setting policy agendas in the UN member states.

The entries represented in green in the table below represent 'dedicated periods' which have been proclaimed by the UN twice for the water sector, each time following a key international UN mega-conference, and which were meant to boost international effort and financing towards the achievement of the main water-sector objectives at the time, including access to safe drinking water for all.

In many cases, national Governments offer to take on the role of the conference host and co-convene and organize the events together with the organization that is the main convenor and financier, such as the UN or the World Water Council. A visual overview of the conference locations is provided in map 6 below.

As Namibia was not an independent state and not a UN member before 1990, it was not represented at the high-level events during that time. Before the end of Apartheid and Namibia's independence, South Africa had been suspended from participating in UN processes since November 1974, and was thus only represented at intergovernmental level again from 1990 onwards. Direct Namibian representation and in some cases inputs – depending on the data available to me at this stage – can thus only be traced from 1990 onwards. The events organized by some of the non-governmental water initiatives, such as the World Water Council, though not constituting formal intergovernmental events, often saw the participation of Ministerial delegations. Namibia was among them for instance at some of the World Water Forums and at the Ministerial Conference on Drinking Water and Environmental Sanitation in Noordwijk in 1994. Namibia was not represented however at the Dublin Conference of 1992 or at the Bonn International Conference on Freshwater in 2001. The first official Namibian delegation at a UN environmental summit consisted of both Government and civil society representatives at the 2002 'Earth Summit' in Johannesburg. Information on the participants in the New Delhi Conference of 1990 is unfortunately not available to me.

Table 9: Events, designated periods, and organizations on the environment and water, 1972 to 2013

Year	Event	Venue (Convenor)	Documented Outcomes	International water-sector objectives and their connection to RWS and CBWM
1972	**UN Conference on the Human Environment (UNCHE)**	Stockholm (UN)	Declaration of the UN Conference on the Human Environment (United Nations Environment Programme 1972)	General concern with the environment and with water as natural resource: 'A point has been reached in history when we must shape our actions throughout the world with a more prudent care for their environmental consequences. […] Principle 2 The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate. […]' (Stockholm Declaration).
1972			**UN launches United Nations Environment Programme (UNEP)**	
1977	**United Nations Water Conference**	Mar Del Plata (UN)	Mar del Plata Action Plan (United Nations)	Considerations regarding the right to water access and equitable distribution; remark regarding community programmes: 'All peoples, whatever their stage of development and their social and economic conditions, have the **right to have access to drinking water in quantities and of a quality equal to their basic needs**; […] It is imperative to facilitate ways of achieving this **essential co-operation, so that water is attainable and is justly and equitably distributed** among the people with the respective countries; Organizations of the United Nations system and other international organizations are making progress towards **possible establishment of a consultative group mechanism on community programmes**.' Recommendations: 'That where human needs have not yet been satisfied, national development policies and plans should give priority to the supplying of drinking water for the entire population and to the final disposal of waste water; and should also actively involve, encourage and support efforts being undertaken by local voluntary organizations; That Governments reaffirm their commitment made at Habitat to "**adopt programmes with realistic standards for quality and quantity to provide water for urban and rural areas by 1990 if possible**"; That with a view to achieving these ends, the nations which need to

				develop their systems for providing drinking water and sanitation should **prepare for 1980 programmes and plans to provide coverage for populations and to expand and maintain existing systems; institutions development and human resources utilization**; and identification of the resources which are found to be necessary; […]'
1981-1990			**International Drinking Water Supply and Sanitation Decade** (declared after Mar del Plata Conference in 1977)	
1990	**World Summit for Children**	New York (UN)	Declaration on the Survival, Protection and Development of Children (United Nations 1990b)	'We will **promote the provision of clean water in all communities for all their children**, as well as universal access to sanitation.' 'Based on the experience of the past decade, including the many innovations in simple, low-cost techniques and technologies to provide clean water and safe sanitary facilities in rural areas and urban shanty towns, it is now desirable as well as feasible, through concerted national action and international co-operation, to **aim at providing all the world's children with universal access to safe drinking water and sanitary means of excreta disposal by the year 2000**.' 'To match increased efforts by developing countries themselves, the donor countries and international institutions should consider targeting more development assistance to primary health care, basic education, low-cost water and sanitation programmes and other interventions specifically endorsed in the Summit Declaration and this Plan of Action.'
1990	**Global Consultation on Safe Water and Sanitation for the 1990s**	New Delhi (United Nations Development Programme – UNDP; hosted by the Indian Government)	New Delhi Statement: 'Some for all rather than more for some' (United Nations 1990a)	New Delhi Principle 3: '**Community management of services**, backed by measures to strengthen local institutions in implementing and sustaining water and sanitation programmes.' […] 'Access to water and sanitation is not simply a technical issue; it is a crucial component of social and economic development. **Sustainable and socially acceptable services can be extended by using appropriate technologies, adopting community management and enhancing human resources**.'
1990			**UN General Assembly creates Water Supply and Sanitation Collaborative Council**	
Since 1991			**World Water Week in Stockholm (annually)** (organized by Stockholm International Water Institute – SIWI)	
1992	**International Conference on Water and the**	Dublin (UN)	Dublin Statement'/ Dublin Principles (ICWE 1992)	Dublin Principle 2: '**Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels.** The participatory approach involves raising awareness of the importance of

	Environment (ICWE)			water among policy-makers and the general public. It means that **decisions are taken at the lowest appropriate level, with full public consultation and involvement of users in the planning and implementation of water projects**.' Dublin Principle 4: 'Water has an economic value in all its competing uses and should be recognized as an economic good. Within this principle, it is vital to recognize first the **basic right of all human beings to have access to clean water and sanitation at an affordable price**. Past failure to recognize the economic value of water has led to wasteful and environmentally damaging uses of the resource. **Managing water as an economic good is an important way of achieving efficient and equitable use, and of encouraging conservation and protection of water resources**.'
1992	**UN Conference on Environment and Development (UNCED, 'Earth Summit')**	Rio de Janeiro (UN). Namibia was represented by a Governmental delegation.	Rio Declaration on Environment and Development Agenda 21 (United Nations 1992)	Agenda 21, Chapter 18 on water, titled: 'Protection of the Quality and Supply of Freshwater Resources: Application of Integrated Approaches to the Development, Management and Use of Water Resources' (see for a direct comparison table 13 in chapter 6.1.6. below for more detail)
1992	**UN creates Commission on Sustainable Development (UNCSD) to ensure effective follow-up of United Nations Conference on Environment and Development** (https://sustainabledevelopment.un.org/csd.html)			
Since 1992	**The 22nd March is declared World Water Day by the UN** (http://www.unwater.org/worldwaterday/)			
1994	**Ministerial Conference on Drinking Water and Environmental Sanitation**	Noordwijk (Dutch Government); Namibia was part of the steering committee and represented by a Governmental delegation.	Conference report, containing policy statement and action programme, endorsed by UNCSD, encompassing also direct inputs from the side of the Namibian Government (Netherlands 1994). Goal of the conference was the implementation of Agenda 21, Chapter 18.	Minutes of Session 2 – Water People, statement made by Namibian delegation: '(Namibia) - Applying sector policies, as defined in Action Programme across-the-board and, as a result, are making major quantifiable studies since independence in 1990. **Water sector policy, which approved in 1993, opens door to the mobilization of external support with guarantees of effectiveness of programme for both partners**.' (Netherlands 1994:8). Input made by Namibian Minister of Agriculture, Water and Rural Development, Nangolo Mbumba: '[…] **At the local level, the communities in the densely populated northern regions of Namibia have been mobilized and are actively involved in the development of rural water supply schemes. The stakeholders and**

				beneficiaries are today digging trenches and providing their labour for the construction of pipelines to establish water points at isolated villages. These people have actually been involved in the planning and construction of the water schemes and realized the importance of setting up water committees to facilitate the operation and maintenance of their water supply system. This brought about behavioural change which promotes hygienic practices, **the willingness to pay for the water supplied and to protect the water supply infrastructure that has been established**. […] **At national level a programme has been launched to set up Central, Regional and Local Water Committees to promote public awareness on water related matters, to involve local committees to play a participatory role in the water supply and sanitation sector and to encourage the conservation of our precious water resources which is certainly a crucial aspect in the arid environment of Namibia.** […]'
1995	**World Summit for Social Development**	Copenhagen (UN)	Copenhagen Declaration, the Ten Commitments, and the Programme of Action (United Nations 1995)	'Absolute poverty is a condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information.' Commitment 2: '**Focus our efforts and policies to address the root causes of poverty and to provide for the basic needs of all**. These efforts should include the elimination of hunger and malnutrition; the provision of food security, education, employment and livelihood, primary health-care services including reproductive health care, safe drinking water and sanitation, and adequate shelter; and participation in social and cultural life.' 'Rural poverty should be addressed by [...]Promoting fair wages and improving the conditions of agricultural labour, and **increasing the access of small farmers to water**, credit, extension services and appropriate technology, including for women, persons with disabilities and vulnerable groups on the basis of equality; […].' '**Meeting the basic human needs of all by […] Creating public awareness that the satisfaction of basic human needs is an essential element of poverty reduction**; these needs are closely interrelated and comprise nutrition, health, water and sanitation, education, employment, housing and participation in cultural and social life; […].'

1996	**World Water Council created** 'The World Water Council's mission is to promote awareness, build political commitment and trigger action on critical water issues at all levels, including the highest decision-making level, to facilitate the efficient conservation, protection, development, planning, management and use of water in all its dimensions on an environmentally sustainable basis for the benefit of all life on earth' (www.worldwatercouncil.org).			
1996	**Global Water Partnership Created** 'The Global Water Partnership's vision is for a water secure world. Our mission is to advance governance and management of water resources for sustainable and equitable development' (www.gwp.org).			
1997	**1. World Water Forum**[60] Theme: Vision for Water, Life and the Environment	Marrakesh (World Water Council)	Marrakesh Declaration (First World Water Forum 1997) The World Water Council mandated by the World Water Forum to develop a World Water Vision for the 21st Century by 2000.	'The Forum calls on governments, international organizations, NGOs and the peoples of the World to **work together in a renewed partnership to put into practice the Mar del Plata and Dublin Principles and Chapter 18 of the Rio Summit to initiate a "Blue Revolution" to ensure sustainability of the Earth's water resources**. In particular, **the Forum recommends action to recognize basic human needs to have access to clean water and sanitation**, to establish an effective mechanism for management of shared waters, to support and preserve ecosystems, **to encourage the efficient use of water, to address gender equity issues in water use and to encourage partnership between the members of Civil Society and Governments**' (Marrakesh Declaration).
2000	**2. World Water Forum** Theme: 'From Vision to Action'	Den Haag (World Water Council)	World Water Vision (Cosgrove and Rijsberman 2000); Ministerial Declaration of The Hague on Water Security in the 21st Century (Second World Water Forum 2000)	'Water is vital for the life and health of people and ecosystems and a basic requirement for the development of countries, but around the world women, men and children lack access to adequate and safe water to meet their most basic needs. […]' 'To achieve water security, we face the following main challenges: Meeting basic needs: **to recognise that access to safe and sufficient water and sanitation are basic human needs and are essential to health and well-being, and to empower people, especially women, through a participatory process of water management**. […] Valuing water: to manage water in a way that reflects its economic, social, environmental and cultural values for all its uses, and **to move towards pricing water services to reflect the cost of their provision. This approach should take account of the need for equity and the basic needs of the**

[60] The World Water Forum, an event organized by the World Water Council and held every three years since the Marrakesh Forum in 1997, is currently the largest international event specifically focused on water. It raises awareness of water-related issues, sets agendas, provides a platform for debate and networking, and attracts media attention for water issues and proposed solutions.

				poor and the vulnerable' (Ministerial Declaration).
2000	**United Nations Millennium Summit**	New York (UN)	Adoption of the United Nations Millennium Declaration, containing the eight Millennium Development Goals (United Nations 2000)	As part of **MDG 7** on environmental sustainability **(Target 7.C): 'We resolve to halve, by 2015, the proportion of people without sustainable access to safe drinking water'.**
2001	**Namibian Country Water Partnership (NCWP) launched** 'The NCWP constitutes a politically neutral multi-stakeholder platform at the country level that empowers, convenes and connects Partner organizations and other stakeholders and encourages Partners to work together more effectively to address water-related challenges and deliver water-related services' (http://www.gwp.org/en/GWP-SouthernAfrica/GWP-Partners/Namibia/).			
2001	**Appointment of the first United Nations Special Rapporteur on the Human Right to Safe Drinking Water and Sanitation** (http://www.ohchr.org/EN/Issues/WaterAndSanitation/SRWater/Pages/SRWaterIndex.aspx)			
2001	**International Conference on Freshwater** (on the occasion of the tenth anniversary of the Dublin Conference and of Agenda 21)	Bonn (German Government)	• ***Bonn Recommendations for Action including the 'Bonn Keys'*** *(presented as water-related input to the WSSD in 2002)* (International Conference on Freshwater 2001c) • ***Ministerial Declaration*** (International Conference on Freshwater 2001b). • **Declaration of African Ministers responsible for water resources** (International Conference on Freshwater 2001a) Namibia was not represented at governmental level at the	The conference recommended priority actions under the following three headings: - Governance - Mobilising financial resources - Capacity-building and sharing knowledge. 'Throughout the three themes, delegates debated on the appropriate allocation of roles among people and organizations. Regarding the government role, delegates disagreed on questions of sovereignty, public participation and access to information, but **agreement emerged on the need for additional capacity among NGOs and communities, to carry out their roles**. On the role of the private sector, discussion focused on the compatibility between profit and environmental and ethical responsibilities. Delegates noted general acceptance of these responsibilities compatible with economic viability, and urged a code-of-conduct for all stakeholders, not solely companies. […] **The third section on making institutions more effective suggests shifting the focus of existing water institutions. […] Specific initiatives to strengthen institutions at the community level, and where necessary, changes to policies, laws and government organizations are seen as essential for empowering the poor and creating enabling environments for local institutions'** (International Institute for Sustainable Development 2011). <u>Bonn recommendations for action:</u> • Secure equitable access to water for all people;

			Bonn conference.	• Manage water at the lowest appropriate level; • Make water attractive for private investment; • Increase development assistance to water; • Make water institutions more effective. (International Conference on Freshwater 2001c) <u>Ministerial Declaration:</u> 'Combating poverty is the main challenge for achieving equitable and sustainable development, and water plays a vital role in relation to human health, livelihood, economic growth as well as sustaining ecosystems' […] **Water resources management should be based on a participatory approach.** Both men and women should be involved and have an equal voice in managing the sustainable use of water resources and sharing of benefits. **The role of women in water related areas needs to be strengthened and their participation broadened**.' (International Conference on Freshwater 2001b). <u>Declaration by African Ministers:</u> '[…] we declare that we shall focus our efforts on Governance of the water sector: Strengthening policy, legislative and institutional reforms, including **decentralisation and empowerment of local community for integrated water resources management**' (International Conference on Freshwater 2001a).
2002	**World Summit on Sustainable Development (WSSD)**	Johannesburg (UN)	**Plan of Implementation of the World Summit on Sustainable Development** (United Nations 2002)	WSSD focuses on **water as one of five key themes**. Water is also recognized as one of the critical factors regarding the achievement of all MDGs across the board. Until 2005 each signatory state is supposed to create a national water strategy under the principles of IWRM, in order to contribute to the attainment of MDG 7. In Johannesburg, MDG 7 target C was broadened to include basic sanitation: 'to halve by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation'.
2002	**African Ministerial Conference on Water (AMCOW) established, following WSSD** Later re-named African Ministers' Council on Water. (http://www.amcow-online.org/index.php?lang=en)			

2003			**International Year of Freshwater (proclaimed by the UN in 2000)** (http://www.un.org/events/water/)	
2003	**3. World Water Forum** Theme: 'A Forum with a Difference'	Kyoto (World Water Council)	Ministerial Declaration (Third World Water Forum 2003) Analysis of the 3rd World Water Forum (World Water Council 2003)	Ministerial Declaration: General Policy '**In managing water, we should ensure good governance with a stronger focus on household and neighborhood community-based approaches by addressing equity in sharing benefits, with due regard to pro-poor and gender perspectives in water policies. We should further promote the participation of all stakeholders**, and ensure transparency and accountability in all actions. […] As water situations differ from region to region, we will support established regional and sub-regional efforts such as the vision of the African Ministerial Conference on Water (AMCOW) to facilitate the New Partnership for Africa's Development (NEPAD) […].' Safe Drinking Water and Sanitation 'Achieving the target established in the MDGs to halve the proportion of people without access to safe drinking water by 2015 and that established in the Plan of Implementation of the WSSD to halve the proportion of people without access to basic sanitation by 2015 requires an enormous amount of investment in water supply and sanitation. We call on each country to develop strategies to achieve these objectives. We will redouble our collective efforts to mobilize financial and technical resources, both public and private. We will address water supply and sanitation in urban and rural areas in ways suitable for the respective local conditions and management capacities, with a view to achieving short-term improvement of water and sanitation services as well as cost-effective infrastructure investments and sound management and maintenance over time. In so doing, we will enhance poor people's access to safe drinking water and sanitation.' (Third World Water Forum 2003) Analysis of the 3rd World Water Forum: '**Users not only have the right to have access to water services, but should also participate in decision-making on the management of resources. User participation has become an accepted principle but this should include the sharing of power: democratic participation of citizens in elaborating and implementing water policies and projects and in managing water**

				resources. This should include the right of communities to develop their own projects if they can do so without government intervention and without doing harm to up- or downstream communities and environment. […] In addressing the challenge of balancing increasing human requirements for adequate water supplies and improved sanitation with food production, energy and environmental needs, most countries will require more effective governance, improved capacity and adequate financing. **Community level public participation is fundamental to achieving these goals.** […] Governments are called upon to start or continue reforms of public water institutions, drawing on public-private cooperation, twinning, private know-how, and other options. They are also called upon to **promote good governance in water management and service delivery, ensuring cost-efficiency, transparency and accountability through increased stakeholder participation and public, private partnerships**. […]The importance, but also the difficulty of implementation of decentralization and stakeholder participation in water management are recognized and obtaining consent of all affected people as a selection of the stakeholders to be included in the decision making processes can be very difficult and controversial' (World Water Council 2003).
2003	**Dushanbe International Freshwater Forum**	Dushanbe (UN/ Tajik Government)	Dushanbe Water Appeal (Dushanbe International Freshwater Forum 2003)	Recommitment to working towards achieving MDG 7.
2003	**Creation of UN-Water** United Nations inter-agency coordination mechanism for all freshwater-related issues, including sanitation (www.unwater.org)			
2004	**Creation of UN Secretary-General's Advisory Board on Water and Sanitation (UNSGAB)** Independent body established by United Nations Secretary-General, Mr. Kofi Annan, to give the Secretary-General advice and galvanize action on water and sanitation issues. (www.unsgab.org)			
2005-2015	**Second World Water Decade – International Decade for Action Water for Life** (proclaimed by the UN at the close of the International Year of Freshwater, 2003) '[…] the goals of the Decade should be a greater focus on water-related issues at all levels and on the implementation of water-related programmes and projects, while striving to ensure the participation and involvement of women in water-related development efforts, and the furtherance of			

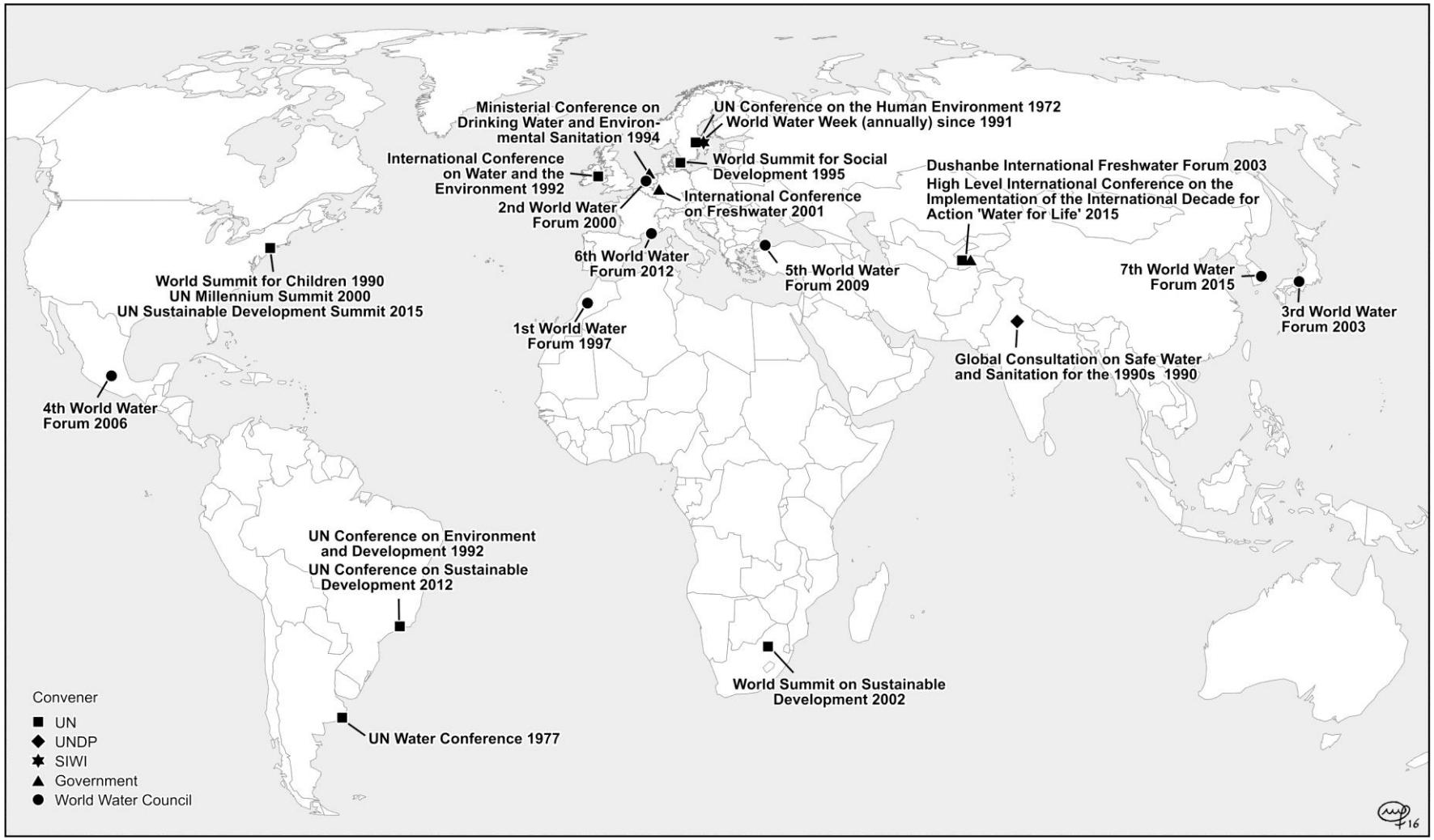
	cooperation at all levels, in order to help to achieve internationally agreed water-related goals contained in Agenda 21, the Programme for the Further Implementation of Agenda 21, the United Nations Millennium Declaration 5 and the Johannesburg Plan of Implementation, and, as appropriate, those identified during the twelfth and thirteenth sessions of the Commission on Sustainable Development' (United Nations 2004).			
2006	**4. World Water Forum** Theme: 'Local Actions for a Global Change'	Mexico (World Water Council)	Ministerial Declaration (Fourth World Water Forum 2006)	No direct mention of rural water supply or water user participation.
2009	**5. World Water Forum** Theme: 'Bridging Divides for Water'	Istanbul (World Water Council)	Istanbul Ministerial Statement (Fifth World Water Forum 2009b) Istanbul Water Consensus for Local and Regional Authorities (Fifth World Water Forum 2009a)	Proposed measures: '[…] **Introduction of regulatory measures for public participation in the decision-making regarding water management and financing at local/basin/regional levels thus improving water governance**; […]' (Istanbul Water Consensus).
2012	**6. World Water Forum** Theme: 'Time for Solutions'	Marseille (World Water Council)	Ministerial Declaration (Sixth World Water Forum 2012a) Parliamentarians' Manifesto (Sixth World Water Forum 2012b)	'Good water governance requires multi-stakeholder platforms and legal and institutional frameworks **enabling the participation of all, including indigenous peoples, marginalized and other vulnerable groups**, promoting gender equality, democracy and integrity. **Given the particular role of local and regional authorities, in the principle of subsidiarity, we recognize the need to strengthen their capacity to fulfil their responsibilities**, as appropriate. Timely and adequate information is crucial to enable all stakeholders to make informed choices and actively participate in the design, implementation and assessment of water and sanitation policies. […] **We intend to ensure that water and food security policies meet the needs of the most vulnerable, in particular local communities, smallholder farmers, women and indigenous peoples**' (Ministerial Declaration). 'We, the representatives of Parliaments of the world, propose to mobilize within our respective assemblies and to advocate the following solutions: 1. **Recommend that all countries ensure that access to safe drinking water and sanitation for all, in terms of availability, quality, acceptability, accessibility and costs, particularly for vulnerable populations**, is a priority and allocate the necessary financial resources to these issues at all levels; […] 3. **Call for a collaborative management involving all stakeholders in all countries**' (Parliamentarians' Manifesto).

2012	**UN Conference on Sustainable Development (UNCSD, Rio+20)**	Rio de Janeiro (UN)	Outcome document 'The Future We Want' (United Nations 2012)	Outcome document stresses the general need for broad participation 'in processes that contribute to decision-making, planning and implementation of policies and programmes for sustainable development at all levels' (United Nations 2012:8). Contains a section on water and sanitation, p. 23 f., generally reaffirming commitment to the MDGs, the Johannesburg Plan of Implementation and the International Decade for Action, 'Water for Life', 2005–2015.
2015	**High Level International Conference on the Implementation of the International Decade for Action 'Water for Life', 2005-2015**	Dushanbe (UN/ Tajik Government)	Declaration of the High Level International Conference on the implementation of the International Decade for Action 'Water for Life', 2005-2015	'*We acknowledge* that governments have the responsibility to ensure the sustainable management of water resources while taking into account competing demands and the interests of other stakeholders; **it is important therefore to encourage stronger dialogue, as appropriate, and meaningful stakeholder participation at the local, national and international levels with the involvement of all relevant stakeholders including women and children**' (Declaration document).
2015	**7th World Water Forum** Theme: 'Water for Our Future'	Korea (World Water Council)	Ministerial Declaration (Seventh World Water Forum 2015)	No direct mention of rural water supply or water user participation
2015	**United Nations Sustainable Development Summit**	New York (UN)	Agenda 2030 (United Nations 2015)	Adoption of a stand-alone goal on water (SDG 6): 'Ensure availability and sustainable management of water and sanitation for all', with eight sub-goals, including 6.b: '**Support and strengthen the participation of local communities in improving water and sanitation management**'.

Table compiled by author, based, in addition to web-based research, on: Conca 2006:134–39; Dobner 2010.

Legend for colour code:

Organized UN events on environmental issues
Organized private, non-UN events on environmental issues
Intergovernmental and non-governmental water initiatives
Designated periods for the water sector



Map 6: Overview on global water-sector mega-events, 1970-2015

Produced by Monika Feinen

6.1. From supply-orientation and hydraulic mission to demand-driven management and cost recovery

The predominant idea of the state as the main provider of water supply which has to cater for the existing – usually perceived as growing – water needs by expanding the related infrastructure began to be challenged internationally during the second half of the 20th century. With the environmental movement gaining strength internationally since the 1970s, the environmental consequences of large-scale water infrastructure development, and especially dams, increasingly became an issue of public debate and organized local and international resistance (Conca 2006:167ff.). In parallel, situational assessments emphasized the gaps in coverage with clean water supply, and the connection of satisfying basic human needs such as the need for water and sanitation, to the achievement of sustainable development gained greater discursive influence.

The emergence of water governance as an area of broader political discussion that also led to a growing focus on the management institutions needed for a sustainable and equitable coverage of water needs started in the 1970s, when environmental issues in general, as well as ideas about governance in this context, were echoed in public debates reaching increasingly growing audiences at local, national, and international scales (Conca 2006; Dobner 2010; Lane 2012). Many of the discourses, policy-making, and legislative processes that are high on the international environmental agenda today – surrounding topics like biodiversity conservation, pollution control, climate change, and disaster risk reduction – gained in prominence in global discourses during the second half of the 20th century when the environment and its meaning for human survival was first put on the international agenda (De Wit 2011:60ff.). In those political and public discourses, the environment – and the water sector alike – were frequently seen to be in crisis, and the urgency of coming up with some global strategies to prevent irreversible harm to the Earth and its population on the whole was increasingly stressed, such as for instance in the Stockholm declaration of the UN Conference on the Human Environment in 1972:

> ‘Man has constantly to sum up experience and go on discovering, inventing, creating and advancing. In our time, man’s capability to transform his surroundings, if used wisely, can bring to all peoples the benefits of development and the opportunity to enhance the quality of life. Wrongly or heedlessly applied, the same power can do incalculable harm to human beings and the human environment. We see around us growing evidence of man-made harm in many regions of the earth: dangerous levels of pollution in water, air, earth and living beings; major and undesirable disturbances to the ecological balance of the biosphere; destruction and depletion of irreplaceable resources; and gross deficiencies, harmful to the physical, mental and social health of man, in the man-made environment, particularly in the living and working environment’ (United Nations Environment Programme 1972b).

This was happening in parallel to a thread in international discourse which was pushing the objectives of sustainable human development and poverty reduction through voices becoming louder in the same period of time. In the 1970s and 1980s – the era when the legislative and political cornerstones for evolving global environmental governance were laid – two key publications were presented that included scientific findings on global environmental and development scenarios, which I will briefly outline in the following sections.

6.1.1. Recognizing the 'Limits to Growth'

The first influential publication based on an examination of the limits of resource use on earth was the report 'Limits to Growth' of 1972 (Meadows 1972), commissioned by the Club of Rome and written by a team of MIT scientists, right before the United Nations convened the first international conference which put environmental issues on the global agenda – the United Nations Conference on the Human Environment in Stockholm in 1972.

The Limits to Growth contributed to shaping an evolving global discourse which acknowledged the threats to human development resulting from a growing human population, environmental pollution, and a potential overuse of limited natural resources, as well as from economic disparities. They also paved the way for the ensuing development of a global approach to environmental governance.

The Limits to Growth report was supposed to look into how the planet's future will look like, provided that existing growth rates continued. It was written on the basis of a computer model simulating the interactions of the five global economic subsystems of population, food production, industrial production, pollution, and consumption of non-renewable natural resources.[61] The major goal of the industrialized economies – to ensure their continued economic growth and well-being and to strive for global economic growth overall – underlay the entire research for the report. Some 15 years before the coining of the concept of sustainable development by the report 'Our Common Future', commissioned by the UN World Commission on Environment and Development (WCED) (World Commission on Environment and Development 1987), the MIT research team in the 1970s took a perspective largely driven by economic reasoning rather than an environmentalist mind-set, to analyze the role of the environment and natural resources as one factor in capitalist economic development. However, The Limits to Growth was the first notable attempt to scientifically analyze and widely publish findings about the factors 'that determine, and

[61] The scenario-building approach through computer-based modelling used in the *Limits to Growth* is still prominent today for instance in climate modelling, which forms a dominant element in climate-change discourses (Schipper 2006).

therefore, ultimately limit, growth on this planet – population, agricultural production, natural resources, industrial production, and pollution' (Meadows 1972:11), and was thus pointing to environmental overuse and pollution as a global threat. Water – freshwater for that matter – was described mainly as a fundamental requirement for food production – which is a connection still very prominently emphasized today in the post-Rio+20 development debates that center on the 'water-food-energy-nexus' and on the 'green economy' (Hoff 2011). The authors of Limits to Growth concluded that the point where increasing demands for food production could no longer be met by available supplies of water would occur much earlier than in the case of land resources (Meadows 1972:53–54).[62] The main overall message resulting from their findings was that continued growth in the global economy would lead to planetary limits being exceeded sometime in the 21st Century (Turner 2008:1–2). It was also assumed that the predicted collapse of the population and global economic system could be avoided with a combination of early changes in behaviour, policy, and technology, and that the sooner this effort to alter the threatening trends started, the greater the chance would be of achieving more ecologically stable development. Although the Limits to Growth report has been widely accused of misinformed, Malthusian-type thinking – a criticism in fact often based on incorrect summaries of the report's main messages (Turner 2008) – and although it was presented by its authors as but a preliminary and imperfect work, it has entered public discourse on environmental issues in powerful and enduring ways. The report can be seen as a step towards the wider recognition of the fact that the environment is vulnerable and can be influenced negatively by human behaviour in the long run, since natural resources such as water are finite.

6.1.2. Stockholm, 1972 – the first UN conference on the environment

In 1972, the same year that the Club of Rome published its *Limits to Growth* report, the UN convened the first international mega-event, which at that time was unprecedented in scale, and which put water, among other natural resources and environmental issues, at the centre of its agenda. [63] The United Nations Conference on the Human Environment (UNCHE) in Stockholm in June 1972 was attended by 133 official state representatives in addition to NGOs, international organizations, and more than 1,000 journalists (Dobner 2010). The most influential outcomes of the conference in terms of documented agreements were the 'Declaration on the Human

[62] In their generation of future 'world models' underlain by different sets of assumptions and scenarios, water also plays a – though marginal – role as subject to pollution caused by human industrial and agricultural activity (Meadows 1972:69–87).

[63] The very first discussion of water issues as part of UN processes had taken place much earlier on at the UN scientific Conference on the Conservation and Utilization of Resources in Lake Success, USA, in 1949 (United Nations, Department of Economic Affairs 1950).

Environment' (United Nations Environment Programme 1972b), accompanied by an 'Action Plan for the Human Environment' (United Nations Environment Programme 1972a) which contains an early sketch of institutional structures to support global water governance (recommendations 51 to 55), mainly in the fields of reducing water pollution, of managing transnational water courses, and of organizing the coordination and support of water-resources management issues within the UN system and its assistance of national Governments concerning water resources management.[64] The growing consciousness of a looming water crisis mostly in terms of problems connected to water pollution and the failure to achieve comprehensive coverage of clean drinking-water supplies worldwide is expressed in the general recommendation to increase efforts to support Governments in working towards improved water supply and sanitation services at the community level (United Nations Environmental Programme 1972a, recommendation 9). As part of the general recommendations, a need for increased development assistance in the sector of water supply and sanitation is mentioned (United Nations Environmental Programme 1972a, recommendation 10).

Given that the 1970s were a time when public management by the state, large-scale infrastructure development, and supply-orientation still dominated water policy internationally, it may not be surprising that there is no recommendation from the Stockholm Conference which includes any of the later concepts connected to CBWM or demands-based management, except for one general reference made to the need for a more efficient water management, recognizing the fact that water resources are limited (United Nations Environmental Programme 1972a, recommendation 53), which later became a formulation frequently connected to calls for demands-based management. It was later on in 1976, at the Vancouver Conference on the Human Settlements, where the lack of clean water for the vast majority of the rural population of the world was discussed and where a recommended target of clean water for all communities by 1990 was put forward (Biswas 1978b).

On the legislative side, the Stockholm Conference together with the Vienna Convention on the Law of Treaties in 1980 led to environmental law being modernized and coordinated as part of the global effort to mitigate global environmental risks (Di Mento 2003:7).

A central result of the Stockholm Conference on the structural side is the establishment of the UN Environmental Programme (UNEP) as an international institution headquartered in Nairobi to coordinate the UN's environmental activities, provide expertise on environmental legislation and governance, and assist countries in implementing environmentally sound policies.

[64] For a more detailed account of the essence of the water-related recommendations from Stockholm, see Dobner 2010:96.

In the context of a developing global environmental agenda, the Stockholm Conference also spawned a sequence of subsequent mega-conferences organized by the UN between 1974 and 1981, each focusing on a particular environmental issue or theme, one of which was the first, and so far only, UN Water Conference.[65] Before providing an account of the outcomes of the UN Water Conference in Mar del Plata in 1977, let me take a brief detour and explain in more general terms the various steps and actors commonly involved in the organizing of UN mega-conferences in this next sub-chapter – using the Mar del Plata Conference as an exemplary case.[66]

UN mega-conferences – process and actors

The decision to convene a United Nations Conference is usually made by one of the principal organs of the UN[67] and documented in the form of a UN resolution. In the case of the Mar del Plata Water Conference, the time between the first considerations of the idea to hold a UN Water Conference and the final decision and determination of the date of the conference took two years. Four more years passed before the conference was held. An intergovernmental panel of specialists had prepared the first agenda and organizational proposal for the conference in 1971. The decision to convene that conference between 14 and 25 March 1977 in Mar del Plata, Argentina, upon Argentina's invitation to host the conference, was made by the Economic and Social Council (ECOSOC) in resolution 1761 C (LIV) of 18 May 1973 after a series of consultations with UN member states and organizations of the UN system.

Following this principal decision, there will frequently be further UN resolutions concerning the necessary ***preparatory work for the conference***. As for Mar del Plata, there were two such resolutions by ECOSOC (1979 (LIX) of 31 July 1975 and 1983 (LX) of 23 April 1976). Conference preparation will often involve preparatory meetings (see below), and the nomination of preparatory committees for these. The preparation of the main conference is usually coordinated by the conference secretariat, which is appointed by the preparatory committee, including a Secretary-General for the conference – the person heading the secretariat during the process of preparing, realizing and sometimes following up on the conference. The third, modified version of

[65] Conferences on population (in Bucharest, 1974), on food (in Rome, 1974), on women (in Mexico City, 1975), on human settlements (in Vancouver, 1976), on water (in Mar del Plata, 1977), on desertification (in Nairobi, 1979), and on science and technology for development (in Vietnam, 1981).

[66] The descriptions of the run-up to the Mar del Plata Conference which are presented here are based on: Unknown Author 1976, citing from the United Nations Water Conference Aide-mémoire outlining the preliminary arrangements for the organization and preparation of the United Nations Water Conference in accordance with Economic and Social Council resolutions 1761 C (LIV) and 1979 (LIX).

[67] Principal organs are the General Assembly, the Security Council, the Economic and Social Council, the Trusteeship Council, the International Court of Justice, and the Secretariat.

the conference agenda for Mar del Plata was adopted in March 1975 following comments from member states and revisions done by the conference secretariat.

The Conference Secretariat for the UN Water Conference in Mar del Plata was officially established in March 1975 in the Office of the Director of the Centre for Natural Resources, Energy and Transport, Department of Economic and Social Affairs. The secretariat for the Mar del Plata Conference worked in close cooperation with the interested specialized agencies and programs of the United Nations system, the regional economic commissions and intergovernmental and international nongovernmental organizations, and in liaison with the secretariat of the United Nations Conference on Desertification. On 21 May 1976, UN Secretary-General Kurt Waldheim announced the appointment of Yahia Abdel Mageed, the then Minister of Irrigation and Hydroelectric Power of the Democratic Republic of the Sudan, a post which he had held since 1971, as ***Secretary-General of the United Nations Water Conference***, at the level of Assistant Secretary-General. Mr. Mageed reported for duty in New York in the first week of June 1976.

The ***participation in the conference*** and list of organizations to be invited would be decided on by the convening body or committee and would sometimes be subject to formal endorsement through a meeting or resolution of the responsible UN organ, such as ECOSOC in the case of the Mar del Plata Conference. Participation would sometimes entail registration to the event with different status or type of accreditation entailing different levels of rights and opportunities to make their voices heard and collect relevant information during the conference.

The preparatory committee for the Mar del Plata Water Conference approved a number of recommendations subsequently endorsed at the spring 1976 session of ECOSOC relating to participation in the UN Water Conference. It was decided that the conference would be open to: all UN member states; representatives of organizations which had received a standing invitation from the General Assembly to participate in the sessions and to work on all international conferences convened under its auspices in the capacity of observers; representatives of national liberation movements; the specialized agencies and the International Atomic Energy Agency, as well as other interested UN organizations; interested regional NGOs (to be represented by observers); and concerned NGOs in consultative status with ECOSOC.

Prior to the main conference there will frequently be a series of ***events to collect, consolidate and prepare input for the main conference***. These might typically include regional preparatory meetings, or preparatory meetings which focus on separate sectors or themes to be discussed during the conference; national preparatory processes at the national level; and events to generate public awareness and spread information on the conference.

According to Economic and Social Council resolution 1979 (LIX) the Mar del Plata Conference was to be preceded by a total of three regional preparatory meetings under the auspices of the Regional Economic Commissions of the UN, which were held as follows: Economic and Social Commission for Asia and the Pacific – in Bangkok, from 27 July to 2 August 1976; Economic Commission for Africa – in Addis Ababa from 20 to 24 September 1976; Economic Commission for Latin America – in Lima from 30 August to 3 September 1976.[68] The meetings were organized by the secretariats of the regional economic commissions in cooperation with the Conference Secretariat. UNEP provided financial support for the meetings. In the case of the Economic Commission for Europe, the preparatory work for the conference was delegated to the Committee on Water Problems. The European countries met under the auspices of the ECE Committee on Water Problems from 27 September to 1 October 1976 to decide on their recommendations to be placed before the Conference. Regional reports, summarizing the results of the meetings, were prepared for presentation to the Conference.

Governments or their delegations participating in high-level conferences are usually asked to prepare their input in written form for the main conference and/ or the preparatory meetings. This would sometimes result in the establishment of a national body, for instance a conference committee, equivalent to the structure established at the level of the UN, which would organize, coordinate, and prepare the national input at the country level.

As for the organization of the Mar del Plata Conference, the ECOSOC suggested that Governments should consider the establishment of ***national water conference committees*** to organize governmental contributions to the conference. It was suggested that such committees could: a) gather representatives of various organizations engaged in water resources activities at the national level and initiate the necessary activities to prepare for the regional meetings and the Conference; b) maintain close liaison with the conference secretariat with a view to assisting in the preparatory process of the conference; c) sponsor and promote supporting public relations actions through the media and other channels of communication at the national level in order to arouse public interest in the objectives of the conference. There was also an intergovernmental working group for Mar del Plata convened by the conference's Secretary-General, which included representatives of the following states: Argentina, India, Japan, Sweden, the USSR, the USA, and Venezuela. Notably, Africa was not represented on that committee at all.

Those Governments that participated in the regional preparatory meetings for Mar del Plata were invited to prepare ***national reports outlining the current and prospective water situation*** in their

[68] At the time of the publication of the aide mémoire which was available to me, the Western Asian region still had not yet decided on the date for its regional meeting.

countries and to identify water resources requirements and constraints to their development, as well as potential solutions. Those national reports were then made available to the Conference at Mar del Plata. In addition to the national reports prepared for the regional preparatory meetings, Governments were invited to propose thematic papers concentrating on specific issues relevant to the main themes to be considered at the Conference. Such papers could deal with national experiences in water management which could be of international interest, or with the results of research undertaken by national institutions or scientists relevant to global water management. Countries were asked to submit abstracts on thematic papers slightly less than a year in advance.

Documents for the Conference were prepared by the Secretariat at the UN and then submitted to the Committee on Natural Resources, for a session of the preparatory committee early in January 1977. Additional thematic reports on some of the agenda items were prepared by the United Nations Secretariat in collaboration with the interested specialized agencies and programmes of the United Nations system. These reports were circulated in advance of the Conference. The consolidated recommendations on joint action concerning the world's water issues forming the documented outcome of the conference were published under the heading of 'Mar del Plata Action Plan'.

Looking at the ***participation and involvement of NGOs*** in UN processes, events and negotiations, the UN mega-conferences of the 1970s constitute a key phase of increasing openness towards NGOs.[69] The way had been opened for formal consultation of NGOs by the UN for the first time in 1946, in Article 71 of the UN Charter. During the 1970s internationally the number of NGOs grew rapidly, and NGOs and the UN were starting to take mutual interest in one another. Between 1971 and 1991 both quantity and quality of NGO relations with the UN were rising (Willetts 1982; Charnovitz 1992; Brühl 2003:56ff). The Stockholm Conference of 1972 can be seen as a turning-point in this development, since for the first time a large number of NGOs were allowed to participate[70] and changes to the ground rules on mutual participation and communication between state- and non-state actors in this context were initiated (Conca 1995:443; Brühl 2003). For the first time at a UN mega-conference, both those NGOs that had general consultative status with the UN accredited by ECOSOC, and those that were merely registered as observers at the Stockholm Conference itself were allowed to participate and to contribute to plenary as well as

[69] On the evolution of NGO involvement in UN processes before the 1970s, see for instance various contributions in Willetts 1996c, and Brühl 2003:49–58.

[70] A total of 255 NGOs – of which the majority were from countries of the global North and only about 10 per cent from the global South (Conca 1995:443) – had applied successfully for official observer status at the UNCHE in Stockholm to attend plenary or committee sessions, and several hundred others participated in the two big alternative environmental forums – the *Environment Forum* and the *Life Forum* – or in other unofficial alternative events taking place in parallel to the main conference (Feraru 1974:35).

working group sessions (Morphet 1996:124). What is more, notwithstanding initial reluctance on the part of the UN to grant NGOs in such numbers the participation rights that had been granted at previous UN conferences, NGO representatives even made up 47 out of the total of 113 national delegations at the Stockholm conference of 1972 (Willetts 1996b). For comparison, by the time of the second UN global environmental conference in Rio, the UNCED in 1992, officially 1,420 NGOs were officially registered as observers, and several thousand others were engaged in the parallel event, the *Global Forum* (http://www.un.org/geninfo/bp/enviro.html; Brühl 2003:60). This tendency for rising numbers of NGOs to be represented at big international UN conferences continued, for instance with the UNCED numbers being exceeded by far at the World Conference on Women in Bejing in 1995 (Otto 1996; Paul 2000). It is also observable that participation rights at big UN events are increasingly being granted to higher proportions of national and local NGOs (Brühl 2003:73).

The relationship of NGOs with ECOSOC is presently governed by ECOSOC resolution 1996/31. Today, various forms of formal engagement of NGOs and the UN are institutionalized at different levels: through specialized agencies and other functional bodies within the system; in the framework of global conferences, international meetings and intergovernmental bargaining sessions under UN auspices; and by NGOs in consultative status with ECOSOC. International, regional, and national NGOs, and non-profit public or voluntary organizations are eligible to obtain consultative status, which comes in three different categories: general, special, and roster consultative status.[71] Regarding the environmental sector in particular, NGOs also have relations with UNEP and with the Commission on Sustainable Development, a high-level body within ECOSOC established in 1992 and charged with monitoring the implementation of *Agenda 21* (Conca 1995:443; Willetts 1996a)[72]. In addition to all of the above there are certainly various more informal forms of NGO engagement with the UN (Brühl 2003:53, 75-82).

In Mar del Plata, according to the UN aide mémoire on the conference preparations, not only governments but also ***NGOs were taking interest*** in the preparations for the conference, and it was expected that such organizations would be well represented at Mar del Plata. Conca, in his account, lists a total of 63 NGOs with observer status among the conference participants.[73] Apart from them, the field of participants consisted of representatives of 116 governments, the major

[71] See ECOSOC Resolution 1996/31. Consultative relationship between the United Nations and non-governmental organizations for more details (ECOSOC 1996). As of April 2016, 4,189 NGOs worldwide had consultative status at ECOSOC (http://csonet.org/, last accessed 10 April 2016). According to the latest data available to me from the NGO branch of the UN Department of Economic and Social Affairs, another 29,000 NGOs were working with the UN back in 2013.

[72] See on the *Agenda 21* sub-chapter 6.1.6 below.

[73] A detailed list of participants for the Mar del Plata Conference was unfortunately not available to me at the time of writing.

multilateral development banks and specialized UN agencies, several regional intergovernmental organizations, and eight international river commissions (Conca 2006:128).

6.1.3. Mar del Plata, 1977 – the first international mega-event on water

The overall objective of the Mar del Plata Conference was 'to define policy-options for the management of water resources and to promote the levels of preparedness necessary at different levels – local, national, regional and international – to avoid a world water crisis within the next few decades' (United Nations Educational, Scientific and Cultural Organization 1975:2). According to the analysis of one of its scientific observers, the conference 'resulted in unprecedented stock-taking of the whole range of water problems at the national, regional, international levels, especially in developing countries, and their consideration by a world forum' (Biswas 1978c:19). And as the secretary-general of the conference himself stated in one of his speeches: 'For the first time the range and complexity of the problems of water development confronting mankind were being taken up in their totality by a world forum in a systematic and comprehensive manner' (United Nations 1977b:555). Others have judged the conference topics in relation to the global water situation and problematic issues of that time to have been of a narrower scope (Conca 2006:129). One can still assert that the United Nations Water Conference that took place in March 1977 was the earliest mega-event that concentrated solely on water.

A total of 230 thematic papers on various aspects of water development and management were prepared for the Conference by UN member states, by other participants, and by the UN itself. Altogether 103 of these papers dealt with topics related to the fields of water planning and policy and institutional reform in general, with water supply to communities, and with water demand management – all of these being topics generally connected to the future building blocks of the later CBWM reforms under discussion here. A complete list of subject coverage in the thematic papers for Mar del Plata is provided by Biswas (Biswas 1978c:112), based on his own categories, as depicted in table 10 below. Out of a total of 19 papers covering issues of community water supply, 14 were concentrating on urban water supply, and only five on rural areas.

As can be seen from the table below, the management of water resources based on demand rather than on the imperative of wanting to increase available supply was not very high on the agenda yet. Policy options discussed in Mar del Plata largely stuck to favouring centralized, state-based models for water supply services. Although demands-based management was not one of the issues prominently discussed at Mar del Plata, however, it featured as a concept newly evolving in certain countries facing 'extremely competitive' water prospects, for instance Hungary, which presented at the conference their newly evolving management instruments in this regard. Based on this, the development of demand-based management methodologies was one of the

policy suggestions for the future presented to participants for further consideration (Biswas 1978a:125; 143).

Table 10: Subject coverage of thematic papers at the UN Water Conference, 1977

Content	Number of papers
Water policy and planning objectives, including institutional and legislative problems	81
Assessment of water availability, including surface and ground waters	42
Environment and health considerations	20
Community water supplies	19
Use of water in agriculture	17
Utilization of shared water resources	11
Use of water in energy and industry	11
Problems in the development of technology and research	9
Water quality	6
Flood loss and drought management	6
Education and training	5
Improvement in the management of water demand	3
Total number of papers	**230**

The Conference approved the Mar del Plata Action Plan, consisting of two parts: recommendations that covered all the essential components of water management (assessment, use and efficiency; environment, health and pollution control; policy, planning and management; natural hazards; public information, education, training and research; and regional and international cooperation), and 11 resolutions on a wide range of specific subject areas. It clearly called for governments to emphasize universal access to safe drinking water supplies and sanitation services according to two of the recommendations under the heading 'Community Water Supply':

> '(a) […] where human needs have not been satisfied, national development policies and plans should give priority to the supplying of drinking water for the entire population and to the final disposal of waste water; and should also actively involve, encourage and support efforts being undertaken by local voluntary organizations.
>
> (b) […] Governments reaffirm their commitment made at Habitat to "adopt programmes with realistic standards for quality and quantity to provide water for urban and rural areas by 1990, if possible"' (United Nations 1977a:2).

Referring back to the Mar del Plata Action Plan, in November 1980, the UN General Assembly made a decision to mark 1981 to 1990 as the International Drinking Water Supply and Sanitation

Decade, with the goal of achieving universal access to safe and adequate water supplies and basic sanitation services by 1990 (United Nations 1980).

In moving away to some degree from the paradigm of supply-orientation that had dominated water-sector policies internationally up until the 1970s, the action plan also included the recommendation to 'estimate the demand for water in conformity with national development goals to provide the basis and the perspective for the planned development of available water resources' (United Nations 1977a).

By the time of the Mar del Plata Conference in 1977, policy instruments to devolve water service costs to the users and commercialize water supply such as cost-recovery, pricing mechanisms, capital needs, or other financial issues connected to water supply, which became hotly debated topics later, did not yet feature very prominently in water-management practice. Rather, the overall recommendation in relation to recovering the costs of water provision and services was to 'adopt pricing policies and other incentives to promote efficient use of water and the reduction of waste water, while taking due account of social objectives' (United Nations 1977a: Mar del Plata Action Plan). However, at the conference some countries had presented the outcomes of initial efforts to strengthen financial management in the water sector and increase water use efficiency and reduce costs (Biswas 1978a:143). For future planning on these aspects, the Mar del Plata Action Plan included the recommendation to 'create incentives for increasing the efficiency of water use, such as financial assistance by Governments or credits for the adoption of new technologies, and introduce where appropriate scales of charges that reflect the real economic cost of water or that rationalize subsidies within the framework of a sound water policy' (United Nations 1977a:150).

At the time of the Mar del Plata Conference Namibia was still under South Africa's *Apartheid* rule, which made its official representation at UN Conferences on the intergovernmental level impossible. Neither was South Africa itself represented at intergovernmental level after it had been suspended from participating in UN processes in November 1974, due to the international opposition to *Apartheid* rule. As the detailed list of participants is not available to me, I cannot be sure whether South African or Namibian representatives from a non-governmental background were on it. Among the recommendations of the Mar del Plata Action Plan however is a concrete recommendation on 'water policies in the occupied territories' with direct reference to Namibia's water resources.

It reads as follows:

> 'The United Nations Water Conference, […]
>
> Noting with great concern the illegitimate exploitation of the water resources of the countries and peoples subject to colonialism, alien domination, racial discrimination and *apartheid*, to the detriment of the indigenous peoples,
>
> 1. Affirms the inalienable right of the people of the countries under colonial and alien domination in their struggle to regain effective control over their natural resources, including water resources;
>
> 2. Recognizes that the development of water resources in territories subjected to colonialism, alien domination racial discrimination and *apartheid* should be directed for the beneficial use of the indigenous peoples who are the legitimate beneficiaries of their natural resources, including their water resources;
>
> 3. Denounces any policies or actions by the colonizing and/or dominating Powers contrary to the provision of paragraph 2 [on community water supply] of the present resolution, and particularly in Palestine, Zimbabwe, Namibia and Azania.' (quoted in Biswas 1978a:205)

Water in the UN System

Given the fact that water is a topic of key importance to multiple sectors of social development and the economy, and has had a high salience in global discourses related to environmental protection and management as well as to human development, it is somewhat surprising that the Mar del Plata event remained the only global water conference under UN auspices up until now.

Following the row of mega-conferences on issues of global relevance that the UN had organized in the 1970s, a similar series of mega-conferences on issues that the UN considered to be of continuing importance on a global scale was held during the 1990s: UN conferences on the environment (in Rio de Janeiro, 1992); on population (in Cairo, 1994); on women (in Beijing, 1995); on food security (in Rome, 1996); and on human settlements (in Istanbul, 1996). Although water issues were surely being touched upon in many if not all of these thematic contexts, the UN has not chosen to put them once again in the focus of a high-level global conference under its auspices since. Two bigger water-related events in the 1990s that were organized by UN agencies will however be discussed in more detail below – the Global Consultation on Safe Water and Sanitation in New Delhi in 1990, and the so-called 'Dublin Conference', or International Conference on Water and the Environment (ICWE) preparatory conference for the discussion related to the water sector at the Rio Summit of 1992, held in Dublin in 1992. However, these two water-related events did not include governmental representation as the other UN Conferences would, and did not result in intergovernmental declarations or UN resolutions (see below).

Part of the reason might be the fact that during the phase when water was put on the global agenda following the Mar del Plata Conference and action was encouraged by the proclamation of the 'Water Decade' of 1981-1990, the actors involved failed to form either a specialized UN organization to take the lead in the water sector, or at least a powerful coordination body within and beyond the UN system. Instead, the various UN agencies involved in the sector (UNDP, UNESCO, the United Nations Children's Fund – UNICEF, WHO, and the World Meteorological Organization – WMO, among others) each wanted to have water-sector related programmes and lines of activity of their own. Until today there is no single UN body at the level of a programme, specialized agency or fund – as is the case for example for food and agriculture (FAO), health (WHO), and human settlements (UN-HABITAT) – to promote and implement water-related measures on the part of the entire UN system.

In order to continue to ensure a certain level of mutual information, advocacy and public communication, as well as of monitoring and knowledge management, UN-Water was established by the UN High Level Committee of Programmes in 2003 as the UN inter-agency coordination mechanism for all freshwater-related issues. UN-Water currently encompasses 31 UN organizations as members, four additional UN organizations as partners with special status, and 34 other international partners.[74] What is more, the UN Secretary-General's Advisory Board on Water and Sanitation (UNSGAB)[75] was established by then UN Secretary-General Kofi Annan in 2004 which existed up until 2015 in order to assist the international community, the United Nations Member States, and the international organizations in achieving the MDG related to water and sanitation.

Apart from the UN's role in multilateral policy discourse and sector coordination, there are a number of organizations established as an immediate outcome of the UN environmental conferences at the beginning of the 1990s which have played a prominent role in agenda-setting and in transmitting some of the influential travelling ideas and management concepts in the water sector through expert meetings, international mega-events, publications, and informal networking. I will elaborate further on their establishment and roles in chapter 6.1.6. below.

However, as has been found in a number of scientific analyses of the field of water-sector actors, the high degree of their diversification and their over-proliferation at an increased pace starting in the 1980s has rather led to too much overlap and duplication, and a loss in coordination and effectiveness (Varady and Iles-Shih 2009:93; Ghosh 2012:11).

[74] http://www.unwater.org/about/members-and-partners/en/, last accessed 10 April 2016.
[75] See for further information: https://sustainabledevelopment.un.org/content/documents/8701unsgab-journey-web.pdf, last accessed 10 April 2016.

6.1.4. Sustaining 'Our Common Future'

Fifteen years after the publication of the 'Limits to Growth' marking the growing environmental concerns of the 1970s, the report was followed by a second ground-breaking document in the early development of global environmental discourse which took on an influential role especially by defining a concept of sustainable development, and connecting environmental issues with socio-economic development. The so-called 'Brundtland report' of 1987, under the official title of 'Our Common Future', was commissioned by the UN World Commission on Environment and Development (WCED), then chaired by Gro Harlem Brundtland (World Commission on Environment and Development 1987). The WCED compiled its final report based on inputs from 'senior government representatives, scientists and experts, research institutes, industrialists, representatives of non-governmental organizations, and the general public'.

When reading through the WCED report one is frequently reminded of 'The Limits to Growth' by the former's underlying emphasis on striving to ensure further economic development, and indeed economic growth, on Earth. The ground-breaking nature of 'Our Common Future' however, lies in pointing to the conclusions humankind should draw from the fact that the natural resources used for this growth are finite as well as unevenly distributed. In 'Our Common Future', the degradation of water regimes is mentioned in a broader context, along with other environmental factors, as a constraint to economic development on the whole (World Commission on Environment and Development 1987:10). Water is also mentioned as one of the 'natural systems' on Earth which have to be managed sustainably so they can continue to support life on the planet: 'At a minimum, sustainable development must not endanger the natural systems that support life on Earth: the atmosphere, the waters, the soils, and the living beings' (World Commission on Environment and Development 1987:44–45). Linking the environmental and the development agenda of the time, the WCED arrived at the first definition of sustainable development encompassing the entire international community. This definition also for the first time includes an inter-generational perspective, looking at the development needs and responsibilities of humankind: 'Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (World Commission on Environment and Development 1987:43).

The WCED in its report thus calls for a change in 'the quality of growth' by saying that 'Sustainable development involves more than growth. It requires change in the content of growth, to make it less material- and energy-intensive and more equitable in its impact. These changes are required in all countries as part of a package of measures to maintain the stock of ecological capital, to

improve the distribution of income, and to reduce the degree of vulnerability to economic crises' (World Commission on Environment and Development 1987:52).

The work of the WCED and the publication of 'Our Common Future' led to the establishment of the UN Commission on Sustainable Development (CSD) in December 1992. The WCED report laid part of the groundwork for the convening of the 1992 United Nations Conference on Environment and Development (UNCED), or 'Earth Summit', in Rio de Janeiro, and the adoption of the Agenda 21 and the Rio Declaration.

A 'global high politics of water'

For the first time after the Stockholm Conference and the rather isolated and singular event of the UN Water Conference in Mar del Plata in 1977, a 'global politics of water' emerged in the early 1990s (Mollinga and Bhat 2010:11). Decisive interstitial spaces in this phase included international events such as the UN Global Consultation on Safe Water and Sanitation held in New Delhi at the end of the International Drinking Water Supply and Sanitation Decade of 1980-1990, the International Conference on Water and the Environment (ICWE) in Dublin, and the Earth Summit in Rio 1992, and their documented outcomes – declarations, agreements, and eventually national policies.

The international awareness-raising on some of the perceived water problems of global scale had led to the declaration by the UN General Assembly of the International Drinking Water Supply and Sanitation Decade, to last from 1981 to 1990 (United Nations 1980), which had also been one of the concrete recommendations from the UN Water Conference in Mar del Plata (United Nations 1977a:chap. I, para. 15). The ambitious aim had been to achieve universal access to a source of safe drinking water and sanitation by the end of that decade. At the end of the ten-year phase in 1990 though, the WHO estimated that 1.3 billion people were still lacking access to safe drinking water, and 2.6 billion were lacking adequate sanitation facilities worldwide.[76] In addition to the continued problems with access to safe drinking water and sanitation, other problems included the decline of existing water infrastructure resulting in water losses and inefficiency of systems, and the general decrease in the quality of water-related services and public utilities.

6.1.5. New Delhi, 1990 – Stocktaking after a decade on water supply and sanitation

Driven by individual and institutional actors who aimed to create a platform to share and assess experiences of the past ten years at the close of the Drinking Water Supply and Sanitation Decade

[76] This was according to an upward revision presented by the WHO in 1996 of a more optimistic initial UN assessment of the outcomes of the International Decade made in 1990 (see Gleick 1998:40).

in 1990,[77] it was decided to hold the UN Global Consultation on Safe Water and Sanitation in New Delhi, from 10 to 14 September 1990. The idea was to assess why the common goals which had been set for the previous decade in the water sector were still so far from being reached ten years later. The meeting was hosted by the Indian Government and co-sponsored by the UN Steering Committee for the International Drinking Water Supply and Sanitation Decade, and by the Water Supply and Sanitation Collaborative Council, established just prior to the meeting (Lane 2012). The New Delhi consultation had the ambitious aim of resulting in national action plans for water and sanitation based on the guiding principles adopted after the conference, and it was thus intended that it should influence the agenda to be set at the UN's first Earth Summit in Rio de Janeiro two years later (Nicol et al. 2012b:3).

Interestingly though, when studying a wide array of descriptive accounts and analyses of the paradigms and discourses on water management and the related events for this thesis, I hardly came across any mention of the New Delhi meeting. As Nicol et al. formulate in their review of water- and sanitation-sector experience since 1990, it has almost entirely been 'eclipsed' by the well-known Dublin Conference which followed just four months after, in the run-up to the Rio Earth Summit (Nicol et al. 2012b:1). Varady and Iles-Shih, in their analysis of what they call global water initiatives and their influence and significance for water-sector discourses and subsequent initiatives, underscore my analysis of the New Delhi compared to the Dublin event: While New Delhi is not even mentioned in their table of 'significant events relating to water between 1972 and 2003 (Varady and Iles-Shih 2009:62), the Dublin Conference is found to have been the single most important and influential international water-sector event in setting global water-policy agendas thus far (Varady and Iles-Shih 2009:74). One striking example of the consequence with which New Delhi Conference gets left out of water-related discourse is the Ministerial Declaration of the 2nd World Water Forum in The Hague in 2000, which expressly builds a connection to previous water-related mega events, stating that 'Discussions and actions started in Mar del Plata in 1977, continued through Dublin and were consolidated into Chapter 18 of Agenda 21 in Rio in 1992. They were reaffirmed in Paris 1998, CSD-6 and in the Second World Water Forum and Ministerial Conference. The process will continue in the meeting in Bonn in 2002 ('Dublin+10'), through the 10-year review of implementation of Agenda 21, and beyond' (Second World Water Forum 2000). As discourse and practice can be seen as reinforcing one another, it is not surprising that the outcome of the Dublin Conference – having outstripped by far the New Delhi

[77] According to the account of one of its main organizers, Gourisankar Ghosh, who was then Director of the National Drinking Water Mission in India and headed the conference's national secretariat, the New Delhi conference was based on the initiative of some key water-sector actors in the World Bank, UNDP, and UNICEF (Ghosh 2012:10).

Consultation in discursive presence including in the scientific discourse – has also been cited as having had more far-reaching effects on water-sector policy and practice since.

Taking a closer look however, the two international mega-events almost seem like a copy of one another: The main outcome of the New Delhi Conference was the New Delhi Statement (United Nations 1990a) coming from the conference participants from 115 different countries. The New Delhi Statement was presented by the Government of India to the 45th session of the UN General Assembly in October 1990 as an appeal for concerted global action – and adopted by the General Assembly in December 1990 (United Nations 1990c).

Just like the more widely-known Dublin Statement, the New Delhi Statement includes four guiding principles, as shown in table 11 below. Both conferences were expected to result in national implementation plans of these guiding principles. And what is more, the organizers of both meetings were hoping to influence the water-sector related input for the forthcoming Earth Summit in Rio de Janeiro in 1992 (Nicol et al. 2012b:3).

Table 11: Comparison of New Delhi and Dublin guiding principles

New Delhi, October 1990	Dublin, January 1992
Protection of the environment and safeguarding of health through the integrated management of water resources and liquid and solid wastes;	Principle No. 1 - Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment.
Community management of services, backed by measures to strengthen local institutions in implementing and sustaining water and sanitation programmes;	Principle No. 2 - Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels.
Institutional reforms promoting an integrated approach and including changes in procedures, attitudes and behaviour, and the full participation of women at all levels in sector institutions;	Principle No. 3 - Women play a central part in the provision, management and safeguarding of water.
Sound financial practices, achieved through better management of existing assets, and widespread use of appropriate technologies.	Principle No. 4 - Water has an economic value in all its competing uses and should be recognized as an economic good. Within this principle, it is *vital to recognise first the basic right of all human beings to have access to clean water and sanitation at an affordable price*.

Sources: (United Nations 1990a; ICWE 1992:3–4).

Apart from the fact that the New Delhi principles in some parts seem more concrete and provide more orientation for actual practical application (e.g. principle 1), the main messages are largely in agreement in the case of the first three principles.

Both sets of principles that were created to determine international water-sector policy-making contain some of the ideas underlying the rising focus on introducing community management in water supply. The New Delhi Statement expressly asks for 'community management of services, backed by measures to strengthen local institutions in implementing and sustaining water and sanitation programmes' (United Nations 1990a:Principle No. 3, p.3), while the Dublin Statement stresses the need for a 'participatory approach, involving users, planners and policy-makers at all levels' in water development and management (ICWE 1992:4). Furthermore, both sets of principles expressly mention the need for the active participation of women in water management (United Nations 1990a:Principle No. 2, p.3; ICWE 1992:4).

The major divergence between the two outcome statements, however, can be found in the fourth principle. While the New Delhi participants merely demanded sound financial practices in water management, the fourth Dublin Principle puts an emphasis on the economic value of water and on treating it as an economic good.

The situation assessment underlying the review and planning exercise at New Delhi at the time was in agreement with assessments done by bilateral donor Governments and large multilateral donors of water-related infrastructure and policy reform projects such as the World Bank and the IMF. The international water-policy model, which had largely been centred on supply-oriented water provision by the state up until the 1990s, was largely seen as failing by the community of water-sector experts and practitioners.[78] The Dublin Principle on the economic value of water was a timely addition for powerful actors such as – especially – the World Bank, with its overall agenda of limiting the role of the state in resource management and introducing mechanisms of local participation – which will be analyzed in more detail in chapter 6.2, but also of free-market capitalism including the commoditization of resources and privatization. As stated in the conference report from Dublin 1992: 'Centralized and sectoral (top down) approaches to water resources development and management have often proven insufficient to solve local water-management problems. The role of governments needs to change to ensure a more active participation of people and local institutions, public and private' (ICWE 1992:38).

The time around the New Delhi and Dublin Conferences was the decisive juncture shaped by powerful institutions such as the World Bank in particular, along the above-mentioned general policy-models they were pushing at the time. The notions of economic efficiency and valuation of water went together well with some of the general neoliberal approaches towards resource

[78] A rich body of research and literature exists on how this perception of large-scale failure of supply-driven water management changed policy approaches in particular in the irrigation sector globally. See Laube 2010, case studies and country-level analyses contained in Mollinga and Bolding 2004, and Mollinga 2008.

management, favouring the treatment of water as an economic good, rather than as a social right, which would have meant calling for sound public management of water and stressing the aim of ensuring equitable water access. As a consequence, the Dublin Conference and the focus it had placed on the economic valuation of water accelerated the pace with which global water-sector discourse shifted towards stressing water demand management to promote efficient water use and the cost-effectiveness of infrastructure and services. This was the case even notwithstanding the fact that the New Delhi Conference and resulting principles, having UN General Assembly endorsement, should politically have had a much higher standing and legitimacy than the Dublin Principles, which lacked that endorsement.

The series of water-sector reforms commencing in the 1980s in countries of the Global South, which were mainly introduced as part of policy-advisory and Structural Adjustment programmes with World Bank funding and involvement, were largely based on the underlying assumption that market remedies would cure some of the ailments connected to global issues of water scarcity and inefficient management. Another assumption was that improved efficiency in water use, and equity in water access, would almost automatically occur once water users were involved in water development and management (see the following sub-chapter on water-user participation). In addition to involving users in participatory ways in decision-making for water management, another important pillar of the reform approach was to involve water users in bearing the costs of water infrastructure and services. Demand-management, water pricing, and measuring water use in order to ensure cost recovery were measures frequently applied in the sector reforms, often in conjunction with participative management models which I will elaborate in more detail below.

The background of and factors underlying the paradigmatic changes in the water and environmental sectors and related policy-making can largely be summarized as a combination of: rising environmental concerns; the scale of financial resources needed to maintain the development of large-scale water infrastructure such as dams and large reservoirs; the perceived pressure to increase water efficiency; and the rising awareness among water experts, politicians, and development practitioners that the chosen, supply-oriented and often technology-based approach towards water management had not led to ensuring sustainable access to safe drinking water supply in many countries of the Global South (Gleick 2000; Harvey and Reed 2006; Molle, Mollinga, and Wester 2009:338–39) . The favouring of demand-driven management approaches over the existing supply-driven orientation in the water sector was seen as a solution to the above-mentioned challenges.

6.1.6. The Dublin Conference and Rio Earth Summit of 1992

The major international event which marked a wide international agreement on treating water as an economic good and placing a great emphasis on managing water demand to increase water-use efficiency and recover the costs of water supply was the International Conference on Water and the Environment (ICWE) in Dublin in 1992. At the time, shortly following the end of the East-West confrontation and Cold War in 1990 and the end of the *Apartheid* regime in Southern Africa, the next UN environmental summit after the Stockholm conference of 1972 was being planned. The UNCED, or 'Earth Summit', was scheduled to take place in 1992 in Rio de Janeiro. Prior to this, different UN-led thematic processes were launched in preparation for the Summit itself. An event central for the water sector in this regard was the ICWE, which was held in Dublin from 26th to 31st of January 1992 under the auspices of the WMO as chair of the Intersecretariat Group for Water Resources (ISGWR) of the UN Administrative Coordination Committee, and was meant to prepare the water-related inputs for the UNCED later that year.

The list of participants of the Dublin conference names 495 participants, 316 of whom were listed by their countries of origin, 63 of whom were listed as representing one of a total of 35 international water-sector NGOs and 'inter-governmental organizations', and 106 of whom are listed as members of the UN system. The remaining 10 were members of the Irish organizing committee. As could probably be said for many international high-level events, the representations per region are not proportionate to their population size at all, as the following table shows:

Table 12: Countries of origin, participants at ICWE Dublin, 1992

Region	Sub-Saharan Africa	Europe/ North America	South America	Asia	Mediterranean Region	Australia/ New Zealand
Participants	52	126	41	46	44	7
Countries represented	29	26	21	21	14	3

Source: (ICWE 1992).

Although the number of countries represented is nearly equal for Sub-Saharan Africa (29)[79], Europe/North America (26), South America (21), and Asia (21), Europe and North America together sent more than twice as many participants to the ICWE than the Sub-Saharan African countries.

[79] Namely Benin, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Congo, Cote d'Ivoire, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Malawi, Mauritania, Mauritius, Mozambique, Niger, Nigeria, Sao Tome & Principe, Seychelles, Senegal, Sudan, Uganda, Tanzania, Zambia.

With regard to its organization and its group of participants the ICWE is an exception to the rules usually applied to international environment-related conferences convened by the UN since 1972, which are usually attended by official government representatives of UN member states. As opposed to conferences such as the UNCHE in Stockholm in 1972 and the preceding UN conference which had focused on water as the main theme in Mar del Plata in 1977, the ICWE had not been framed as an intergovernmental conference, but rather as an international meeting of government-appointed water experts. This distinction is of significant relevance for UN processes, as Biswas explains in his analysis of water-related mega-conferences: 'The distinction between a meeting of experts and an inter-governmental meeting is a critical one in the context of any UN World Conference, since such conferences can only consider recommendations from inter-governmental meetings and not from an expert group meeting' (Biswas 2004:83). Notwithstanding the fact that the Dublin Conference was held at a lower level of political representation and legitimacy, the outcome of Dublin has had a major influence on international water management, and was taken up in the framework of water-sector strategies and development initiatives at international as well as at country-level widely.

Being one of the most influential donors in the sector of water reforms in the 1990s, the World Bank in its water-policy strategy of 1993 for instance suggested a 'framework for improving water management' on the basis of the Dublin and the Rio Conferences, as follows: 'The proposed new approach to managing water resources builds on the lessons of experience. At its core is the adoption of a comprehensive policy framework and the treatment of water as an economic good, combined with decentralized management and delivery structures, greater reliance on pricing, and fuller participation by stakeholders. The proposed approach is consistent with the Dublin Statement (1992) from the International Conference on Water and the Environment as well as with *Agenda 21* from the 1992 United Nations Conference on Environment and Development' (The World Bank 1993:3). The idea of demand-based management as opposed to the previous supply-oriented approach was defined in one of the conference keynote papers for Dublin 1992 written by a group of water experts from the Netherlands as follows: 'Demand management [...] entails the formulation and application of implementation incentives to limit demand and increase efficiency' (Koudstaal et al. 1992:9.17).

The close to 500 conference participants jointly adopted the *Dublin Statement,* in which they raised their common concern with the threats posed to the environment and to human development by 'scarcity and misuse of fresh water', and demanded urgent changes in water- and land-resources management. In many respects the Dublin Statement was an iteration of the rhetoric and main messages regarding the problems and needs in the water sector globally that had underlain the calls for political activity and donor funding, and the objective-setting for

improved global water governance and local water management contained in the Mar del Plata recommendations, the outcomes of the New Delhi Conference, and all the documentation in connection with the Water Decade earlier on:

> 'The experts saw the emerging global water resources picture as critical. [...] The future survival of many millions of people demands immediate and effective action. The Conference participants call for fundamental new approaches to the assessment, development and management of freshwater resources, which can only be brought about through political commitment and involvement from the highest levels of government to the smallest communities. Commitment will need to be backed by substantial and immediate investments, public awareness campaigns, legislative and institutional changes, technology development, and capacity building programmes. Underlying all these must be a greater recognition of the interdependence of all peoples, and of their place in the natural world' (ICWE 1992:2).

At the same time it called for and promoted paradigm shifts in several ways. The major strategic direction for the water sector in which the Dublin Conference was pointing in the run-up to the Rio Earth Summit of 1992 is summarized in the four so-called 'Dublin Principles' contained in the ICWE conference report, written as a call for joint action at multiple scales to combat some of the perceived ailments of the water sector at the time: **'**Concerted action is needed to reverse the present trends of overconsumption, pollution, and rising threats from drought and floods. The Conference Report sets out recommendations for action at local, national and international levels, based on four guiding principles' (ICWE 1992:3–4) (see table 13 below).

It is mainly the second and the fourth Dublin Principles that set the stage for new paradigms and hegemonic discourse in the water sector for the ensuing decades. Principle 2 brings across the messages of participation of local water users, and in particular women, in water management. This can be seen as promoting cost-recovery and decentralization as opposed to putting the nation-state at the centre of attention as the provider of water as a public good. Dublin Principle number four, calling for the valuation of water according to an economic logic, also constitutes a major departure from the previous discourse, which had mainly revolved around ensuring universal access and the human right to safe drinking water. It is probably this principle that has prompted the most controversial discussions among water-sector actors and rights activists ever since.

Dublin Statement and Principles compared to Rio Declaration and Agenda 21

The first global Environmental Summit in Rio in 1992 that the Dublin Conference had been intended to feed into resulted in several documents as its main written outcomes. The two that I am going to discuss in more detail regarding their connection to water management are the Rio

Declaration, and Agenda 21. It is important to note in this context that the New Delhi Statement, the Dublin Principles, and Agenda 21 are neither treaties nor legally binding documents. The results of the UNCED however, do encompass three legally binding conventions, namely: The Convention on Biological Diversity, the UN Convention to Combat Desertification, and the UN Framework Convention on Climate Change. Out of the three events the Rio Summit was politically the most influential, it being an intergovernmental conference.

Agenda 21 sets out a plan of action as a blueprint for achieving environmentally-sustainable economic and social development. The implementation of Agenda 21 concepts is not the responsibility of the UN itself, but rather of individual governments of member states, and is subject to their decision-making. According to Agenda 21's preamble, the document 'reflects a global consensus and political commitment at the highest level on development and environment cooperation. Its successful implementation is first and foremost the responsibility of Governments' (United Nations 1992:preamble).

While the Rio Declaration is a relatively vague list of 27 general principles demonstrating the good intentions of the signing states regarding the environment and sustainable development, Agenda 21 lays out a detailed plan for future ecological and economic development globally. Chapter 18 of the Agenda outlines the water-related part of that plan under the heading: 'Protection of the quality and supply of freshwater resources: Application of integrated approaches to the development, management and use of water' (United Nations 1992).

Agenda 21 contains reference to both the Dublin Principles for water management, and also – very prominently in section D on drinking-water supply and sanitation – to the four guiding principles contained in the New Delhi Statement.

From New Delhi to Dublin and Rio – a discursive continuum?

Given that a comparison of the two major trend-setting documents stemming from UN processes in the run-up to the Rio Conference of 1992, namely the New Delhi Statement and the Dublin Principles, reveals considerable divergence between the two in certain key aspects described above, I considered a comparison of these two sets of principles with Agenda 21 a worthwhile endeavour. Against the background of some of the scientific analyses of the relevant phase of the evolution of water-sector paradigms and discourse which I had studied earlier, I was stunned to find that there does not seem to be a clear, consistent thread along which the water-management discourse had developed over the course of those three key years. Rather, when comparing some of the particular sub-chapters of the water-related chapter 18 of Agenda 21 with the various New Delhi and Dublin Principles, it is obvious that different, sometimes contradictory pieces of both sets of principles had been integrated into different parts of the Agenda document.

In contrast with a large number of analyses of water-sector governance, management paradigms, and policy-making (which I cannot list here in full due to their quantity, but which can be summarized as referring to the Dublin Conference and Principles as the most decisive trend-setters for ensuing water-sector events and decisions) it is the New Delhi Principles that have a more prominent place in Agenda 21. Rather than taking up and focusing on the Dublin Principles, which had been meant to serve as a predefined water-sector input for the Rio Summit, Agenda 21 refers to the earlier New Delhi Statement, emphasizing water access for all, when presenting the programme objectives underlying the sector of drinking water supply and sanitation, in chapter 18.48: 'The New Delhi Statement (adopted at the Global Consultation on Safe Water and Sanitation for the 1990s, which was held in New Delhi from 10 to 14 September 1990) formalized the need to provide, on a sustainable basis, access to safe water in sufficient quantities and proper sanitation for all, emphasizing the "some for all rather than more for some" approach' (United Nations 1992:18.48). The Agenda 21 document then continues to list the New Delhi Principles of 1990 in full, which is not the case with the Dublin Principles of 1992, although some of the aspects contained in the Dublin Principles are also included in other, fragmented ways in Agenda 21.

Table 13 below presents a comparison of those parts of the water-related chapter 18 of Agenda 21 which can be matched to a certain extent with the four principles that had come from the two international water conferences that had preceded the Rio Earth Summit of 1992, and which were meant to prepare the water-related input for Rio.

Table 13: Comparison of New Delhi Statement, Dublin Principles, and Agenda 21, Chapter 18

New Delhi Statement	Dublin Principles	Agenda 21, Chapter 18
a. Protection of the environment and safeguarding of health through the integrated management of water resources and liquid and solid wastes.	***Principle No. 1 - Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment*** Since water sustains life, effective management of water resources demands a holistic approach, linking social and economic development with protection of natural ecosystems. Effective management links land and water uses across the whole of a catchment area or groundwater aquifer.	**F. Water for sustainable food production and rural development** Objectives 'The key strategic principles for holistic and integrated environmentally sound management of water resources in the rural context: a. Water should be regarded as a finite resource having an economic value with significant social and economic implications reflecting the importance of meeting basic needs; […]'
b. Institutional reforms promoting an integrated approach and including changes in procedures, attitudes and behaviour, and the full participation of women at all levels in sector institutions.	***Principle No. 3 - Women play a central part in the provision, management and safeguarding of water*** This pivotal role of women as providers and users of water and guardians of the living environment has seldom been reflected in institutional arrangements for the development and management of water resources. Acceptance and implementation of this principle requires positive policies to address women's specific needs and to equip and empower women to participate at all levels in water resources programmes, including decision-making and implementation, in ways defined by them.	**D. Drinking-water supply and sanitation** Activities 'All States, according to their capacity and available resources, and through bilateral or multilateral cooperation, including the United Nations and other relevant organizations as appropriate, could implement the following activities: […] c. National and community management: Support and assistance to communities in managing their own systems on a sustainable basis; i. Encouragement of the local population, especially women, youth, indigenous people and local communities, in water management […] Means of implementation […] It is also **important that countries provide adequate training for women in the sustainable maintenance of equipment, water resources management and environmental sanitation**. Capacity-building 'The implementation of water-supply and sanitation programmes is a national responsibility. To varying degrees, responsibility for the implementation of projects and the operating of systems should be delegated to all administrative levels down to the community and individual served. This also means that national authorities, together

		with the agencies and bodies of the United Nations system and other external support agencies providing support to national programmes, should develop mechanisms and procedures to collaborate at all levels. This is particularly important if full advantage is to be taken of community-based approaches and self-reliance as tools for sustainability. **This will entail a high degree of community participation, involving women, in the conception, planning, decision-making, implementation and evaluation connected with projects for domestic water-supply and sanitation'.**
c. Community management of services, backed by measures to strengthen local institutions in implementing and sustaining water and sanitation programmes.	***Principle No. 2 - Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels*** The participatory approach involves raising awareness of the importance of water among policy-makers and the general public. It means that decisions are made at the lowest appropriate level, with full public consultation and involvement of users in the planning and implementation of water projects.	**A. Integrated water resources development and management** Objectives 'Integrated water resources management, including the integration of land- and water-related aspects, should be carried out at the level of the catchment basin or sub-basin. Four principal objectives should be pursued, as follows: […] c. To design, implement and evaluate projects and programmes that are both economically efficient and socially appropriate within clearly defined strategies, based on an **approach of full public participation**, including that of women, youth, indigenous people and local communities in water management policy-making and decision-making; […].' Activities 'All States, according to their capacity and available resources, and through bilateral or multilateral cooperation, including the United Nations and other relevant organizations as appropriate, could implement the following activities to improve integrated water resources management: […] e. Implementation of allocation decisions through demand management, pricing mechanisms and regulatory measures; […] g. Promotion of schemes for rational water use through public awareness-raising, educational programmes and levying of water tariffs and other economic instruments; […] m. Support to water-users groups to optimize local water resources management; n. Development of public participatory techniques and their implementation in decision-making, particularly the enhancement of the role of women in water resources planning and management; o. Development and strengthening, as appropriate, of cooperation, including mechanisms where appropriate, at all levels concerned, namely:

a. At the lowest appropriate level, delegation of water resources management, generally, to such a level, in accordance with national legislation, including decentralization of government services to local authorities, private enterprises and communities; […]'.

Means of implementation

'[…] c) Human resources development

The **delegation of water resources management to the lowest appropriate level** necessitates educating and training water management staff at all levels and ensuring that women participate equally in the education and training programmes. **Particular emphasis has to be placed on the introduction of public participatory techniques, including enhancement of the role of women, youth, indigenous people and local communities.** Skills related to various water management functions have to be developed by municipal government and water authorities, as well as in the private sector, local/national non-governmental organizations, cooperatives, corporations and other water-user groups. Education of the public regarding the importance of water and its proper management is also needed.'

D. Drinking Water Supply and Sanitation

Objectives

'[…] Even for the more realistic target of achieving full coverage in water-supply by 2025, it is estimated that annual investments must reach double the current levels. **One realistic strategy to meet present and future needs, therefore, is to develop lower-cost but adequate services that can be implemented and sustained at the community level**.'

Activities

'All States, according to their capacity and available resources, and through bilateral or multilateral cooperation, including the United Nations and other relevant organizations as appropriate, could implement the following activities:

[…]

b. People and institutions:

i. Strengthening of the functioning of Governments in water resources management and, at the same time, giving of full recognition to the role of local authorities;

ii. Encouragement of water development and management based on a participatory approach, involving users, planners and policy makers at all levels;

iii. Application of the principle that decisions are to be taken at the lowest appropriate level, with public consultation and involvement of users in the planning and implementation of water projects; […]

c. National and community management: Support and assistance to communities in managing their own systems on a sustainable basis; […]
i. Encouragement of the local population, especially women, youth, indigenous people and local communities, in water management
ii. Linkages between national water plans and community management of local waters;
iii. Integration of community management of water within the context of overall planning; […]
d. Awareness creation and public information/participation: Strengthening of sector monitoring and information management at subnational and national levels;
[…]
iii. Improvement of sector coordination, planning and implementation, with the assistance of improved monitoring and information management, to **increase the sector's absorptive capacity, particularly in community-based self-help projects**'

Means of implementation

'[…] It is also **important that countries provide adequate training for women in the sustainable maintenance of equipment, water resources management and environmental sanitation**.'

Capacity-building

'The implementation of water-supply and sanitation programmes is a national responsibility. To varying degrees, **responsibility for the implementation of projects and the operating of systems should be delegated to all administrative levels down to the community and individual served**. This also means that national authorities, together with the agencies and bodies of the United Nations system and other external support agencies providing support to national programmes, should develop mechanisms and procedures to collaborate at all levels. **This is particularly important if full advantage is to be taken of community-based approaches and self-reliance as tools for sustainability**. This will entail a high degree of community participation, involving women, in the conception, planning, decision-making, implementation and evaluation connected with projects for domestic water-supply and sanitation'

E. Water and sustainable urban development

Means of Implementation

'[…] (c) Human resource development
Implicit in virtually all elements of this programme is the need for progressive enhancement of the training and career development of personnel at all levels in sector institutions. Specific programme activities will involve the training and retention of staff with skills in community involvement, low-cost technology, financial

		management, and integrated planning of urban water resources management. Special provision should be made for **mobilizing and facilitating the active participation of women**, **youth, indigenous people and local communities** in water management teams and for supporting the **development of water associations and water committees, with appropriate training of such personnel as treasurers, secretaries and caretakers**.' **F. Water for sustainable food production and rural development** Objectives 'The key strategic principles for holistic and integrated environmentally sound management of water resources in the rural context may be set forth as follows: […] b. **Local communities must participate in all phases of water management**, ensuring the full involvement of women in view of their crucial role in the practical day-to-day supply, management and use of water; […] d. It is necessary to recognize and actively support the role of rural populations, with particular emphasis on women.'
d. Sound financial practices, achieved through better management of existing assets, and widespread use of appropriate technologies.	***Principle No. 4 - Water has an economic value in all its competing uses and should be recognized as an economic good*** Within this principle, it is vital to **recognize first the basic right of all human beings to have access to clean water and sanitation at an affordable price**. Past failure to recognize the economic value of water has led to wasteful and environmentally damaging uses of the resource. Managing water as an economic good is an important way of achieving efficient and equitable use, and of encouraging conservation and protection of water resources.	**A. Integrated water resources development and management** Objectives '[…] Integrated water resources management is based on the perception of **water as an integral part of the ecosystem, a natural resource and a social and economic good**, whose quantity and quality determine the nature of its utilization. To this end, water resources have to be protected, taking into account the functioning of aquatic ecosystems and the perenniality of the resource, in order to satisfy and reconcile needs for water in human activities. In developing and using water resources, ***priority has to be given to the satisfaction of basic needs and the safeguarding of ecosystems***. Beyond these requirements, however, water users should be charged appropriately.' Activities '[…] e. Implementation of allocation decisions through demand management, pricing mechanisms and regulatory measures; […] g. Promotion of schemes for rational water use through public awareness-raising, educational programmes and levying of water tariffs and other economic instruments; […]

	Means of Implementation '[…] (b) Scientific and technological means […]Pursuant to the recognition of water as a social and economic good, the various available options for charging water users (including domestic, urban, industrial and agricultural water-user groups) have to be further evaluated and field-tested. Further development is required for economic instruments that take into account opportunity costs and environmental externalities. Field studies on the willingness to pay should be conducted in rural and urban situations […]. A prerequisite for the sustainable management of water as a scarce vulnerable resource is the obligation to acknowledge in all planning and development its full costs. Planning considerations should reflect benefits investment, environmental protection and operation costs, as well as the opportunity costs reflecting the most valuable alternative use of water. **Actual charging need not necessarily burden all beneficiaries with the consequences of those considerations. Charging mechanisms should, however, reflect as far as possible both the true cost of water when used as an economic good and the ability of the communities to pay.** The role of water as a social, economic and life-sustaining good should be reflected in demand management mechanisms and implemented through water conservation and reuse, resource assessment and financial instruments.' **F. Water for sustainable food production and rural development** Objectives 'The key strategic principles for holistic and integrated environmentally sound management of water resources in the rural context may be set forth as follows: a. Water should be regarded as a finite resource having an economic value with significant social and economic implications reflecting the importance of meeting basic needs; […].'

As was shown above, if one conducts an analysis of the documented outcomes of the two major international water-related conferences of the 1990s, the differences between the principles agreed upon for global water management of New Delhi and Dublin were not that big at first sight. The main development of Dublin compared to the outcomes of the New Delhi Conference was the integration of principle four which put an emphasis on seeing water as an economic good. This constituted a paradigmatic change in approaching water management, also compared to the outcomes of the Mar del Plata Conference 15 years earlier (see Dobner 2010:102). The view of water as an economic resource advocated through Dublin Principle four strengthened the role of the market in water management, diminished the role of the state, and led to an increased tendency towards decentralization, the involvement of the private sector, and to fears of a commoditization of water.

The message of Dublin Principle four has been reiterated and confirmed again and again following the Dublin Conference by influential water-sector stakeholders at global and national levels, including by scientists, who have contributed to the dominance of the latter approaches in water-sector discourse since. The sequence of the three events – New Delhi, Dublin, and the Rio Environmental Summit of 1992 – is frequently depicted as a stringent path towards the implementation of measures of cost recovery and private-sector involvement. However, I argue that the turn away from the agreement that sound water management is in the public interest and thus a responsibility of the state has neither resulted from the discussions and outcomes of the Dublin Conference itself, nor from its reinforcement through Agenda 21. The Agenda 21 as the main outcome of the Rio Conference of 1992 in its water-related chapter is composed of a blend of the two agendas. Although the fourth Dublin Principle is contained in the Agenda 21, all in all its content is closer to the New Delhi principles than to those from Dublin. Taking into account the formats of the conferences of New Delhi and the Dublin, the New Delhi principles should have had the bigger weight and legally based enforcement power in the ensuing water-sector discussions and joint declarations in Rio and beyond. As others have shown, it is through systematic lobbying within globally interconnected expert networks (Conca 2006; Varady and Iles-Shih 2009) that the bias towards the Dublin Principles has become part of the hegemonic water-sector discourse and widely known to an extent that even the fact that the New Delhi conference with its overarching goal of achieving access at least to some water for all took place at all has been eclipsed from water-sector discourse almost entirely. The point I am making is that in this case – and probably in similar ways regarding other sectors and mega-events – what has actually come out of these conferences in terms of dominant policies and management approaches was influenced decisively by the weight of the actors involved.

Shifting paradigms and the invention of IWRM

As described in more detail in a number of analyses by social and political scientists, the Dublin Conference and the Rio process marked a crucial international paradigm shift for policy-making and development assistance in the water sector, as the role of the private sector in water management, the valuation of water as an economic resource, and the premise of recovering the costs related to water supply decisively gained in influence (Conca 2006:140; Dobner 2010:99; Laube 2010:62–66).

There are certainly many contexts and cases in which the goals of securing environmental sustainability and the satisfaction of basic human needs on the one hand, and the emphasis on economic gains and increased efficiency leading to the commodification of natural resources and the privatization of their management on the other, come into conflict.[80] It is this somewhat controversial combination of environmental and social goals with economic motives, though, which led to the rise of a new influential paradigm, post-Dublin 1992, which should have lasting importance for the water sector internationally, called Integrated Water Resources Management. This paradigm promotes both principles of increasing effectiveness and efficiency through demand-based management and the notion of including water users in decision-making through participatory management models.

IWRM – in terms of its emergence, consequences, and current state of implementation – is not a major focus of this thesis, and in any case has been discussed widely elsewhere (see for instance Neubert et al. 2005; Medema et al. 2008; Mollinga et al. 2010). It will however be introduced and touched upon here briefly for two main reasons: Firstly, IWRM is one example of a travelling model in water resources management that has had a high salience in international water-management discourse and practice for two decades now. Secondly, IWRM is the first internationally influential water management paradigm – still of great importance for the water sector today – which included the notion of participation by all users in water management as one of its underlying principles. IWRM must be seen as connected to the paradigm of water user participation, just like CBWM. However, IWRM entails the introduction of participatory management concepts and mechanisms at the level of the water basin, in contrast to the CBWM model, which entails user participation at the water point. IWRM is thus concerned with rural water supply to a lesser extent. Thirdly, IWRM is a concept that has found wide recognition in

[80] Some examples for water management are the 2000 'Water War' in Bolivia (Marvin and Laurie 1999; Perreault 2006; Braunmühl 2008:48ff.), and the resistance through an 'economy of non-payment' in South Africa and Namibia – Khan 2008; Magdahl 2012. For an overview on public opposition to and rejection of water privatization, between 1994 and 2004 see: Hall et al. 2005:289.

water-sector policy-making, development cooperation, and the practice of water resources management in Namibia.

The IWRM paradigm evolved and gained wide international consensus at the same time that the CBWM concept was introduced in Namibia, as it was in many countries of the Global South. As a water management paradigm, IWRM has not lost relevance since.

The rise of Integrated Water Resources Management (IWRM)

IWRM started being promoted in a well-organized and targeted manner following the Dublin Conference, and was eventually favoured by a majority of actors involved in water-resources planning and management across the board of neoliberal policy-makers, environmentalists, and development practitioners. IWRM is an overarching policy paradigm promoting a coordinated (integrated) management of a country's water demands, including those of the drinking water supply sector. Following the Dublin Conference, the label of Integrated Water Resources Management was used to refer to the state of the art in water resources management based on a combination of underlying motives such as economic efficiency, social development, and environmental protection, which in previous times had been favoured by frequently opposed political camps and had sparked controversial debates. The same set of motives had been emphasized to different degrees in the two outcome documents of New Delhi in 1990 and of Dublin in 1992, with Dublin remaining by far the most frequently cited and most influential process internationally.

In the course of the 1990s, a global network of water-sector experts was knit through these processes and largely assembled under the rising paradigm of IWRM, which remains the dominant approach to water resources management and water policy-making today. Among water-sector professionals and the actors involved in international development initiatives, IWRM has become a 'sanctioned discourse' which is hardly criticized or questioned regarding its underlying assumptions and concepts (Allan 2006). Since the adoption of the 2030 Agenda for Sustainable Development in 2015, IWRM is now expressly included in the water-related goal, as target 6.5: 'By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate' (United Nations 2015).

IWRM usually encompasses three main strands of water resources planning and management practice, which can be summarized as: the recognition of the multiple and various water uses in the social, ecological, economic spheres; the postulation of coordinated water management

across all the sectors concerned; and the aim of managing water at multiple scales including the local, regional, national, and transnational (Conca 2006:124).[81]

IWRM and water-sector expert networks

To end the phase of the 1980s following the Mar del Plata Conference of relatively low international political activity and discussion of the water sector in general, and to mark the new upsurge in water-related discursive strands embedded in global environmental governance considerations at the beginning of the 1990s, expert networks, forming central nodes in the global discourses of water governance, also underwent swift development in the 1990s. As Biswas states in his analysis of the global water-policy dialogue between Mar del Plata and Kyoto: 'Generally, for a variety of reasons, water disappeared from the international political agenda during the 1980s and 1990s. [...] It was certainly not considered to be a priority issue. The situation started to change during the late 1990s, primarily through the efforts of the annual Stockholm Water Symposiums, the formation of new institutions like the World Water Council and the Global Water Partnership, and the establishment of a high-powered blue-ribbon World Commission for Water in the 21st Century' (Biswas 2004:81–82) .

The establishment of two of these new internationally influential water-sector networks in 1996 – the Global Water Partnership (GWP) and the World Water Council (WWC) – both actively supported by the World Bank, had the promotion and the implementation of the IWRM concept as two of their main aims.[82] The GWP – an international network of organizations involved in water resources management – was established by the World Bank, the UNDP, and the Swedish International Development Cooperation Agency (Sida) in 1996 'to foster Integrated Water Resources Management'[83]. According to its website, the network is supported financially by Canada, Denmark, the European Commission, Finland, France, Germany, the Netherlands, Norway, Sweden, Spain, Switzerland, the United Kingdom, and the United States. By 2010, 83 Country and 13 Regional Water Partnerships had been established. Namibia is one of the currently 85 Country Water Partnerships, as part of Regional Water Partnership of Southern Africa, which has its head office in Pretoria, South Africa. Both the WWC and the GWP took on the task of further spreading the ideas underlying the Dublin Principles and IWRM in new, partly institutionalized, ways, such as for instance in the form of the World Water Forums organized tri-

[81] More details, including the definition and implementation of IWRM globally and in Namibia will be provided in section 6.1.8. below.
[82] For a detailed account of the role of expert networks in promoting the IWRM concept, see: Conca (2006:123–65).
[83] http://www.gwp.org/About-GWP/, last accessed 10 April 2016.

annually by the WWC, starting with the first WWF in Marrakech in 1997. The current definition for IWRM given by the GWP reads as follows:

> 'IWRM is a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems' (Global Water Partnership 2000:22).

According to its definition of IWRM, commonly used in the water sector since, ecological sustainability, economic efficiency, and social equity are seen to be the three pillars of sound, integrated water resources management.

IWRM – impact and criticism

Criticism of the concept of IWRM has been voiced from among the social sciences and scientists working in applied fields over the course of the past two decades, especially in terms of:

a) the vagueness of the concept as a policy tool, and the practical problems with its actual implementation (Biswas 2004:84; Conca 2006:126–27; Medema, McIntosh, and Jeffrey 2008) , including doubt as to whether the very broad vision of IWRM is actually 'implementable' at all (Kluge 2005; Milburn 2009);

b) the lack of fit with local circumstances due to its 'one-size-fits-all', blueprint approach, and due to the blurriness of what the IWRM concept actually should mean in practice (Allan 2006; Milburn 2009); and

c) the doubt as to how the potentially competing socio-political objectives in the water sector could be coordinated successfully through IWRM (Laube 2005).[84]

In particular, the way in which 'one-size-fits-all' approaches are being used in IWRM implementation, and the questions of what IWRM should entail more concretely and whether an implementation of the vision behind IWRM is even practically feasible at all – based on the very general definition given above – have been subjects of criticism (Kluge 2005; Laube 2010).

IWRM implementation

On the political scene however, following the UNCED in 1992, IWRM has received wide international agreement and has been implemented up until today as part of water-sector policies and development initiatives. Its underlying principles were frequently adopted as part of national strategic documents and policies applying a blueprint approach (Laube 2007). It brought with it a

[84] On the evolution of IWRM and for a critical reflection on same, see also White 1998; Rahaman and Varis 2005.

favouring of demand-driven water management approaches for rural areas, including community-based management concepts in Namibia, as in many other African countries (for the introduction of the IWRM approach in the form of a donor-funded applied research project in the Central North of Namibia, see: Kluge et al. 2010; see for other country cases: Fuest 2006; Laube 2007; Chikozho 2008; Swatuk and Motsholapheko 2008).

When implemented, IWRM usually takes the watershed or river basin as the relevant unit of water-resources monitoring and management decisions.[85] Within the framework of basin management, in parallel with the regulations for CBWM, participative structures are commonly introduced in the form of basin management committees, which are to represent the various user groups and sectors of water use. The same goes for the water point committees frequently introduced as part of CBWM reforms. Although the overall management of river basins or watersheds, as included in IWRM implementation and the management of water supply for domestic and agricultural use, are strongly interconnected by nature, the reform processes and administrative structures for these two management processes are commonly organized with some degree of separation, and are independent from one another. Although the administrative entities for basin management on the one hand and rural water supply on the other hand are usually both situated and coordinated under the same roof, as it were, in the ministry that has the overarching responsibility for water, IWRM implementation is usually taken care of by the department responsible for water-resources management, while the CBWM process in rural water supply is usually run by the department responsible for water supply. The administrative organization of IWRM and CBWM implementation for Namibia, and the roles and responsibilities of the different Government entities, are shown in figure 29 on page 279 below.

The World Bank itself – which had been at the forefront of IWRM promotion in the years after Dublin, when the Dublin Principles became the underlying principles of its 1993 Water Policy (The World Bank 1993) – concluded 11 years later, in its Water Resources Sector Strategy of 2004 that – based on practical experience, on its own assessment, and on a review of IWRM implementation by the OSCE – progress in IWRM implementation has been 'slow, difficult and uneven and that context-specific, realistic and "patient" approaches to implementation which is also termed "pragmatic but principled" were needed' (The World Bank 2004:1–4).

However, policies and programmes which are based on the underlying principles of the IWRM concept are at present still being designed and implemented by many Governments, NGOs, and donor agencies. The ideas which were strongly promoted during and following the Dublin

[85] On the history, travels and translations of the concept of 'river basin' see Molle 2009.

Conference – that principles of demand-orientation should be employed when planning for water supply schemes in both urban and rural areas, coupled with the aim of increasing cost-effectiveness while involving the water users in management decisions – have continued to define the dominant paradigm, and can be found in water policies worldwide up until today. Some examples are the ongoing implementation of the SADC Regional Strategic Action Plan on IWRM – III (SADC RSAP III) supported by the Governments of Germany, Australia, and the United Kingdom (Global Water Partnership 2013) and the GIZ approach to implementing IWRM as 'the overall framework for GIZ's capacity development programmes in the water sector', and as part of the German Government's overall water-sector strategy in bilateral development cooperation (Gesellschaft für Internationale Zusammenarbeit 2012); (Federal Ministry for Economic Cooperation and Development (BMZ) 2006). According to a GIZ policy advisor who has been managing IWRM implementation in Namibia over the past years, 'IWRM is really a successful, standard example in Namibia of a national implementation process largely based on an internationally sanctioned blueprint approach' (Interview, October 2011).

6.1.7. The World Water Council and the World Water Forums

The World Water Council which was established soon after the Dublin Conference and has probably become the most influential international water-sector network since, according to its own website[86] is 'an international multi-stakeholder platform, […] established in response to an increasing concern about world water issues from the global community'. The WWC's main founders were the World Bank and the UNDP, joined by private companies, professional associations and water experts.[87] From the beginning the WWC has claimed a central role in shaping global water policy as an international think tank for water policy, with a mission 'to promote awareness, build political commitment and trigger action on critical water issues at all levels, including the highest decision-making level, to facilitate the efficient conservation, protection, development, planning, management and use of water in all its dimensions on an environmentally sustainable basis for the benefit of all life on earth'.

Although transparency, democracy, dignity, independence and participation are the WWC's core values, and although the biennial World Water Forums the Council organizes appear to be part of the chain of multilateral environmental conferences convened by the UN, the World Water Forum is actually not a multilateral organisation itself, but – legally – a French NGO with its office in Marseille. As a large number of private sector stakeholders including big private water-sector

[86] http://www.worldwatercouncil.org/about-us/vision-mission-strategy/, last accessed 10 April 2016.
[87] See Conca 2006:1, and Gleick 1998:172–76 on the origins and membership of the World Water Council.

enterprises are among its membership and have always had influential positions in its leadership, the WWC has regularly been accused of favouring the corporate interests of private water sector actors over options of public management of water as a common good (Balmer 2012; Rivasi and Barles 2012). Before the UN officially recognised the human right to safe drinking water and sanitation in 2010, the WWC had also been pushing an agenda of focusing on access to safe drinking water as a human need, rather than a basic human right.

Lacking formal legitimacy based on criteria such as appointment by democratic principles or a widely shared and accepted normative framework or control mechanism, the WWC has been struggling to gain legitimacy and discursive power through establishing the World Water Forum as a quasi-participatory smokescreen. The World Water Forum has become the biggest single regular water-sector mega-event, being held every three years since 1997 at changing locations. It has seen a rapid growth in participation over the years. While the first Forum in Marrakesh in 1997 had seen the participation of approximately 250 water-sector experts, politicians, and organizations (Dobner 2010:109), the latest Forum that was held in South Korea in 2015 allegedly had over 40,000 participants (Seventh World Water Forum 2015). The WWF has been used by the WWC to claim representativeness, participation by all the major water-sector stakeholders, and the ability to create consensus on some of the pressing issues regarding global water policy – as expressed in the following description on the WWC's website: 'By providing a platform to encourage debates and exchanges of experience, the Council aims to reach a common strategic vision on water resources and water services management amongst all stakeholders in the water community. In the process, the Council also catalyses initiatives and activities, whose results converge toward its flagship product, the World Water Forum […]. The Council's action for the triennial period until 2015 is oriented in priority towards bringing people together through active hydro-diplomacy, exploring new ideas and concepts and discussing issues while encouraging exchanges and networking'[88].

Since the fourth World Water Forum in 2006, open opposition has been voiced increasingly during the events themselves by demonstrators – sometimes in their thousands, people with banners and verbal attacks interfering during the Forum sessions, and by the organization of alternative or counter-water events organized by opponents of the World Water Council in parallel to the main World Water Forum.

All this is important to note against the background that the UN as the global governance body legitimized by its 193 member countries has stopped organizing international events on water

[88] http://www.worldwatercouncil.org/about-us/vision-mission-strategy/.

governance over the past several decades. At the same time this gap has been filled by a row of big conferences on water topics organized unilaterally by Governments or by the WWC – both of which implies a lack of bindingness of the topics being discussed and the so-called 'Ministerial Declarations' issued during such non-formalized events (see also table 9 above).

6.1.8. Bonn International Conference on Freshwater

In December 2001 one more international meeting of water-sector experts, practitioners, and politicians in the series of water-related and environmental mega-events took place in Bonn, convened by the German Government. It formed part of the intergovernmental preparations for the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002, and focused on the role of water for sustainable development. The conference brought together government delegates from 118 countries, including 46 Ministers, representatives from 47 international organizations, and delegates of 73 organizations from major groups and civil society (International Institute for Sustainable Development 2011). Its outcomes were also supposed to feed into the process of the Third World Water Forum in Kyoto in 2003. At the International Conference on Freshwater, delegates met in joint plenary sessions on various water-sector themes – without discussing anything groundbreaking or new compared to the previous water mega-events. As has become the usual practice at international water-sector events such as the World Water Forums and the expert conferences with governmental representation, the programme also included closed-door ministerial sessions on topics such as the equitable and sustainable use of water resources, and the mobilization of financial resources for infrastructure investment (International Institute for Sustainable Development 2011:1). As the 'Bonn recommendations for Action', the conference's major outcome document, puts it: 'The International Conference on Freshwater has reviewed the role of water in sustainable development, taken stock of progress in the implementation of Agenda 21 and identified how this implementation can improve. It has built on many previous efforts and conferences which have defined the challenges and developed principles and policies related to water and sustainable development' (International Conference on Freshwater 2001c:1).

The discussions in Bonn and in the Johannesburg Summit the following year took place against a background of an overarching aim of poverty reduction, which had been making its way into development discourse and policy worldwide, and resulted in the Millennium Declaration and the setting of the ten MDGs in 2000. It was recommended that water management aiming at 'equitable access to adequate supplies' was to be incorporated into national strategy-setting and planning efforts, which were to lead to an integration or at least a harmonization with the ongoing compilation of national Poverty Reduction Strategy Papers driven by the World Bank. In addition

to this, the Bonn delegates resolved that countries should be engaged in the process of developing water resources management plans by 2005 (International Institute for Sustainable Development 2011).

Regarding the proposed role of water users in ensuring that the overall objective of improving equitable water access is met, the participation of all stakeholders, and especially of groups who are otherwise marginalized in decision-making processes, is stressed: 'It requires the participation of all stakeholders who use or protect water resources and their ecosystems. Special attention is needed to improve the participation of those people, particularly the poor, who are often excluded from decision-making' (International Conference on Freshwater 2001c:3). However, in the Bonn Recommendations for Action, water service provision and management through participatory institutions at the level of the water users is not expressly recommended as a remedy for universal improvement, as it had been at least for rural water supply in a number of high-level strategic documents over the previous decade. Rather, it is rated as one out of several potentially well-adapted and recommendable models: 'The predominant public delivery of water services should be complemented by more use of different and often innovative forms of service delivery, including self help groups [sic!] formed by the people themselves, informal service providers, co-operative societies, and local and international private enterprises. In each situation, the approach should be chosen that would best benefit people and the environment' (International Conference on Freshwater 2001c:5).

The role of the state as central regulator, and its responsibilities in ensuring equitable and sustainable water management, are emphasized: 'The primary responsibility for ensuring equitable and sustainable water resources management rests with governments. […] Public responsibility includes the task to set and enforce stable and transparent rules that enable all water users to gain equitable access to, and make use of, water' (International Conference on Freshwater 2001c:3).

6.1.9. National IWRM Plans – Earth Summit Johannesburg, 2002

The central importance of village-level water-management institutions was stressed prominently again at the Johannesburg Summit itself where – during a meeting at the so-called 'Water Dome' organized by the United Nations Department of Economic and Social Affairs (UNDESA) and UNESCO – the Johannesburg Summit's Secretary-General Nitin Desai stated that 'If you get the water management right at the village level, it will improve land management, fisheries, biodiversity, energy and poverty. Water connects all the areas of sustainable development.' And – as Koichiro Matsuura, Director-General of UNESCO, added: 'Water is the centre of the global debate. Freshwater is the interface between energy, health, food security and biodiversity. The

International Year of Freshwater 2003 would remind countries of the crucial importance of our water resources' (United Nations Department for Economic and Social Affairs. Division for Sustainable Development 2015).

Ten years after the Dublin Conference, during the WSSD held in Johannesburg, South Africa in 2002, 193 governments agreed to the Johannesburg Plan of Implementation, which contained the objective of creating and implementing IWRM and water efficiency strategies, plans, and programmes at national and regional levels, with national IWRM plans to be developed by 2005. This agreement has resulted in national projects to develop IWRM plans worldwide, including in Namibia, financed by the national governments in conjunction with international development donors. According to a survey conducted by the GWP evaluating 95 countries to assess the achievement of the WSSD target, at the end of 2005 '20 countries (21%) had plans/strategies in place or a process well underway that incorporated the main elements of an IWRM approach; 50 countries (53%) were in the process of preparing national strategies or plans but required further work to live up to the requirements of an IWRM approach; 25 countries (26%) had taken only initial steps in the process towards preparing national strategies or plans and had not yet fully embraced the requirements of an IWRM approach' (UN Water 2008a:17).

In Namibia – as in neighbouring countries in Southern Africa, most of which adopted their national IWRM plans between 2007 and 2010 – a national IWRM plan, as agreed at the Johannesburg environmental summit in 2002, was formulated with some delay.

Both the introduction of the IWRM concept and the reforms in rural water supply in Namibia have their starting points in the early 1990s, and are clearly connected to the Dublin and Rio Conferences of 1992 when the four Dublin Principles were endorsed by 193 participants. However, when comparing the IWRM process, which relates more to the side of water resources management, with the CBWM reform process in the sector of rural water supply in terms of the organizational set-up behind them, of the actors involved and of the chronology of events, one has to come to the conclusion that they are based on two separate, though interconnected international discursive processes which have become part of national policy-making and are influenced strongly by international development cooperation.

The efforts directly revolving around IWRM planning and implementation in Namibia are coordinated by the MAWF Directorate of Resource Management, which – in the national water administration – is part of the same Department (of Water Affairs and Forestry) as the Directorate of Water Supply and Sanitation Coordination, which administers the CBWM programme in rural water supply. The IWRM and CBWM processes in Namibia have partly involved different sets of stakeholders and administrational units, and have had vastly different timeframes: CBWM policies

started early on, right after the country's independence, while IWRM planning began about a decade later. While the IWRM implementation focuses on the watershed or basin as a management unit, the introduction of CBWM in rural water supply has involved smaller management units which centre on individual outlets for drinking water – mostly boreholes. In terms of newly introduced water governance principles based on the international spread of the IWRM paradigm, the Namibian IWRM Plan mainly regulates the introduction of demand-based management, including demand monitoring, as well as a focus on water use efficiency and a basin management approach to water resources management countrywide.

Apart from the above mentioned differences in terms of the policy planning processes and timeframes however, both processes and documented outcomes have in common a strong orientation towards stakeholder participation and capacity-building, in accordance with the reigning international paradigms in water-resources and water-supply management. Both the IWRM and CBWM paradigms obviously have to deal with the same resource base – the water available in Namibia for the use of the multitude of different user groups and the ecosystem. As a consequence, the pre-existing policy direction in the sector of water-supply management based on the Water Supply and Sanitation Policy of 2008 (Republic of Namibia. Ministry of Agriculture, Water and Forestry 2008) and the strategy for the Implementation of the Community Management and Cost Recovery Aspects of the Water Supply and Sanitation Sector Policy of 1997 (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1997b) were included as part of the water supply section in the national IWRM Plan for Namibia in 2010 (IWRM Plan Joint Venture Namibia 2010a:54f., 2010d:42–46) . The water supply section of the plan provides a brief overview of the status quo, stressing some of the aspects of and issues involved in water-supply management at the time, including highlighting that although 'rural water supply is well developed and ahead of the MDG targets […], 'financial administration of water supply is generally poor' (IWRM Plan Joint Venture Namibia 2010d:42). According to the same document, 'it remains a question as to whether decentralisation is supporting or hindering water supply.' This sheds an interesting light on the achievements of CBWM implementation thus far at national level, a topic that will be dealt with to some extent in the subsequent chapter.

6.2. From the state as provider to users as decision-makers

Aside from the impact that the adoption of the Dublin Principles and IWRM has had in relation to treating water as an economic good and striving for cost-effectiveness (Dublin Principle No. 4), the Dublin statement also importantly stresses the idea of employing a participatory approach to water development and management, by 'involving users, planners and policy-makers at all levels' (Dublin Principle No. 2), and furthermore emphasizes the need to involve women in particular as

playing 'a central part in the provision, management and safeguarding of water' (Dublin Principle No. 3). According to the text of the Dublin Statement,

> '[…] the participatory approach involves raising awareness of the importance of water among policy-makers and the general public. It means that decisions are taken at the lowest appropriate level, with full public consultation and involvement of users in the planning and implementation of water projects' (ICWE 1992).

The paradigm shift towards community-based management and participation in the water sector which was called for by a majority of influential water-sector actors at the time was marked prominently and in an internationally visible way by both the Dublin Conference and the preceding New Delhi Consultation, with its related principle on introducing community management of services backed by measures to strengthen local institutions (United Nations 1990a).

Apart from recommendations and blueprints for management paradigms such as demand-based management and IWRM, which have arisen, and which were transported through events and discourses related to global environmental governance and international development cooperation, there also are some more generalized ideas or concepts discernible from the documentation of events and projects I have analyzed which have contributed to laying the basis for the adoption of a CBWM approach to rural water supply management in Namibia and elsewhere. Just like the ideas of water scarcity and the hydraulic mission of earlier phases, in the decades after 1970, certain ideas gained a high salience in development and water-expert discourses in particular, and were linked in different ways with the underlying objectives and with criteria for 'success' – meaning the achievement of these objectives – in the realm of water supply management.

Such ideas underlying development discourse frequently acquire 'buzzword status' during certain phases of international policy-making and development cooperation, as has been shown before in social scientific analyses (Cornwall 2007). During these 'buzzword phases', ideas would increasingly travel and frequently be used, reiterated, and connected to other ideas by actors who would knit particular webs of meaning in order to lend discursive and political power to their views and to enforce certain approaches – for instance, to the management of a particular natural resource. Or, as Cornwall put it, to sustain models, myths, and passions (Cornwall 2007:471). In the abovementioned discursive processes, every specific idea has frequently acquired different meanings and nuances of meaning over time, sometimes to the extent of embracing and promoting contradictory agendas.

Some of the ideas that have become mentioned more frequently and thus increasingly strongly associated with the objectives behind policy-making and development initiatives in the water sector are the ideas of equity, ownership, sustainability (Scoones 2010), community (Murray Li 1996; Srivasta 2012), empowerment (Cornwall and Brock 2005; Batliwala 2010), and participation (Cornwall 2000; Leal 2007). They have been used in the debates on and documented outcomes of water-management sector reforms, and in particular in rural water supply starting in the 1980s, in order to define the status quo, identify existing problems, set goals for the future, and justify interventions.

As an in-depth analysis of all of these ideas would go beyond the scope of this thesis and not all of them have featured strongly in water-sector discourse in Namibia, I will concentrate here on 'participation' and 'community'. These two ideas have been playing a prominent role and acquired buzzword status in the discourse on the management of rural water supply – and other natural resources as a matter of fact – in Namibia since the time when the independent Namibian Government embarked on early water-sector reforms in the beginning of the 1990s up until today.

6.2.1. The idea of participation in discourse and practice

As has been analyzed elsewhere, participation is an idea that has been mobilized in political and development contexts in particular to support a variety of different, sometimes contradictory perspectives and ideologies since the middle of the past century (Cooke and Kothari 2001; Cornwall and Brock 2005; Leal 2010). After calls for participation especially of poor and marginalized population groups in policy-making and development had become louder in the 1970s, participatory projects became more common in the 1980s until eventually elements of participation in development processes became widespread, in parts becoming institutionalized and introduced not only into single project initiatives, but also into processes of strategy-setting and policy reform during the 1990s (Cornwall 2000:15–16; Hickey and Mohan 2005:238–40). In the 1970s the idea of popular participation travelled with its proponents, many of whom were activists and at the same time advisors to movements of national liberation struggles from below and of popular resistance against systems reproducing poverty and marginalization in many countries of the South (Leal 2007:541f.).

The participation idea continued travelling in an increasingly different guise when being incorporated into development projects and programmes along with other ideas during the 1980s in order to increase their efficiency, effectiveness, and sustainability. Subsequently, a growing array of methodological tools to operationalize participation were created, including methodological packages and toolboxes such as Participatory Rural Appraisal (PRA), Participatory Learning and Action (PLA), Appreciative Inquiry (AI), Community Based Needs Assessment (CBNA),

etc. (Chambers 1994, 1995). The fact that during that period development practitioners were trained widely in their use is an expression of the way that the idea of participation as an underlying principle of 'successful development' became part and parcel of the mainstream development industry. At the same time, arguably, it became harder and harder to determine who exactly was meant to participate in what, and how.

While participation in the 1970s was discussed as a right of citizenship in broader terms, largely referring to ways of institutionalizing public participation in decision-making and political processes (Cornwall and Brock 2005:1046) and thus implying the sharing of power, participation in the 1980s was frequently implemented in a narrow sense as an element of 'community participation' in project formats which were by their nature bounded in terms of timeframe, target group, and scope (Hickey and Mohan 2005:240). The 1980s and 1990s marked the phase in which it sometimes seems to have been forgotten that participation can mean the sharing of power, and it rather became an instrument through which to achieve a local contribution to service-delivery costs.

Participation and neoliberal politics

Ironically – given the ideological origin of the demands for popular participation in the 1970s promoted mostly by the left side of the political spectrum – a further connotation was added to the participation discourse in international development when the idea started being referred to in policies and programmes of institutions such as the World Bank and the International Monetary Fund (IMF), which were pushing the neoliberal political agenda throughout the 1990s. Along this trajectory, participation was used in connection with terms such as 'empowerment' and 'self-reliance', which was reminiscent of the 1970s, though in a political context that was completely different, and intended to further aims which were often contrary to those of the social movements of the 1970s. On closer examination, in the 1990s, instead of institutionalizing actual political participation and including the grassroots level in decision-making, participation was often merely cited as a remedy to give a populist guise to the promotion of a large-scale removal of state-control and regulation and the introduction of market mechanisms, and to legitimate the withdrawal of the state (Moore 1995; Leal 2007). In natural resource management the resource users were generally presented in the neoliberal participatory paradigm as more apt to make well-adapted decisions in resource management, and as being empowered by the policy changes towards participatory and community-based management.

At the same time, they were also included in the neoliberal set-up as bearers of the costs involved in resource management and supply, whether in settings of privatized and commercialized management and supply or in situations of decentralized, community-based management (Harvey

and Reed 2006:365–67; Dobner 2010:169–70) . Users were increasingly and sometimes rapidly asked to cover the costs of resource provision, while at the same time this did not necessarily lead to an improvement in resource access, quality or services. While privatization was promoted by many as a panacea for water-supply management during the 1990s, it was found to have been less successful than anticipated, or to have failed relatively soon afterwards (Budds and McGranahan 2003; Public Citizen/ Water for All 2003). There are a number of cases at national and municipal level where reregulation followed serious problems caused by the privatization and deregulation of water services, in both the global North and the global South (see for England and Wales: Graham 1997; Hassan 1998; Bakker 2003, and for Bolivia Marvin and Laurie 1999; Assies 2003). Especially poor or marginalized groups frequently experienced a decline in services and infrastructure and were disadvantaged by being subjected to the mechanisms of a free-market capitalism which often led to rapid price hikes for resources needed to cover basic needs like water and electricity, as well as the loss of guaranteed basic supplies (see for South Africa: Smith and Hanson 2003; Loftus 2006; Ruiters 2007).

Participation for participation's sake?

It was mainly in the 1990s when, finally, the role of participation as an in-built criterion per se marking a 'good way' of doing development was mainstreamed into development discourse and practice. As such, participation frequently also became a precondition of successful appeals for donor funding. Adding to the participation toolbox of the 1980s, the World Bank and others went on producing methodological tools such as those summarized in the '*Participation Source Book*' of 1996, as guides to putting participation into practice (The World Bank 1996).

As Cornwall and Brock summarize:

> 'Participation has long associations with social movements, and with the struggle for citizenship rights and voice. Politically ambivalent and definitionally vague, "participation" has historically been used both to enable ordinary people to gain political agency and as a means of maintaining relations of rule, for neutralising political opposition and for taxing the poorest—ends tried and tested in the colonial era well before being deployed in the service of neoliberalism. Ideas about its benefits have been part of mainstream development discourse since the early 1970s, although in the past decade they have been taken up more widely in attempts to shape the way in which development is done. These competing currents continue to course through discursive representations and practices of participation' (Cornwall and Brock 2005:1046).

In the last two decades, which have seen the frameworks of the Poverty Reduction Strategies (PRSPs) – a World Bank instrument following the SAPs to push poverty reduction, according to World Bank terms, on the basis of national strategies – and the Millennium Declaration with its

ten sanctioned development goals, participation has retained its high currency in development discourse. The idea's buzzword status was arguably reinforced further through frequent conjunction with other powerful buzzwords of the time, such as 'poverty reduction', 'empowerment', 'ownership', and 'equality' and 'equity' (Cornwall and Brock 2005; Leal 2007).

6.2.2. The ideas of 'community' and 'ownership'

Not only must the concepts behind the idea of participation be scrutinized in greater depth if one is to grasp the way that community-based resources management gained discursive salience and eventually political assertiveness, but so also must the idea of community. Just as with the exact meaning of participation, the concept of community is rarely defined clearly in policy and development discourses featuring community participation in resources management as a recipe for success. As others have shown, the notion of community in such contexts seems to be laden with the preconception that if 'the community' is only allowed to take care of its own affairs with some facilitation and support, but without too much interference from the outside, things will fall into place automatically, and for instance the management of water supply will begin to work on sustainable, equitable, and locally accepted grounds. As a consequence, as Harvey and Reed have put it, 'The community management model […] has been applied to all communities without such distinction, based on idealized generalization' (Harvey and Reed 2006:367).

There is usually little doubt among the authors of water-sector reform programmes, for example, that communities will be able, let alone willing, to take over decision-making and management functions in the delivery of water. While technological issues might still be catered for in the state- and/or donor-driven programmes introducing CBWM, the social side and consequences of new rules introduced from the outside into a setting which may be politically and economically fragmented are often overlooked (Harvey and Reed 2006; Nicol et al. 2012b:7f.). As Nelson and Wright have observed: 'Community is a concept often used by state and other organizations, rather than the people themselves, and it carries connotations of consensus and "needs" determined within parameters set by outsiders' (Nelson and Wright 1995). Potential problems in communities that are not homogeneous and in some state of in-built social harmony (which policy-makers and development practitioners often seemingly expect to be the case) can lead to further marginalization and exclusion of certain groups. The internal dynamics in communities which are part of today's rapidly changing world are often not foreseen or catered for in community-based water-sector strategies with predefined, blueprint-like institutional frameworks, as has been shown clearly also by the research conducted by my colleagues from the LINGS research project in Namibia's Kunene Region (Bollig and Menestrey Schwieger 2014; Linke 2015; Menestrey Schwieger 2015b).

Social scientists including myself in earlier work have also questioned the notion of clear boundaries that the term *community* often seems to imply – or rather, the ascription of such a feature to communities by outsiders. Especially when it comes to its application in political or legal frameworks such as in Community-Based Natural Resource Management (CBNRM), the usage of 'community' often implies the aim of assigning certain decision-making, property- or usage rights to groups of people defined as 'communities' from within or without. Such clear definition and limitation however frequently does not correspond to social realities, and the attempt to draw such lines can thus lead to social exclusion, tension, and open conflict (Kepe 1998; Berzborn 2001; Hohmann 2003).

What is more, the usage of the term *community* – frequently combined with the term *local* – implies a tendency to consider local individuals and groups and their socio-political arenas as detached and isolated from broader economic and political structures and processes. It can thus be postulated that it is not only in politics and development cooperation, when trying to introduce institutional reforms in the sector of natural resources management for instance, but also in scientific analyses of such institutional regimes, that it is crucial to pay attention to include interrelations of the different scales – local, national, and global – and the influences these have on local communities.

Ownership being one of the underlying principles of the development cooperation process, one finds it in discourses and publications at the different scales of interaction between donors and recipients of development aid. Those implementing actors of development projects who work at the micro level directly with target groups frequently stress ownership by target groups and individuals involved – often conjuring images of 'community' in this context – as a basic precondition of project success and sustainability of outcomes and impacts. At another scale, in the intergovernmental processes of development cooperation between donor and recipient countries, the UN, international donors and aid recipients have been striving to further country ownership at Governmental level, e.g. through the UN high-level process on aid effectiveness which has been calling for 'partner countries to exercise effective leadership over their development policies, and strategies and co-ordinate development actions' (Organisation for Economic Co-operation and Development:3).

6.2.3. Interactions of policy-making and implementation with scientific discourse

In drawing a picture of the different kinds of nodes in the discourses that provided the basis for the travelling models in rural water supply management in the 1990s and onwards, scientific discourse itself of course cannot be neglected. Just as in the case of the '*Limits to Growth*' report written in the 1970s by a team of MIT scientists (Meadows 1972), and the WCED report '*Our*

common future' of the 1980s (World Commission on Environment and Development 1987) described in sub-chapter 6.1 above, there were new scientific findings and publications appearing in the 1990s and 2000s that played important roles in the identification and description of the status quo of environmental degradation and socio-economic shortcomings. What is more, scientists were also involved in developing some of the proposed solutions as part of independent organizations doing applied research, commissions mandated and sponsored by international organizations or conference convenors, and conference delegations themselves. Some examples are the '*World Scientists' Warning to Humanity*' released and signed by around 1,700 senior scientists from around the world and more than half of all Nobel laureates alive at the time five months after the first Earth Summit in Rio in 1992 (Union of Concerned Scientists 1992); the major volume titled '*Water in Crisis – A Guide to the World's Fresh Water Resources*' edited by Peter H. Gleick (1993b); and the World Water Vision Commission Report '*A Water Secure World*' presented to the World Water Forum in The Hague in 2000 (World Commission for Water in the 21st Century 2000).

For the purposes of this thesis, I would like to focus on a particular timespan in the 1990s and 2000s when a high degree of discursive interaction between social and economic scientists working in the field of common property resources (CPR)[89] management theory and 'experts', policy-makers, and practitioners in the field of resources management and development can be observed. Some scientific findings and publications on this field at the time were referred to frequently, and cited direct practical reactions among policy-makers, donors and implementers. This interrelationship also included the work of scientists working in applied fields of policy-making and development, often commissioned by international organizations or sometimes bilateral donors.

One example is Ruth Meinzen-Dick, a trained anthropologist and development sociologist who focused much of her work on research into natural resource management institutions and gender. A staff member of the International Food Policy Research Institute (IFPRI) in Washington since 1989, she coordinates the Consultative Group on International Agricultural Research (CGIAR) program on Collective Action and Property Rights (CAPRi). Her research deals with water resource management, land, forests, property rights, collective action, and the impact of agricultural research on poverty. She leads IFPRI's Gender Task Force and co-leads work on strengthening women's assets. Much of her research has been done in South Asia and Sub-Saharan Africa. She has worked extensively in applied contexts and her work has included publications as part of

[89] 'Common-pool resources are natural or humanly created systems that generate a finite flow of benefits where it is costly to exclude beneficiaries and one person's consumption subtracts from the amount of benefits available to others' (Ostrom et al. 1994:148).

processes of policy-making and strategy-setting for different UN organizations, the World Bank, and the GIZ (Subramanian et al. 1997; Katon et al. 2001; Meinzen-Dick et al. 2008).

Another case in point is Lyla Mehta, a social scientist who has been leading the Knowledge, Technology and Society (*KNOTS*) team at the Institute of Development Studies, University of Sussex in the UK since 1998. Mehta, too, has regularly been working on projects commissioned by development organizations such as the UNDP, DFID, and the World Commission on Dams. She is currently teaching in the UK and Norway, in particular in the areas of water and sanitation, often in relation to current policy debates. She is a member of the scientific committee of the Global Environment Change and Human Security Project of the International Human Dimensions Project (IHDP)[90] (Mehta 2000, 2003b; Mehta and Ntshona 2004).

It is from institutional theory that perhaps the most influential scientific contributions to the policy and development paradigm of community involvement in natural resources management have come. In reaction to the bleak picture Garrett Hardin had painted with his 'tragedy of the commons' in 1968 (Hardin 1968), his views were challenged by many in-depth studies of successful cases of common-property resource management, as for instance: (Netting 1981; Berkes et al. 1989, 1990; Bromley and Feeny 1992; Baland and Platteau 1996; Bollig 2006). A particularly influential school of scholars in CPR theory grouped around late Nobel Laureate Elinor Ostrom and her works following her ground-breaking publication of '*Governing the Commons*' in 1990 (Ostrom 1990), which shows strong empirical evidence supporting the idea that communal resources management can work in a sustainable manner under certain conditions. To draw a detailed picture of what these conditions entail, Ostrom presented a systematic catalogue in '*Governing the Commons*' of eight 'design principles' for successful – i.e. sustainable – management of common-property resources.

The work of Ostrom and her colleagues in particular has been taken up by policy-makers and development programmers and implementers as guidance for policy reforms in particular in the area of natural resource management starting in the 1990s (Adams and Hulme 2001; Agrawal 2003) – a development unintended by Ostrom and her colleagues. Ostrom's work has impacted on CBNRM policies in the Global South to varying degrees and has sometimes been mentioned or translated to various national or local settings rather directly (Saunders 2010). In some cases Ostrom's design principles were expressly introduced as rules in the design of blueprint

[90] IHDP was established in 1996 to promote, support, and address critical gaps in international social science research related to global environmental change. IHDP is working in three core areas: mobilizing the social sciences; bridging science and policy; and education and training (http://www.ihdp.unu.edu/article/read/about-us).

institutional setups for natural resources management at the communal level (see for example Leathes 2007).

For the national-level policy-making and development cooperation in Namibia in the fields of CBNRM and CBWM a direct, i.e. explicit connection to the work of Ostrom could not be found during my research. However, the parallels between the new rules introduced as part of the CBWM blueprint policies and strategies and CPR theory with Ostrom's design principles in particular cannot be denied, as my LINGS project colleagues have shown in their analyses (Linke 2015:207; Menestrey Schwieger 2015b:32).

IRDNC – the Namibian NGO most active in the field of CBNRM in Namibia with broad international donor support – presents Ostrom's 'design principles' as 'preconditions for stable arrangements to co-operatively manage common property resources [*which*] could easily be used to describe an "ideal" Namibian communal area conservancy' (Integrated Rural Development and Nature Conservation 2011:17).

However, the blueprint, standardized adoption of the 'design principles' or other research findings from CPR theory in policies and projects has been criticized by a number of scholars, including Ostrom and her team members themselves: 'Poor understanding of the dynamics affecting natural resource management increases the likelihood of policy interventions that do more harm than good. The poor performance of blueprint strategies for natural resource management underlines the need for policies that reflect specific contexts' (Poteete and Ostrom 2007:177).[91] Other scientists have criticized Ostrom and other 'classical' institutionalists on various grounds. It would go beyond the purposes of this chapter to go into much detail regarding that criticism. Two main points of critique should however be mentioned – and here again it becomes clear that an uncritical and standardized adoption of findings from social theory to 'real-world' contexts with social agents in complex societies may lead to unexpected outcomes and unintended side-effects. One important point of critique following the publications of Ostrom and others was that resource management institutions cannot be treated as isolated social entities that function in a vacuum, since they are always embedded in different social fields where the same institution can fulfil 'multiple purposes' (Juul 2001; Benjaminsen and Lund 2002; Lund 2007). These findings also showed that the targeted 'engineering' of institutions, as has frequently been attempted in the framework of development cooperation and national policy-making, is hardly possible, as they are embedded in and subject to a multitude of socio-historical influences. Another prominent commentator upon and critic of the earlier institutionalists' work is Frances Cleaver, who has been

[91] Also see Ostrom 2005; Cleaver and Franks 2008; Ostrom 2008, 2012a, 2012b; and for an overview on critique: Cleaver 2012:17.

engaging as a researcher as well as a consultant with development and policy processes, mainly in Zimbabwe and Tanzania. Cleaver has shown that institutions cannot be designed, either from the inside or the outside, in a targeted process focused on specific aims, but are rather shaped by social actors with individual agency in complex, creative, and often ad-hoc social processes which are based upon and embedded in the complexity of societies and identities (Cleaver 2002). Cleaver coined the term 'institutional bricolage', which she defines as 'a process by which people consciously or unconsciously draw on existing social and cultural arrangements to shape institutions in response to changing situations. The resulting institutions are a mix of "modern" and "traditional", "formal" and "informal"' (Cleaver 2001:26).

Notwithstanding the various cautionary references to the need to take into account the complex social realities of any given setting when looking for scientific guidance in crafting institutions for natural resources management, the ideas which have been generated by the strands of scientific discourse outlined above have travelled in many ways, probably both intended and unintended, and they have had some tangible effects on policy-making and actual resource governance in some contexts.

6.2.4. The rise of decentralized, community-based natural resources management

In addition to user – or community – participation, decentralization is a political concept with high salience in administrative planning and policies on the delivery of public services. It has also been increasingly spread and promoted as part of development policy, programmes and advisory services in various sectors since the 1980s. In 1983 it was defined by Cheema and Rondinelli as: 'transfer of planning, decision-making, or administrative authority from the central government to its field organisations, local administration units, semi-autonomous and parastatal organisations, local governments or NGOs' (Cheema and Rondinelli 1983). The decentralization paradigm shaped one of the prominent discursive strands in discussions on water governance following the Dublin Conference, and implies the transfer of decision-making power, resources, and responsibilities from the central administration to a lower administrative level. According to a description used by the World Bank: 'Decentralization shifts responsibility and accountability for the delivery of public services to subnational (state, provincial, district, or local) levels of government, aiming to help improve service delivery and local governance' (World Bank 2008:ix).

The underlying rationale of decentralization policies in the realm of natural resources management could not be summed up much better than in the words of Derman et al. in their analysis of Zimbabwean water sector reforms:

> 'The rationale for decentralization usually includes at least some of the following arguments: those who are dependent upon resources manage them better; those whose livelihood depend upon resources should have greater decision making over them; democratic principles should apply to natural resource management; the knowledge of local users is more contextualized than that of government bureaucrats, and the efficiency of resource use will be improved through local management. Typically, it is argued that a decentralized approach is more cost effective than a centralized one. At the very least, the tax burdens are shifted to user fees and away from the general national taxation system' (Derman et al. 2000:4).

Decentralization policies gained influence during the 1990s as one of the political concepts underlying the enforcement of neoliberal policy models, and as an assumed recipe for success which travelled from the industrialized countries to the Global South, often in the form of development programmes and financial cooperation (Furlong 2010). Decentralization served as a point of reference and was in fact implemented in ensuing water sector reforms in the Global South as an overall framework that forms a basis for measures of user participation and community management as well, mostly when it comes to basin management and the management of rural water supply (Galvin and Habib 2003), and to a minor extent to water management in urban settings.

In Africa in the 1990s, the decentralization agenda encountered governments which were not geared towards participative models of administration or in favour of grassroots participation in decision-making, no matter what their political affiliation. Being pushed through the IMF's Structural Adjustment Programmes, among others, decentralization was promoted in parallel with democratization and the disappearance of one-party states. Still, with central governments and administrations de facto retaining their stakes and spheres of influence in the remote and rural parts of their territories through the back door as facilitators, coordinators, and makers of the new rules, it remains questionable as to what extent the introduction of decentralization policies throughout Africa has really diminished the role that states play in service delivery and the management of natural resources.

Community-based natural resources management outside the water sector

Before providing an account of the rise of community-based policies and programmes in the water sector internationally, and their dissemination especially in sub-Saharan Africa, it is worthwhile mentioning briefly that the CBNRM paradigm started to enjoy great popularity roughly during the same period in the sector of environmental conservation, and in particular in the management of national parks, wildlife, and forest resources. Globally, over the past 20 years the objectives of environmental conservation and rural development, combined with CPR management theory and donor policies based on decentralization and participation, have given rise to a vast number of

country-level CBNRM initiatives concerning natural resources other than water, such as for instance wildlife and various forest resources. Since then CBNRM programmes have been transforming governance of social-ecological systems across sub-Saharan Africa (Hulme and Murphree 2001; Fabricius et al. 2004; Roe et al. 2009).

In Namibia, a widespread and very influential national CBNRM programme based on environmental policy and legislation from the second half of the 1990s has led to far-reaching transitions in the way that wildlife, and in some cases forest and grazing resources, are managed in the country's communal areas. Importantly, the programme also deserves mention here because it is frequently cited as a best practice model for the way that Namibian communities can or should engage in the management of natural resources in their territories in general. It has developed alongside the implementation of the CBWM strategy for the same rural areas.

The general idea underlying CBNRM models is to design and/or strengthen resource-management institutions that are to be locally accountable, and to have local user groups contribute to the related costs. The second important component is for local resource users to acquire shares in the potential economic benefits from resources, as well as to take part in resource-related decision-making. In some cases the CBNRM arrangements include actual property rights – although not in the case of the communal area conservancies in Namibia. It has been shown for the realm of CBNRM that, as its introduction involves the transfer of authority over natural resources and shifts decision-making power to those groups of stakeholders who are then to benefit from those resources economically, it frequently results in major institutional transformations, and can change existing power structures (Lachapelle et al. 2004; Roe et al. 2009; Hoole 2010).[92]

6.2.5. User participation and community management in the sector of water supply

The development of the CBWM paradigm or idea into a travelling model can roughly be divided, time-wise, into three consecutive phases – which are certainly not clearly bounded, but which rather provide a somewhat generalized representation of the tendencies in water-sector discourse along a continuum as follows:

[92] See for Namibia Bollig and Menestrey Schwieger 2014, and Schiffer 2004.

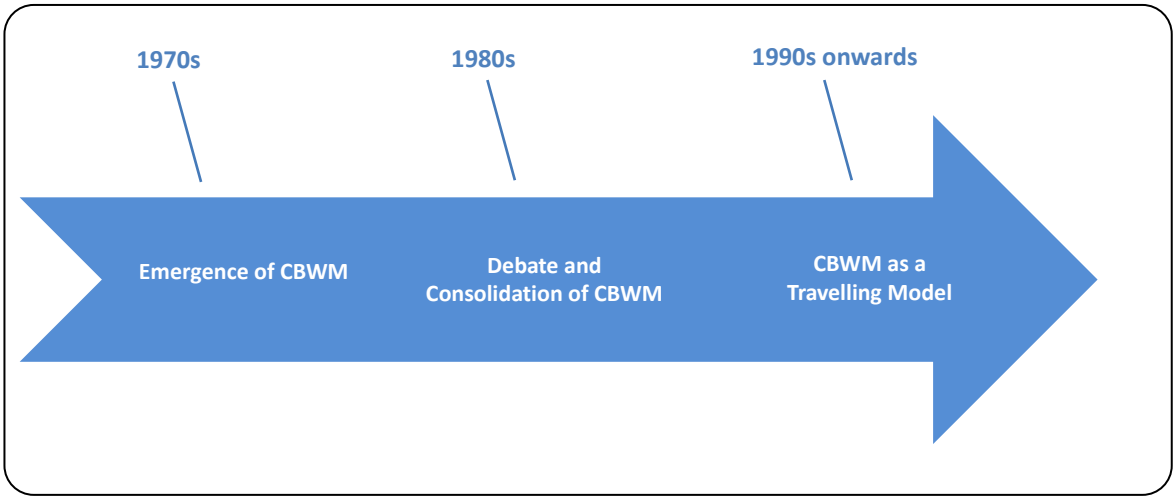


Figure 15: From the emergence of the CBWM idea in water-sector discourse to CBWM as a travelling model

Emergence of the community-based idea in the sector of water management

The first phase, roughly the 1970s to mid-1980s, can be described as the emergence of CBWM as a water-sector idea. The idea of including participatory mechanisms in water governance institutions reaches back to as early as the 1970s. Institutional arrangements involving planning, decision-making, and monitoring functions by water users themselves, mostly in the form of basin management authorities, were already included in some of the thematic papers at the Mar del Plata Conference. Some international examples of CBWM models were expressly mentioned, such as for instance the locally governed water boards (Dutch: *waterschappen*) in the Netherlands, mainly managing waterways, water barriers such as dams and dikes, water quality, and sewage treatment in their respective areas; and the then newly established river-basin committees in Argentina (Biswas 1978a:117). A certain trend towards self-governance and public participation was recognized, and the recommendation to 'encourage the use of associations of water users or other local community organizations to instil a collective responsibility in the decision-making process for the programming, financing and care in the use of water' was included in the Action Plan as one of the recommended instruments to improve the efficiency of water use (United Nations:150). Under 'priority areas of action' in order to achieve the previous recommendation of the international community to ensure access to safe water sources for all by 1990, the Action Plan even draws an all-encompassing image of the involvement of water users themselves in water governance: 'communities [...] must be motivated and involved as appropriate at every level of the programme, including the planning, construction, operation, maintenance and financing of services, and the monitoring and safeguarding of the quality of the water supplied' (United Nations:194).

Debate and consolidation of CBWM as a water resources and supply management model

It was only in the 1990s however, at the height of the neoliberal governance reforms in the water sector, and at the time of the New Delhi, Dublin and Rio Conferences, that the CBWM idea gained most of its discursive power as expressed by the numbers of policies and advisory documents recommending far-reaching user involvement in *water management*, as opposed to partial participation in externally managed water systems. Looking at scientific analyses, policy documents, conference outcomes, and documents related to development interventions of the time,[93] it becomes obvious that an emphasis was placed on introducing CBWM widely in the rural water supply sector, and in particular in poorer and under-served areas with relatively less complex water systems. As opposed to that, in the sector of urban and bulk water supply, management by external agencies based on commercial principles was frequently favoured (Jaglin 2002; Magdahl 2012). As will be described in detail in the following chapter, water-sector reforms in Namibia in the 1990s introduced management principles along the same division, whereby rural supply was based on the CBWM model, while commercial principles were applied to urban and bulk water supply starting in 1997. This trend also implied a tendency towards increased direct and indirect participation by the individual water user in the rural areas, while for urban or technologically more advanced systems like piped supply or individual water meters, the degree of participation by water users in decision-making was generally less pronounced (Narayan 1995; Braunmühl 2005:16). Based on the same body of written sources, for the sector of rural water supply, a rough conceptual distinction into two types of community participation can be made as follows:

Table 14: Comparison of the community's role in community 'participation' vs. community 'management'[94]

Community participation	Community management
• Expression of demand for water • Provision of labour and materials • Participation in technology and location selection	Responsibility, authority, and control over the development of water supply services
Participation in the selection of management systems	• Managing water supply and water infrastructure (operation and maintenance) • Deciding on the 'rules of the game' (water tariffs, access rights, water quantities, sanctioning, etc.)
• Financial contribution to capital costs • Financial contribution to O&M costs	Collecting financial or in-kind contributions for water use and maintenance
-	Water committee formation
-	Training and capacity-building

[93] Some cases in point are McCommon et al. 1990; United Nations 1992; United Nations Children's Fund 1999; Harvey and Reed 2006.

[94] Table borrowed from Harvey and Reed 2006:369 with alterations and additions by the author.

The move from a focus on integrating some measures of community participation towards an increasing emphasis on actual community management of water supply structures over time can be shown as follows:

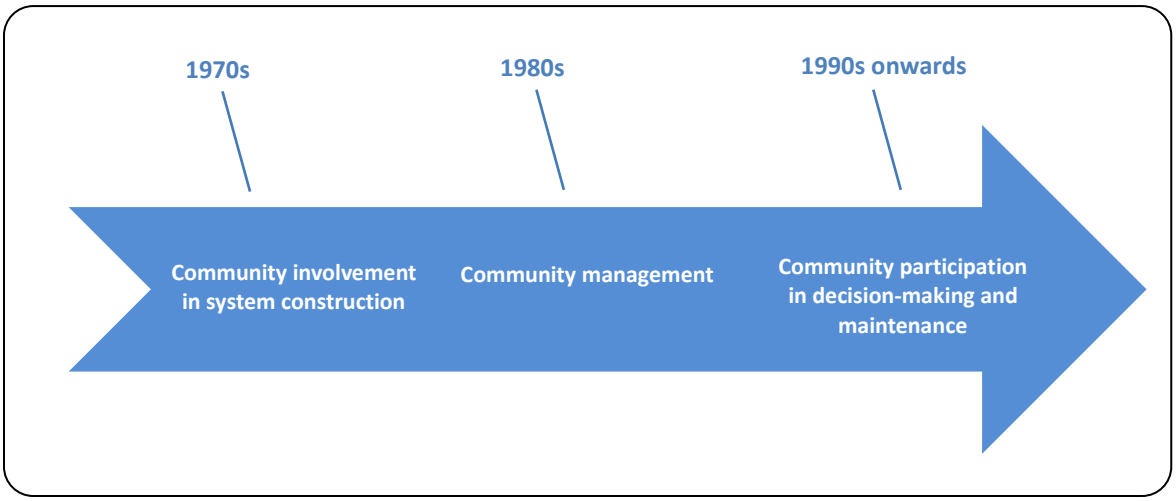


Figure 16: paradigmatic change concerning community participation in the water supply sector, 1970s to 1990s

It is this move to a far-reaching postulation of community management, rather than mere community involvement in system construction and/or participation in decision-making and maintenance, that characterizes the 1990s. At that time, participation in the management of water resources seemed to fit with a number of rather diverse theoretical backgrounds, including scientific currents which partly contradicted one another in terms of the overall political consequences they postulated. Thus, during this phase of widespread introduction of participatory water governance, participation was asked for by proponents of private-sector involvement just as by those who preferred the state to play a strong role; it was labelled the approach of the day by those fighting for the human right to water just as by those seeing water as an economic good (Harvey and Reed 2006:366; Bakker 2007:442). As Peet and Watts (1996) have formulated this simultaneous appearance of participatory approaches in different political contexts and camps in the 1990s: 'Ironically, however, both of these discourses—whether the World Bank line or its radical alternative—look to *civil society, participation, and ordinary people* for their development vision for the next millennium'.

As mentioned above, this gradual paradigmatic change is also connected to more pronounced consequences for water users in terms of covering the costs of water provision. At the same time it implies a gradual withdrawal of the state from both management and financing of the water supply sector, with state authorities mostly taking on a more coordinating role, and sometimes retaining a planning function. Continued state subsidies for vulnerable population groups that face

difficulties taking on the management and – more importantly – cost-sharing aspects of water supply are not a given in related water-sector reforms, but are rather a component that becomes an issue of policy-making and negotiation processes.

The introduction of CBWM principles as part of neoliberal reform programmes

Neoliberal water sector reforms to include measures of CBWM into national water policy, accompanied by policy advisory from the outside and sometimes embedded in SAPs, began to be introduced in many countries in the 1980s. In particular for the rural water supply sector the CBWM paradigm was taken up almost as a panacea by bilateral development donors who were looking at the potential positive impacts of the introduction of CBWM. The general trend during the phase of neoliberal policy reforms was to go for commercialization with private-sector involvement in the case of urban water supply and to introduce CBWM for the sector of rural water supply as well as for the management of river basins or watersheds as promoted through IWRM. As summarized in a resume on the 20 years since Mar del Plata by the Stockholm Water Institute in 1997: 'The lack of public and local participation, and the fact that most actions have been initiated and implemented at a centralized level, is probably one of the main reasons why not more has happened [*in terms of increasing the coverage with clean drinking water supply, TK*] since Mar del Plata. The trend lately has been toward more local participation, as well as promoting decisions at the lowest appropriate level' (Stockholm Water Institute 1997:28).

CBWM as a travelling model in water resources and supply management

Through the high prevalence of expert discourses and the popularity that participation in resource governance had been acquiring among donors and implementing agencies, the community-management idea actually gained the potential to create blueprint models of institutional arrangements especially in the sector of rural water supply that were implemented in many countries worldwide, including in sub-Saharan Africa. The table below provides an overview based on the information available to me from project documentation and secondary sources on reform programmes adopted in selected countries of Sub-Saharan Africa since 1990 in the sectors of rural and urban water supply.

Table 15: Overview on selected water sector reform programmes in African Sub-Saharan countries over the past three decades[95]

Country	Year(s) of Reforms	Regulation of rural water supply/ Participation	Regulation of urban water supply/ Participation	Donor support
Cameroon	CBWM policies since 1990s.	CBWM administered through Community Development Department (Ministry of Agriculture); Water Maintenance Committees. Contribution of labour, material, and cost-sharing by communities including the financing the purchase of spare parts; community ownership and O&M of RWS systems. Government responsible for providing technical assistance, for training, and for the purchase of tools for repairs.	Commercialization of water supply services, managed by a parastatal with private sector involvement.	CARE, Helvetas
Ghana	Water user participation and communal water management starting in 1986. National Community Water and Sanitation Programme (NCWSP) starting in 1991.	Communalization of hand-pumps in rural areas and of piped systems in small towns which were previously commercially managed. Communal ownership and O&M; contribution to cost recovery. Overall coordination and facilitation by the newly established national Community Water and Sanitation Agency (CWSA).	Water management by a parastatal, the Ghana Water Company Limited (GWCL).	CIDA, DANIDA (lead donor), World Bank, and others.
Kenya	Decentralizati-on in 'rural development' since 1983[96];	Water resources user associations involved in decision-making, installation costs, and	Commercialization of water services; Participation in decision-making	African Development Bank, DANIDA, FINNIDA, France,

[95] Sources: Soderstrom 2000; For Cameroon: IRC - International Water and Sanitation Centre 1997:1–19; for Ghana: Eguavoen 2007; for Kenya: Harvey et al. 2003, Ombogo undated, IRC - International Water and Sanitation Centre 1997:57–76; for Malawi: McCommon et al. 1990:19f.; for Mozambique African Ministers' Council on Water 2011; for the Republic of South Africa: Conca 2006:335–46 ; for Tanzania: Nordmann 2010; for Togo: McCommon et al. 1990:18f..

[96] Kenyan government policy 'District Focus for Rural Development' of 1983.

	CBWM starting in the 1990s. National Policy on Water Resources Management and Development (NWRMP), 1999; New Water Resources Management Act of 2002.	O&M of rural water supply and small-town piped systems. Handover of water infrastructure into community ownership planned. The state moved from a planning and implementing role to a coordinating and regulating role (NWRMP, 1999).	through 'water action groups'.	Germany, the Netherlands, the EU; Care Kenya, Sida, World Bank.
Malawi	Decentralized 'rural piped water programme' with piped, gravity-fed systems since 1968.	High degree of community participation in planning, mobilization, construction, and maintenance. Locally elected committees with participation from community development councils and local branches of the ruling party. Tap committees responsible for O&M.	No information available.	Variety of different donors.
Mozambique	Community participation in RWS and private-sector involvement in urban areas since 1995 (National Water Policy)	User Groups operate and maintain village water and sanitation infrastructure. (African Ministers' Council on Water 2011).	Private entities and public municipal water departments.	African Development Bank, Canada, the Netherlands, Switzerland, UNICEF, USA, UK and the World Bank
Namibia	CBWM since beginning of 1990s – 1993 (Water supply and sanitation sector policy); 1997 (CBWM implementa-tion strategy); new Water Resources Management Act of 2004 (not yet implemented).	Decentralized water administration and regional councils; participation and -building for Water User Associations at community-level, responsible for O&M and cost recovery. Handover of water infrastructure into community ownership planned. Coordinating and facilitating role of the Government which remains responsible for	Commercial water supply management through a parastatal, NamWater, since 1997.	World Bank, UNDP, Finland, Germany.

		providing technical assistance, initial training, and underground repairs.		
South Africa	1997 (White Paper on a National Water Policy for South Africa); Water Services Act of 1997; National Water Act of 1998.	Water Act allows, but does not obligate users to create water user associations as 'co-operative associations of individual water users who wish to undertake water related activities for their mutual benefit.'[97] Overall administration and standard-setting remains with the state at national level; local water services provided through local government and partly through water service providers. Principle of cost recovery from water users.	Privatization of municipal water services starting in the mid- 1990s.	No information available.
Tanzania	First and second National Water Policy (NAWAPO), of 1991, and of 2002, and new Water Act of 2009	Decentralization of water supply management and decision-making to the lowest appropriate level. Participation and cost-sharing of the communities through 'Water User Associations' or 'Water User Groups', handover of water infrastructure into community ownership.	Local Government authorities and public utilities, on commercial principles.	GIZ, World Bank, European Union, among others

The overview presented in the table is not meant to be exhaustive, as more in-depth research into the details of other country cases would have been beyond the scope of my study. However, the overview presented may provide an idea of the international spread of the CBWM idea for the sector of rural water supply and the principle of privatization and/ or commercialization of water

[97] Republic of South Africa 1998: Chapter 7, Part 2, para. 81, subsection 1.

supply in the urban areas during the same time period during which these principles were applied to the Namibian water sector. While the first elements of decentralization for particular aspects of rural water supply were introduced in Malawi as early as at the end of the 1960s, it was in the 1980s (for Ghana and Kenya) and 1990s (for Cameroon, Mozambique, Namibia, South Africa and Tanzania) that a wave of water-sector reforms in Sub-Saharan Africa led to the introduction of policies of increasing decentralization and water user participation – mostly in the sector of rural water supply. Some of the common elements in rural water-supply-related reform programmes are the introduction of water user groups and water management or maintenance committees; cost-sharing by communities; and models of ownership, operation, and maintenance of water infrastructure by communities. In several cases the Government bodies previously responsible for building infrastructure and providing water in the rural areas have been expressly turned into bodies responsible for general standard-setting, monitoring, and coordination. At the same time, commercial management principles are introduced for the urban water supply sector in most of the cases listed – be it through the establishment of Government-owned parastatals such as for instance in the case of Cameroon, Ghana, and Namibia, or through the privatization of urban water supply, such as in South Africa and parts of Mozambique.

Objectives behind the promotion of CBWM in the 1990s

During the 1990s a series of ideas were acquiring the status of buzzwords in the environment and development scene. Some of these were frequently invoked in conjunction with the idea of participation when water management was discussed. In the 1990s for instance, the World Bank summarized what it hoped to achieve through user participation in water management by linking participation to an array of accompanying buzzwords as follows: 'Nevertheless, from an agency perspective people's participation (as an input or an independent variable) can contribute to the achievement of four main objectives: *effectiveness; efficiency; empowerment;* and *equity'* (Narayan 1995:9).

In a central discussion paper published in 1990 on the basis of a workshop on community water management jointly organized by the UNDP, the World Bank, and the USAID in 1988, a lot of emphasis is placed on the need for far-reaching community involvement in water-related decision-making and management in order to achieve a greater representation of user interests and sustainable systems in the long run (McCommon et al. 1990:1–3). The economic paradigm behind such elaborations, and the underlying motivation to introduce demand-based management mechanisms, and to foster private sector engagement and cost-recovery, becomes clear in the same paper when it says:

> 'The limited success achieved in rural areas is widely attributed to a lack of insight into the appropriate roles of public institutions in the management of RWSS systems. When RWSS systems are managed by external agencies, service delivery is organized around the assumption that rural people have basic needs for water that must be met, rather than around the actual demand and willingness to pay for these services. Furthermore, in its role as a provider, the government has fostered unrealistic local expectations through heavily subsidized services, which merely distort the market and impede local and private-sector initiatives' (McCommon et al. 1990:1).

In a later World Bank Technical Paper that was co-edited by CPR theorist Ruth Meinzen-Dick, citizen participation is presented as improving the transparency and responsiveness of organizations, resulting in more effective and locally appropriate services that, in some cases, entail community ownership and operation (cf. Subramanian et al. 1997). The World Bank also calls for 'direct involvement by users, nongovernmental organizations and other groups of citizens' as a necessary element of public sector reform to promote the 'voice' and participation of citizens (World Bank 2000:23).

UNICEF, in the section on 'community participation' in its 1999 '*Water Handbook*' (United Nations Children's Fund 1999), parts of which are based on an earlier UNICEF 'Water, Environment and Sanitation' Training Package of 1992, presents CBWM mainly as a way out of an apparent funding shortage for the then predominantly centrally managed water supply sector on the part of governments and donors. Additionally, in the *Handbook*, the aim of CBWM interventions is presented as being to increase community ownership of water systems in order to promote longer-term functioning and a reduction of repair and replacement costs. The aspect of involving women – who are presented as 'traditionally influential in any decisions regarding communal water supplies' – in management and decision-making is particularly stressed as contributing to improved system design, effectiveness, and efficiency (United Nations Children's Fund 1999:31).

The discourse around CBWM and participation in the water management sector remained strong until the UN's Johannesburg environmental summit in 2002. In the recommendations for action agreed upon at the Bonn International Conference on Freshwater in 2001, which was meant to prepare a water-related input for the Johannesburg summit, community management is presented as a near-guarantee for ethically correct water management when it is stressed that 'specific initiatives to strengthen institutions at the community level, that take ethical issues into account, are essential for empowerment of the poor. This requires both mobilisation at the community level and, where necessary, changes to policies, laws and government organisations to create the enabling environment through which local-level institutions can operate' (International Conference on Freshwater 2001c:10, emphasis mine).

Given the volume of text produced around the importance and benefits of user participation in water management and natural resources management in general, it is quite striking to see that in most of these cases there is no concrete definition of what participation is supposed to mean for the various authors and their organizations, or what the necessary criteria for successful models of participation would be. This said, texts such as the exemplary ones quoted above often seem like mere wordplay.

While the principle of privatization of water supply saw a rise during the 1990s, followed however by the perception that its benefits and achievements have fallen short of what had been expected, the phase of implementation of the CBWM paradigm in the rural water supply sector is still ongoing in much of the Global South today. A case in point is the Namibian example. As the GIZ – an important donor to Namibia in the realm of natural resources management – states on its web page describing its engagement in water sector reforms internationally: 'The governing principle of the reforms is participation by the population'[98].

6.3. Preliminary Summary

This chapter has served to sketch out the growing global interconnectedness of actors, events and – consequently – water management paradigms brought about by the rise of the environmental movement and the policy objectives of global environmental governance around the 1970s. I have illustrated how mega-events in the water sector at the time were embedded in the growing perception and increasing public discourse claiming that sustainable development can only be ensured through functioning institutions that regulate global environmental concerns.

Two approaches to water management in particular which have influenced the emergence of the CBWM model gained salience in water-sector discourses during that period – namely the principle of demand-based management, and the participatory management approach. Demand-based management arose as the opposite pole to the supply-based approach which had resulted from the dominance of the hydraulic mission. With the advent of demand-based management the efficiency of water supply and an increased sustainability of the established infrastructure became more important to water-sector practitioners and policy-makers, much in line with the neoliberal paradigm of ensuring maximum output for investments made. Water users in different parts of the world were facing the frequently adverse consequences of water metering and the privatization of the water supply. At about the same time water-sector experts started to call for an involvement of water users in water management and infrastructure maintenance. As was shown in the account above, it was the participatory management approach in particular which

[98] http://www.giz.de/Themen/en/28265.htm, last accessed 19 December 2015.

had supporters in different political camps based on sometimes almost contrary sets of motives – including on the one hand actors who promoted user participation in decision-making mainly based on democratic values and the aim of equitable access, but still demanding water to be managed as a public good by state authorities, and on the other hand actors who promoted participation including an element of cost recovery and the management of water according to commercial principles.

In the first part of the chapter I have outlined how these two water management paradigms have evolved and spread through the discussions at water-sector mega-events and their outcome documents, the two key events being the water-sector conferences of New Delhi in 1990 and Dublin in 1992. In my analysis of the New Delhi and Dublin summits, and the subsequent Rio +10 summit in 1992 in particular, it became clear that in order for particular management principles to maintain influence over time, it is crucial that the various actors involved have a significant share in the related discourses, and the influence and resources to uphold the messages which they would like to put through. Two actors who have developed their influence on water-sector networks and agenda-setting over the past decades are the World Water Council and the Global Water Partnership who – together with parts of the scientific community – have been stressing certain water management principles based on water as an economic good over others to the extent that parts of the outcomes of earlier discussions were almost completely eclipsed from the discourse later on.

In the second part of the chapter I have shown how such mega-events must be seen as but nodes in the wider field of ideas influencing water-sector policy-making and practice which had been developing since the 1980s within development cooperation and international policy-making. Some of these underlying ideas that I scrutinized are certain frequently ill-defined and hardly challenged concepts that have acquired buzzword status in development discourse, such as participation, community, and ownership. International discourses favouring participatory and community-based governance approaches for resource management contributed to the staged process of moving from one management paradigm for the water sector to another. Furthermore, the paradigm shift in policy-making for the water sector is also clearly embedded in wider political trends towards decentralization pushed by international donors including the World Bank and the IMF, and not only in the field of resource governance. As a consequence, water sector reforms resulting in policies of decentralization with the aim of increasingly involving water users in water management have been implemented across many countries of the Global South – often focusing on the rural areas – starting in the 1980s and up until today.

It was during this phase that CBWM acquired the status of a model at the global scale, i.e. of a standardized protocol for water-sector interventions and sets of management institutions created in order to shape water management at the water points in the Global South, from the side of the states, backed by the international donor community, and underpinned by scientific analyses such as common-pool resource theories by Ostrom and others. From here, the model started travelling between global and national settings in the Global South through policy advice, donor funding, and the work of mediators who began translating the model to various contexts.

In the following chapter I will provide some examples of the mediators, interstitial spaces, and their documented outcomes which led to the translation of the CBWM model to countries of the Global South, and to its introduction into national water-sector policy-making, legislative reforms, and NGO programmes etc. In doing so, the Namibian case will come to the fore, looking at the scene of national-level policy-making and the different translation phases it involved.

7. CBM of Rural Water Supply – The Travelling of a Management Model to Namibia since the 1990s

As was shown in the preceding chapters, the CBWM model that emerged at the international level starting in the 1980s was influenced by public perceptions, and by political and scientific discourses around water scarcity, participation, and decentralization, as well as by hegemonic neoliberal paradigms geared towards diminishing the role of the state and involving private actors such as commercial enterprises or communities in the provision of public services. Similar community-based models of resources management or service provision were introduced in other sectors at the time, especially in the Global South in various settings, such as for instance in urban informal settlements or in rural areas. In Namibia, the most prominent other forms of CBNRM outside the water sector were introduced to wildlife and forest management in the communal areas of Namibia (Roe et al.2009).

This chapter will serve to show how the CBWM model travelled to the Global South on the basis of the Namibian case, starting in the 1990s largely by means of donor funding, including a strong element of policy advisory by international water experts with the aim of reforming water governance and increasing water access. The model was taken up at the national level in national strategy-setting and programming processes meant to a) acquire related donor-funding; b) translate the international paradigms, declarations and agreements that were part of UN-led processes to the country-level; and c) achieve the international objectives, as well as the water-sector objectives resulting from their own history. At international and national levels, public relations activities and knowledge distribution conducted by water-sector organizations, as well as media coverage, have also played a role in shaping the translations of the CBWM model to fit new contexts and audiences.

In order to retrace part of the translation chain of the CBWM model at the national level in Namibia ethnographically with a focus on the national scene, I used the data I acquired from fieldwork, archival research in Namibia, and sources on donor interventions. I will highlight some of the phases of the translation process and some interstitial spaces which were relevant to translating the international CBWM model in the Namibian context, some of the actors who played a role in the translation process as mediators, and some of the outcomes of these processes. For the sake of the structure and internal organization of this study, in this chapter I will largely focus on the national scale in Namibia and its connections to international water-sector discourse. Chapter eight will continue the account with an emphasis on the regional and local

scale in Kunene Region in North-Western Namibia, focusing on how the blueprints for CBWM, designed for the national scale, were and are being implemented – or not implemented – locally.

7.1. Repairing the damage: Post-Apartheid water supply and sanitation reform needs in Namibia

The Namibian water-sector reform process began at a time when international debates and policy-making processes surrounding the rural water sector, and the water sector as a whole, had reached a decisive point in the run-up to the first Rio Earth Summit in 1992. The path towards far-reaching water-sector reforms ran in parallel and was partly intertwined with international events related to the water sector held in New Delhi, Dublin, Rio, and elsewhere to debate the meaning and importance of underlying objectives such as satisfying basic human needs and striving for access to safe drinking water as a universal human right on the one hand and ideas of cost effectiveness, water use efficiency, and demands-based management on the other. Following the New Delhi and Dublin international meetings, the discursive exchange among water-sector experts, government representatives, and development practitioners, and the activities of some of the more powerful actors in public information, and of those responsible for programming and financing water initiatives, had led to the Dublin agenda rapidly overshadowing the outcome of the New Delhi meeting. The shift in water-management paradigms from being motivated mainly by increasing water access and satisfying basic human needs – a message contained in the New Delhi motto of 'Some for all rather than more for some' (United Nations 1990a) – towards an increased focus on increasing water use efficiency and effectiveness through a valuation of the resource and a demand-based management approach was ongoing (Nicol 2012b). The neoliberal economic and development agenda was internationally powerful, and the ideas connected to it were travelling with World Bank and IMF programmes and publications, among others, as well as with international experts and consultants deployed to the Global South. Following the Dublin and Rio Conferences, resources were being made available by powerful international players to help the Dublin idea travel internationally.

In Namibia, an era of roughly a hundred years of colonization by European traders, missionaries, settlers, soldiers, and water engineers, followed by the occupation by racist Afrikaaner rulers, and by an armed struggle against the Apartheid regime along Namibia's Northern borders, had just ended. In the decades before, members of the Namibian political resistance against South African occupation had fled the country to live in exile and obtain formal education, support the Anti-Apartheid struggle from abroad, and prepare for the time of independence, when they would

become the rulers of their home country. Namibia finally declared its independence in March 1990 and became the 160th member of the United Nations in April 1990.[99]

At this decisive historical juncture, issues of access to basic human necessities such as water, land, education, health care, and economic opportunities were of the highest priority for political decision-makers and for the state administration after independence. It was vital to ensure that people could earn a living and live in decent conditions in order to create the preconditions for an equitable further development. 'Fair and reasonable access to public facilities and services in accordance with the law' were enshrined in the Namibian Constitution (Republic of Namibia 1990:46), among Namibia's principles of state policy (Article 95 of the Constitution on the Promotion of the Welfare of the People). As the first President of independent Namibia, Sam Nujoma, stated in his speech at the date of independence:

> 'Our achievement of Independence imposes upon us a heavy responsibility, not only to defend our hard-won liberty, but also to set ourselves higher standards of equality, justice and opportunity for all, without regard to race, creed or colour. These are the standards from which all who seek to emulate us shall draw inspiration'.

Both the Namibian Government and its international donors were clearly driven by the objective to repair the damage done to the country's population and environment by the decades of suffering from South Africa's Apartheid rule. As others have shown, the objective to support equitable further development of their peoples while at the same time 'restoring the land' (Ramphele and McDowell 1991) was a theme that was present also in other African newly independent states, just as in South Africa itself after the end of Apartheid as its legacy for both people and the environment became clear.

Access to sufficient quantities and quality of water is certainly one of the most important preconditions for survival and well-being and is frequently ascribed a symbolic connotation such as 'the essence of life' etc. One of the important underlying objectives behind early water-sector reforms which commenced in Namibia right after independence was to repair the race-based inequities in water access. The approach of racial segregation that was applied by the National Party of South Africa on Namibian territory had manifested inequalities and undemocratic rule in Namibian politics and socio-economic development. The result were vast inequalities concerning the availability of basic resources and social services among the Namibian population. At the time of independence in 1990, 55 per cent of the country's rural population had access to an improved

[99] See on the earlier history of Namibia Hayes et al. 1998; Förster et al. 2004; Wallace and Kinahan 2011.

drinking water source, while access in the urban areas was at 99 per cent (World Health Organization and United Nations Children's Fund 2014:65).[100]

It thus does not come as a surprise that the issue of water supply in the country's rural communal areas was in the focus of political reform initiatives very early on after independence. As the introductory parts of the first overarching policy document for the water sector adopted after independence in 1993 state:

> 'The supply of water to all spheres of the Namibian society is undoubtedly one of the more significant factors determining the social behaviour of the country's people and potential for development. The numerous requests for water and the priority attached thereto in comparison with other needs, are a clear indication of the importance of water and the magnitude of requirements. The impact and results of the recent drought have also underlined once again the necessity to manage this invaluable sector properly and according to a sound government policy. [The policy document quoted was adopted in November 1993, with the years of 1991 to 1993 counting among the most severe droughts in Namibia in living memory, TK]' (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1993:1–2, additions made by the author).

As will be shown from various policy papers as well as from interviews I conducted with sector experts, water administration staff, and NGOs, the underlying motivation of some of the actors functioning as mediators in the translation of the CBWM model was to reverse some of the systematic disadvantages that black resource-users had experienced in the colonial past. To establish an internationally as well as nationally grounded regime of equity forms part of the background in Namibia against which the translation process around the CBWM model evolved. Some of the underlying concepts and values, such as participation, equity, and ownership, which form a basis of the CBWM model in the international discourses I analyzed, resonate well with this motive of reparation that was voiced in parts of the Namibian discourse.

7.2. Mediators in the CBWM translation process at the national level in Namibia

During the timespan on which this thesis focuses, a complex set of actors can be identified who have influenced water-related discourse and practice in Namibia with their input. More especially have they been active in relation to the introduction of CBWM, which started in the early 1990s.

[100] In comparison, the same dataset indicates the following figures for other Sub-Saharan African states in 1990: Angola: rural access – 42 %/ urban access – 43 %; Botswana: rural access – 86%/ urban access – 100%; Cameroon: rural access – 34%/ urban access - 78%;DRC: rural access - 26%/ urban access - 88%; Ghana: rural access – 38%/ urban access – 84%; Kenya: rural access – 33%/ urban access – 92%; Malawi: rural access – 36%/ urban access – 92%; Mozambique: rural access – 23%/ urban access – 72%; Tanzania: rural access – 46%/ urban access - 94% (World Health Organization and United Nations Children's Fund 2014:53–71).

They have played different roles in this introduction process and are characterized by different spheres of influence, by different interests – often changing over time – and by varying resources, including knowledge, finance, and power, at their disposal. All of them have been intertwined in a web of ideas, events, and mutual relationships such as for instance in the form of donor-implementer relationships. All of them have played a part as mediators in the translation process around the CBWM model in Namibia. A schematic visualization of the groups of water-sector stakeholders who have been active in the mediation of the CBWM model in Namibia is shown in figure 17 below.[101] It is clear that a level of complexity could be added to this visualization, since of course the members of each of the different groups presented have multiple relationships with members of the other groups. For instance, donors are supplying portions of their funding directly to the MAWF, and other portions to some of the local NGOs. Water-sector consultants can also be independent researchers in other contexts. They may be commissioned for work by donors, NGOs, or the ministry alike, and so on. However, I have decided not to visualize all these linkages as well, as it might have rendered the figure unintelligible.

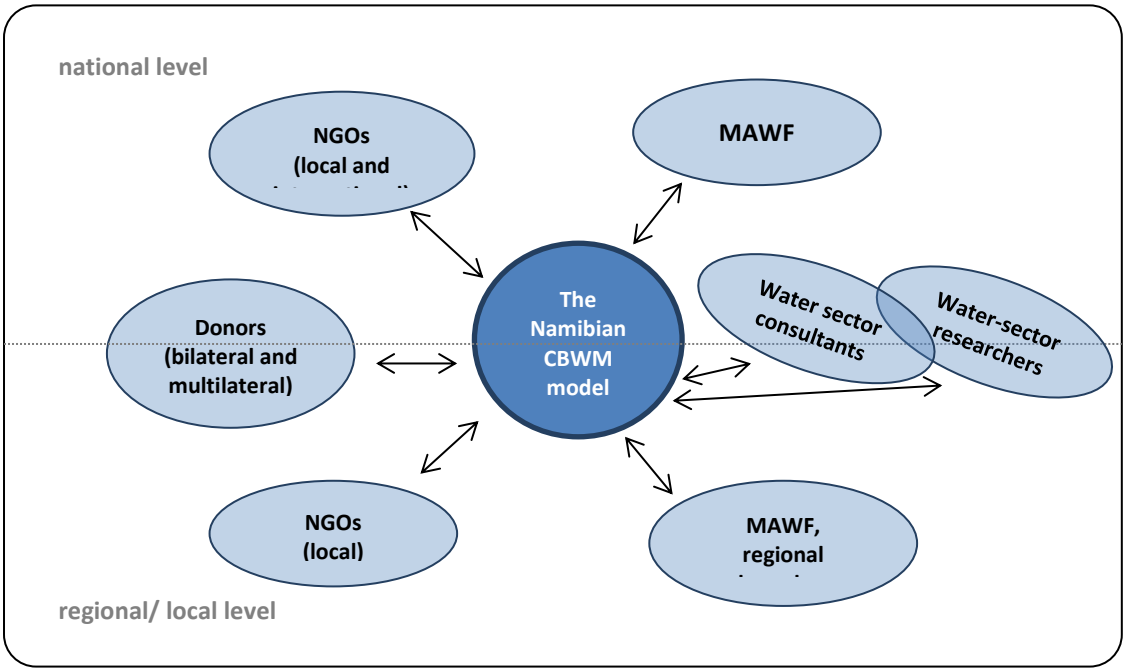


Figure 17: Mediators in the travelling of the CBWM model to Namibia

On the side of the national executive and legislative institutions, the major role has been played by the MAWF[102] being responsible for programming and implementation in the sector of rural water supply, and by the cabinet and the two chambers of the Namibian Parliament that were involved in passing RWS-related strategies and legislation. The major external donors in the

[101] Also see the overview containing more detail in tables 1 and 2 in chapter 3 above.
[102] By the time the first water reform document after Namibia's Independence was adopted in 1993, the MAWF used to be called 'Ministry of Agriculture, Water and Rural Development'.

Namibian RWS sector providing financial and knowledge resources for CBWM implementation were bilateral donors, such as the German Government through the *Gesellschaft für Internationale Zusammenarbeit* (GIZ, previously named GTZ); the Finnish Government (through FINNIDA); the Spanish Government (through AECID); the Government of the Grand Duchy of Luxembourg (through Lux-Development); and to a lesser extent the Netherlands, and Sweden. The World Bank, UNICEF, the UNDP, and – prominently up until today – the European Union have been involved as multilateral donor agencies. It's also important to mention national Namibian NGOs, namely the DRFN, the NRCS, and the IRDNC, with strong ties to some of the donor agencies mentioned above and to the MAWF as the main state actor.[103] These NGOs acquire parts of their funding from bilateral governmental donors themselves and have been active during CBWM introduction among others as participants of policy advisory and strategy-setting processes. In addition to the aforementioned, a relatively large group of independent experts, researchers, and consultants active in the water sector, some of whom are based in Namibia, some outside, have also been involved in the Namibian water-sector reform process. Finally, the national media has played a role in commenting on political developments and changing paradigms in the water sector.

In the context of this study, organizations such as the MAWF, the DWSSC, or the bilateral aid agencies involved are partly treated as clear-cut, single actors playing their roles and contributing to discourse and practice in relation to rural water supply in Namibia. At the same time it must be stressed, however, that these organizations – like the regional water administration which will be in the focus of the next chapter – are of course not so uniform in practice, but consist of a number of individual actors who possess their own agency and individual spheres of influence. The staff members of those organizations are social agents with their own scope to interpret their roles and to carry out actions, influenced by loyalty to both organizational rules and values and to other value systems, based for instance on their individual socio-cultural and family contexts at the same time. These individuals can and will have different viewpoints and interests, which might only be congruent with overall official organizational policies or strategies to a certain extent. Although due to the kind of data used in my analysis, the organizational level of activity in the CBWM implementation process will play more of a role than that of the individual actors, insofar as the roles and views of individual actors in the context of CBWM translation, based on statements of these individuals are known to me, I will include them in my account as well.

[103] When it comes to these NGOs mentioned here, I will confine the account to those non-governmental actors that have had a tangible input in the RWS sector in Kunene Region – in all of these cases they have also played an active role in relation to water supply, CBWM or CBNRM more generally at the national level.

7.2.1. The Ministry of Agriculture, Water and Forestry

A central actor that has been a major focus of my observations, and which has a central role in the actor network of concern here due to its changing roles in implementation, coordination, and agenda-setting in the Namibian water sector, is the Ministry of Agriculture, Water and Forestry.[104] Starting before Namibia's independence and up until now, the MAWF's position in water-related processes has been marked by its power to set rules for water management and to discuss and negotiate these with other Government entities, with civil society, and with international donors supporting Namibia's water sector. It is the MAWF – and for the sector of rural water supply, more specifically the Department of Water Affairs and Forestry and its Directorate of Water Supply and Sanitation Coordination (DWSSC) in particular – that is responsible for the development of national water-sector policies and implementation strategies in the area of rural water supply. Despite this continuity regarding the MAWF's role in strategy-setting and policy-making, which has outlived several changes in the organizational set-up of the Namibian water administration since colonial times, a major change in the ministry's role occurred soon after the country's independence. This change is probably the furthest-reaching transformation the ministry has undergone in its history.

After Namibia's independence in 1990, the MAWF's role started changing from that of implementer to exclusively that of regulator, monitor, and coordinator. This change in responsibility has been termed in the 1993 Water Supply and Sanitation Sector Policy (WASP) as follows: 'Government should thus rather pursue the role of a facilitator than a provider' (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1993:15). Or, as one of my informants, who worked as an external consultant attached to the MAWF's Directorate of Water Supply and Sanitation Coordination (DWSSC) in 2011, described the MAWF's current role in an interview: 'We have the Master Plan, and everything else needs to fit in with it. If you're looking for sustainability, projects end. So someone needs to be there to ensure that something's left behind' (Interview on 12 July 2011).

Attached to the role in coordination and oversight in water management played by the MAWF today is its key position in pooling and managing the bulk of the funds supplied to the Namibian water sector by the country's various donors, several of whom over the past years have been providing direct budget support for the different branches of MAWF, among them also for rural water supply.[105] In addition to the direct budget support to the MAWF, external funding for

[104] See above for the Ministry's set-up and organizational changes over time in chapters 4 and 5.
[105] Detailed information on donors' financial contributions to the water sector in Namibia is included in sub-chapter 7.2.3. below.

programmes and projects in rural water supply provided by donors and NGOs also has to be agreed with the ministry. It is usually involved in the setting of procedural rules and in decision-making for programme and project implementation. The MAWF is frequently officially granted ownership of the outcomes of programmes and projects after their completion once the donors/NGOs consider their roles in implementation fulfilled and the donor funding runs out – something that my informant above related to in his statement. Two examples for the cooperation between external donors and implementers on the one side and the MAWF, representing the Namibian Government, on the other side in the context of development initiatives targeting the rural water supply sector will be provided in detail in chapter 8, namely the *Water Supply and Sanitation Project for the Rural Communities in North Namibia*, funded by the EU Water Facility, the Belgian-Flander and Swedish Red Cross Societies and implemented between 2007 and 2010 by the Namibian Red Cross Society in close cooperation with the MAWF, and the project titled *Supply of water to Epupa and Opuwo Constituencies, Kunene Region, Namibia*, which was funded and implemented jointly by ICEIDA and the Government of Namibia, through the MAWF, between 2007 and 2010. In order to ensure coordination and communication between the group of stakeholders all cooperating with the MAWF or in some cases directly with water users, a coordination body was set up which works through regular meetings of all the sector stakeholders, such as international donors, NGOs, other line ministries, and heads of regional branches of the DWSSC, chaired by a MAWF representative. The forum was renamed the WatSan Forum in 2009.

The current organizational set-up of the MAWF has gradually been adapted to the ministry's role as part of the national water-sector reform process between 1990 and 2004, which included the introduction of the principle of administrative decentralization and of CBWM in rural water supply based on the underlying international paradigms of demand-based management, cost recovery, participation, and community management as described above. In 1992, the Namibian Government had undertaken an investigation into 'rationalizing and restructuring' the public service. Part of the outcome included several recommendations to 'rationalize' the Department of Water Affairs and the Department of Agriculture and Rural Development in the Ministry of Agriculture, Water and Rural Development. As a consequence, a new directorate, the Directorate of Rural Water Supply (DRWS)[106], was created in the Department of Water Affairs, and the rural water supply function that had previously been carried out by the Department of Agriculture and Rural Development was formally transferred to this new department (World Bank 1996:141).

[106] To avoid confusion about names: the DRWS is the branch of the national water administration which later became the Directorate of Water Supply and Sanitation Coordination in 2008 – the name usually used in the context of this study. However, in names of publications or in contexts which clearly date back to the time when that organization still used to be called DRWS I will stick to the older name.

Following the international trend towards administrative decentralization, the administration and management of Namibia's water supply has undergone restructuring by way of delegating authority to the lowest possible level, initiated as part of the WASP of 1993 (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1993) and introduced more broadly including in other sectors as a consequence of the decentralization policy of 1997 (Republic of Namibia. Ministry of Local Government and Housing 1997). Based on the decentralization policy, all functions related to rural water development and management were delegated to the Regional Councils, 'with appropriate assistance from appropriate line agencies' (Republic of Namibia. Ministry of Local Government and Housing 1997). The formulation used in the Namibia Water Supply and Sanitation Policy of 2008 which is currently in place is as follows: 'Supply of water and provision of sanitation services to the communal rural communities is the responsibility of the Regional Councils, Division of Rural Services, and is to be coordinated by the Directorate of Water Supply and Sanitation Coordination in the Ministry of Agriculture, Water and Forestry' (Republic of Namibia. Ministry of Agriculture, Water and Forestry 2008:16). The rural water supply coordination function is thus carried out under the Regional Councils and in close liaison with the central MAWF office by regional branches of the DWSSC, which are situated in the 13 regional capitals – and in the case of Kunene Region divided into a southern branch situated in Khorixas and a branch in Opuwo in the north. As described in the MAWF mission: 'As part of Regional management structures, rural water supply support units will provide project management services, policy advice, training services, management of inter-Regional pipelines, and advice and support in water supply operations'[107] (see also the organizational chart on the rural water supply functions of the MAWF in figure 10 above).

The large-scale decentralization initiative based on the decentralization policy that was legally underpinned by the Decentralization Act of 2000 (Republic of Namibia 2000a) in many sectors, including water supply, meant that after independence Namibia was going through an initial process of re-centralization due to the abolishment of the second-tier 'homeland' authorities right after independence in 1990. This was followed by a process of renewed decentralization based on international development policy and donor money within less than a decade, including the introduction of completely new sets of rules and organizations for decentralized natural resources management, such as in the case of CBWM, community-based wildlife and forest management. Quite naturally, the fact that these two opposing trends – of re-centralization and decentralization – have taken place almost in parallel has sometimes led to confusion, wasted energy, and loss of effectiveness between the two.

[107] http://www.mawf.gov.na/, last accessed 10 April 2016.

Regarding the decentralization policy applied to the water sector, one of my key informants is also sceptical as to whether the decentralized administration of water supply in small rural communities by the regional authorities is currently realistic and effective:

> 'So, I'm... If it comes to the practical application of this RWS-CBM business - what also happened is of course the Government, because they've now got a coordination function, the idea is that this must now be done, this management must actually be done by the regional authorities. Now, in the regional authorities – that is where the Governor sits, and his board – but they actually don't have anything to do. Or, I can't understand. They manage these small villages, and... but I don't think they have got the staff to do it. And because these villages have always been sort of self-helping and self-supporting, they sort of manage. But the local authorities, who also fall under the Ministry of Local Government and Housing, the local authorities are much stronger, because there you have got a voter system. People vote for a municipality. And those municipal people are sort of accountable to the local people who are taxpayers. But in the communal, regional government system, the communal people don't pay any tax. So … regional authority there is a vague thing.
>
> […] The thing is, that is one of the weak systems of our election system. In the US for example, and also still in Apartheid times, you voted for a representative, a person. Here, you vote for a party. The party then appoints people. I mean, I had a person that was responsible for this part of Windhoek I live in, who lived in the Caprivi! So nothing happens, because your representative, you don't see him… The guy must be somebody that lives here. That fights for you, and that lobbies for you. So the whole system is not working like that, so what is now happening is that the RWS operation and maintenance is now regional responsibility. But the region does not have the people or the staff or the technical capacity to make sure that these rural people can do it or are doing it. I don't know how it's going to work, because a lot of training has gone in and has been lost because of turnover of people. And nobody gets a salary. And I'm afraid that in the Homelands they couldn't manage this. We're now back to where we already realized it's not working. So the wheel must now go on. They will find out it's not going to work, and then they will bring it back to Water Affairs. So that's what I think will happen. Because it evolved, and now they are putting it back into the same fold that previously failed. So I don't know [sighs]' (Interview on 26.07.2011).

What is more, not only the actual implementation, impacts, and effectiveness of this decentralization can be debated, given resource constraints in the regional administration, so too can the question of whether what had been politically decided and legally encoded was actually put in practice. According to Kuusi, quoting the Ministry of Regional and Local Government, Housing and Rural Development in 2009, 'while many of the above listed minor functions had been decentralised to the regional councils and local authorities even before the promulgation of the Decentralisation Enabling Act of 2000, none of the functions that are the most substantial

ones, except rural water supply, had been decentralised by 2007. These include primary health care, pre-primary and primary education, lands management and resettlement, and forestry and parks development and management' (Kuusi 2009:130).

As one of my informants involved with international donors to Namibia's rural water supply sector told me concerning decentralization in water management: 'The two directorates [of resource management and of water supply and sanitation coordination] in MAWF are both supposed to be implementing decentralization policies. The Permanent Secretary at the same time is not supporting that, e.g. with financial resources' (Interview on 12.07.2011…).

This reference to the role of the MAWF's Permanent Secretary, who was taking an active and rather resolute stance regarding the decentralization and community-based management of water supply during my field work, hints at the political implications that far-reaching water reforms in a country marked by water scarcity and an arid climate can have. This strand of the developments around the travelling of the CBWM model to Namibia will be dealt with later in this chapter.

Set-up and mandate of the Directorate of Water Supply and Sanitation Coordination

The central structure of the DWSSC at the national level, headquartered in the MAWF in Windhoek, currently consists of three divisions – namely the Division of Regional Support Services, the Division of Community Support Services, and the Division of Rural Water Development and Planning (see figure 18 below).

According to the MAWF website, the DWSSC's mandate and mission are 'to take full responsibility for the implementation of rural water supply for the rural communities on communal land to ensure a sustainable supply of safe water to rural communities in communal areas' respectively. Furthermore, the DWSSC has stipulated as part of its vision that all the water points with improved systems to be established by the DWSSC should eventually be managed by the communities themselves.[108]

The DRWS' objectives, including concrete indicators to measure their achievement, have direct influence on the way that the directorate undertakes its coordination and outreach activities with communities and other water-sector stakeholders. The DRWS' objectives are outlined here more specifically as follows:

1. To develop new infrastructure for the supply of water to Rural Communities according the following coverage standards:
   a) Maximum walking distance of 2.5 Km

[108] http://www.mawf.gov.na/, last accessed 10 April 2016.

b) Minimum availability of 15 litres per person per day

c) Maximum of 30 minutes waiting time at the water point for collection of water

d) Water to be of acceptable quality according to published guidelines.

2. To rehabilitate existing infrastructure to ensure that it remains in working condition.
3. To ensure the repair and maintenance of existing infrastructure.
4. To provide support to communities for the establishment and maintaining of Water User Associations.
5. To provide training services to Rural Communities in order to build capacity for water point management (compare Namibia's second National Development Plan (NDP2), for the period of 2001 to 2006, (Republic of Namibia 2000b)).

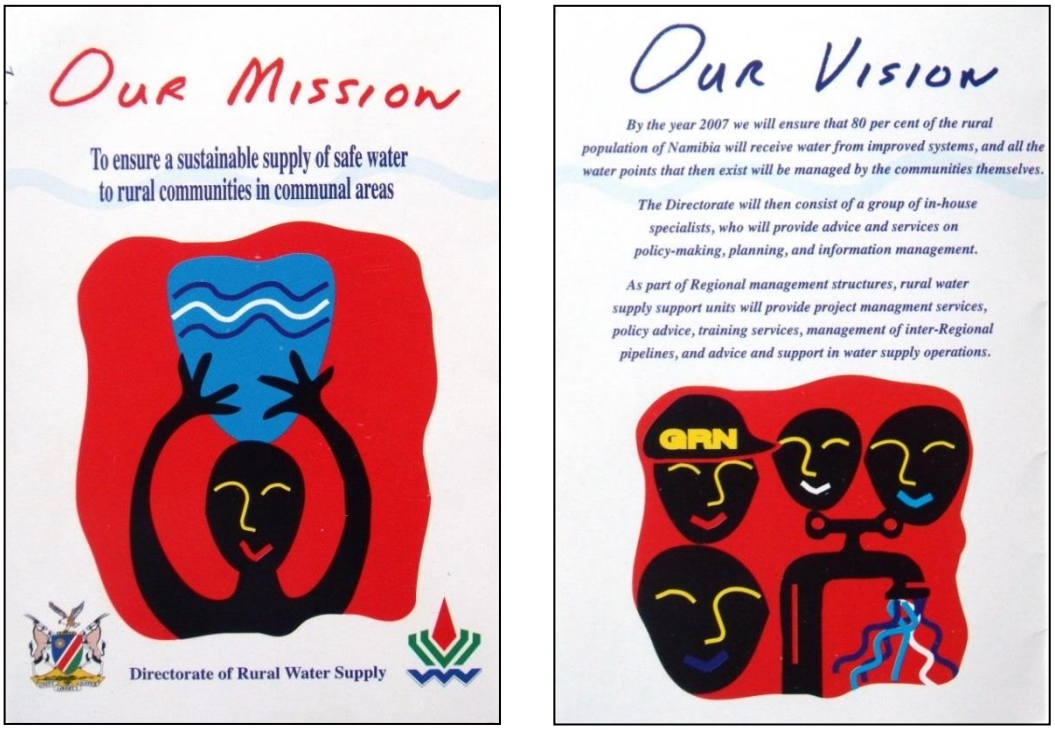


Image 4: Mission and vision of the Namibian DRWS displayed on posters for public awareness campaigns

A revised water and sanitation policy was issued in 2008, and the sector mandate was extended in October 2009 to include sanitation provision. The directorate was renamed the Directorate of Water Supply and Sanitation Co-ordination (DWSSC). The service delivery standards in place since the Third National Development Plan of 2008 are an improved (safe) water supply within 2.5 km; a minimum of 15l/person/day, maximum waiting time at a water point of 30 minutes and livestock watering at a distance of not more than 7,5 km (Republic of Namibia 2008:124). The envisaged outcome for RWS of the third National Development Plan of 2008 was: 'More reliable water supply infrastructure with increased access to safe water for rural communities'.

Table 16: Water and sanitation sector national long term targets (in percentage coverage)

	Baseline (2000)	2006	2010	2015	2020	2030
Rural Water	75	80	85	90	95	100
Urban Water	95	95	100			
Full Cost recovery	-	50	60	70	80	100
Decentralisation	-	95	100			
Rural Sanitation	20	60				
Urban Sanitation	95	100				

Source: (Republic of Namibia 2004).

Table 17: Water Sub-Sector Goal Indicators, Baselines and Targets for 2012

Indicators	Baseline	Targets
% rural population supplied with safe drinking water	80.4	92
% urban population supplied with safe drinking water	97	100
% of water purification treatment/ Plants producing water that complies to set water quality standards and guidelines 90 % of the time	90.9%	91%
% of water samples at the distribution systems complying with set water quality standards and guidelines	N/A	85%

Source: (Republic of Namibia 2008:207)

To compare the Namibian water-sector targets with internationally accepted standards and qualitative and quantitative indicators for acceptable rural water supply, box 2 below presents globally applicable standards for adequate water supply as set by the UN in its definition of the human right to water.

Box 2: UN standards for water supply according to the human right to water[109]

'What is...?

Sufficient. The water supply for each person must be sufficient and continuous for personal and domestic uses. These uses ordinarily include drinking, personal sanitation, washing of clothes, food preparation, personal and household hygiene. According to the WHO, between 50 and 100 litres of water per person per day are needed to ensure that most basic needs are met and few health concerns arise.

Safe. The water required for each personal or domestic use must be safe, therefore free from micro-organisms, chemical substances and radiological hazards that constitute a threat to a person's health. Measures of drinking-water safety are usually defined by national and/or local standards for drinking-water quality. The WHO Guidelines for drinking-water quality provide a basis for the development of national standards that, if properly implemented, will ensure the safety of drinking-water.

Acceptable. Water should be of an acceptable colour, odour and taste for each personal or domestic use. [...] All water facilities and services must be culturally appropriate and sensitive to gender, lifecycle and privacy requirements.

Physically accessible. Everyone has the right to a water and sanitation service that is physically accessible within, or in the immediate vicinity of the household, educational institution, workplace or health institution. According to WHO, the water source has to be within 1,000 metres of the home and collection time should not exceed 30 minutes.

Affordable. Water, and water facilities and services, must be affordable for all. The United Nations Development Programme (UNDP) suggests that water costs should not exceed 3 per cent of household income' (United Nations 2014).

Positions, functions and powers in the MAWF

In the context of this thesis, the following functions, processes, and positions within the MAWF outlined below are of central importance regarding the coordination and management of rural water supply in Namibia's communal areas and the CBWM approach applied to that sector: the Minister and Deputy Minister of Water, Agriculture and Forestry, the Permanent Secretary, and his or her Deputy, the Head of the Department of Water Affairs and Forestry, and the Director of Water Supply and Sanitation Coordination (see further detail and figure 18 below). They all have

[109] Source: http://www.un.org/waterforlifedecade/human_right_to_water.shtml, last accessed 10 April 2016

played and are playing the role of mediators in the translation process that the CBWM model has undergone in Namibia at the national, regional and local level.

Obviously the Minister, representing the water portfolio in the cabinet and in Parliamentary debates, holds the most influential position within the Ministry as part of its management. One aspect of this management position which it has in common with the positions of Deputy Minister, as well as those of Permanent Secretary and Deputy Permanent Secretary, is that these positions are political in nature, which makes them desirable to high-level members of the ruling party or parties. Those who hold these four positions differ from the rest of the Ministry's staff, firstly as they are part of a wider network of political actors, objectives, and interests, and subject among other influences to the favour of the electorate who they represent. Secondly, other than the Ministry's professional employees, its management does not usually have a professional background within the water sector or related disciplines like natural resources management and governance or engineering.

Below the level of Permanent Secretary, the Head of the MAWF Department of Water Affairs and Forestry oversees the technical and governance-related sides of Namibian rural water provision. The MAWF employees at these levels usually come from a water-sector-related educational/ professional background.

The following two individual high-level MAWF staff members that I will briefly present here are representative of some of the different cases of people who made their professional career within the MAWF structures over the past several decades. Belonging to different generations and having entered the ranks of the Ministry during very different historical phases of its development and activity, they ended up working together at some stage. Each of them can be seen as representative of the phase of Apartheid rule in Namibia, and of the current, post-independence phase of the Ministry's functioning respectively. Their paths, which started out in very different locations and social settings in South Africa and Namibia, crossed when working in the water sector during the transformation of the MAWF's set-up and activities in the early 1990s. Though I was unable to meet with Abraham Nehemia, the Head of Namibia's Department of Water Affairs and Forestry during the time of my field work, I did conduct extensive interviews with Piet Heyns, whose account will be quoted several times in the account further below.

> **Pieter Stephanus van Heerden Heyns** was born in Kimberley, South Africa in 1947 and attended primary and secondary school in Paul Roos Gymnasium in Stellenbosch. He completed military training in the South African Air Force in 1966. In 1967 he entered the Stellenbosch University to study civil engineering. He graduated with a BSc BIng in 1973 and began working with the South African Department of Water Affairs as Assistant Engineer in

Jonkershoek in the Western Cape. He worked on several water schemes in the Western Cape before requesting a transfer to Windhoek in South West Africa (Namibia) in 1976, one year after his wedding. After Namibia became independent in 1990, he and his wife then chose to become Namibian citizens.

He worked in the Planning Division of the Department of Water Affairs in Windhoek and was responsible for the investigation and planning of water supply schemes in remote areas. He registered as a Professional Engineer in 1978 and moved up the ranks to the Operations Division, placed in charge of all major water supply schemes in Namibia – the Cuvelai Basin, the central Namib, the Hardap Irrigation Scheme, the Naute Irrigation Scheme, and the Eastern National Water Carrier. In 1987 he became the Director of Investigations and Research in charge of the Divisions of Water Environment, Hydrology, Geohydrology, Water Law Administration, and also of the Planning in the Department.

In 1991, prompted by the issue of access to the waters of the Okavango River System for importation to central Namibia, he was instrumental in organizing a meeting of the two existing transboundary water commissions – between Namibia and Angola, and between Namibia and Botswana – to discuss how Angola, Botswana, and Namibia could jointly cooperate in the development of the water resources of the Okavango River. In 1992 he was tasked to draw up the draft agreement to establish the Permanent Okavango River Basin Water Commission (OKACOM). He served as Commissioner representing Namibia from the establishment of the OKACOM in 1994 to his retirement as Head of Department of Water Affairs and Forestry in 2007.

Piet Heyns is still active as an independent consultant on various national water-sector issues.

(The Permanent Okavango River Basin Water Commission 2016; Interview on 26 July 2011)

Abraham Nehemia, the current Head of the Department of Water Affairs and Forestry in MAWF, was born at Engela village in northern Namibia in 1961. He attended Engela Primary School while assisting his parents with their subsistence farming activities. As a youth of 15 he began attending Oshigambo High School, where he studied for three years before crossing the border into Angola to join the national liberation war for the independence of Namibia in 1978. In 1980 SWAPO sent him to study political science at Wilhelm Piek Hochschule in Berlin, from which he graduated with a diploma in Political Science in 1982.

After Namibia's independence in 1990, Nehemia briefly worked with the Namibian National Planning Commission developing and implementing the new country's first census. A chance encounter with Piet Heyns, then Director in the Department of Water Affairs, led to his recruitment to the Department in 1991. In January 1992 he took the post of Water Works Officer. Nehemia studied further at universities in the UK and the Netherlands, obtaining a Masters in Water and Environmental Management in 1998 and an MBA in 2005. He was

> promoted through the ranks in the Directorate of Rural Water Supply, and in 2009 became the Head of Namibia's Department of Water Affairs and Forestry.
>
> His involvement in international water issues, especially in the SADC region, has included contributions to the development of river basin organizations such as the Zambezi Watercourse Commission (ZAMCOM), the Kunene Permanent Joint Technical Commission (PJTC), the Orange-Senqu River Commission (ORASECOM), and the Permanent Okavango River Basin Water Commission (OKACOM). He has been a member of SADC's Waters Resources Technical Committee since 2007. He also played a major role in the development and operationalization of the African Ministers' Council on Water (AMCOW) and is one of the few founding members of the AMCOW-TAC technical advisory committee. He was officially appointed Commissioner of OKACOM by the Namibian Cabinet in 2006.
>
> (The Permanent Okavango River Basin Water Commission 2016)

Below the departmental level, the MAWF is structured into directorates, each again encompassing several different divisions. The water management functions are shared by the DWSSC and the Directorate of Resource Management (DRM). The two directors oversee the work of the directorates while each of the two directorates' divisions are headed by separate Deputy Directors.

The establishment of Water Advisory Council, Water Regulatory Board, and Water Tribunal as included in figure 18 here are subject to the coming into force of the new Water Resources Management Act (No. 24 of 2004).

According to the Act, once the Water Tribunal has been set up, it will be in the power of the Minister to appoint its members. The tribunal shall consist of five to seven members, respecting gender balance, in a part-time capacity, who should have 'at least knowledge, skills and experience in law, engineering, science, economics, or water resource management or management in other water related disciplines to qualify for appointment as member of the Water Tribunal' (Republic of Namibia 2004a:PART XVIII). Regarding the operation of the tribunal, the Act states:

> 'A person who is not satisfied with any decision of the Minister or any water management institution made under this Act relating to –
> (a) a water related matter;
> (b) a water resource;
> (c) any licence or permit issued under this Act; and
> (d) an aquifer,
> may appeal to the Water Tribunal against such decision and the appeal must be noted in writing within 21 days of such decision' (Republic of Namibia 2004a:PART XVIII).

The Water Regulatory Board is to be established as a juristic person, consisting of five members who should have knowledge and experience in one or more of the following disciplines: finance, economy, commerce, law, business management, social science, water engineering, or water or environmental resources management, and should be appointed by the Minister (Republic of Namibia 2004a:PART XV). According to the Act, the functions of the Water Regulatory Board are:

> 'to determine, by notice in the Gazette, with the concurrence of the Minister responsible for finance, the maximum charges, fees and tariffs relating to –
> (i) the supply of water by water utilities and suppliers to any water user for domestic, commercial, industrial or agricultural use;
> (ii) the issue of a licence to abstraction and use water under this Act;
> (iii) the issue of a permit to discharge effluent or to construct effluent treatment facility or disposal site, and the receipt of effluent by any person, under this Act; and
> (iv) the evaluation or examination of an effluent treatment facility or disposal site', in accordance with the water and effluent pricing policy determined in the Water Resources Management Act (Republic of Namibia 2004a:PART XV).

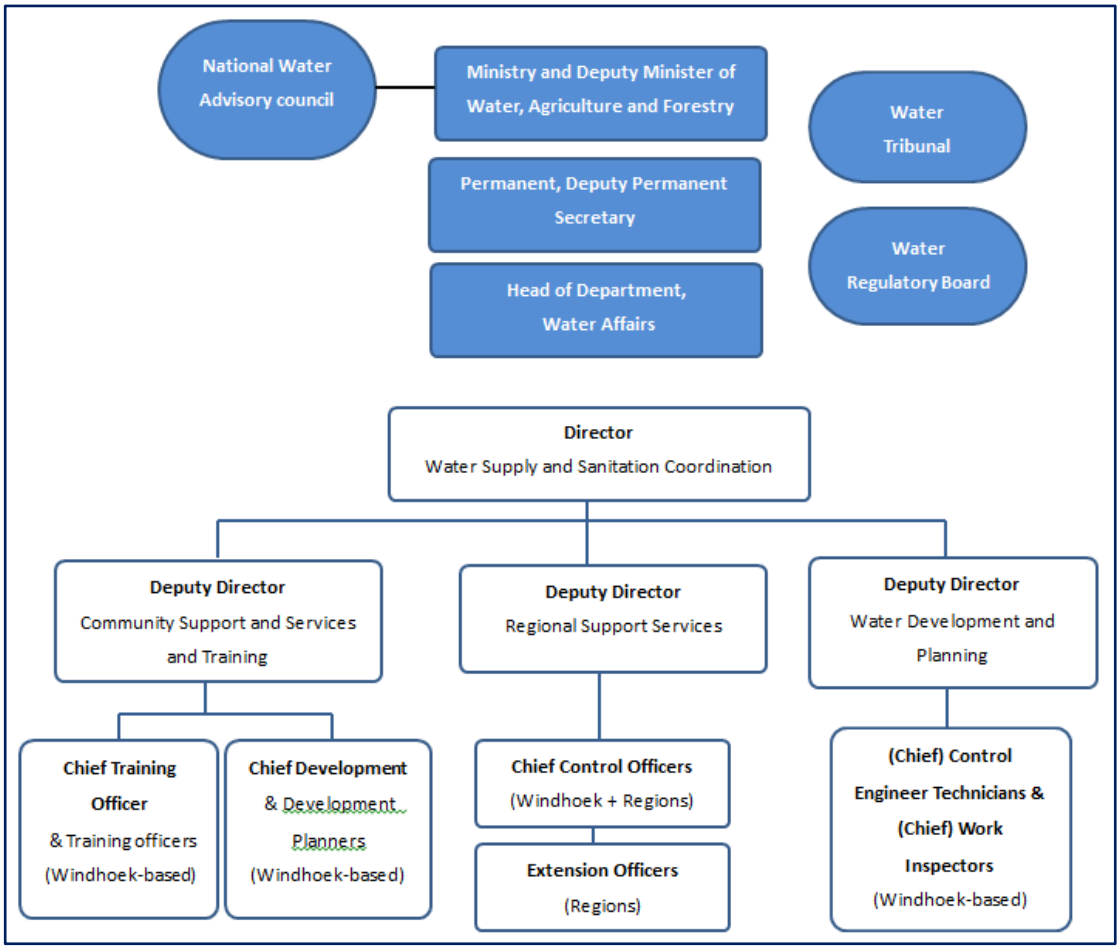


Figure 18: Set-up and structural embeddedness of the Directorate of Water Supply and Sanitation Coordination

As the Water Resources Management Act of 2004 has not been fully implemented up until now, the abovementioned three new institutions – Water Advisory Council, Water Regulatory Board, and Water Tribunal – are still in the process of being established by the DWAF with support from outside consulting services.

When focusing on the divisional level of the MAWF central office and of the DWSSC in particular, one identifies three types of positions located in the three divisions of the DWSSC respectively that play a bridging role between the central office and the regions in the national roll-out of the CBWM policy throughout Namibia's communal areas. The MAWF staff in these positions are of importance with regards to the way in which (a) rural water supply services, and especially the CBWM-related concepts and strategies, are planned and monitored; (b) the MAWF central staff conducts its outreach activities to support and oversee the regional CBWM roll-out; and (c) advisory services are rendered by central office staff to the regional staff of the DWSSC and to the communities.

The first group of relevant staff in the MAWF central office – a total of four Development Planners, and one Chief Development Planner to supervise the group – which is situated in the Division of Community Support Services and Training – is involved in policy- and strategy-development, for example when it comes to developing new guidelines for CBWM-related processes, and importantly also in processes of reviewing and evaluating the status quo of CBWM implementation to potentially adjust existing strategies. One example of such a process is the *community based management strategy review,* commissioned by the MAWF and conducted in 2009 based on the realization that the target for a complete handover of ownership of rural water points to the communities in the communal areas had fallen far behind the planned deadline of August 2010 (Gildenhuys 2010:10–12) . The review was meant to collect experiences and opinions from a broad sample of stakeholders in the process of implementing the Namibian CBWM Strategy and, based on an external analysis, to generate recommendations to potentially modify the CBWM Strategy.

The team of Development Planners is supposed to give the extension staff within the DWSSC advice when it comes to implementing existing strategies in the rural areas. They can get involved directly in activities to create awareness on CWBM-related topics in the regions, and were for instance conducting an awareness campaign and soliciting the views of local leaders and other stakeholders in Kunene Region at the time of my fieldwork in 2011. In addition to that – depending on the workloads and needs for support in the regions – Development Planners can also become involved in establishing and backstopping WPAs (Interviews with a group of

development planners and with the Chief Development Planner in the MAWF between July and October 2011).

The second group of MAWF staff that works between the central and the regional offices as part of the Division of Regional Support Services comprises a total of thirteen Chief Control Officers in the various regions and in the Windhoek central office. One of their main tasks is the assessment of water needs to provide information for the maintenance of existing infrastructure and the establishment of new water points in the communal areas. They are also supposed to ensure, along with additional DWSSC staff in the regions, that the bulk of work related to establishing new WPAs – as will be elaborated in detail in this chapter below – actually gets done. Once WPAs are established and running, the Chief Control Officers of DWSSC Regional Support Services oversee the work involved in backstopping WPAs, which is shared between the Rural Water Extension Officers (RWEO) based in the regional DWSSC branches and in the Training Officers.

And finally, the group of Training Officers in the MAWF – a total of eight staff plus the Chief Training Officer working within the Division of Community Support Services and Training – usually comes in once a WPA has been newly established to organize and oversee the training of the new WPCs and caretakers. Due to the workload involved in ensuring timely training for all the WPCs, and the general trend toward decentralization and a leaner set-up in the central DWSSC, a decision was made at the end of the 1990s to conduct public tenders to increasingly outsource the trainings to Namibian companies or NGOs rather than having the DWSSC trainers conduct trainings themselves (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 2000b:34). The Training Officers are now involved in organizing the tendering process, together with the Namibian Tender Board and a tendering committee within the MAWF responsible for conducting any public tenders to procure services by outside service providers that the Ministry requires. The Training Officers also conduct initial outreach activities before the trainings with the communities themselves. Once the training sessions are completed, they continue to engage with the DWSSC regional branches and the communities to monitor and backstop the WPAs. As Oswald Amupadhi, a Training Officer I met for a group interview together with other MAWF staff in Windhoek in July 2011, describes their portfolio: ‘We work all throughout the country. Only in the rural areas. We are supposed to train people. And to check water points. If everything is still working. If people are actively taking care or just sitting around’.

What is more, the portfolio of rural sanitation was added to that of rural water supply shortly before in 2009, which led to the change in name of the directorate from Directorate of Rural Water Supply to Directorate of Water Supply and Sanitation Coordination. The additional sanitation portfolio has meant a huge increase in workload and responsibility, given the

considerable lag between the coverage by access to safe water versus the coverage by access to sanitation services, in particular in the country's rural areas. By 2009, only 13 per cent of the rural population in Namibia had access to improved sanitation compared to 61 per cent of the urban population (Republic of Namibia. Ministry of Agriculture, Water and Forestry 2009:9). This meant that at the time of my field work a reorganization process was still ongoing in the DWSSC, involving capacity-building for the staff in the field of sanitation, and additional tasks included in the staff portfolios of the Divisions of Community Support Services and Training, and of the Regional Support Services.

7.2.2. The legislative authorities

As part of the legislative and policy-making processes around the water sector and rural water supply in particular, the Namibian cabinet, the Parliament with its two houses – the National Assembly and National Council, and the Namibian President (who signs bills to be passed as law and who may submit proposed legislation to the National Assembly) are involved when it comes to debating and passing new laws or amendments to existing ones, as well as approving guidelines for implementation such as the CBWM and cost-recovery strategy document of 1997 (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1997b). The National Assembly has 72 elected members, plus up to six additional members without voting rights appointed by the President, all distributed according to a system of proportional representation – usually for a term of five years. The National Assembly has the legislative authority with the assent of the president. In order for a bill to become a law it must be passed by the National Assembly, signed by the President, and published in the journal of record. If the President refuses to sign a bill that has been ratified by a two thirds majority of the Assembly, the bill is referred to the courts to determine its constitutionality. If the bill is found to be within the constitution, the President must sign the bill. In the case that the Assembly fails to pass a bill with a two-thirds majority and the President refuses to sign it, the bill becomes obsolete.

The national council consists of 26 members, two each from the country's 13 regional councils, indirectly elected for a term of five years. The National Council is responsible for conducting investigations, recommending legislation, and reviewing legislation passed by the National Assembly. If a bill is reviewed and passed by the National Council, it moves on to the President for signature. If it is not agreed to by the National Council it is returned to the National Assembly with comments or revisions for further consideration.

There are parliamentary debates, statements, questions and answers by its members arising from the legislative process. Especially the new Water Resources Management Act of 2004 (Republic of

Namibia 2004a) cited some controversial debates and question-and-answer sessions in the National Assembly, some of which form part of the analysis presented in chapter 7.3.5. Generally speaking, significant points of intervention of the Namibian Parliament regarding the water sector have occurred in connection with the tabling of new water-sector policies, and most of all with the tabling of the Water Resources Management Bill prior to 2004. Water-sector-related interventions by members of parliament have also been found in connection with budgetary speeches of the Minister of Water, Agriculture and Forestry.

7.2.3. International donors in the Namibian water sector

Throughout the various steps of water-sector reforms after Namibia's independence, the country's donor partners have been actively involved, providing financial and human resources as well as conceptual and strategic inputs into policy-making processes. The different steps in the policy-making processes and strategy-setting in the Namibian water sector have also been accompanied by the Namibian Government's active raising of funds for the implementation of water-sector reforms. As documented in the report of the Ministerial Conference on Drinking Water and Sanitation in 1994 – one year after the adoption of the first Water Supply and Sanitation Sector Policy after Namibia's independence had been approved in 1993, Nangolo Mbumba, then Namibian Minister of Agriculture, Water and Rural Development, made a detailed intervention aiming at getting international donors to fund drinking-water supply and sanitation in Namibia:

> '[…] The Namibian Government approved a Water Supply and Sanitation Sector Policy at the end of 1993. It can therefore be stated that the priorities and responsibilities for further development in the sector, be it water resource development, or the establishment of water schemes, or the provision of safe sanitary facilities or the protection of the water environment or the education and training of people to enable them to participate fully in the total strategy, have been established. […]
>
> The water supply and sanitation sector policy also serves as a cornerstone for mobilizing international financial resources to enable the participating communities, which are scattered over a large area in the sparsely populated Namibia, to provide water and sanitation services to themselves. Since independence, the country has succeeded in obtaining funds internationally, for the investigation into the occurrence of water resources and the establishment of economically viable water supply infrastructure. It has also been realized that the sustainability of such support can only be achieved and maintained by appropriating the funds sensibly according to the envisaged expenditure programme and within the budgetary constraints. This policy and the results achieved in the water and sanitation sector, needs further support from the international funding community to ensure that the Namibian Government can facilitate the creation, operation and maintenance of water supply

> infrastructure with the help of all the beneficiaries who have already shown their desire to make their own contribution. Within this framework an enabling environment for sound management at international level has been created on a national level and opens the door for External Support Agencies to give priority to cost-effective projects aimed at improving drinking water supply and environmental sanitation in Namibia' (Netherlands 1994:88).

Overall donor activity in Namibia's water sector has varied over time not only in terms of its financial volume, but also in terms of its thematic focus within the water sector. I will use this section to briefly introduce those donors most relevant to the Namibian water-supply sector over the past twenty years and provide an overview of financial aid flows into the country's water-supply sector. When describing the reform steps and decisions in more detail below I will be relating to concrete strategies, programmes, and projects as far as information is available to me, and will situate donor activities against a broader background of water-related policy-making processes in Namibia and their connection to global discourses, especially during the phase when the CBWM paradigm was introduced during the 1990s.

Official development assistance for the Namibian water sector

Between 1995 and 2011, a total of 206.7 million USD at a yearly average of 11.5 million USD in commitments for ODA has been given to the Namibian water and sanitation sector by donor countries.[110] Out of this, Namibia's bilateral donors provided the bulk of 162.7 million USD (see figure 21), while the EU and UNICEF, as multilateral donor organizations, provided a total of 36.1 million USD for the Namibian water and sanitation sector during the same period of time (see figure 23). During the period of 1995 to 2008, Namibia belonged to the group of 14 countries internationally that displayed a greater than average emphasis on water and sanitation issues, dedicating more than five percent of total ODA to the sector – in the case of Namibia 5.3 per cent of total ODA. The group also comprises other Southern African sub-region, namely: Botswana (5.7 per cent); Lesotho (6.7 per cent); Mauritius (34.4 per cent); and Swaziland (9.4 per cent) (Salami et al. 2014:xvii).

As can be seen from figure 19 below, ODA to Namibia's water and sanitation sector had irregular fluctuations, with peaks between 1996 and 1998, as well as in 2001 and in 2010. While the high in

[110] The analysis of financial flows here is based on ODA tracking data for commitments of the OECD/DAC, available online for Namibia for DAC member donor countries and multilateral donors such as the UN and the EU, starting with the year of 1995: http://stats.oecd.org/qwids/; search criteria applied: Donors=DAC Countries/Recipient=Namibia/Flow=ODA/Flow Type=Commitments/Sector=Water supply and sanitation/Time period=1991-2012.
Detailed financial data was available to me starting from 1995 only, while sketchier, project-based data for the water sector, as it was found in donor documents dating from 1990 onwards, will also be included in the analysis below.

WatSan funding from 1996 to 1998 and in 2001 mainly resulted from single, large programmes funded by some of the bilateral donors – notably Germany, Finland, France, Luxembourg, and the Netherlands, 2010 was an exceptional year when ODA for water and sanitation in Namibia by both bilateral and multilateral donors together peaked at a total of over 42 million USD due to a particularly high level (25.3 million USD) of sector-budget funding from the side of the EU feeding into the Namibian Water Supply and Sanitation Sector Programme (NAWASA) implemented by the MAWF and the Namibian Red Cross Society. The first 'high' in water and sanitation sector-related donor funding between 1996 and 1998 was the time when some of the major CBWM-related strategy papers were compiled. The high degree of volatility over time in donor funding to the water and sanitation sector – which to some extent can certainly be ascribed to global development trends – have also led to a degree of uncertainty and difficulties in planning for longer-term water and sanitation programmes such as the national CBWM reforms and their implementation.

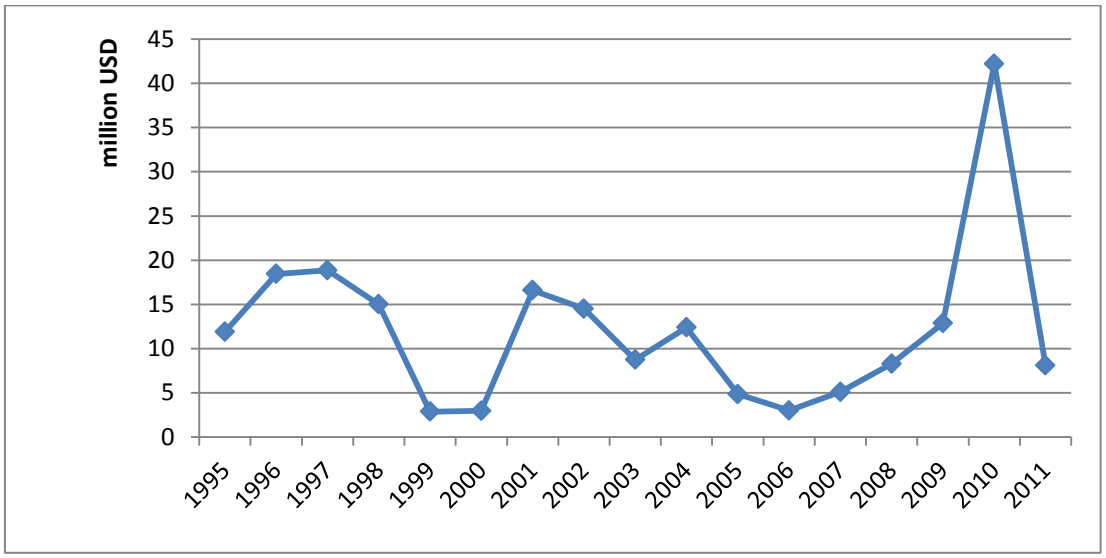


Figure 19: Total ODA to the Namibian water and sanitation sector, 1995-2011, as per OECD/DAC aid monitoring data

Figure 20 below presents a comparison between trends in ODA to the WatSan sector to total ODA Namibia received from its donor partners between 1995 and 2011.

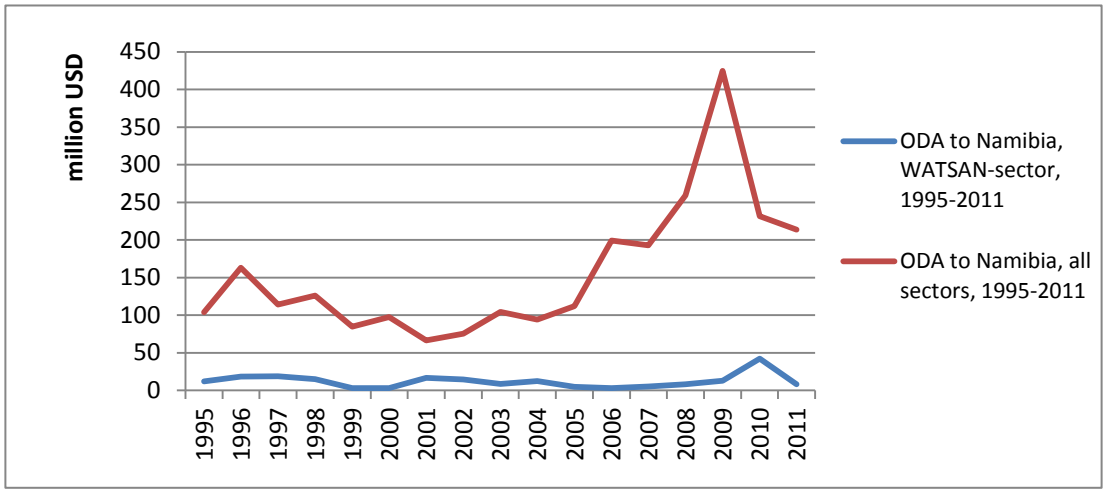


Figure 20: WatSan ODA to Namibia compared to total ODA to all sectors, 1995-2011, as per OECD/DAC aid monitoring data

Bilateral ODA

The major bilateral donors to the water supply and sanitation sector in Namibia between 1995 and 2011 were, in the order from the greatest to the least: Germany (36 per cent); Luxembourg (32 per cent); Finland (12 per cent); the Netherlands and Spain (close to 6 per cent each); and Sweden and France (4 per cent each). Of these, Germany, Luxembourg, Finland, and the Netherlands belong to the group of external actors that have been directly involved in policy advisory and strategy-setting for the implementation of CBWM in Namibia's rural water sector. The inputs and interventions of the more prominent external actors in the Namibian water sector will be elaborated in more detail below.

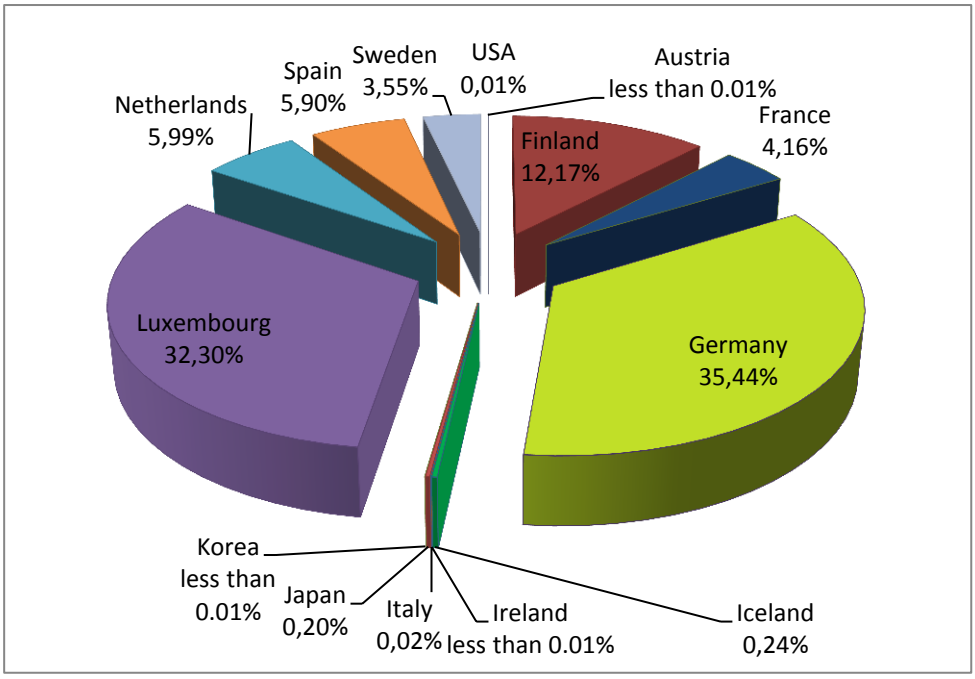


Figure 21: Proportions of ODA by bilateral donor countries to the Namibian WatSan sector, 1995-2011, as per OECD/DAC aid monitoring data

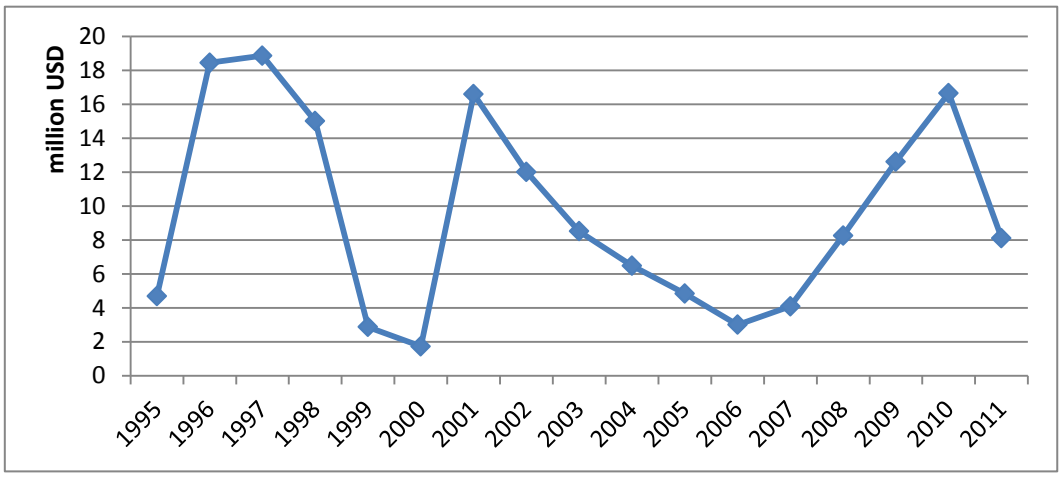


Figure 22: Bilateral ODA from OECD/DAC countries to the Namibian water and sanitation sector, 1995-2011, as per OECD/DAC aid monitoring data

Multilateral ODA

The group of multilateral development actors that funded interventions in Namibia and in some cases had a direct influence on policy-making and implementation in the sector of RWS are the World Bank[111], UNDP, UNICEF, and the European Commission (EC).

I will elaborate below on some of their activities on the basis of selective programme-level information that is available to me. In terms of financial data, unfortunately the only two multilateral donors to the water supply and sanitation sector in Namibia between 1995 and 2011 about which I could find concrete financial tracking data were the EU (at a total of 43.4 million USD) and UNICEF (at a total of 533,169 USD). During the time of my field research the EU was in fact the biggest donor to the water supply and sanitation sector in Namibia and giving the major part of its financial input in the form of direct budget funding to the MAWF.

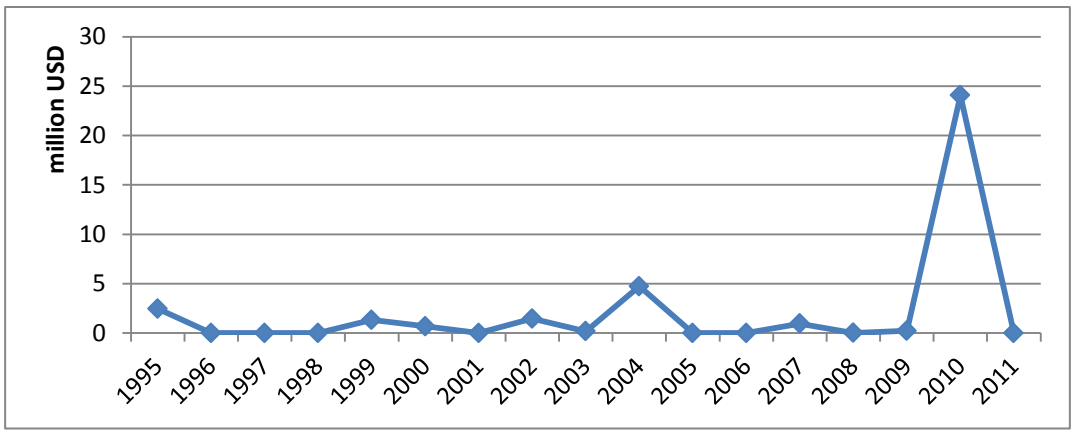


Figure 23: Multilateral donor contributions to WatSan, 1995-2011[112]

[111] Unfortunately, no comprehensive data on overall aid flows from the World Bank to Namibia earlier than 2004 was available to me. Programme-level financial information is included in sub-chapter 7.3 below.

According to the OECD/DAC sector sub-categorization, which has a total of eight categories of funding 'purposes' in the water sector, overall funding mainly focused on the following three areas: water resources policy, administration and management; large water-supply and sanitation systems; and basic drinking-water supply and sanitation.[113] In addition to these rather prominent categories, the overall portfolio covered by Namibia's donors is however slightly broader, as it also includes the sub-categories of water resources protection, river development, waste disposal, and education and training (the latter two with minor amounts of donor money). The distribution of overall ODA by bilateral donors across these categories is depicted in figure 24 below, while the categories and proportions covered by the multilateral donors to Namibia's water sector can be seen from figure 25.

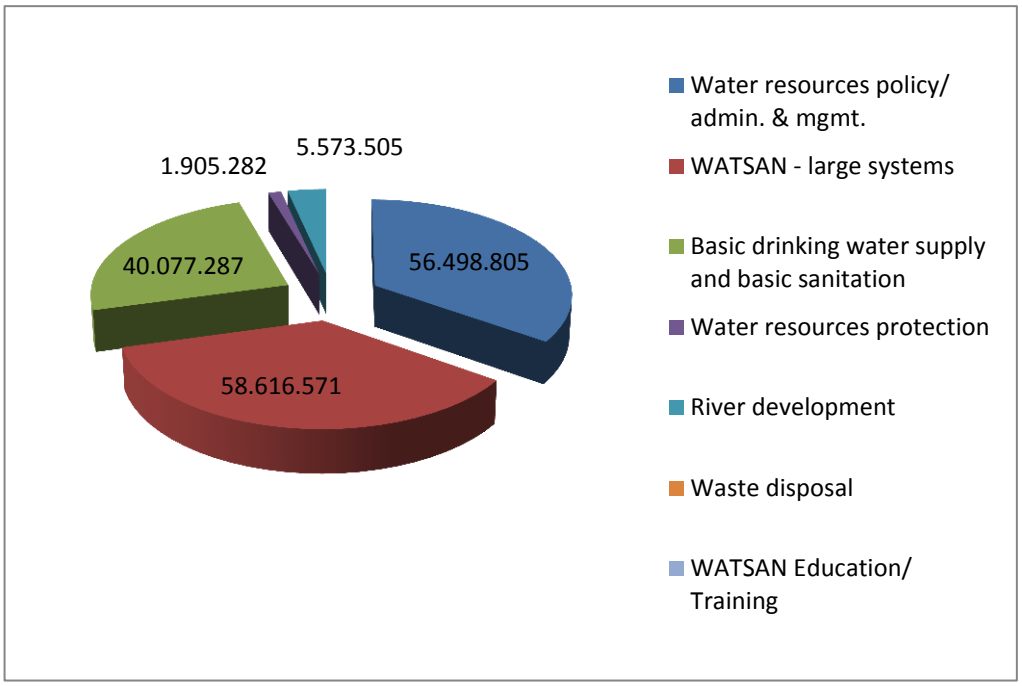


Figure 24: Bilateral donor contributions to Namibian WatSan sector 1995-2011 - subcategories

[112] Own calculations and graphs, based on ODA tracking data for commitments of the OECD/DAC, available online for Namibia for multilateral donors starting with the year 1995: http://stats.oecd.org/qwids/, search criteria: Donors=Multilateral Agencies/Recipient=Namibia/Flow=ODA/Flow Type=Commitments/Sector=Water supply and sanitation/Time period=1991-2012.

[113] According to the categories used under 'project purpose' in the OECD/DAC database.

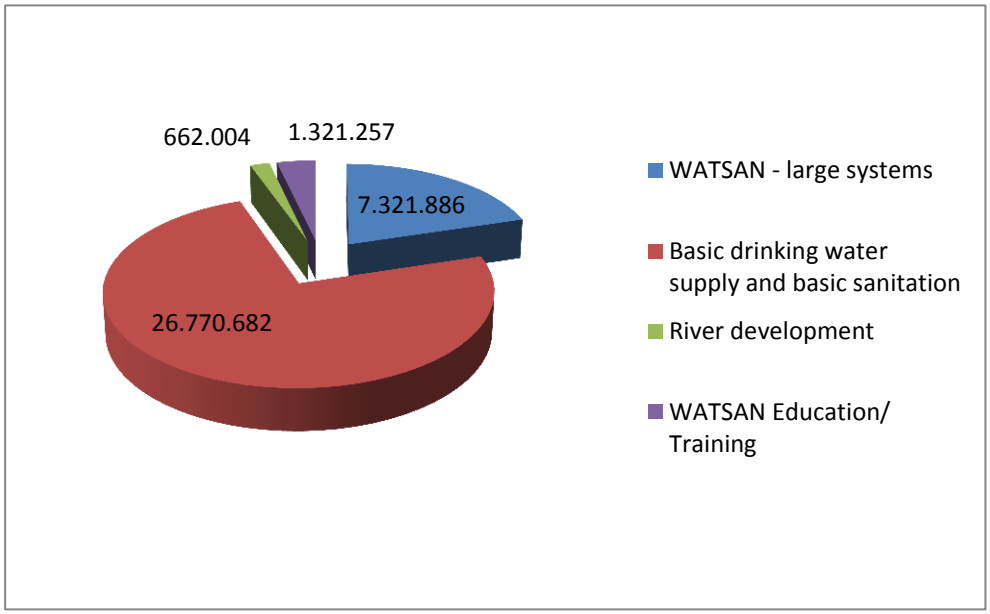


Figure 25: Multilateral donor contributions to Namibian WatSan sector 1995-2011 - subcategories

Donors active in rural water supply and CBWM in Namibia

Many of those donor Governments that contributed financially and in terms of policy and implementation advice to the translation of the CBWM model to the Namibian context were looking back at longstanding relationships between their nations and what became independent Namibia in 1990. Some had been entangled with South Africa and/or Namibia as colonizers. Some had been particularly active later in supporting Namibia's struggle for independence. Many had sent Christian missionaries to the South of Africa who became involved in translations of Christianity within the regional and local setting, and in doing small-scale development work, especially in the sector of education. Below, when introducing very briefly the inputs of donor Governments into the sector of RWS and their general cooperation portfolio, both now and in the past, I will frame the relationship that these countries have with modern-day Namibia by providing some historical reference. Fully embedding the relations between the relevant Governments and Namibia as respective donors and receivers of official development assistance in their broader shared history would probably require another, separate PhD thesis, however. I will therefore refer the reader to other secondary sources wherever appropriate, and largely keep the focus on those donor inputs donors to the Namibian water sector that were the most meaningful in terms of either financial volume or in terms of direct activity in the areas of RWS and CBWM between 1990 and 2014.

By far the biggest bilateral donors in terms of the financial volume to the WatSan sector between 1995 and 2011 were Germany at 35.44 per cent of total WatSan sector ODA, followed by

Luxembourg at 32.30 per cent – or 57.5 million USD and 52.5 million USD respectively. Historically, the relationships between these two countries and Namibia differ mainly in terms of their duration. While Luxembourg's engagement with Namibia can mainly be characterized by building a relationship with a newly independent African country since 1990, Germany's relationship with Namibia, and its influence on the Southern African country's socio-economic and political history, reaches back to the 19th century.

German traders and missionaries were the first to mark German claims in the area between the Kunene River in the North, the Orange River in the South, the Atlantic Ocean and inhospitable Namib Desert in the West, and the Kalahari Desert stretching into what was to become British Bechuanaland in the East. In the quest for resources and political influence in Africa during the time of European colonial expansion in the 19th and 20th century, Germany declared modern-day Namibia a German protectorate (*Schutzgebiet*) under the name of German South-West Africa in 1884. The era of the German colony of South-West Africa, which lasted until 1915, included a period of violent resistance to colonial rule, mainly by the Herero and Nama, from 1904 to 1907, which then triggered a genocide committed against the Herero and Nama by the German *Schutztruppe*. The memory of genocide remains relevant to ethnic identity in independent Namibia, and shapes part of the present-day German-Namibian relations.[114] In the field of development cooperation, this can be seen from the fact that the two Governments launched the '*Namibia-Germany Special Initiative*' in 2005, in order to implement projects in areas and for communities that 'have historic ties with the German colonial government' based on a special commitment of €20 million for specific activities (Republic of Namibia 2008:224–25).

Since 1990, Namibia has been a primary recipient of ***German official development assistance*****,** which has been provided mainly through the Kreditanstalt für Wiederaufbau (KfW) in the form of financial assistance, and through what is now the Gesellschaft für Internationale Zusammenarbeit (GIZ) in the form of technical assistance. The GIZ – legally an international enterprise owned by the German Federal Government and headquartered in Bonn and Eschborn – currently implements the major part of German ODA in more than 130 countries. It primarily works with state organizations and the private sector. It was established under the current name in January 2011 through a merger of the three German Government organizations in the development sector – Gesellschaft für Technische Zusammenarbeit (GTZ), Deutscher Entwicklungsdienst (DED), and Internationale Weiterbildung und Entwicklung (InWEnt). Both the GTZ and the DED were active in Namibia during the time when the CBWM reforms took place. According to information on its web

[114] For aspects of the Herero/Nama-German conflict, the genocide, and its present-day effects, see among others: Melber 2005; Cooper 2007; Förster (2008a, 2008b, ´2010).

presentation, the GIZ carries out the bulk of its work – roughly 90 per cent of its turnover, which amounted to over € 2 billion in 2014 – on behalf of the Federal Ministry for Economic Cooperation and Development (BMZ), among other clients. The GIZ currently has more than 16,000 staff members all around the world.[115]

In Namibia, the then GTZ started its activities in 1989 and opened its Windhoek office in 1994. The current priority topics of GIZ engagement in Namibia are: management of natural resources; transport; economic development; and HIV/AIDS control as a cross-cutting issue.[116] The GIZ has been active in the sector of natural resources management throughout its involvement in Namibia, and provided the institutional reforms of the Namibian water sector with funding and advice through several project interventions that will be mentioned in more detail below. While the GIZ was very active in Namibia's water sector previously, including in connection with the CBWM-related reforms, interventions directly targeting the water sector are not currently part of its country portfolio. A major water-sector intervention that was still ongoing during the time of my field research in Namibia was the 'Namibian Water Resources Management Project', which lasted from January 1999 to March 2012, with an overall aim to 'improve the management of the Namibian water resources, on the basis of Integrated Water Resources Management (IWRM)'[117]. Current GIZ projects in Namibia the areas of rural development and 'environment and climate change' mainly relate to the adaptation of the agriculture to climate change, and to biodiversity management and conservation, and also include projects to support de-bushing and land reform.[118] The GIZ has also been active in water-sector initiatives in the wider region along similar thematic lines as in Namibia. During the 1990s, the GIZ has for instance supplied advisory services to the Department of Water Affairs in Zambia, and has funded rural water supply activities in Zimbabwe (Soderstrom 2000).

The Grand Duchy of Luxembourg began its development assistance to Namibia in 1993 – initially with a regional focus on the Kavango Region. Namibia was one out of ten 'target countries' of Luxembourg's development co-operation between 1995 and 2010, following which development co-operation was phased out and transformed into 'economic co-operation'. The majority of funding is implemented through the state-owned Luxembourg Agency for Development Cooperation (Lux-Development). Social infrastructure and local governance were among the overarching areas of support. For the period of 2004 to 2010, two consecutive Indicative Cooperation Programmes (ICP) of a total of 36.5 million EUR were signed to provide a coherent

[115] http://www.giz.de/downloads/GIZ-2015-en-Profile.html, last accessed 10 April 2016.
[116] http://www.giz.de/en/worldwide/323.html, last accessed 10 April 2016.
[117] http://www.giz.de/Themen/en/28265.htm, last accessed 19 December 2015.
[118] http://www.giz.de/en/worldwide/323.html, last accessed 10 April 2016.

framework for Luxembourg's official development assistance to Namibia (Government of the Grand Duchy of Luxembourg 2004, 2007). Since then, water has been one of the priority sectors of Luxembourg's development assistance. An emphasis was been laid on rural water supply and CBWM in particular in one of the more recent projects called Kavango/Caprivi Regional Rural Water Decentralization from 2008 to 2011 with a total budget of roughly 3.2 million EUR. This rural water supply project was intended to support the implementation of the national decentralization policy, particularly in relation to rural water supply in the two regions. It had two components, encompassing the repair and construction of water points, and community training for water point committees (Luxembourg Agency for Development Cooperation 2009). I will come back to this project as a point of reference when discussing the regional CBWM implementation in Kunene Region in chapter 8.

The relationship between Namibia and Finland – the latter being a third donor that was active in the field of CBWM in the RWS sector in the early years after independence – started in the later part of the 19th century when Christian missionary and trading activity on Namibian territory began, and the Finnish Christian Missionary Society took up its work in Ovamboland in the 1870s. Starting in the 1970s, Finland actively supported the political agenda to end apartheid and pursue Namibia's independence. Similarly to the German Democratic Republic though on a smaller scale, Finland provided scholarships for Namibian students to study in Finland within the SWAPO-scholarship programme. From 1976 to 1992, some 65 Namibian students graduated from Finnish universities. The UN Namibia Commissioner from 1977–1981, Martti Ahtisaari, was a Finnish national who was also appointed the UN Secretary General's Special Representative for Namibia in 1978 and later led the United Nations Transitional Assistance Group (UNTAG) from 1989–1990. Finland provided UNTAG with a 856-member military contingent – FINBAT – for the peacekeeping mission. When Namibia approached independence, Finnish civilians served as election observers in the first democratic elections. Finland was among the first countries to recognize the independence of the Republic of Namibia on the 21st of March, 1990, and established diplomatic relations with Namibia the following day (LarCon Ltd/ Ministry of Foreign Affairs of Finland 2004:2).

Long before independence, in 1976, ***the Finnish Government*** had decided that independent Namibia would become one of the main recipients of the Finnish development cooperation. Bilateral negotiations between the two Governments in 1990 resulted Finland's development assistance to Namibia being focused on the sectors of water supply, forestry, health care, and mining. New priority sectors such as decentralization, institution-building, and the environment were later added to Finland's aid portfolio in Namibia.

The total value of Finnish aid to Namibia in the period of 1970–2003 was 114 million EUR, including the support before Namibia's independence. In 1991–2003, Finland's aid disbursements to Namibia amounted to 95.6 million EUR with a relatively even distribution annually. The health sector represented the largest sector of total bilateral aid during 1991–2003, with 40 per cent, or 29.9 million EUR, of total Finnish assistance to Namibia, followed by the water sector with 18 per cent, or 13.4 million EUR (LarCon Ltd/ Ministry of Foreign Affairs of Finland 2004:6–7). This is against a background of declining overall disbursements by Finland in the water sector globally between 1995 and 2005, and a later renewed growth over the past decade (Matz et al. 2010:32). Finnish attention in the water sector globally since the second half of the 1990s was increasingly focused on small towns and rural water supply, which from 1995 to 2008 was the financially best represented sub-sector of Finnish aid, while there was an observable decline in Finnish support of large water supply and sanitation systems, and a near-disappearance of the urban water and sanitation sector from the Finnish development portfolio by 2007 (Matz et al. 2010:31). Around the year 2000 Namibia was redefined as a transition country for Finland's development cooperation. The phasing out of traditional sector-focused development cooperation was then agreed to take place during 2004 – 2007 (LarCon Ltd/ Ministry of Foreign Affairs of Finland 2004:2).

To implement the 1993 WASP and the 1997 decentralization policies in the water sector, Finnish support was given to the Namibian water sector from 1991 to 2004 in the form of two projects – the Water Supply and Sanitation Project in the Ohangwena Region (WSSPOR) from 1992 to 1997, and the Community Water Supply Management Support Programme (CWMSP) from 1997 to 2004, which will be mentioned in more detail further below, since it played a role in the translation of the international CBWM model in the Namibian national setting. The Finnish development project CWSMP targeted the decentralization process of the RWS function and the introduction of CBWM in Namibia's communal areas directly with a total project budget of a total amount of 8.7 million EUR (LarCon Ltd/ Ministry of Foreign Affairs of Finland 2004).

By far the most influential donor to the RWS function of the MAWF currently is ***the European Commission (EC)*** which has been rendering official development assistance to Namibia since 1990 and considers the latter an important recipient of EC development aid, especially in the sector of rural development, mainly based on the following general development concerns: (i) the need for poverty reduction in Namibia's particular socio-economic context, which is characterized by one of the most unequal income distributions in the world, and by persisting poverty among some

population groups[119]; (ii) the limited land-use options due to the harsh climatic and ecological conditions; (iii) the high prevalence of HIV/AIDS[120]; (ix) the perceived relevance of support to good governance and human rights in Namibia; (x) the need for increased action to foster aid harmonization and effectiveness by Namibia and its donor partners; (xi) Namibia's role in the Southern African region and its potential to promote peace, security, and regional integration to further socio-economic development in the wider region (Steinmeyer et al. 2009:11–14).

The EC has been the biggest multilateral donor active in the Namibian water sector on the whole since 1995, providing a total of over 43 million USD, and has been the third donor active in the Namibian water sector in terms of financial volume. In addition, the EC has been the lead donor in the policy dialogue with the Namibian Government concerning the water sector in the context of Namibia's rural development strategic framework, which includes the water sector (European Commission/ Government of the Republic of Namibia 2001:16). Over the years, sector coordination from the side of the Namibian Government itself has been augmented according to aid coordination principles, and now the MAWF itself is chairing regular coordination meetings, supported by the EC. According to the analysis contained in one of its country-level evaluation reports: 'The EC has supported the GRN [Government of the Republic of Namibia, TK] in particular in two areas that could have helped to improve GRN-led donor coordination: a) support to the NPCS [National Planning Commission Secretariat, TK] to strengthen its capacity for playing such a coordination role; b) its support of a SWAP and sector-budget support in education and of sector-budget support in roads and rural water that were intended to intensify the ownership and leadership of the GRN' (European Commission/ Government of the Republic of Namibia 2009:150).

Rural development – comprising a major component of support of the RWS function – has been a major part of the EC's development portfolio in Namibia. It has been geared towards supporting the national strategies and objectives in the sector of rural development and harmonized with the key aspects of Namibian national water-sector policies. Thus, the EC Rural Water Sector Programme up to October 2009 included the provision of access to water for the rural population, community-based management, and rural water extension services (European Commission/

[119] With a Gini coefficient of 63.9, the inequality at the national level in Namibia is amongst the five highest in the world. The coefficient varies between 0, which reflects complete equality, and 100, which indicates complete inequality (one person has all the income or consumption, all others have none). As a regional comparison: Angola has a Gini Coefficient of 42.7; Lesotho: 52.2; Mozambique: 45.7; South Africa: 63.1; and Zambia: 57.5 (Data taken from the UNDP Human Development Report of 2013, http://hdr.undp.org/en/content/income-gini-coefficient, last accessed 10 April 2016).

[120] According to UNAIDS figures of 2014, an estimated 16.0 per cent prevalence among people aged 15 to 49 (http://www.unaids.org/en/regionscountries/countries/namibia/, last accessed 10 April 2016).

Government of the Republic of Namibia 2010). Since 2005, the EC has been providing almost its entire financial support to the rural water sector in the form of direct sector-budget support to the DWSSC within the MAWF. Other donors which have provided sector-budget support to the DWSSC in the recent past are Luxembourg and Iceland (through one particular project in RWS for Kunene Region that will be discussed in the next chapter) – both of them phased out by now – and Spain, which is still ongoing.

The World Bank was among those international actors that were particularly active in water-sector reforms in the early years of water policy design in independent Namibia, lasting through the 1990s. The Bank was mentioned to me by several of my informants at the national level as a major driver of water-sector reforms and the introduction of CBWM in Namibia. Three types of standard measures can be identified that the Bank uses to spread policy paradigms and models, namely: (i) knowledge production and dissemination, ii) direct policy advice to Governments from the side of World Bank staff and consultants, and (iii) funding that is provided for reform processes – frequently on the condition that certain reforms are implemented. In some cases the World Bank works with project formats that require a so-called 'Project Implementation Unit', or 'Project Management Unit', which means that staff are hired or existing public servants paid by the project, specifically at country level, and placed in the implementing organization – most frequently a ministry. The staff of these units would often consist of a mixture of local and international personnel. The phase of post-independence water sector reforms in Namibia coincided with a phase of high World Bank activity around certain aspects of water-sector policy on the international scene following the Dublin and Rio Conferences of 1992 (Molle 2008).

Those water-sector paradigms and models that enjoyed high popularity at the time were described in ever growing numbers of publications that increasingly distinguished the Bank as a 'knowledge bank' when compared to other development organizations (Mehta 2001). Among the Bank's fundamental publications on water policy and reform requirements was its policy paper on water resources management of 1993 (The World Bank 1993). According to its executive summary, this publication was meant to seek a 'balanced set of policies and institutional reforms that will both harness the efficiency of market forces and strengthen the capacity of governments to carry out their essential roles. [...] The proposed new approach to managing water resources builds on the lessons of experience. At its core is the adoption of a comprehensive policy framework and the treatment of water as an economic good, combined with decentralized management and delivery structures, greater reliance on pricing, and fuller participation by stakeholders. The proposed approach is consistent with the Dublin Statement (1992) from the international Conference on Water and the Environment as well as with Agenda 21 from the 1992 United Nations Conference on Environment and Development' (The World Bank 1993).

In parallel with the programmatic activities on the international scene, certain policy paradigms and models were brought forward by the World Bank and backed by targeted events at the regional and national level with recipient countries in the Global South, as well as through context-specific publications and programmes. These included policy reviews and advice by external consultants brought in by the World Bank, frequently together with other donors. The World Bank's mechanisms for spreading policy paradigms, best practices, and models can be seen from the same water-policy paper quoted above (The World Bank 1993), which states that the instruments that the World Bank uses to implement its water resource management policy include 'the preparation of guidelines and best-practices papers, staff and country training programs, capacity building, and the development of coordination mechanisms to improve the management of water resources'. According to that document, the World Bank also published a guide on capacity building for countries when formulating strategies for water resources management in collaboration with the UNDP, as well as guides on establishing water resource information systems, on best practices for setting up coordinating mechanisms, on generalized economic models for river basin analysis, and on best-management practices for water user associations. It used pilot project approaches to test the implementation of particular aspects of the water policy such as decentralization and opportunity cost pricing. In order to build its internal capacities to cater for the area of water resource management, the Bank analyzed and upgraded the skills of its own staff. (The World Bank 1993:8)

In contrast to the other multilateral donors mentioned in this thesis, the World Bank has never run its operations in Namibia from a national office situated in Namibia itself, but has operated rather from the World Bank office in South Africa. Advisory services pushing certain agendas and promoting models are provided by short- and longer-term 'experts' who undertake country visits, organize high-level events, and are sometimes placed in line ministries or other public entities. In the 1990s in Namibia, the World Bank was active together with other donors such as the GIZ and UNDP in levying inputs in policy reforms in the water sector and in overall administrative reforms in the newly independent country. Some of the interventions and the influences they have cited for water reforms in Namibia are included in the analysis below.

7.2.4. Non-Governmental Organizations

The Desert Research Foundation of Namibia (DRFN) is a Namibian NGO that has been working around issues connected with environmental governance and sustainable development in its current form since 1990. The DRFN developed from what is now called the Gobabeb Research and Training Centre in the Western Erongo Region of Namibia, which has its historical roots in colonial expeditions to the Kalahari and Namib Deserts, and in desert ecosystems research. What was then

called the *Desert Ecological Research Unit* was established in Gobabeb by natural scientists under the auspices of the then Transvaal Museum, Pretoria, in 1962. In the early years the Centre operated and received finance from the South African Council for Scientific and Industrial Research and Foundation for Research Development (Royal Society of South Africa).

The DRFN was formed in 1990 to facilitate the dissemination and application of long-term insights and experiences gained at Gobabeb to benefit decision-making and sustainable management of the broader Namibian environment, under the auspices of Dr. Mary Seely, who was the Gobabeb Centre's director between 1970 and 1998.[121] Its aim is to contribute to establishing the political and legal framework for environmental management, and to develop local institutions and engage in capacity-building activities with actors at different scales in Namibia. 'Equitable participation in decision-making' and striving towards 'involvement and participation of all stakeholders to achieve enhanced environmental management' are mentioned in DRFN's vision as part of its overall objectives and core values.[122]

The DRFN is well connected to international donors and researchers active in Namibia's water sector, and receives project-based funding from development donors and research institutions from abroad such as the EC, the UN, and various bilateral donors. What is more, in terms of its linkages to international discourses and strategies, the DRFN has also been the acting secretariat of the Namibia Water Partnership (NWP), which falls under the umbrella of the Global Water Partnership (GWP), and which was established to promote the concept and implementation of IWRM. The NWP works by the GWP model as a multi-stakeholder partnership that includes members from government, the private sector and NGOs. According to the DRFN website there are currently 53 individuals representing 21 different partner institutions engaged in NWP.[123] From 2009 to 2011, the DRFN was part of a consultant consortium tasked with the formulation of the IWRM plan for Namibia.

Since the 1990s, the DRFN through its director as well as other experts and consultants, has been actively involved in an advisory role in policy-making processes related to the water and sanitation sector in Namibia, mainly focusing on water resources management, but also including the RWS function, for instance when it came to the two major reviews of the water- and sanitation-sector policy conducted by the Namibian Government between 1998 and 2000 and in 2008.

The Namibian Red Cross Society (NRCS), a national NGO with its head office in Windhoek and regional offices to run its country-wide operations in Namibia, has been active in grassroots

[121] http://drfn.startaenweb.com/about/history/, last accessed 10 April 2016.
[122] http://drfn.startaenweb.com/about/vision/, last accessed 10 April 2016.
[123] http://www.drfn.org.na/projects/old-projects/nwp/, last accessed 10 April 2016.

projects in the water and sanitation sector in Namibia since 1992 as an implementing actor, with external support from varying partners, including several European Red Cross Societies, the EC, and other donors. The NRCS, through their national water and sanitation coordinator in particular, are involved in PR activities and the coordination of water- and sanitation-related interventions at the national level, and are a member of the national water and sanitation coordination forum, which meets on a quarterly basis. In the context of its project and programme interventions in the sector of rural water supply and sanitation in the regions, the head office is responsible for rendering strategic, logistical, and administrative support to the regional offices and local project teams.

Kunene Region has been among the recipients of regional water and sanitation projects run by the NRCS, mainly involving small-scale water infrastructure and hygiene education programmes, lately also including components of community-based management and training. The Water Supply and Sanitation Project for the Rural Communities in North Namibia that was implemented by the NRCS between 2007 and 2011 will be described in detail in the subsequent chapter focusing on Kunene Region.

7.2.5. The media

Environmental consciousness has been on the rise in Namibian media since the early 1990s. Environmental focus pages have emerged in some newspapers, and magazines such as 'Conservation and Development in Namibia' have established that focus on the environment in Namibia. The journalist organization Media for Environment, Agriculture and sustainable Development (MEAD) was established in 2009 and started the newsgroup Namibian Environmental Media Online (NEMO) as a discussion group for stakeholders involved in environmental journalism, science, and policy-making in Namibia (Shigwedha 2013:490f.).

Environmental journalism and media commentary on political and legislative developments in the Namibian water sector in particular adds one of the discursive strands to the discourse around rural water supply in a country where environmental conservation has been high on the agenda for almost a century, starting with colonial conservation endeavours, and where the depletion or lack of some of the vital resources such as clean water, along with poor sanitation coverage and the associated environmental consequences, is a cause of concern. Notwithstanding the challenges posed to environmental reporting by factors like lack of conscience, information, and training with regard to the subject among journalists and editors, as well as pressures from groups whose interests might contradict independent reporting of environmental issues (Links 2013:500, 506-507; Shigwedha 2013), the Namibian media have been developing to some extent when it

comes to covering environmental topics in the recent past. There are now a number of journalists specializing in environmental issues working with important media outlets like the Namibian Broadcasting Corporation (NBC) and The Namibian newspaper.

Water is a topic that can be scrutinized from a multitude of perspectives, and which is interlinked with other issues like economic and social development, cultural practices, and health – to name but a few. Its media presence in an arid country like Namibia thus cannot be underestimated. In this thesis I concentrate my analysis on contributions by the local media that focus on issues of rural water supply, water-related policy reforms concerning community-based management, and the debate around access to water being a human right, or rather water considered as a good in mainly economic terms.

Selected entities that are part of Namibia's national media are presented here as actors relevant to public discourses on rural water supply. Given the intensity that research in media archives in a country largely still lacking up-to-date digitalization in this sphere, and the limited time resources during my field research, it is clear that only a small proportion of media activity around issues of rural water supply and related policy reform in Namibia have become part of my analysis. I have concentrated on print media of which archival material was available, and chose to focus especially on the independent daily newspaper '*The Namibian*', that being the largest daily newspaper in Namibia, published in English and Oshiwambo, with the widest distribution throughout the country, and – in contrast to many other media outlets – known for its independent and critical coverage of Namibian affairs, which was a feature even before independence in 1985. The analysis here is based on a full review of archival material of the issues of 1993, 1997, 1998, 2000, 2001, and 2004. These are the years of or directly prior to the passing of important policies, laws, and strategy papers in relation to the rural water supply reform. In addition to this, the complete 1993 issues of the '*Allgemeine Zeitung*' and other selected articles from the '*New Era*', the '*Namibian Sun*', and the '*Allgemeine Zeitung*' are also referred to in the analysis, covering the early years of post-independence water-sector policy-making in Namibia, as well as some more recent policy review processes and the legislative process around the Namibian Water Resources Management Act of 2004.

On an important note in this context, regarding Kunene Region, which was the focus of my local field research after I had finished with the media archives of the capital city Windhoek, it's important to stress that the impact and accessibility of media varies to a great deal when comparing Namibia's urban centres with its smaller towns and rural areas. In places such as in Kunene Region, newspapers will largely be read only in the regional centres of Opuwo and Khorixas, and only among limited parts of the population, such as for instance members of the

water administration. In the remoter places outside these towns this will largely not be the case. There, the radio probably still plays the most important role among all the types of media available.

The television, and in particular the locally available radio channels, might on the one hand have been a valuable media outlet to consider consulting as well, mainly because in the country's rural areas these media play a much bigger role than the frequently less accessible print media. On the other hand, though, it has been critically observed that the commercial broadcasters – working in radio and television – are commonly rather centred around entertainment, rather than conveying self-generated, critical journalistic content (Links 2013). Due to time constraints and accessibility issues when it came to older radio and TV programmes, they unfortunately had to be left out of the analysis here.

7.3. The travelling CBWM model and its local translations

I do not have any official data on the time schedule along which the actual implementation of CBWM in Namibia has taken place. Officially, it started in earnest after the adoption of the CBWM Implementation Strategy in 1997. From my own interviews with DWSSC staff in Kunene South however, it becomes clear that the first Water User Associations were already established there starting around 1993. According to information collected by my colleague Diego Menestrey on the North of Kunene Region from officials in the regional water administration and by means of a water point survey, the CBWM reform began to be implemented in the region in the second half of the 1990s. More than half of the WPAs and WPCs assessed by Menestrey were established after 2005 (mostly those with solar pumps), while the rest originated in the mid-1990s or in the early 2000s (Menestrey Schwieger 2015b).

Based on the motivation of the Namibian Government and some of its donors after independence to improve the water supply situation in Namibia, the water sector – and in particular the RWS sector – became one of the early priorities of policy review and reform in the newly independent nation-state. At the time, two prominent policy models of water supply governance that were usually accompanied by a set of legislative foundations and implementation technologies had evolved from international discourses among policy-makers, international donors, and water sector experts: One of them is the CBWM model, which is the focus here, applied mainly to the field of rural water supply. Based on principles of democratic governance and participation as well as certain stereotypical ideas and values connected to the notion of 'community', the CBWM model had begun to travel, and was being promoted globally, mainly for the RWS sector, by influential actor-networks. The other prominent policy model that had gained currency in

international cooperation and water-sector policy debates at the time – finding broad application in the urban and bulk water supply sector – revolves around involving private-sector actors, and/or managing water on the basis of commercial principles.

At the level of each nation-state, international water-policy prescriptions were usually debated, negotiated, and adopted as part of national water-sector reforms along the lines of the elements depicted in the generalized scheme provided in figure 26 below.

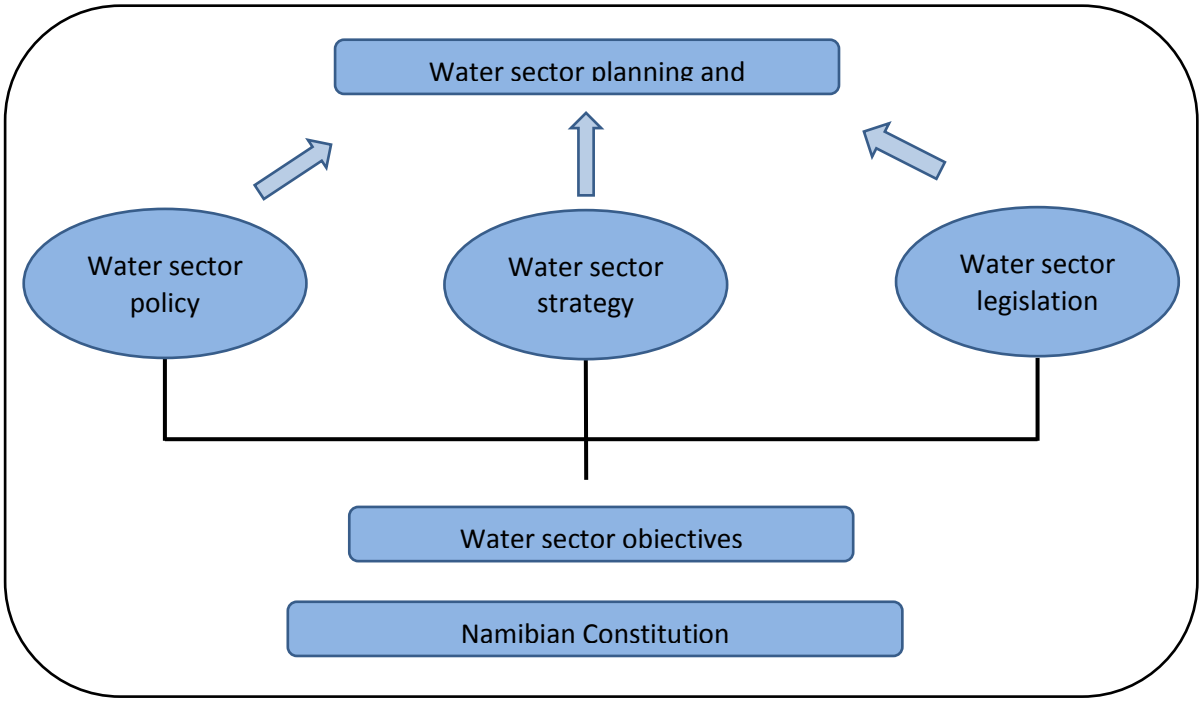


Figure 26: Common elements of national water-sector reforms
Based on (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1993:4)

The process of water-sector reform at the national level usually includes such elements as (a) the setting of general objectives for the water sector, (b) water-sector legislative reforms, (c) water-sector strategy-setting in the relevant ministries, and (d) the implementation of the water-sector strategy. These can be seen as translation phases embedded in the broader national context during which policy models such as the CBWM model for RWS are translated on the national scale. These elements will be discussed step-by-step in the current and subsequent chapters of this thesis. When treated in the analysis as parts of the CBWM model's translation chain, these phases constitute only a particular section of that chain – bounded in time and space. Those parts of the CBWM translation chain that I am describing and analyzing here were selected on the basis of the project's research focus, available data, and the time period of my fieldwork. I have thus decided to focus here on the part of the Namibian water-sector reform process that took place between 1990 and 2004, characterized by the translation of the CBWM model into the first Namibian national water-sector policy after independence (1990-1993), by the adoption of the

corresponding implementation strategy (1997) followed by implementation guidelines (1999), and by the approval of a new Water Resources Management Act by parliament (2004) (for a visual representation of these processes along a timeline see figure 27 below).

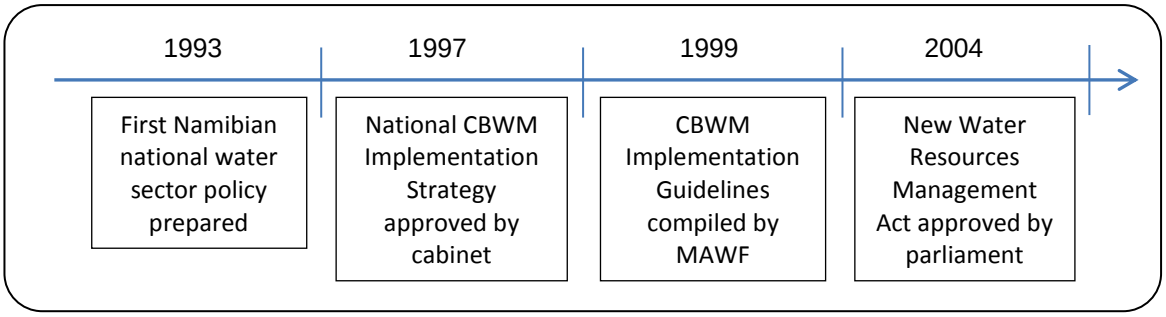


Figure 27: Namibian national reform process to include CBWM

After an initial reform push in the Namibian water sector in the early 1990s, phases of renewed policy-making and reforms with consequences for RWS in Namibia have been a recurring phenomenon over the past 20 years, and are touched upon in this thesis to a varying extent. Further translations of the CBWM model to fit a particular regional and local context in Kunene Region, Namibia, by way of its implementation by both Governmental and non-Governmental actors will be discussed in the subsequent chapter.

7.3.1. Objectives behind the introduction of CBWM for the water sector in Namibia

State-ownership of natural resources

Some of the underlying policy principles affecting the way in which water resources are managed in Namibia today are enshrined in the Constitution of the Republic of Namibia, such as in Article 100, which states: 'Land, water and natural resources below and above the surface of the land [...] of Namibia shall belong to the State if they are not otherwise lawfully owned' (Republic of Namibia 1990). This means that the state has the overall responsibility for the management of land, water, and other national resources and that ownership of the country's water resources rests with the state.

The principle of decentralization

Regarding the way in which the state was going to manage resources and provide services after independence in 1990, the Namibian Constitution of 1990 also includes the principle of decentralization of government functions to the regional and local level, stipulating that 'for purposes of regional and local government, Namibia shall be divided into regional and local units which shall consist of such regional and local authorities as may be determined by an Act of

Parliament [...] Every organ of regional and local government shall have a Council as the principal governing body, freely elected' (Republic of Namibia 1990:Article 102(1)). Regulating and operationalizing decentralization became a central motive behind Government policy- and law-making in Namibia during the 1990s. The legal foundations for a far-reaching decentralization of Government functions were laid by the Regional Councils Act No. 22 and the Local Authorities Act No. 23 in 1992 (Republic of Namibia 1992a); (Republic of Namibia 1992b) and the Decentralization Enabling Act No. 33 of 2000 (Republic of Namibia 2000a). Based on this general policy direction in the provision of social services, the management of natural resources was to be devolved to lower administrative levels, though controlled by the state.

For the water sector, the Water and Sanitation Policy (WASP) guidelines (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1993), approved by the Namibian Cabinet on 21 September 1993, prepared the ground for the introduction of a decentralized, community-based management model in rural water supply, and determined a change in the overall objectives and management practices in rural water supply following the end of the Apartheid regime.

The rationale behind the water policy review in Namibia in the early 1990s

Some very general motives, which have evolved in relation to both the status quo and future perspectives on water availability and the role that water plays in Namibia's development, are stated in the introductory parts of the resulting policy document that came out as a result of the water policy review process in 1993:

> '- Namibia is an arid country with very limited water resources;
> - in most places water is difficult to find and sources are exhaustible;
> - water is essential for the survival of both mankind and the environment;
> - the health of man and beast depends greatly on the quality of water available;
> - the rapid growth in the demand for water as a result of development increases pressure on this scarce resource;
> - the development and operation of water resources are expensive because in most cases it is not directly affordable by the beneficiaries, and requires financial assistance;
> - the economy and its future growth depends very much on the availability of water' (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1993:1–2).

Apart from Namibia's particularly challenging climatic conditions in terms of its aridity, and the consequences of this for water availability and the cost of water, these are motives that hold true for almost every country in the world. They lack any mention of the socio-political embeddedness of water management. However, when discussing with my Namibian interview partners in Windhoek, who had been involved in the CBWM policy-making and/or implementation processes,

about the underlying rationale and objectives of introducing the CBWM model into Namibian water-sector policy soon after independence, they referred to the following factors in their explanations:

i) the perceived failures of the water-supply initiatives that had been part of international development cooperation in previous years;
ii) the inability of the state to provide all the resources needed to ensure country-wide coverage with water access on its own; and thus:
iii) the need to introduce community financing and the ability of communities to carry parts of the maintenance work at water points themselves; and:
iv) the intention to transfer international water-management models to the national context in Namibia – as in Sub-Saharan Africa in general.

The following are some exemplary statements that were made by the different stakeholders at the national level, reasoning about the underlying motives and rationales behind the introduction of CBWM and participatory management as the model of choice for Namibia's rural water supply sector:

Box 3: Informants' statements about the reasons behind CBWM introduction in Namibia

EU	'The World Bank big scheme model for water supply, like in Kenya and Uganda, had proven previously not to really be working. Due to the lack of resources on the side of responsible Governments to cover operations and maintenance, everything broke down. The main motives for the introduction of CBWM on the Namibian side really were two combined factors: committing to supply the rural population with potable and affordable water; and the need at the same time to save the Government the money it used to spend on O&M. As giving the entire rural water supply function to NamWater would have been too expensive, and the Government lacks the resources to pay for RWS all by itself, the CBWM option is the most pragmatic middle ground.' (Interview André Devereux, 28-10-10) 'Overarching criteria for a successful water supply function should be equity and access.' (Interview André Devereux, 12.07.2011)
MAWF management	'At independence, rural water supply was identified as having been neglected. Another important aspect was the need for financial sustainability in water supply, which CBWM was supposed to help achieve. It is also a measure to get the communities involved and to form their own structures. CBWM means that they contribute to the maintenance costs themselves.' (Interview Pieter de Beer, 26-10-10)

MAWF staff	'[The new policy after independence in 1993] emphasized participatory, decentralized approaches because already at that time we knew that neither the water users nor the Government could manage the water provision on their own. We needed both to contribute.' (Interview Peter Dierks, 13.10.2010)
Water experts	'100 per cent water-supply subsidization was unsustainable. The solution was supposed to be giving over ownership of water points to communities.' (Colin Katjiua, 22.07.2011) 'Yes, you could say, from Rio, from the WSSD [WSSD was actually the Environmental Summit in Johannesburg 2002, so Rio+10] came this CBNRM concept. And from that concept it was now more sectoral, so, conservancies, water, forestry, yah. And then the Basin Management approach is again… in Namibia it's two different layers, or two different processes like that, that are taking place. In terms of the CBWM concept, which really started in... It's more Dublin and those principles, so... which is actually where everything comes from anyway. I mean, even if you take the IWRM principles now, it's taken from the Dublin Principles really. (Interview Sara Namises, 26.07.2011)

These objectives of post-independence water-sector policy reforms in Namibia echo the rather mixed set of objectives for water-sector policy-making that were mentioned at international events, in donor discourses, and in water-sector publications at the time. Explicit reference to the Dublin and Rio Conferences of 1992 in particular can be retraced in some of the Namibian policy documents (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 2000c; IWRM Plan Joint Venture Namibia 2009), as well as in my interviews.

During the period during which the Namibian Government was preparing the first post-independence water-sector policy the UNCED in Rio in 1992 was the first international mega-event where Namibia was represented by a Government delegation, after having been excluded from UN international mega-events during the time of Apartheid rule. While there had not been any Namibian participants in the earlier New Delhi and Dublin water conferences, Namibia became one of the 178 signatories of Agenda 21 in June 1992 – a year before the result of the

interministerial committee's work on Namibia's water- and sanitation-sector policy was adopted in September 1993.[124]

In agreement with the three influential sets of international water-management principles that originated from the UN conferences in Dublin and Rio in 1992, and also the earlier conference in New Delhi in 1990, the Namibian WASP policy of 1993 defines 'community ownership and management' as the underlying principle in the management of rural water supply – just as in the management of sanitation: 'Where possible, it should be left to the community itself to decide on internal priorities and division of responsibilities. It is recommended that community ownership and management of facilities should be adopted as the strategy of choice for the water supply and sanitation sector in the communal areas' (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1993:15).

The WASP document contains a number of generic policy guidelines that commonly form part of the CBWM model internationally, such as the principles of the delegation of responsibilities to the lowest appropriate level and of maximum community participation: 'The three basic principles for the establishment of water supply and sanitation schemes are: the maximum involvement of users; the delegation of responsibility to the lowest possible level and; an environmentally sound utilisation of the water resources.' (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1993:18).

It is interesting to note in this context that a definition of *community* – something that is often lacking in policy documents, donor publications, and even scientific analyses – is included in the underlying Namibian water-policy document of 1993, as follows: 'Community: an assemblage of dwellings where a number of people reside, who individually may make a living from agriculture or from other means, and where no permanent government facilities (e.g. school, clinic, post office, police station) exist' (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1993:19). As a definition, this statement might leave much to be desired in terms of clarity and concreteness. Strikingly, but probably not surprisingly given the early post-Apartheid phase that Namibia was in when this definition was written, a community here is defined by being rural, and by the absence of public services at the same time. The most striking criterion for a group of people or a location in Namibia to be labelled a 'community' in this 1993 definition is the absence of state presence. An alternative to introducing the concept of 'community' as a management unit in the policies and legislative framework in relation to the management of

[124] See for the full text of Agenda 21, and in particular chapter 18 titled 'Protection of the quality and supply of freshwater resources: application of integrated approaches to the development, management and use of water resources': http://www.un.org/esa/sustdev/documents/agenda21/english/Agenda21.pdf.

natural resources might have been to resort to the second-tier administrative unit of *ward*, introduced during the South African administration, which used to be administered by a chief or sub-chief of the officially recognized Traditional Authority. This obvious reference to colonial governance structures, however, was not a politically viable option for the Government of newly independent Namibia.

In addition to the strong orientation towards user participation and community-based management in the first Namibian post-independence water policy apparent in the quotes above, the underlying rationale of cost-recovery and of treating water as an economic good in order to achieve economic efficiency are further important elements of the central outcomes of the Dublin and Rio processes, and were also reflected in Namibian policy-making in the water sector. The CBWM model was closely connected to the notion of water as an economic good, as based on Dublin Principle No. 4 of 1992. The underlying intention was to reduce the costs of rural water supply that the states had previously had to bear by introducing user fees or community financing mechanisms and cost-recovery as overarching aims. Against the background of the multitude of needs to be catered for in newly independent Namibia – as in many other countries of the Global South during the same period – and given the conditions that the government faced in the water sector, such as issues with access and maintenance, and the related costs, the economic principle from the Dublin Statement was welcomed by many. Governments were facing the imperative of having to take care of the country's development ambitions and the population's needs, and not only in the water sector – with limited resources available. As stated in the WASP document of 1993: 'Obviously the government and the users have a common interest in keeping the cost of water supply and sanitation as low as possible. Thus, the users should as much as possible be made self-supporting in their water and sanitation requirements and the extent of direct government involvement should be restricted' (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1993:18).

Economic reasoning resonated well, and in parts of course originated from the policies of some of the major international donors such as the World Bank and the International Monetary Fund (IMF). Or, as the World Bank has it in a report on an African water sector workshop three years later: 'With a huge legitimate agenda for sector investment, but limited available resources, African countries face difficult decisions on choices and trade-offs involving water, agriculture, industry, education, transport, and other development goals. Support and guidance are needed on the analysis of trade-offs' (World Bank 1996:10). As used to be the case with other development models both before and afterwards, the World Bank was one of the global actors involved in organizing the network of experts, donors, and policy-makers in the water sector dealing with RWS in order for it to produce, translate, and reproduce the CBWM model. As has

been shown in the previous chapter, the World Bank also contributed to shaping the discourses around some of the principles underlying the CBWM approach, such as community participation in resource governance, rationalization of public services and privatization, and decentralization.

Apart from the provision of grants and loans to recipient countries, there are other measures commonly used by international donors to shape discourses and convey and translate paradigms and models, such as: policy advisory programmes that place external 'experts' with direct donor funding at governmental or ministerial level; policy review initiatives that identify recommendations based on best practices and lessons learnt, focusing on certain sectors or issues; high-level events organized with donor funding where high-ranking Government officials are brought together with donor representatives, development 'experts', and sometimes scientists and NGO representatives (Molle 2008; Rottenburg 2009).

All of these instruments can be identified – to a varying extent – in the process of translating the CBWM model internationally and of shaping rural water-sector policy and practice in Namibia (and other countries) up until today.

7.3.2. The World Bank water-policy workshops in Africa, 1996 - An interstitial space

Two 'technical workshops' co-sponsored by the World Bank and the United Nations Environment Program and focusing on water-sector policy and reforms in Sub-Saharan African countries were organized in 1996 to discuss the further development of these countries' water sectors and to debate central policy issues, principles, and models (World Bank 1996). These workshops constitute important interstitial spaces that underscored early translations of the CBWM model among other policy recommendations on the Namibian national scene.[125] The workshop designed to impact the national level of water-related policy-making in Eastern and Southern Africa was held in Nairobi, Kenya, from February 12 - 15, 1996[126] under the theme: 'African water resources: challenges and opportunities for sustainable management'. It was attended by a total of 119 participants, comprising: a group of 60 selected senior level representatives of Eastern and Southern African governments[127]; staff members of UN agencies[128]; bilateral donor representatives; a representative of the European Commission; a number of NGO representatives

[125] For an analysis of the same workshop in the context of an extensive study on water commercialization in Namibia and the influences of global water discourses, donor strategies and financing, see McClune 2004.
[126] A second similar workshop was held a week later in Dakar, Senegal, covering the countries of western and west central Africa.
[127] In this case, participants from Angola, Botswana, Burundi, Eritrea, Ethiopia, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Rwanda, Somalia, South Africa, Sudan, Swaziland, Tanzania, Uganda, Zaire, Zambia, Zimbabwe.
[128] Namely FAO, UNDP, UNEP, UNESCO, UNICEF, and WMO.

– all but one of them based in Kenya, the country hosting the workshop – a few water-sector experts/ consultants; and finally a total of 16 World Bank staff. The Namibian participants were the then Minister of Agriculture, Water and Rural Development, Nangolo Mumba – a well-established senior SWAPO politician who has since held four other ministerial posts and is currently the party's secretary-general – and Piet Heyns, who was then Director for Investigations and Research in the Department of Water Affairs in the Ministry, later to become the Head of the Department of Water Affairs.

> Born on August 15 1941 at Olukonda in the Oshikoto region, **Nangolo Mbumba** spent 25 years of his life in exile in Zambia, Angola and the US where he earned a BSc at the Southern Connecticut State College in 1971 and an MSc in Biology at the University of Connecticut in 1973. He was a science and mathematics teacher at Harlem Preparatory School, New York, USA from 1975 to 1978. Later exiled in Angola, he then started his career in the ranks of SWAPO in 1985, working his way up the party ranks since. Before independence he had been an advisor to both Hage Geingob and Sam Nujoma. Since 1993, he has been a member of the Namibian National Assembly. Today he is one of Swapo's most high-ranking administrators and has been assigned several key cabinet positions including the first one as Minister of Agriculture, Water and Rural Development from 1993 to 1996. He was elected Secretary-General at the 2012 SWAPO Congress.[129]

As Mbumba briefly describes his own vita:

> 'I was born a teacher, by a teacher, I grew up as a teacher and now I am a teacher. I went to the then Ongwediva Junior Secondary School for three years before going to Oshigambo High School which had a reputation of being the best school in the northern part of the country built by Finish Missionaries. I was there for four years. And that is where I started my political career. There was one old man called Andimba Toivo Ya Toivo who was instrumental in recruiting us to politics. In 1965 we left Namibia. I was in Zambia, went to the USA. Having done that I spent 10 years in Angola teaching in schools. I was Secretary to Cabinet before I was sent to Walvis Bay to negotiate for the return of Walvis Bay to Namibia. I then held several ministerial positions including, agriculture, finance and information.' [130]

According to the World Bank workshop report of 1996, the meeting's focus was on 'partnership and consultation: develop consensus and a broad coalition for promoting more efficient and equitable use of water resources in Sub-Saharan Africa' (World Bank 1996). Along the lines of the common rhetoric used in development contexts when it comes to donors making substantial inputs into the design of national strategies and policies under the banner of cooperation,

[129] Based on: http://www.swapoparty.org/secretary_general.html, last accessed 10 April 2016; Hopwood 2008.
[130] Interview at http://www.winne.com/dninterview.php?intervid=1805, last accessed 10 April 2016.

partnership, and recipient country ownership, the foreword of the workshop report reads as follows:

> 'African countries must take the lead in integrated, multi-sectoral approaches in the development and implementation of national water strategies that involve all stakeholders. When designed by African countries themselves, such strategies can make optimum use of African capabilities, resources, and experiences. Additionally, partnership is needed between donors, between African countries, and between these two groups. Experience shows that donors working together, and following an African lead within countries, is the best path for success' (World Bank 1996:Foreword).

In some ways, this introduction about African countries participating or taking the lead in policy-making and implementation is reminiscent of the ideas often invoked when participation is stressed at the level of target groups in the context of development projects. Involving for instance rural water users and 'communities', and fostering participation (by aid-recipient countries or by rural target groups of aid) in the design of strategies (national water-sector strategies) or in development interventions at the local level is frequently presented as a recipe for automatic success. At the same time, this way of framing the involvement of aid recipients in strategic design and implementation can be seen as a pleasant-sounding smokescreen that helps the authors to avoid talking about their own motivation and rationale for becoming heavily involved in the setting-up of water governance in a country where the direct connection to the interests of the donors from the Global North such as the World Bank might seem far-fetched. In the context of the structural adjustment policies of the 1990s, these interests can be described (following Rottenburg) as follows:

> '(1) dismantling state intervention into markets; (2) reducing the state and administrative apparatus to a necessary minimum; and (3) reestablishing an investment-friendly climate by paying attention to the balance of mobilizable resources to consumed and invested resources.
>
> In practical terms, this means supplementing individual projects with large-scale reform packages that transform the economic and administrative-policy structure of the country concerned. This means massive interventions in the domestic affairs of the countries of the South […]. In general terms, loans were no longer distributed as reparations but rather in exchange for the fulfillment of certain conditions. In the language of the World Bank, "investment lending" was replaced by "policy-based lending"'(Rottenburg 2009:10–11) .

Invoking more of the international water-sector paradigms and buzzwords at the time, in the opening address presented on behalf of the UNEP Executive Director, UNEP's Assistant Executive Director directly linked the workshop theme to Agenda 21, and in particular to Chapter 18, which calls for the adoption of an IWRM approach internationally. A strong emphasis lay on concepts

such as sustainable development, the safeguarding of ecosystems, the satisfaction of basic needs, and water equity (World Bank 1996:4–9). When reading further, however, other objectives behind facilitating public-service-sector reforms along the lines of the neoliberal economic paradigm emerged more clearly when Kevin Cleaver, the Director of the World Bank's Technical Department for Africa stated: 'What is Policy Reform? It is the response to: fiscal imbalance; uncompetitive exchange rates; high trade barriers; administered price controls; large, inefficient state enterprises; large, inefficient civil service; public expenditure going to white elephants; poor capacity' (World Bank 1996:13). What is more, a direct conditionality of recipient countries having to adhere to some of the World Bank's underlying policy principles when adopting a certain political approach in national reforms in order to receive World Bank support is pointed out in the same speech: 'Analysis of political changes in African countries in recent years indicates progressive liberalization. The increasing pluralism, including greater stakeholder participation in development planning, is a significant positive sign when the World Bank and donor agencies are considering program support' (World Bank 1996:10).

As also becomes clear from the presentation given by Narendra Sharma, the coordinator of the workshop from the side of the World Bank, who was then Agricultural Advisor for the African Region at the World Bank in Washington, to achieve its neoliberal economic agenda based on an understanding of water as a commodity, the World Bank favoured a combination of approaches to water-sector reforms including both community-based and market-oriented institutions at the same time: 'As the World Bank's strategy advocates a systematic approach to water management, it calls for integrated sector operations that focus on stakeholders and the private sector, requiring long-term horizons, or rely on community-based systems and market-oriented approaches' (World Bank 1996:36).

In connection to the strategies to be adopted in the national water reform programmes that would also be favoured in terms of providing funding by the World Bank, Sharma provides the following, clearly selective summary in his closing speech:

> 'Regarding the strategies and investment options, I'd like to very selectively take some of the points that came out during the last two and a half hours and focus on some of the key points that I believe deserve attention. Naturally there might be some other important points that have fallen through the cracks; that is not intentional. We will be sure that they are integrated in the document as well as in the proceedings.
>
> - Country-led strategies with responsive donor support, a point I've made already.
> - Commercialized approach to service provisions.
> - Pluralism, participation of other stakeholders, private sector, etc.

- Community-level management and resource mobilization, a point I made in my earlier presentation. The dependency that some of you talked about in some of the presentations links into this.
- Pricing and cost-recovery; focusing more on demand-management.
- Equitably and environmentally sustainable development. In other words, recognizing that indeed what is at stake is the interest of future generations, and it is our responsibility to ensure that we do not degrade the type of systems that are benefiting us today, that give us options for future use, and that also provide options for future generations as well' (World Bank 1996:256).

The workshop presentation on the Namibian water sector held under the heading 'country perspectives – achievements and opportunities' by Piet Heyns (World Bank 1996:137–49) was structured into three main parts: The first part consisted of an introduction to the status quo with regard to water resources and the existing water-management arrangements in Namibia at the time, including the relevant policies, laws, and institutions in place. The second part of the presentation described existing challenges with reference to the underlying condition of water scarcity, and to issues of policy and regulation, institutional issues, and information. The third part describes achievements and recent activities in the water sector by the Namibian Government, containing a direct reference to the introduction of the CBWM model in the rural areas:

> 'Based upon the principles of active consumer involvement in water supply and the performance of water supply functions at the lowest possible level of delegation, an approach has been adopted whereby community participation in the development of water supply infrastructure is an integral component in fostering responsibility for the operation and maintenance of the installations. […] It is expected that committees will eventually organize and manage the daily operations and maintenance of their water schemes, encourage the judicious utilization of water, and guard against pollution or wastage of water. The committees will also make recommendations on water tariff structures and the collection of money for water supply. The Government will train members of local communities to gradually take over the responsibility for operation, maintenance, and management of their water supply' (World Bank 1996:148).

Namibian adoption of the commercialization model for bulk water supply

Before refocusing on the Namibian rural water-supply sector, it must be noted that – as was the case in many countries receiving World Bank funding and policy advice from the side of Western donors and water experts at the time – the introduction of CBWM, and thus the 'communitization' of the rural water-supply function in Namibia, went in parallel with a commercialization of the bulk water function, which has prompted rather controversial reactions in political and public

discourses in Namibia since. Although the public debates around water commercialization and its consequences in the urban and bulk water sector are not the focus of my study, the topic is certainly of relevance, as some of the more controversial debates have also had an impact on the translation process of CBWM for the rural water sector in Namibia – as will be seen below.

The same rationalization study commissioned by the Namibian Government in 1992 that had led to the restructuring of the Department of Water Affairs had also resulted in a further examination of the possibility of commercializing the bulk water-supply function. According to the World Bank Workshop report, the study indicated that commercialization would be 'practical, viable, and desirable. In August 1994, it was decided to continue with further studies to determine the details of commercializing the bulk water supply function and to restructure the remaining portion of the Department of Water Affairs so as to maintain responsibility for the control and conservation of the water resources in the country and to fulfill a social responsibility towards the establishment of rural water supply infrastructure' (World Bank 1996:141). This decision led to the creation of NamWater in April 1997 – a commercial entity, with the Namibian Government being the sole shareholder – followed by the passing of the Namibia Water Corporation Act later that year (Republic of Namibia 1997). NamWater holds the water supply assets and operates them on business principles. NamWater is controlled by the state from headquarters in Windhoek, and currently employs over 600 workers across the country[131].

As Heyns summarizes in a later paper on Namibian institutional reforms in the water sector, very much along the lines of the structural adjustment logic of the 1990s:

> 'There was also a need to split the regulatory function and the social responsibilities of the government from the hat of a service provider. The first two functions are incompatible with a business approach by **a commercial water supply company who should make water services more competitive, cost effective and efficient**. […] **A commercial company would be in a much better position** [than the Namibian Government] **to do long-term planning, attract capital investments from the private sector or to borrow money from commercial banks to establish water projects that would be operated on a full cost recovery basis.** […] A commercial company can offer better service conditions, lay people off after negotiations according to a due process and recover personnel costs through the services provided [...]' (Heyns 2005:97–98; emphasis and additions mine).

Heyns' ideas, however, were not uncontested. In an article in the local newspaper *The Namibian*, the passing of the NamWater Bill in 1997 is described as 'controversial'. The article mainly represents the standpoint of disadvantaged rural population groups, and mentions an 'outcry

[131] https://www.namwater.com.na/, last accessed 10 April 2016.

because of fears that it [the Bill] would further disadvantage the rural poor', and states that it was 'recommended that rural water supply be excluded from NamWater' and that the 'Government should continue subsidizing water in remote rural communities which cannot afford to pay' (Unknown Author 1997).

It would go beyond the scope of this thesis to present a more detailed picture of the discourses and contestations around the commercial approach that has since been applied to Namibia's bulk water-supply sector, including rural pipeline schemes.[132] It is important to note, however, that these discourses have been highly politicized, often including references to the argument that access to water is a human right[133] and/or that it should be free altogether. Others postulate that access to at least a quantity of water covering the basic human needs should be free of charge (IRIN 2006). The then Namibian President Sam Nujoma entered the debate, repeating his demand for water equity at a public speech in 2000: 'Water should be made affordable "to all the people", he [President Nujoma] said: "Water is a basic necessity and NamWater must fully co-operate with the Government in realising the objective of providing clean, potable water to all our people", the President added' (Angula 2000).

Among the causes of discontent with the commercialization of bulk water supply and with NamWater have been problems with the services to informal settlements of bigger towns and of the capital city Windhoek itself. These areas have been partly under-serviced anyway, and have also faced conflicts over service cut-offs due to the inability of poorer inhabitants to pay for municipal services such as water supply. For instance, the case of the then approximately 13,000 inhabitants of the Goreangab area near Windhoek, who were cut off from water supply altogether for several years by the municipality due to accumulated debts, hit the headlines in Namibia in 2004 and actually resulted in a High Court case lodged by the LAC, engaged by several thousands of Goreangab residents (Amupadhi 2004).

Criticism of NamWater's practices at one point led to a public call and a motion repeatedly brought forward in the National Assembly that included the call to abolish NamWater altogether and to return the responsibility for supplying water to the Government (Dentlinger 2003b), (Dentlinger 2005c). The motions were brought before the National Assembly by the then DTA-UDF opposition leader when NamWater had decided in favour of water cut-offs as a consequence of huge outstanding water payments during a period of drought in 2003, and again in 2005.

[132] For more on this, refer to: McClune 2004; Wellmer 2004; Magdahl 2012.

[133] Which became an acknowledged fact only in March 2010, when the UN General Assembly and the Human Rights Council recognized the human right to water and sanitation (United Nations 2010).

Box 4: Water cuts executed by NamWater in 2003
in reaction to outstanding water payments by municipalities

"Is NamWater now the God of Namibia that must decide who should live and who should die?"

The case of water cuts executed by NamWater in 2003

in reaction to outstanding water payments by municipalities

A debate in Namibia's National Assembly on 30th of September 2003 revolved around the decision taken by NamWater to cut the water supply to several towns across the country – including the regional centres of Rundu and Katima Mulilo, as well as Okakarara, at a time when NamWater had made losses since its inception – in the order of N$20 million in the financial years 2002 and 2003 (Unknown Author 2004).

Neither was it the first nor the last time that MP Katuutire Kaura, the leader of the DTA-UDF opposition, criticised the parastatal fiercely for disregarding the water needs of Namibia's poor: During the debate, Kaura argued that the provision of water should not be 'privatised' and demanded that water should rather be provided free of charge to vulnerable groups: 'Why should we punish a peasant farmer for not paying his water bill while his annual income is perhaps below N$24,000, the threshold from where salaried income is taxed?'. At the time, according to a NamWater estimate, basic water for a household of five (about 8 kilolitres a month) would have cost N$52 at a price of N$6.50 per kilolitre (Unknown Author 2004). This would have accounted for a total of 624 N$ per year – or 2.6 of the maximal income tax-free annual income of N$24,000 that Kaura was referring to. The UN, as a reference, postulates that water costs should not exceed 3 per cent of household income (OHCHR 2010).

In his parliamentary speech, Kaura inquired further: 'Is NamWater now the God of Namibia that must decide who should live and who should die? The country is in the middle of a severe drought. There is no water, it did not rain - yet NamWater is cutting off the little bit of available water to the people'.

Interviewed by a Namibian daily newspaper about his views following the debate, the then CEO of NamWater appealed to citizens to understand the costs involved in providing water, and that 'without money, the water will stop flowing'. He said NamWater was not a profit-driven institution and that it was a misconception to believe that water supply in Namibia was privatized, saying that Government was NamWater's sole shareholder, and thus 'calls the shots' (Dentlinger 2003b).

There have been recurring problems with ensuring a stable water supply to Namibia's municipal and rural areas served by pipeline schemes under the maintenance and administration of NamWater since its introduction. Problems have involved repeated cut-offs of local water

provision in the municipalities and in rural areas with pipeline supply, due to accumulated debts these providers had to NamWater, which were ultimately caused by outstanding user payments (Magdahl 2012:48).

Box 5: Water rationing in Opuwo in 2005 due to outstanding water payments

The case of water rationing in Opuwo in 2005

due to outstanding water payments

Opuwo, the northern regional capital of Kunene Region, had been cut off from water supply by the Town Council for three months in 2005 due to outstanding water payments by the municipality to NamWater. 'Failure to pay NamWater around N$260,000 in unpaid debts has forced the Opuwo Council to make the drastic threat of repossessing houses unless residents pay up. Opuwo Mayor Uaurikua Kakuva, who is also the principal of a primary school at the town, describes the situation as "really terrible". At present, the water is only turned on for about an hour in the early morning and again for about two hours in the evening. He said the council was struggling to change the mind-set of many residents who have never paid for services and who have never experienced the consequences of not doing so. Kakuva said the poor quality of water also made it difficult to convince residents to pay for it, but that on the other hand the town could not expect to enter into discussions with NamWater to improve the supply, if it wasn't paying for its provision' (Dentlinger 2005a).

At the same time however, claims of a problematically low water quality in Opuwo had been a topic of ongoing debate, which had prompted not only some of Opuwo's inhabitants, but also members of parliament to claim that paying for water of such low quality was unjustifiable (Dentlinger 2004a, 2005a, 2005b).

At some stage in the mid-2000s, civil society organizations in Namibia such as the Legal Assistance Centre (LAC) and the National Society for Human Rights (NSHR) started campaigning publicly around the right to adequate and affordable supplies of water, including calls for free access to water for the poorer segments of society (Dentlinger 2003a; Namibian National Society for Human Rights 2005). Actors within the MAWF and NamWater, as well as representatives of Namibian national NGOs such as the DRFN, presented the view that delivering water to the end-user must have a price, and that this must be paid by the customer:

> S.N.: Yes, in that debate [around the human right to water, T.K.] you definitely have to contact the LAC. That's obviously [a staff member of the LAC, T.K.], going around telling people they should have free water. Yeah, that people shouldn't pay for water. Cause, you know, it's a human right, water is a human right. This started around three years ago, and it's still going on.

> Q: Maybe regarding this human rights debate again. Or, let's say this pricing versus free water discourse. How would you describe the different camps in this in Namibia? You mentioned the LAC being on the one side it seems...
>
> S.N.: Yeah – this was in my days when I used to work for DRFN, I mean, all my life almost. Now, we are saying that people should pay for water services. Water is free, and services paid, and that's the message that we've been giving across, but then the LAC would come up with a counter-thing that some percentage of the country is so poor, and they ask what do you do in that case? And then we come up with a counter-argument again. We had this nice debate, a couple of years ago. And then we said: but listen: who is poor – this is the biggest problem we have in this country; you can't determine who is really poor because you go to the poorest of the poor areas, and you go in there and you try and go into the shacks. Okay, they stay in a shack there, you know, but then it's so nice. It's nicer than your house. They have a nice cupboard, a nice television, everything, and everybody's got a cellphone and…
>
> Q: What about those areas where cattle-breeding is the main means of generating income?
>
> S.N.: In the cattle areas as well, yeah. **And then in the cattle areas they don't have to pay for the water per head of cattle. They want to pay the same 20 N$ that everybody else is paying everywhere.** So those are the arguments on this issue. But unfortunately there is not much you could find on paper.
>
> (Interview with a previous DRFN staff member who has done scientific and practical work on Namibia's water-sector reforms, July 2011)

Discourses on the ability of water users to pay, on the human right to water, and on problems with water payments in a country with extreme levels of socio-economic inequality were present in political debates around the introduction of the CBWM model for rural water supply in Namibia on different levels. Among other issues my informant here also mentioned the particular challenge of translating the CBWM model, including water payments by the users, to communal areas such as Kunene Region where cattle-breeding is the main means of income for large parts of the local population. The aim of introducing water fees here, where both the economic situation of households and levels of water use are determined by the numbers of cattle owned, was found to be a contested issue in my interviews and through observations that my LINGS project colleagues made in local communities. They revealed some of the local conflicts around having to pay for water that had previously been provided totally free of charge, and the challenges of introducing a policy model aimed at equity into a local context marked by pre-existing inequalities in power and wealth.

7.3.3. The translation of the CBWM model as part of the national water policy reform programme in Namibia

Policy-making processes leading to water sector reforms in Namibia in the early years after independence mark one of the translation phases during which the CBWM model was passed on in its travels from international settings to the national scene in Namibia. An initial phase of CBWM-related policy-making lasted from 1990 to 1993, when the foundations for introducing the CBWM model into Namibia's rural water-supply sector were laid. This period will thus be the focus here when discussing CBWM-related policy-making in more detail.

In the subsequent sub-chapters I will use official policy documents, as well as documented descriptions of donor inputs, and commentary on the reform process made by my informants in interviews, to draw a picture of the reform steps and of some of the important elements in CBWM implementation to be introduced to the Namibian setting, namely:

1) The concept of the Water Point Association, encompassing the water users at a given water point; [134]
2) The Water Point Committee as the body elected by the WPA members to manage the water point;
3) The WPA Constitution, setting out the powers and functions of WPA and WPC.

A list providing an overview on strategy papers prepared by the Namibian Government related to CBWM is included in Appendix 11.1.

The Water Supply and Sanitation Sector Policy of the Government of Namibia (1993)

The national policy-making process towards water-sector reforms in Namibia commenced in 1990, and led to the adoption of the Water and Sanitation Policy (WASP) by the Namibian Cabinet in September 1993. As a first step, based on a cabinet resolution of November 1990, the interministerial *WASP committee* of 17 Government representatives was formed, and tasked with developing the new policy document. The WASP policy was going to provide crucial policy directions in a country with very limited water resources and a growing demand for water (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1993:2), and at a time when redressing the inequalities and economic constraints caused by the previous Apartheid

[134] Apart from the lowest level of user representation by the WPA at community level, which will be the main focus here, the legislation for CBWM in Namibia also stipulates the establishment of Local Water User Associations (LWUAs) at an aggregate level. In the data I gathered, both from primary and secondary sources on CBWM implementation in Namibia and from my observations and interviews with the water administration, the LWUAs do not play a bigger role in Kunene Region, and thus will not be dealt with here in more detail. At the time of writing, unfortunately no figures on actually established LUWAs are available to me.

Government were a priority (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1993:12). After representatives from all seven concerned Government entities had been appointed to the committee, based on the experience provided by 'international organisations who have been involved with similar investigations in Africa' (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1993:3), an external consultant from Norway was commissioned to assist the WASP committee members with their task (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1993:3).[135] The WASP committee began its work in March 1991. The process of formulating the underlying principles and detailed sector strategy for the new water policy involved committee workshops, working group sessions for the various sub-sectoral themes, and consultations with experts and civil society. Drafts and a final version of the 200 page-*WASP Report* were compiled and commented on. The report was finalised in early 1992 and contained the proposed WASP principles, a management summary, and a chapter on recommendations (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1993:3). It was the role of the Namibian Cabinet to subsequently discuss the main findings of the report and agree upon a formulation for the new overall water policy that had been submitted to them along with the full report in 1992. The WASP policy containing the WASP principles and recommendations was approved by cabinet on 21 September 1993 – two-and-a-half years after the first workshop of the then newly appointed WASP committee had taken place.

The following were the objectives of the overall long-term sector policy that were adopted through the 1993 WASP document, and which prominently include the elements of cost recovery for water supply services, community participation, equitable and affordable access and sustainable water use as the underlying principles of CBWM in Namibia:

> 'Essential water supply and sanitation services should become available to all Namibians; and should be accessible at a cost which is affordable to the country as a whole.
>
> This equitable improvement of services should be achieved by the combined efforts of the government and the beneficiaries, based on community involvement, community participation and the acceptance of a mutual responsibility.
>
> Communities should have the right, with due regard for environmental needs and the resources available, to determine which solutions and service levels are acceptable to them.

[135] The WASP committee consisted of one external consultant together with eight representatives of the then Ministry of Agriculture, Water and Rural Development, which also provided the committee chairman; two representatives each from the Ministry of Local Government and Housing, the Ministry of Works, Transport and Communication, and the Ministry of Health and Social Services; as well as one representative each from the Ministry of Lands, Resettlement and Rehabilitation, the National Planning Commission, and the Office of the Prime Minister Republic of Namibia (Ministry of Agriculture, Water and Rural Development 1993).

> Beneficiaries should contribute towards the cost of the services at increasing rates for standards of living exceeding the levels required for providing basic needs.
> An environmentally sustainable development and utilisation of the water resources of the country should be pursued in addressing the various needs.'
> (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1993:5)

The WASP also cemented the profound structural change in the Namibian governance of rural water supply whereby the long-term aim was for the government to act as facilitator of user-based water management rather than as service provider. An emphasis was made on the right of communities to decide on their own preferences in terms of service levels, technical solutions and management choices (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1993:5; 15).

Support services from the government were not going to be free of charge, implying that communities have since been responsible for covering the costs of their water supply. However, a provision for subsidies to cover lifeline water access was made:

> '[…] because of the great variations in conditions in general throughout Namibia a system should be worked out whereby the ability of each community to pay for services rendered can be assessed and evaluated and the need for subsidization, if it would exist, quantified.'
> (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1993:7)

It becomes clear from the policy document itself, as well as from the statements of informants at the national and regional levels, that a successful implementation of the new water policy and the CBWM element in particular depended to a great extent on the willingness of communities to engage with the CBWM process, and also on their capacities to manage their water points, both technically and in terms of the institutional arrangements made. The WASP identifies the training needs of communities in the direction of water-source monitoring in order to ensure a sustainable management of the water supply – thus within the safe yield capacity of water points – and in the area of scheme operation and management. At the same time, the ministry extension staff itself was seen as requiring training in order to fulfil their key role in rolling out the CBWM model in the regions by facilitating the transfer of water-point management and by providing ongoing assistance, monitoring and advice to communities (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1993:23).

Among other issues, the training of the ministry extension staff as mediators of the CBWM model, and of the community members who were going to be assigned certain roles in its local implementation, became part of the national implementation strategy for CBWM in 1997, the outcome of the next step in the national CBWM-related policy-making process.

The Implementation Strategy of the Community Management and Cost Recovery Aspects of the Water Supply and Sanitation Sector Policy (1997)

To further define the operational basis for introducing CBWM as the national strategy for supplying water to rural communities, the Namibian Government launched a process leading towards the formulation of the *Implementation strategy of the community management and cost recovery aspects of the water supply and sanitation sector policy (WASP))* (further referred to as *CBWM Implementation Strategy*) in 1995, with cabinet approving the eventual strategy document in June 1997 (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1997b). An informant who had been involved in the strategy-setting process and formulation from the side of the MAWF mentioned the amount of stakeholder participation in the process as the main reason for its duration of two years: 'In the compilation of the CBWM Implementation Strategy there was total stakeholder participation with workshops in all the 13 regions and in 13 languages. It thus took a long time' (see also the list of activities that formed part of the consultative process contained in Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1997a as cited in Matros 2003:78).

While the 1993 WASP mainly lays the foundations for an introduction of the CBWM model in Namibia in the form of overarching sector objectives and strategic direction, the 1997 CBWM Implementation Strategy is a concrete, phased plan that translates the policy based on the CBWM model into activities, funding needs, and a timeframe. Furthermore, the strategy of 1997 is more explicit on some of the underlying principles discussed at the 1996 World Bank Water Sector Workshop, such as water being an economic good, cost recovery, and the roles of communities in the management of rural water supply (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1997b:5).

The responsibility for water management in Namibia's communal areas was devolved to the 13 Regional Councils in a planning and facilitating role and to the community level in a management and decision-making role with underlying policy directives being decentralization, transparency, and cost recovery through financial contributions by the water users. Regarding the cost recovery aspect, the called *Water Supply and Sanitation Coordination Committee (WASCO) statements* in the 1997 CBWM Implementation Strategy detail:

- Revenues collected from water users will be managed by the collecting water point committee who shall, in consultation with the community it serves, establish appropriate charges (which would include bulk water costs, where applicable), including a lifeline charge to satisfy basic needs of low income users. Regional and central Government will provide subsidies, if required to supplement community cross-subsidies, or to protect regional and

national economic interest.

- A disincentive tariff will be applied to control what the community decide as excessive use of water and other natural resources.

(Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1997b:5–6)

It was made clear that the first priority would be water for human consumption. Subsistence livestock watering was supposed to come second. The inclusion of women as full partners in the planning, development, management and decision making regarding rural water supply was expressly pointed out. Finally, in addition to all that, a national compensation fund for the provision of water for wildlife and to pay damages to water installations caused by wildlife, as well as a Rural Water Supply Development Fund, were established (ibid.).

Notably, criteria for the affordability of water supply for the water users were only further defined at a later stage, and included in the second National Development Plan after Namibia's independence in 2000, under objectives and indicators for water sector performance, as follows:

Table 18: criteria for the affordability of water supply for the water users, under objectives and indicators for water sector performance

Objective	Targets and Indicators
Promote institutional efficiency and financial sustainability taking into account affordability and equity for all consumers.	Ensure that a minimum of 15 l/c/d costs less than 5 per cent of the income of the poorest segment of the population by 2006 in accordance with and through the implementation of pricing policies. Full cost recovery hand over of 20 per cent of all existing WPs to WPAs includes a choice of technology relating to the water resource available, which addresses the issue of affordability.

Source: (Republic of Namibia 2000b).

The CBWM strategy states that within ten years the responsibility for managing and paying for water services in the rural areas on communal land should be progressively devolved to community organizations (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1997b:9). This includes an eventual complete handover of the water infrastructure – pumps, pipes, dams, troughs etc. – that had been provided and maintained by the government since their installation during the colonial period and, up until then, to the water users themselves. The initial timeframe planned for the complete handover was ten years – that is, until 2007 – which was extended to 2010 by a later cabinet decision due to considerable delays in implementation.

In terms of the timeline of CBWM roll-out in Namibia (as presented in figure 27 above) when compared for instance to DWSSC data on Kunene South and to the interviews I conducted with

members of the Kunene branch of the national water administration, it is striking that the starting point of *de facto* implementation in terms of the establishment of WPCs and the work in the training component for water users had apparently already been given by the WASP of 1993. Both the more detailed strategic document on how the roll-out was to be organized, and its rationale and the legislative foundation for the introduction of CBWM, were elaborated in later steps. Although the Implementation Strategy document was only approved by cabinet in 1997 and the legal preconditions and related procedures to establish full community ownership were not yet in place (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1997b:6), and were to become the subject of a major legislative process a few years later, *de facto* practical application of the CBWM model to the realities of Namibia's rural water sector had started in the early 1990s.

A generalized visual representation of the CBWM model, based on Government policy and strategy as it has been applied to the Namibian context since, is shown in figure 28 below.

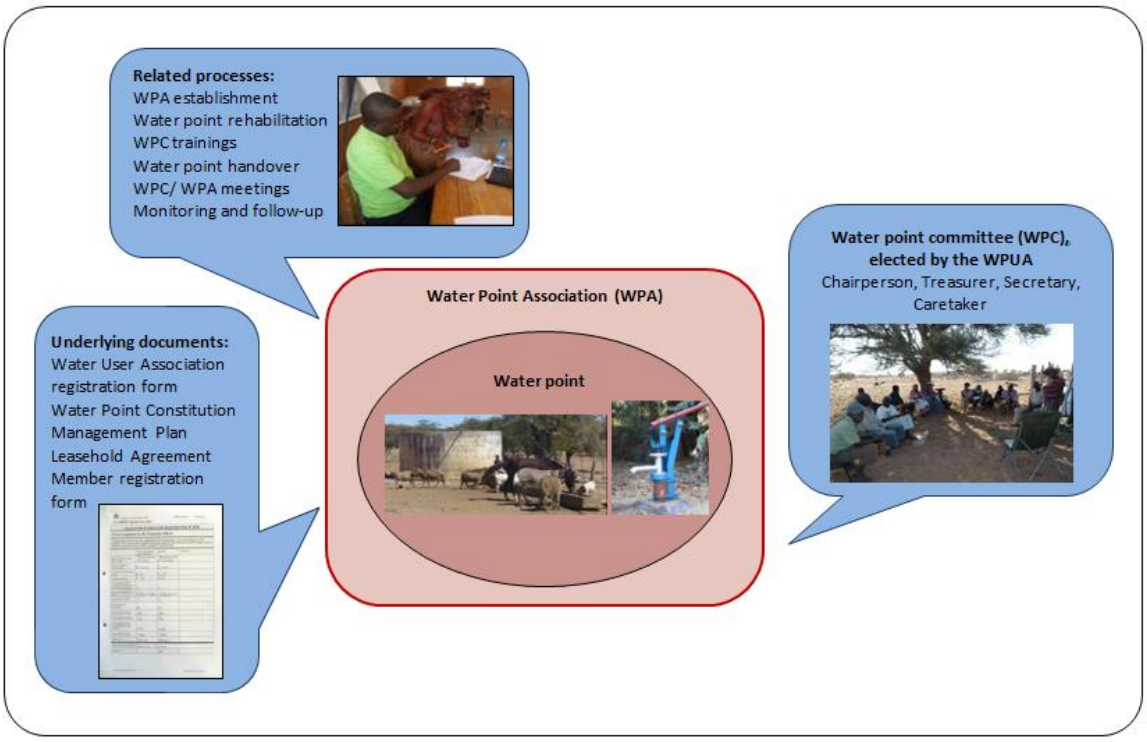


Figure 28: The CBWM model in Namibia's rural water supply sector

The CBWM Implementation and Training Plan of 1997

The plan was to complete the implementation of the CBWM model for all of the then existing 5,100 water points in Namibia's rural areas by 2007, along the following guidelines: communities at water points were supposed to have WPCs, each consisting of seven to eight members,

including a chairperson, a secretary, a treasurer, a caretaker, and three to four advisory members, who would act as deputies to the above. The WPCs' tasks were to be: maintenance of the water point; management and decision-making regarding the water point; determining, collecting, and administering the contributions by water users, including cross-subsidies; and determining subsidy allocation. It is expressly mentioned that WPCs should be representative and democratically elected. Local Water Committees encompassing several WPCs to oversee the development of the RWS sector were to be established in each constituency and region, with the total number of eventual Local Water Committees then estimated to be 120 (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1997b:Annex 2). However, the total numbers of water points to be covered in the national CBWM roll-out, and of committees needed, that were presented in 1997 have changed drastically since – with tangible consequences for the validity of the 1997 strategy as a basis for CBWM implementation. Due to the establishment of new water points – a process which has been on-going since, the total number of water points to be handed over had risen to a total of 6,868 by 2000 (Langenhove 2004), and to 8,127 in 2010 (Gildenhuys 2010:9).

Although in 2008, according to the Government's MDG Report, the MDG of halving the proportion of people without access to clean drinking water had been reached for the rural population – rural levels of access then being at 88 per cent, as opposed to 43 per cent in 1990 (Republic of Namibia. National Planning Commission 2008) – the DWSSC is lagging behind in the implementation of the CBWM principles, with a vast number of WPAs still to be established, as shown in table 19.

Table 19: Number of water points and Water Point Committees by region, 2010

Region	No. of water Points in region	No. of water point committees needed	No. of water point committees established	Percentage of Communities with water point committees
Caprivi	865	895	438	48.9%
Erongo	316	315	306	97.1%
Hardap	405	40	40	100.0%
Karas	450	75	75	100.0%
Kavango	385	312	204	65.4%
Kunene	982	706	462	65.4%
Ohangwena	800	720	701	97.4%
Omaheke	491	368	346	94.0%
Omusati	1 525	1257	1102	87.7%
Oshana	627	628	434	69.1%
Oshikoto	850	704	650	92.3%
Otjozondjupa	431	329	316	96.0%
National	8 127	6349	5074	79.9%

Source: (Gildenhuys 2010).

In terms of the number of water points included in the planning for each region, Kunene Region, with its 982 water points, is second on the list. In terms of the proportion of Water Point Committees established as part of the CBWM roll-out however, it comes second from last, with 65.4 per cent coverage, together with Kavango Region. This was 14.5 per cent lower than the national average at the time, with only Caprivi Region lagging behind even further, at 48.9 per cent. Compared to Omusati Region, which had an even larger number of water points to be covered, it is clear that the mere number of water points cannot have been the main reason for the low coverage of Kunene Region, as Omusati had 87.7 per cent coverage at the same time. Not having engaged in a wider comparison of the situation with CBWM implementation in other parts of Namibia, it is hard for me to come up with clear reasons for these apparent differences in the pace of the roll-out. As regards Kunene Region, lack of resources on the part of the regional water administration is something that was mentioned to me several times in my interviews. Kunene is also the biggest region in Namibia, with a rather inaccessible geography, as well as being the second most sparsely populated region in the country, which makes communities difficult, and so costly, to reach.

According to the Namibian CBWM Implementation Strategy, the model was to be implemented in three phases, with the final phase leading to a complete handover of water points into ownership by local communities according to the following timeframe:

Table 20: Phases of CBWM Implementation in Namibia

Phase of CBWM Implementation	Description	Timeframe
Phase 1 (Capacity-building)	Capacity-building, both in the Ministry and in the communities	1 August 1997 – 31 July 1998
Phase 2 (Community operation and maintenance)	Handover of Water Points into leasehold to communities for operation and maintenance	1 August 1998 – 31 July 2003
Phase 3 (Community ownership and full cost recovery)	Complete handover into ownership, with communities becoming responsible for operation, maintenance and replacement of equipment	1 August 2003 – 31 July 2007[136]

Source: (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1997b:9).

The first phase was to result in a strengthened capacity of the DRWS extension service itself, and was to be used to create public awareness on the planned CBWM measures by sensitizing and mobilizing the communities. An update of the existing technical infrastructure was also to be compiled. The second phase started out with the rehabilitation of water points selected for the

[136] By a later cabinet decision, the phase to reach the full implementation of CBWM was extended from 2007 to 2010.

implementation of CBWM, followed by the establishment and training of WPAs and WPCs.[137] The third and final phase was to result in the ownership of government assets by the WPAs. The entire responsibility for all aspects of managing and financing the water infrastructure would be handed over to the community, including the responsibility for the replacement of major technical equipment.

The training requirements in connection to the national implementation of CBWM described in the CBWM Implementation Strategy document identified almost 40,000 community members and 180 staff in the regional rural water extension services as recipients of CBWM-related training, and 'training of trainers' (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1997b:Annex 2). Based on this, the CBWM Implementation Strategy document includes a comparison between the financial requirements of supplying water to the rural areas under full state subsidization and the financial requirements of CBWM, encompassing an estimate of community contributions, presented below in table 21. The preconditions for the underlying calculations were that 60 per cent of the then existing infrastructure required rehabilitation, and that the Dutch Government provided a guaranteed 12 million USD in the form of budget support to MAWF for the 1997/98 financial year with further commitments up until the 2001/02 financial year.

As can be seen from the calculation, interestingly, the costs incurred to the state by community-based water provision were estimated to be higher than those for centralized, state-subsidized water provision, as had been previously practiced. They were expected to peak during phase 2, 'Community Leasehold' in years three to five of the CBWM roll-out, and then stabilize during phase 3, 'Full Cost Recovery'. The high expenditures connected to CBWM on the side of the state were connected to the huge body of administrative staff and other resources involved in facilitating the CBWM model – as can be seen looking back to the time of planning; 18 years later though, this kind of facilitation support is needed on an ongoing basis. The hope was that the community contributions that were estimated at 38 per cent of the total future requirements for CBWM during the phase of 'full cost recovery' would lead to 'savings' of 1,956,000 million N$ annually. To my knowledge, concrete monitoring data on the actual developments of costs and overall financial community contributions to rural water supply is not available. It seems that what has been added to the plan as part of the objectives for CBWM introduction and potential indicators for the measurement of its outcome has not been followed up on in practice.

[137] For more detail on the training element, see chapter 7.3.4 and in the context of the CWM model's regional implementation in Kunene Region: chapter 8.2.2.

Table 21: Envisaged annual financial implications of CBWM Implementation in Namibia in N$ 000*, as of 1996*

Phase	**1 – 'Capacity-Building'**	**2 – 'Community Leasehold' (O&M and Cost recovery)**					**3 – 'Full Cost Recovery' (Community Ownership)**			
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Financial Year	**1997/98**	**1998/99**	**1999/2000**	**2000/01**	**2001/02**	**2002/03**	**2003/04**	**2004/05**	**2005/06**	**2006/07**
Requirements for water provision without implementing CBWM										
Total current requirements	51,25	60,71	63,40	65,88	64,58	62,65	62,65	62,65	62,65	62,65
Requirements for water provision including the costs of CBWM implementation										
Total future requirements	50,20	62,38	81,07	78,61	72,64	69,54	69,54	69,54	69,54	69,54
Expected community and donor contributions for water provision										
Community contribution	0	3,77	8,90	15,07	17,61	18,15	26,44	26,44	26,44	26,44
Dutch budget support	12,00	12,00	12,00	12,00	12,00	0	0	0	0	0
Total requirements for water provision less community and donor contributions										
Total future requirements minus contributions	38,20	46,61	60,17	51,54	43,03	51,39	43,10	43,10	43,10	43,10
Government savings	13,05	14,10	3,24	14,34	21,55	11,27	19,56	19,56	19,56	19,56

Source: Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1997b:14, based on 1996 figures.

Aside from the consequences for maintenance and repair of the hardware at the boreholes after the introduction of CBWM, the first and main effect of CBWM that was probably felt by communities, at least at diesel-run boreholes, was the discontinuation of state subsidies for diesel. Special recommendations were made concerning the transfer of funding of diesel costs for the diesel-run borehole pumps from the state to the water users as follows:

Table 22: Gradual transfer of diesel costs for engine pumps from Government to communities

Year of Implementation	Proportion of diesel costs covered by communities	Proportion of diesel costs covered by Government
1	0%	100%
2	25%	75%
4	50%	50%
7 and beyond	100%	0%

Source: (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1997b:9).

Financial planning for the implementation of the strategy estimated that there would be net savings for the Namibian Government through the introduction of CBWM, with continuous savings of nearly N$ 20 million annually from the 7th year onwards. The plan also included an annual input of N$ 12 million from the Dutch Government in the form of budget support to the MAWF (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1997b:14). It is important to note that in fact, other than that planned back in 1997, a considerable input in the form of budget support to the MAWF earmarked expressly for RWS was provided from the side of the EC starting in 2005, three years after the Dutch funding had ended in 2002.

Table 23: Development Budget of Directorate of Rural Water Supply (N$ million)

Year	Total Budget (GRN+Donor)	Source of funds		Actual Expenditure
		GRN	Donor	
2001/2	56,38	43,94	24,43*	53,18
2002/3	54,63	42,53	12,1	54,39
2003/4	60,12	46,83	13,30	60,12
2004/5	76,37	63,36	13,01	76,25
2005/6	104,00	55,28	49,71	100,78
2006/7	86,13	46,13	40,00	87,31

*That includes 12 million N$ in Dutch support and 12.43 million N$ in EC support

Source: Ministry of Agriculture, Water and Forestry: Report on the 2nd Join Annual Review of the Namibian Rural Water Supply Subsector under the RPRP, October 2007
(European Commission/ Government of the Republic of Namibia 2009:210).

The EC data based on MAWF budgets and donor contributions compared to actual expenditures for rural water provision in the years between 2001 and 2007 can be used to reappraise the plan for the time of the CBWM roll-out that had been made twelve years before as follows:

Table 24: Financial requirements for RWS during CBWM roll-out. The plan of 1997 compared to evaluation data of 2007

Year	**Estimated total requirements for water provision including the costs of CBWM implementation** *(as planned in 1997)*	Estimated community contribu-tions	Estimated community and donor contribu-tions	Actual total expenditure from the MAWF budget	Donor contributions thereof	% actual expenditure as compared to estimated total require-ments
		(as planned in 1997)		(as evaluated by the EC in 2009)		
2001/2	72,64	17.61	12.0	53,18	24,43	73.21
2002/3	69,54	18.15	-	54,39	12,1	78.21
2003/4	69,54	26.44	-	60,12	13,30	86.45
2004/5	69,54	26.44	-	76,25	13,01	109.65
2005/6	69,54	26.44	-	100,78	49,71	144.92
2006/7	69,54	26.44	-	87,31	40,00	125.55

Source: Ministry of Agriculture, Water and Forestry: Report on the 2nd Join Annual Review of the Namibian Rural Water Supply Subsector under the RPRP, October 2007
(European Commission/ Government of the Republic of Namibia 2009:210).

The comparison shows that both the actual expenditures needed for rural water supply during the phase of CBWM roll-out, and the amount of donor contributions to the sector or rural water supply in the form of budget funding had initially been under-estimated. The most interesting finding in this context however might be that – judging from the data accessible to me – the actual community contributions which had been depicted as 'Government savings' in the 1997 CBWM Implementation Strategy and were thus used as one argument in favour of community financing of rural water supply have never been entered into later MAWF budgets or accurately measured since.

All in all, the MAWF budget including the EC financial support between 2001 and 2007 was used country-wide to rehabilitate a total of 143 water points as part of the CBWM roll-out, and to hand over a total of 220 water points to water-user communities for operation and maintenance in twelve regions. Apart from that, 63 water points, 189 km of main (bulk) pipeline, feeder pipes, and pipelines to water points were constructed within the Tsandi scheme in Omusati Region, and 125 km of main (bulk) pipeline and feeder pipes were constructed within the Onambutu scheme in Ohangwena Region (European Commission/ Government of the Republic of Namibia 2009:84). According to this evaluation by the EC, it is not possible to distinguish which sites were funded with EC funds and which sites were built with Government resources.

WPAs, WPCs, and their rights and obligations

During the initial phase of translating the CBWM model to the Namibian context, policy-makers and advisors had not introduced any clear concept of boundaries in connection with the concept of 'communities' or groups of water users as the target groups in CBWM implementation. Neither the WASP document of 1993 nor the CBWM Implementation Strategy of 1997 are clear as to how a given 'community' which was supposed to become the owner of a given water point was defined, or what its boundaries would be – either geographically or socially (see the vague definition of 'community' used in the 1993 WASP document on page 257).

Already the CBWM Implementation Strategy of 1997 stipulates that WPCs must be established at the water points as community management bodies, democratically elected by the 'users' including women and minority groups residing in the 'community' (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1997b:7). The actual translation of the concept of 'community' to the term 'water point association', and later 'water point user association' in the context of CBWM implementation in Namibia, however, is found for the first time in the '*Guidelines for the Implementation of Community Based Management and Cost Recovery for Rural Water Supply*' of 1999 – further referred to as '*CBWM Implementation Guidelines*' (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1999:9).

The Implementation Guidelines for CBWM 1999

The CBWM Implementation Guidelines are yet another policy document that came out of one of the translation phases of the CBWM model in Namibia at the national scale. The CBWM Implementation Guidelines were compiled by the Planning Division in the then DRWS in March 1999 to serve as a reference document for DRWS staff, Non-Governmental Organizations and other project partners in the rural water supply sector in the facilitation of CBWM implementation in the RWS sector (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1999). The document details the role of the WPAs as part of the management institutions to be put in place during CBWM implementation as follows:

> 'Water Associations, such as the LWA and the WPA, are defined as voluntary representative institutions involved in managing the RWS sector at local level. These associations are established as voluntary associations operating rather independent of government.
>
> […] A WPA is a voluntary association, constituted by members of the community using the water point. Members of the WPA are the users of the water point within the area of jurisdiction of the WPA and who indicate in writing that they accept the rights and obligations of members in terms of the WPA Constitution. A register for members of WPA is attached to the constitution.

> WPAs are established to ensure the sustainable management and utilisation of water points, the fair distribution of water to members and the recovery of the costs of operating and maintaining the water point from members and other users. The powers and functions of the WPA are set out in the WPA Model Constitution.
>
> A WPC comprises of persons elected by the members of the WPA from amongst themselves at an Annual General Meeting (AGM). WPC members will remain in office for a period defined in the WPA Constitution. The WPC is to manage the water point on behalf of the WPA and in accordance with the management plan as attached to the WPA Constitution.'
>
> (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1999:12)

The Act of 2004 later stipulates that water point user associations (WPAs) are to be formed for each individual water point. According to the Act, the WPAs' members are those people who permanently use a given water point (Republic of Namibia 2004a:part V, sec. 16).

Water Point Association constitutions

The CBWM Implementation Strategy states that a constitution must be written for each water point to regulate the functioning of the WPC (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1997b:7). According to the Water Resources Management Act of 2004, the WPA Constitution must include:

> '(a) qualification for membership of such association and provisions on termination or suspension of such membership;
> (b) constitution of a management committee of such association;
> (c) qualification for election as member of management committee of such association;
> (d) term of office of member of management committee of such association;
> (e) procedure and quorum at any meeting and elections;
> (f) opening of banking account and keeping of books of accounts and the maintenance of financial discipline;
> (g) provisions on the dissolution of such association and on what would happen with its assets after the dissolution;
> (h) procedural requirements for appointment of persons as employees of such association, when the necessity to employ such persons arises;
> (i) the financial obligation of members towards such association; and
> (j) powers and functions of such association.'
> (Republic of Namibia 2004a:part V, sec. 20)

Even before the work on the new water legislation based on post-independence water sector reforms in Namibia commenced, a model constitution for WPAs had been developed by the MAWF with external legal advice from the side of the Namibian Legal Assistance Centre and

integrated into CBWM-related training provided at the regional and local level by MAWF staff, NGOs, and other external trainers. The model WPA constitution that every WPA adapts to their local circumstances in the process of WPA establishment has since become a very elaborate and standardized element of CBWM implementation. It includes definitions of key CBWM-related terms, for instance of the WPA membership and its rights and obligations, as well as sections on the objectives of WPA establishment, its assets, and overall operating principles. The WPA Constitution also defines the set-up and functioning of the WPC and the holding of regular WPA and WPC meetings, and suggests mechanisms for dispute resolution and conciliation. Water users, upon application for the registration of their WPA, are to present a detailed WPA Constitution including a list of assets at the water point, a sketch or map of the water point, a register of members of the WPA, and a Management Plan [138] (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1999:16). The process of adapting and agreeing on a constitution by a newly established WPA will be discussed in more detail in the subsequent chapter, based on one of the community meetings to establish a new WPA which I witnessed in Kunene Region.

7.3.4. Capacity-building for CBWM – Training communities and trainers

As mentioned above, the training needs in connection to the national implementation of CBWM described in the CBWM Implementation Strategy document of 1997 identified almost 40.000 community members and a total of 180 staff in the regional rural water extension services as recipients of CBWM-related training (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1997b:Annex 2).

My interviews with RWEOs in Kunene Region indicate however, that the initial phases of CBWM implementation in Namibia, including the establishment and training of WPCs, and of internal capacity-building in the MAWF to this end started already in the beginning of the 1990s – which was even before the approval of the underlying policy document (Republic of Namibia. Ministry of Agriculture Water and Forestry 1993), and four years before the approval by cabinet of the abovementioned CBWM Implementation Strategy of 1997 laying out the training plan for the rural water extension service as the first phase of the CBWM roll-out (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1997b).

As a basis for the community-level work in CBWM implementation which was taken on by the DWSSC extension service in the early 1990s, the first training materials for the WPCs were prepared. Apart from the initial training and on-going evaluation and assistance which was to be rendered by the RWEOs by then, additional guidance for the WPCs were the ‘WPC Workplans’, as

[138] See for more details on the management plan Menestrey Schwieger 2015b:27f..

well as the 'Handbook for Water Point Committees' supplied by the then DRWS with financial support from the side of UNICEF (Republic of Namibia 1993), modified by an addendum of 1994 (Republic of Namibia 1994).

Starting in the mid-1990s, caretaker training guidelines to complement the WPC training manual were developed for the different technologies in use at water points in Namibia's communal areas, e.g.: (Republic of Namibia 1996a; Republic of Namibia 1996b; Republic of Namibia 1996c). Donor support kept being rendered to some of these publication projects, such as for example from the side of the Finnish water supply and sanitation project in Ohangwena Region which catered for the printing of the handbooks for diesel engines and windmills with FINNIDA funding.

In terms of the different steps of CBWM roll-out in Namibia, this shows that training the WPCs to take over responsibility for the management of water points was the initial step which commenced even before the overall institutional and legislative framework was fully developed and before the concept of WPAs was introduced. According to DWSSC data[139], the first 55 WPCs were established in Kunene South between 1994 and 1996, starting several years before the passing of the CBWM Implementation Strategy. Early overview data on WPC establishment for Kunene North are not available to me.

A first training package for the training of trainers, i.e. to build the internal capacities of the responsible DWSSC staff who were to facilitate the community-level trainings, was developed along with the first material prepared for the WPCs themselves (Gachuhi et al. 1993). The training package starts off with explaining the training methodologies, the organization of the training package, and the objectives behind the training, namely:

> 'General objectives:
>
> By the end of the training workshop, participants should be able to:
>
> - set up a Water Point Committee;
> - train other Extension Officers on how to set up a Water Point Committee;
> - network with others involved in Water Point Committees.
>
> Specific objectives:
>
> By the end of the training workshop, participants should be able to:
>
> - explain how to start off a training workshop;
> - discuss the availability of water in Namibia;
> - explain the importance of water to the individual, family and community;
> - explain the importance of a Water Point Committee;

[139] This refers to data from the so-called Rural Water Information System (RUWIS) – see page 319 below – which is unfortunately available to me only for the Southern part of Kunene Region.

- describe how a Water Point Committee should be set up, organized and managed;
- discuss the qualities and skills Water Point Committee members should have;
- sensitize and mobilize the community to set up a Water Point Committee;
- assist the Water Point Committee to monitor and evaluate their activities;
- evaluate a training workshop.' (Gachuhi et al. 1993:10)

As can be seen from sessions such as 'The situation of water in Namibia', 'Understanding the Community' 'Developing an RWEO Workplan', many of the DWSSC extension staff must have started their work in CBWM in the communities at a relatively basic level of knowledge as the starting point. In fact, the Kunene Region RWS Plan of 2001 mentions a concern with low literacy levels among extension staff in Kunene Region itself (Windhoek Consulting Engineers 2001:52). That said, and given that the role as coordinator and facilitators of CBWM rather than of water planners and managers was entirely new to the DWSSC as a whole, one gets an impression of the nature of the internal capacity-building effort that was needed in order to prepare the DWSSC staff for CBWM implementation.

Beginning with session 4 ('The Water Point Committee') of the facilitators' training package, the training content appears more advanced and focused. As the current policy and legal framework – which has been underlying the CBWM process and institutions since the Water Management Act No. 24 of 2004 was approved by parliament – was not finally designed by then, the RWEO training package largely only covers the aim of forming WPCs in every rural community and of preparing them for their work – for instance through training topics such as 'assisting the community to select WPC members', 'assisting the WPC to get off to a good start', 'developing workplans', and 'monitoring and evaluating WPC activities' (Gachuhi et al. 1993). The set-up of the WPCs themselves was already described in much detail and the positions that were to be included in the committees the communities were supposed to set up to manage their water points has remained the same since: Chairperson and Vice Chairperson, Secretary and Assistant Secretary, Treasurer, Caretaker and Assistant Caretaker, plus two ordinary members without particular position (Gachuhi et al. 1993:34). Details on the 'tasks and responsibilities of the WPCs', as well as 'job descriptions' for the different positions within the WPCs were added as part of the addendum to the Handbook for Water Point Committees in 1994 (Republic of Namibia 1994). The concept of Water User Associations (or Water Point Associations as they were called by then) is not part of the training package at all as these were to be introduced into the Namibian CBWM model at a later stage. Neither does the course curriculum of 1993 include the water point constitutions or WPA management plans which are currently the main managing instruments for the WPAs and WPCs. These belong to those aspects regarding the Namibian CBWM model which would only be elaborated in the course of a process to put in place a new legislative basis for the entire water

resources management system in Namibia after its independence, including the foundations for the CBWM model which at the time was already being introduced to the country's rural water supply sector.

7.3.5. The legislative process in the translation of the Community-based Water Management model in Namibia – or, how a model stops travelling

The logical continuation to the translation chain of CBWM introduction to the Namibian national context once the 1993 WASP policy, the 1997 CBWM Implementation Strategy, and the 1999 CBWM Implementation Guidelines were finalized was planned to be a new water-sector legislation that could serve to legally substantiate the above mentioned strategies and policy guidelines and make them enforceable in a more systematic manner.

New water legislation adapted to new water resources management paradigms

During the pre-fieldwork phase of my research I found numerous references to the new Water Resources Management Act that had been promulgated in December 2004 (Bock et al. 2009:120 ff.; Menestrey Schwieger 2010:3). I read that the new Water Act, along with a new National Water Policy White Paper for Namibia, had been one of the outcomes of the Namibia Water Resources Management Review (NWRMR) exercise. The NWRMR that was conducted between 1998 and 2000 was a donor-funded and largely donor-driven exercise by a team of Namibian and external consultants to re-examine and realign water-sector priorities in Namibia according to IWRM principles, based on international standards (IWRM Plan Joint Venture Namibia 2009). 'Modern legislation and an integrated policy framework' were part of the key components of successful IWRM presented by the NWRMR as international best practice (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 2000a:6). By the year 2011, when I embarked upon my first research trip to Namibia to find out more about national CBWM implementation there, the promulgated new Water Act of 2004 was even retrievable from the internet (Republic of Namibia 2004a), and to an outsider and person without legal background it looked very much like a current piece of legislation that was actually in force.

However, from the beginning of my field research when tracing the CBWM model at the national level in Namibia, there was something striking about that element of legislation in the CBWM translation chain. The statement I heard most frequently from my informants in Windhoek, including ministry staff, external water experts, consultants, and donor representatives, went as follows: 'Yes, the new Act exists; it has been passed and published, but it is not being implemented'. And – as some would add: 'It is not implementable at all'.

Based on the views of my informants, on the policy documents, and on related policy analyses (McClune 2004:56; Ardinger et al. 2009; Bethune and Ruppel 2013), it is obvious that the Namibian Government endeavoured to compile new water legislation after 1990 firstly in reaction to the outdatedness of some of the regulations of the South African Water Act of 1956[140] that had become applicable to Namibian territory in 1969[141], and secondly as an extension of the central motive of wanting to repair some of the damage done to Namibian citizens in the communal areas in particular, which were left underserved with water and sanitation at the time of Independence in 1990 due to the provisions of the colonial Water Act of 1956.

The Water Act of 1956 was passed by South Africa's Apartheid government as a means of controlling access to water according to Apartheid principles and of servicing the needs of the Apartheid state. The act was selectively applied to what was then South West Africa further on and – including a total of 18 amendments between 1956 and 1985 – remains part of the governing water law of Namibia to the present day. The 1956 Act focuses on the commercial farming sector, owned almost exclusively by the white minority in the colonial past. The fact that it regulated the right to water on the basis of ownership of riparian land and thus effectively excluded non-landowners, particularly in the rural areas, from having adequate access to water resulted in a dramatically inequitable distribution of the resource (Bethune and Ruppel 2013). As stated in Namibia's Water Policy White Paper of 2000, water management and supply as regulated by the 1956 Act was controlled by an 'inaccessible centralised bureaucracy in which the needs of the people on the ground, particularly the black majority, were not taken into account' (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 2000c:17).

What is more, the 1956 Act 'ignores the hydrological reality of Namibia', as it is based on a model that 'applies rules of well-watered countries of Europe, notably seventeenth century England and Holland, to the arid climactic conditions of Namibia' (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 2000b:17). These rules include a system of riparian water rights and the private ownership of water resources that are inconsistent with Article 100 of Namibia's Constitution. As analysts maintain, up until today the Water Act of 1956 exacerbates the inequities of the colonial resource allocation system because it functions on the basis of the disparate distribution of land ownership in Namibia that perpetuates to a large extent the inequities of the Apartheid system. (Ardinger et al. 2009:14) As the then Minister of Agriculture, Water and Rural Development, Helmut Angula, was quoted to have said at the closing session of a national

[140] 54 of 1956 Republic of South Africa (1956).
[141] The Water Act of 1956 had not been made applicable to Namibia in its entirety. See for more detail on the applicable sections: Bethune and Ruppel 2013:163.

workshop at Swakopmund held to discuss the seventh – and final – draft new Water Resources Management Bill in 2001: 'The colonial Water Act contributed to the deprivation and exclusion of our people from enjoying and having unfettered access to the water resources of the country in that it tied the issue of water rights to land tenure' (Barnard 2001). Due to its origin and authors, the Water Act of 1956 lacks many of the underlying objectives that were defined in Namibia's post-Independence water policy-making principles.

The recommendations made by the NWRMR team contained in the National Water Policy White Paper of 2000 had thus been to continue the policy-making cycle in the water sector by a review of the existing water legislation and to establish new legislation and a general regulatory environment to enable the new water policy to be implemented (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 2000c:9). A central objective of the policy-making process that started at the end of the 1990s was to introduce the underlying principles and mechanisms of IWRMR, including the management of river basins by the water users. The Dublin Principles as an internationally agreed water management paradigm 'forms part of the international consensus surrounding these core principles' – as stated in the National Water Policy White Paper of 2000 (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 2000c:15). It also states that 'the Namibian Government regards the "Dublin principles" as an appropriate basis for the development of national policy'. The detailed regulations for the management of rural water supply according to community-based principles was contained in the new act in Part V (Republic of Namibia 2004a:16–19), much along the lines of the principles laid out in the 1993 WASP document and the CBWM Implementation Strategy. Urban and bulk water supply had already been regulated in the NamWater Act of 1998, and was touched upon only marginally in the new Water Resources Management Act.

After launching the NWRMR, a task force was established comprising representatives of 38 stakeholders, such as various ministries, the regional councils, the traditional authorities, NGOs, farmers' unions, and other members of civil society. Between 2000 and 2004, eight draft Water Resource Management Bills were produced before the ninth one was submitted to the Cabinet Committee on Legislation and tabled in the National Assembly in September 2004 (Statement by Honourable Minister Helmut K. Angula on the so-called water privatisation in Namibia). Up to that stage, an extensive public information and consultation process had been involved in the process of drafting the bill (Matros 2003:39).

The fundamental principles that are stressed once again in the introductory sections of the new Water Resources Management Act are very much based on those that came out of the water policy-making process, fed by Namibia's history as well as by international water management

concepts. In relation to CBWM implementation in Namibia the new Water Resources Management Act of 2004 legally defines some of its elements and details some of the governing rules and functions of the WPAs and WPCs further than the 1997 CBWM Implementation Strategy and the CBWM Implementation Guidelines of 1999 had done. Only the Water Resources Management Act, once enacted, will provide for the legal recognition of Namibia's CBWM institutions, as they have been put in place since the introduction of CBWM to the country's rural areas started at the beginning of the 1990s. Through the new act, the WPAs were to be legally put into a position of designing their own rules for the management of the water scheme, of preventing any illegal uses of water from that particular scheme, of deciding upon priority uses and cost recovery, and of preventing water wastage (Republic of Namibia 2004a:part V, sec. 20). Local Water User Associations (LWUAs) are to be formed by groups of WPAs in one geographic/ administrative area to coordinate the activities and management of their water points and to protect the rural water supply scheme against vandalism and other damage (Republic of Namibia 2004a:part V, sec. 18). Based on the regulations contained in the Water Resources Management Act of 2004, the structures to be put in place for the introduction and running of CBWM in Namibia's rural areas are depicted in figure 29 below.

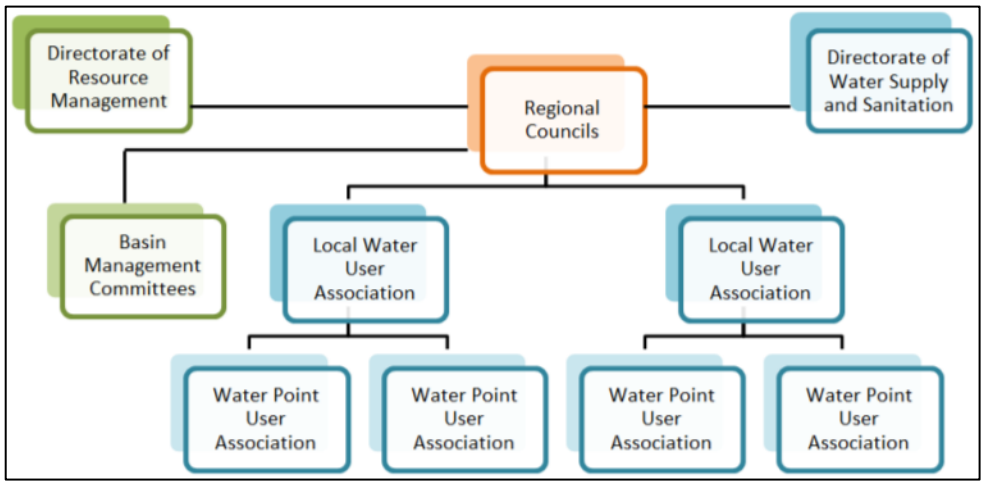


Figure 29: Organizational set up of the regional and local water administration for Namibia, 2015

I will continue my account further below by elaborating on the status quo of the new Water Act of 2004. First however, let me provide an additional insider perspective on the way that not only the changed political setting in Namibia after independence, but also international water policy discourses and donor inputs have played their role in the drafting of the new Water Act after 1990:

> WL: 'Anyway, so these guys [referring to the NWRMR review team], they proposed this policy [the National Water Policy White Paper of 2000], and then they started working on the new Water Act. Now, they said that the South African Water Act that we used before was outdated and so forth. All that they had to say is that "We want a new Water Act". The old Water Act was accused of being outdated because in 1956 the word "environment" did not exist, and the word "sustainability" was very new. Now, the environment was discovered at a conference in Stockholm in Sweden in... or Mar del Plata of wherever in 1972, and the first time that we in Namibia, in the professional arena – that means engineers and scientists and nature conservationists – accepted a policy of environmental impact assessments was at a conference that we organized here in Namibia in 1989, in the year that we were moving toward Independence. I always say that that's when the environment was discovered in Namibia.' (Interview with Willem Louw, 26.07. 2011)

Since the new Water Resources Management Act[142] had been approved by Parliament and published in the Government Gazette in 2004, my sources indicate that expectations as to the start of its actual implementation have been high among many of the key stakeholders actively involved in water policy-making in Namibia. Formally though, the new Act is currently not being implemented or actually enacted due to the fact that a date for commencement of the Act as prescribed by Section 138(1)(b) of the same Act has not yet been determined by the minister himself (Ruppel and Ruppel-Schlichting 2013:112). While the new Act is frequently cited as the legal basis for Namibian water-sector management and as preparing the ground to implement the national water policy[143] according to the international state of the art in water resources and water supply management, the Water Act of 1956 is frequently spoken of as 'the old Water Act'. (Ruppel and Ruppel-Schlichting 2013:111; various interviews and informal conversations in Namibia during my fieldwork) However, legally the 1956 Water Act is the water legislation currently still in force in Namibia as it has not been officially repealed.[144] The reason for this that was given most frequently by my informants is the new Act's insufficient embeddedness within Namibia's socio-political context. Although being a concise legal document meant to regulate water supply and water resources management according to principles adapted to the international state of the art in water management, the lack of adaptation to the Namibian context makes it impossible to be implemented fully. As one of my key informants among the present and former MAWF employees summarizes:

[142] No. 24 of 2004 (Republic of Namibia 2004a).
[143] Republic of Namibia. Ministry of Agriculture, Water and Rural Development 2000c.
[144] The Water Act, No.54 of 1956, was still applied in a High Court case in Windhoek concerning the extraction of large amounts of groundwater by the Valencia Uranium Mine; see Menges 2008.

> 'Anyway, so the review [the NWRMR team] made all these proposals. Water Affairs has not been abolished – which they have proposed. They've submitted the water policy which was adopted by the Government. They have submitted the Water Act in Parliament, which was promulgated in Parliament, but was not implemented by the Minister. On my evil advice. And it's been under revision since 2004. And I suspect that it will take a long time before they will actually implement that, because the other day I was at a workshop where one of the ministry staff said that the reason why the act has not yet been implemented is because it's not implementable. And that term that she's used is what I always used, and for which I was hated. And it's not because the things that are proposed are bad. It is just that these things are not manageable.' (Interview with Willem Louw, 26.07. 2011)

We are thus witnessing a situation regarding CBWM in Namibia in which currently the translation chain of the CBWM model as it would usually look, based on the standard policy-making and legislative procedures of a modern nation state, is interrupted. The legislation to firmly ground CBWM implementation legally has never been enforced. Still, implementation is going on, with new WPAs established on a yearly basis, CBWM-related training taking place, and established WPAs and WPCs running on the basis of the principles and rules established through the 1997 and 1999 implementation documents. The application of these rules is monitored by the DWSSC and resources are being spent on all these processes by the state and some of its international donors and NGOs.

Reasons for the Water Resources Management Act of 2004 not being implemented

From my inquiries with informants within and outside Government structures in Windhoek about the status quo of the new Water Resources Management Act of 2004 and the reasons for it not being enforced, two main storylines emerged that shaped my understanding of the current situation regarding the new Act:

The first refers to the fact that the new legislation is based on international standards and models of water-sector legislation that sometimes do not depict Namibian realities and are thus not easy – or politically opportune – to implement. As one of my informants from within the ministry described some of the practical implications of regulations contained in the new Act:

> 'Now, that act has up to now not been implemented, because it's not implementable. Because the people that conceived the act didn't know – they did not administrate the previous act. They did not have that experience by coming through the ranks and administrating the act. And all of a sudden they've designed something which – they think it looks very nice on paper. To give you an example, we've got 100,000 boreholes in this country. The policy or the act says that for every borehole there must be a permit which is a piece of paper that must be issued. Now, there are 6,000 farms and 100,000 boreholes, and no division or section or any people in

> the department that can do that job. So if the act says I must apply for a permit I will get 6,000 applications for 100,000 boreholes. And who is going to administrate it? Who is going to do the job? We could not even implement even the existing water act [of 1956] fully. And we were also blamed by the review [the NWRMR] for not having done it. But we didn't have the people. […] Because I said to the minister if now, that farmer in the middle of nowhere sends his application - how do I know how much water his borehole can give? How big must I make the permit? I don't have the information. It's ridiculous to insist that it must be done.'
>
> (Interview with Willem Louw, 26.07. 2011)

In an intervention made by Phillemon Malima, the then Minister of Environment and Tourism on the Water Resources Management Bill in the National Assembly in 2004, he raises similar concerns as to the practical implications of the re-registration requirement made in the Bill:

> 'Part VIII, […] Section 136 requires all persons currently abstracting and using water, or discharging effluent with a licence or permit, to re-apply for a licence or permit within 24 months. This re-registration is strongly supported, and I sincerely hope that the Ministry of Agriculture, Water and Rural Development, or delegated body, will be suitably equipped to deal with the initial rush of applications that will most certainly be received to licence the hundreds if not thousands of boreholes and dams already existing throughout the country.'
> (Intervention by Honourable Phillemon Malima:5)

Other remarks as to the lack of sufficient resources and structures on the part of the Government for the implementation of the new Act were made by several of my informants. From my interviews and informal conversations with MAWF staff both in the central and in the two regional offices I visited, the topic of a general lack of human and technical resources to implement the CBWM strategy according to the planned schedule came up as a recurring theme. This was also among the results of a capacity assessment conducted as part of an internal CBWM strategy review in 2009, which showed that '1. Resources are problematic in regions. Budgets are not sufficient to deliver effective services. This leads to ineffective extension of services to communities. […] 5. The delivery of services has been hampered by a lack of: a. Support services in terms of a subsidy policy. b. Support to marginalized groups. c. Technical support services' (Gildenhuys 2010:11)[145]. And again, quoted from the analyses made of the Namibian RWS sector as part of the national IWRM planning exercise: 'The establishment of committees, handing over of water points, maintenance tools and books to the treasurers seems to be well handled, but a need was identified for follow-up and continued support from DWSSC. The mobility of people leaving rural areas to reside in urban areas contributes to the inability of many committees to

[145] This section of the consultancy report by Gildenhuys is based on a report compiled by the then Chief Development Planner in MAWF, Windhoek.

function properly. There is a need for regular follow-up visits by DWSSC but it is hampered by available transport, and the attitude of officers and others.' (IWRM Plan Joint Venture Namibia 2010c:22–23)

When asked about the current status quo of the new Water Act, a legal advisor in the MAWF explained:

> 'The new Water Act might be there next year, depending on Parliament discussions. Government still wants to maintain control since the Deputy Minister [Petrus Iilonga, Minister of Agriculture, Water and Forestry 2010-2012] argues that if not, what should be the role of the Government? The Deputy Minister does not agree with the Water Affairs' stance on rural water supply and has tabled new proposals of his own in response to the current version of the new Water Act. Sometimes it is still seen that the water regulations are focusing more on the commercial part of the water users. The Deputy was mostly concerned about simple community members and rural people.' (Interview with Chris Witbooi, MAWF, 12.07.2011)

As touched upon in this statement already when Witbooi refers to concerns with local communities and rural people, one of the reasons behind the delay in the implementation of the new act also involves an existing disagreement at the national political levels, concerning the principle of having water users pay for water-related services and infrastructure, and the implications this has in poorer, often rural, and marginalized communities. This ongoing debate features prominently in several interviews I conducted with water administration staff and independent experts and consultants in the water sector, as well as in media reports around the time of the tabling of the final draft of the Water Resources Management Bill in parliament in September 2004. As mentioned in connection with urban water supply above, there is a critical perception among parts of the Namibian public, civil society, the country's water users, and also some of the politicians regarding the underlying principles of the new Water Act, especially when it comes to the cost-recovery aspects of bulk supply and of rural water supply.

The issues of the commercialization of Namibia's bulk water supply and the envisaged move towards full cost recovery in RWS have been subject to repeated debates in parliament. I have focused my archival research on the time when the new Water Resources Management Bill had just been tabled in parliament in 2004, and found a rather outspoken and rigid defence of the principle of cost recovery contained in a statement of the then Minister of Agriculture, Water and Rural Development, Helmut Angula:

> 'We have a body of opinion in Namibia that argues that water must be provided free of charge because it is a God given good. [...] Because Namibia is a very dry country, it also means that it is difficult and costly to supply water in Namibia. [...] As you can see from the projects listed above, it is very expensive to provide water in Namibia. There are those who tell us that water

> supply has been privatised in Namibia that is why water is expensive. I must correct this misconception, Comrade Speaker. Water has not been privatised in Namibia; it is still in the public domain. Water supply has been commercialised. This means that the Government has set up a company, in this case NamWater, to supply water at cost. This means that water is supplied on commercial principles in the sense that the cost will have to be recovered for supplying water. The principle of cost recovery is aimed at ensuring that those with the ability to pay for water must do so and should not depend on Government for their water supply. The Government has a lot of commitments and cannot afford to supply water free of charge to those who can afford to pay. Even bread is produced on a cost recovery basis and people still buy it. Besides ingredients such as flour and yeast, you also need water. If the price of bread is inclusive of flour and yeast, why exclude the cost of water? [...]
>
> Comrade Speaker, our experience so far has shown that there is resistance to pay for water from some sections of our communities. At independence, we found that everyone who was living in urban areas was paying for water, electricity and other municipal services. This includes the lowest paid categories such as labourers and cleaners. The principle of paying for water was accepted in urban areas.
>
> However, when we started introducing the system of paying for water in rural areas, there was and still continues to be stiff resistance to it. [...] Whether in urban or rural areas, everyone with the ability to pay for services MUST pay.' (Statement by Honourable Minister Helmut K. Angula on the so-called water privatisation in Namibia:1)

The rigidity with which the then Minister of Agriculture, Water and Rural Development tries to enforce the message of water not being free of charge any longer – be it in the urban or in the rural areas – shows that resistance to this notion must have been rather audible and visible as well, including in the house of parliament itself. Angula continues with an accusation that the relatively richer people in the country concretely do not want to pay, and are watering their livestock at the expense of the poorer people who do pay. The storyline of people not wanting to pay in general, but more pronouncedly the richer people in particular not wanting to pay as much as they would, justly, have to pay based on their economic status and water use resulting from their cattle numbers, is one that I was able to follow up to the regional and local levels in Kunene Region later on during my research.

At the national level, Government employees currently working in the MAWF and a donor representative confirmed the view in interviews that the element of cost recovery was the most contested when it comes to CBWM implementation, and in fact also the reform of the bulk water sector that had been decided years before. The conflicting views on water (and water services for that matter) having to be free of charge, or water having a cost due to the service costs implied which must be recovered by the service provider, are both very present on the Namibian national

scene, up until today. It is the political consequences connected to that dispute that have actually led to a promulgated act not having been enacted for the past 10 years since its adoption, as one of my informants, an independent observer of the legal developments in the water sector and the implementation of the CBWM policy in Namibia, has it:

> 'The main political opinion and concern of opponents to CBWM is that self-management and water payments are difficult for communities and make the decision-makers – the politicians – unpopular among the electorate. Outspoken against CBWM in the more powerful ranks are the current PS and the Deputy Minister.' (Interview with Johan de Bruin, 22.08.2011)

As an informant who had been in the higher ranks of the MAWF for a long time in 2011 told me, party politics clearly also get in the way of the CBWM model's full translation to national-level policies, strategies and implemented legislation:

> 'A problem that has come in halfway is the prevalent political opinion that water should be for free. This is going on until now. A prominent supporter for the free access idea is Henry Veenani (MP), leader of the DTA [opposition party in Namibia]. At some point Veenani undertook a journey through the country to get local views on whether water should have a price and whether present user debts should be relieved or not. Of course it was clear that according to the views he collected water should be free and debts should be relieved. I recently had to write a reply for the Minister to a parliamentary motion by Veenani, who confronted the present status quo in the rural water supply sector in Parliament [motion of 22 October 2008]. Unfortunately we are currently also having a Permanent Secretary [Ndishishi, SWAPO] who is not good for supporting our ideas.' (Interview with Peter Dierks, MAWF, 13.10.2010)

My informant shared with me the text that he had prepared for the Minister in reply to Mr. Veenani's motion. Summarizing once again the developments towards the establishment of NamWater to commercialize urban and bulk water supply, and the Government's rationale behind CBWM for the RWS sector based on the WASP of 1993, Dierks has the Minister conclude that 'The reason for the high outstanding debts is not so much attributable to non-affordability, but rather to delayed payments which led to accumulated debts. The statement that the communities cannot afford the water so supplied is however questionable' (Re: Rural Water Supply and Its Impacts on Rural Communities. Draft reply by the Minister of Agriculture, Water and Rural Development to the parliamentary motion of 22 October 2008 by Mr. Veenani – MP).

The dispute about the cost-recovery objective versus the human right to water was also mentioned to me by donor representatives as having heated up the political arena in connection to the commercialization of urban water supply and the policy of making rural water users pay water fees: 'The Human Right to Water has been recognised by the UN. The UN High

Commissioner on the Human Right to Water and Sanitation is even going to visit Namibia shortly. However, politicians here sometimes translate this right as a right to free water access' (Interview with André Devereux, 12.07.2011).

It is through a clearly politically motivated decision by the MAWF's Permanent Secretary that the last phase foreseen in the CBWM implementation strategy, which was to be the complete handover of ownership of the rural water points, has been put on temporary halt pending further decision-making. The current approach in practice is to implement the CBWM strategy up to so-called phase 2 of 'operation and maintenance' (O&M) at which point the WPAs become responsible for all water-related infrastructure above the ground, while the DWSSC remains responsible for underground infrastructure and for cases of complete breakdown, which call for the replacement of pumps.

7.4. Preliminary Summary

Chapter 7 has shown how the CBWM model, which had gained salience in environmental governance through global fora and processes, was translated into Namibian policy-making and implementation within the national framework of water-sector policy, strategies, related capacity-building, and legislation. Providing a complete representation of all the different strands of the translation chain which connects global environmental governance discourses with policy-making and practice in Namibia will remain beyond the scope of my research – mostly because it would be too complex for a single researcher to capture within a limited period of time, and also because many of the processes at the national level had already been completed several years before my research started. It has become clear however that different mediators at the national level, as well as mediators who connect the national with the regional and local levels in Namibia, have been and still are engaging in translating the CBWM model within the Namibian setting, among them the responsible Ministry, the legislative authorities, and a number of donors and NGOs within international development cooperation. It has also become clear that the different translation phases through which a model passes and the trajectory of its travels are greatly influenced by the relative power and influence of the mediators involved, and by the way they are embedded in the wider political ecology of a country – in this case, Namibia.

One can conclude based on the analysis above that the CBWM model in Namibia has stopped travelling halfway, or at least without the full blueprint being applied to the Namibian water sector. Fourteen years after the CBWM Implementation Strategy was adopted by cabinet, a third of the water points earmarked for CBWM in Kunene Region still had not been covered by the model's roll-out from the side of the regional water administration, based on the information

available at the time of writing. According to my information on the status quo of the national CBWM roll-out from the model's supporters and implementers, Kunene Region was no exception there. Taking as the main goal of the CBWM introduction on the part of the state, the nation-wide handover of rural water points into community ownership, one has to wonder whether the current rate of implementation of the necessary measures does not put the entire CBWM model into question in the Namibian case.

When reflecting critically on the travelling models approach which my research had been designed to apply to the Namibian case, it must be said that at such a point a further analysis of this situation can only be conducted in an insightful manner if one takes into account that the translation of the model in the Namibian setting is taking place against the background of the country's historical legacy and political ecology.

The way the CBWM policy, which was widely accepted internationally at the time, was translated at the national level as part of policy-making, strategy-setting, and law-making processes was characterized by the relatively swift devolution of a relatively limited part of the management functions at rural water points to the local water users, and at the same time by passing on a considerably large part of the costs of providing the vitally important resource, water, to the users as well. In Namibia, as in many countries of the Global South, the state allegedly does not have sufficient resources – sometimes not even enough to cater for the basic needs of the population.

I conclude from the information collected from various informants that, regarding the Water Resources Management Act of 2004 and the state of the implementation of the CBWM model, an ongoing and rather intense political debate in Namibia at the national level is the reason for the moratorium placed on the full practical adoption of the CBWM model in the Namibian context so far. The main issue is the dispute around whether water supply to rural communities should not actually be free of charge, as it used to be before independence. The Namibian Government could have invested more in clarifying early on by collecting more disaggregated survey information on water users in local communities, and by taking their situation and voices into account before embarking on the roll-out of the CBWM model, to find out whether water users have the necessary resources to cater for their water needs in terms of accessibility and equity without subsidization schemes in place. A systematic overview of this question for the entire country, and of the consequences in situations where water users do not possess enough resources to pay their water fees, now 20 years after the initial steps of local CBWM implementation, is still outstanding.

At the same time, connected to the process of CBWM implementation on the ground, which is ongoing, and which will be a major focus of the following chapter, the state is forced to continue to provide large amounts of resources for the facilitation of the RWS system, which obviously

cannot achieve the status of full cost recovery – at least not in all of its rural areas. According to the promises that underlie the CBWM model, based on economic reasoning and prescribed by global discourses, the state and its actors on the political and administrative scenes would have to leave the policy model to run by itself once it is implemented. For rural water supply in Namibia the new CBWM-related policy directions essentially meant, on the one hand, a withdrawal of the state as it gradually ceased to carry maintenance costs and cater for repairs. As I have shown however, it also meant on the other hand a continued or altered interference by the state, as it created the rules for local water management institutions, and provides the required extension service staff for their implementation, monitoring and follow-up, and thus continues to strongly influence the arenas where new water management institutions under the CBWM paradigm are being created and negotiated. As will be seen in more detail in the next chapter, a high level of state control is also retained when it comes to RWS programmes financed and implemented by bilateral donor agencies or non-state actors who – by and large – are still made to include the national CBWM model in their programmes.

It thus appears that there must be other or additional motives apart from the objectives underlying the CBWM model itself to explain the fact that the state is keeping the CBWM implementation machine running, rather than withdrawing to a greater larger extent from the sector of rural water supply in Namibia's communal areas. Some of the explanations for this could be, among other reasons, the aim to ultimately maintain control of one of the country's key resources, and to demonstrate state presence at community level – at the water points in the country's remote rural areas. Through this presence the national authorities and their regional branches also display the state's role as provider and caretaker to the rural electorate, even though as a consequence of the cuts in public funds for rural water provision and maintenance this has to be done with limited resources.

In the subsequent and final ethnographic chapter I continue my account of the national implementation of the CBWM model by providing a regional and local perspective from Kunene Region, based on interviews and participant observation with the regional water administration and a project funded by ICEIDA, as well as a survey at local water points carried out in the framework of a RWS project run by the NRCS. The account touches upon the different translation phases relevant at regional and local levels, namely the different steps leading to new WPAs with a set of institutions established to take over a given water point; the series of CBWM training sessions conducted for these WPAs in order to equip the WPC members with the knowledge and skills that the state deems necessary to do the job of running a WPA; the handover of water points into community operation and maintenance following the training; and finally the process of monitoring and following up on the WPAs' performance.

8. Rural Water Supply in Kunene Region between national policy and local application

At the time prior to colonial influence and – due to the relative economic and political isolation of the North of Kunene Region – also during the initial period of colonial rule up to the 1950s, the nomadic pastoralists and hunter-gatherers inhabiting the north-west of Namibia were mainly relying on seasonal, open water sources during the rainy season, when water was relatively abundant. During the dry season, they had to retreat to settlements near permanent water reservoirs along rivers, springs, and dug wells (Bollig 2009:153). According to Bollig's account of pre-colonial and early colonial water management institutions in the north of today's Kunene Region, places with affluent permanent water sources were often controlled by dominant political leaders and inhabited by them and their relatives and clients (Bollig 2009:154). Such more affluent water sources also seem to have become causes of conflict from time to time, according to oral accounts (ibid.). Bollig mentions that other types of water sources were controlled through ritual rather than political domination. According to oral history, specific places were 'owned' by particular households, and groups of households would manage pastures together. Though along different channels of inheritance, access to pasture and water were both inherited. Not much detail is known from oral accounts or other sources regarding the governing rules for water points. As Bollig states, 'access to water-points was channelled through access to the community and possibly the affiliation to a local big man' (Bollig 2009:156).

Unfortunately, for the south of Kunene Region, the pre-colonial situation in terms of water use and resource management, as well as the question of decision-making rights concerning water resources, seems less clear from the literature and archival material. According to other authors who have written more extensive ethnographies focusing on Kunene South in particular, pre-colonial land use by Damara, Nama, Herero and Baster communities of southern and central Namibia was mainly characterized by small mobile groups with rather little political centralization, using land and water communally (Rohde 1997; Werner 2004; Pauli 2009). In terms of the influence that the white settlers and administration had on the accessibility of land and thus of natural water sources to local communities, the south of today's Kunene Region is characterized more markedly by land dispossession than the north (Pauli 2009:78). While land dispossession through white colonizers had started with the arrival of the German colonial administration and the soldiers of the *Schutztruppe* at the end of the nineteenth century, it was between 1904 and 1907 that the first reserves of the German colony 'Southwest Africa' were established in the area of Kunene South, among these the reserve of Fransfontein, with an area of 36,188 hectares (Odendaal 1964; Werner 2004:295). The area of Kunene South became increasingly divided into

farm land owned by colonial settlers and reserves of different local communities (Schnegg and Welle 2007).

After the German rulers of Southwest Africa had been defeated by South African expeditionary forces in 1915, and during South African occupation of Namibian territory, land dispossession continued. The Land Settlement Program between the 1930s and 1950s was designed specifically to attract white farmers into Southern and central Namibia (Fuller 1993; Kambatuku 1996; Sullivan 1996; Rohde et al. 2000:252f.). For the same period, Miescher (2006:18ff.) also describes the in-migration to Fransfontein Reserve by local farmers who had left the former Otjeru Reserve as they considered the pastures available there to be too small to maintain their herds. They moved to the area around Fransfontein in 1938. All this has led to the development of additional settlements, grazing areas and – consequently – water sources through the drilling of boreholes in what was then the Fransfontein Reserve.

Overlooking the timespan between the period prior to the commencement of South African rule and today, one can identify two phases during which major changes were induced in the way water was managed in Kunene Region by state interventions and by the paradigms and paradigm shifts that were underlying these interventions. During the initial decades of South African colonial rule, 'there was hardly any attempt to intervene in the farming and land use systems of reserve dwellers' (Botha 2005:183).

The first major phase of state intervention into the management of local resources such as land and water took place when the South African administration started to drill a large number of boreholes in Kunene North with the intention of expanding the pasture available, which is described above in the chapter on the hydraulic mission, starting in the 1950s. One can assume that the availability of water was also a central criterion for the division of land into white commercial farm land and land assigned to the so-called homelands (Greiner 2008:98ff.) – such as the 'Damaraland', which was declared in the area around Fransfontein by the South African Administration in the 1960s. As in other parts of central and Southern Namibia (Werner 2009), the phase of settlement by the colonial forces and white settlers will have meant the opening up of new water sources – for Kunene South, primarily the drilling of boreholes – in order to improve living, farming, and grazing conditions, focusing however mostly on the white farming areas.

After Namibian independence in 1990, the introduction of the CBWM paradigm constituted the next major change in water policy and state intervention in the sector of water management in Namibia's communal areas. The Namibian Government, influenced by its external advisors and incoming programme funding, decided to move away from the fully subsidized water provision which had been the practice under the homeland administration since the 1960s. Instead of

integrating some of the previously existing local management institutions adapted to the different regions of Namibia, the Government decided to implement a blueprint model across the board. The principle underlying the CBWM model of assigning decision-making rights and the obligation to collect financial resources for local water management to community committees does not foresee any individual or family-based decision-making rights over water. Such a participatory, community-based approach was an entirely new principle at least for Kunene Region.

This chapter serves to introduce and to discuss the different mediators and translation phases that were and are involved in implementing CBWM in Namibia's communal areas based on exemplary cases I observed during field research in different locations of Kunene Region in 2011. Before describing the different steps and interstitial spaces in the roll-out of CBWM in Kunene Region in more detail in chapter 8.2, I will begin by introducing the different actors who became mediators during the CBWM introduction and implementation at the regional level in Kunene Region over the past several decades.

8.1. Mediators in the CBWM translation process at the national level in Namibia

Since the early 1990s there have been several governmental and non-governmental actors (organizations and the individuals belonging to these organizations) who were – and mostly still are – involved in CBWM implementation in Kunene Region. They can be characterized by different and partly overlapping interests, aims, and resources. Before I go into more detail on each specific actor and describe some of the programmes they have been running, I would like to give a brief overview of their organizational profiles and the inputs they made in the field of RWS in Kunene Region between 1990 and 2013, starting with the main actor on the side of the Namibian state – the DWSSC.

8.1.1. The Regional Water Administration

The DWSSC as the state organ responsible for rural water supply in Namibia's communal areas implements the RWS-related policies on the ground through its 13 regional branches throughout Namibia. As described before, Kunene Region is divided, administration-wise, into two sub-regions – Kunene South, with the regional centre Khorixas; and Kunene North, with the regional centre Opuwo. In both towns, the Regional Council offices host a regional DWSSC branch office. The Regional Head of the two Kunene DWSSC offices is based in Opuwo, but frequently travels within the region and to Windhoek and back. The two offices are each sub-divided into three sections, namely administration services, maintenance, and extension services. It is the extension services section which is responsible for rolling out the CBWM model in terms of WPA establishment, training, and follow-up. The DWSSC extension services in the field of CBWM implementation are

carried out by a group of Rural Water Extension Officers (RWEOs) who are headed by one or two Chief Extension Officers in the two branch offices, and all of them are finally coordinated by the Control Extension Officer, who is again based in Opuwo (see organizational chart below in figure 30). Based on my observations and interviews – as opposed to administrative staff at higher levels of the administration, for instance in the national ministerial offices – the extension service staff in the regional DWSSC offices in many cases originate from the region itself and are tied in socially with the communities they serve.

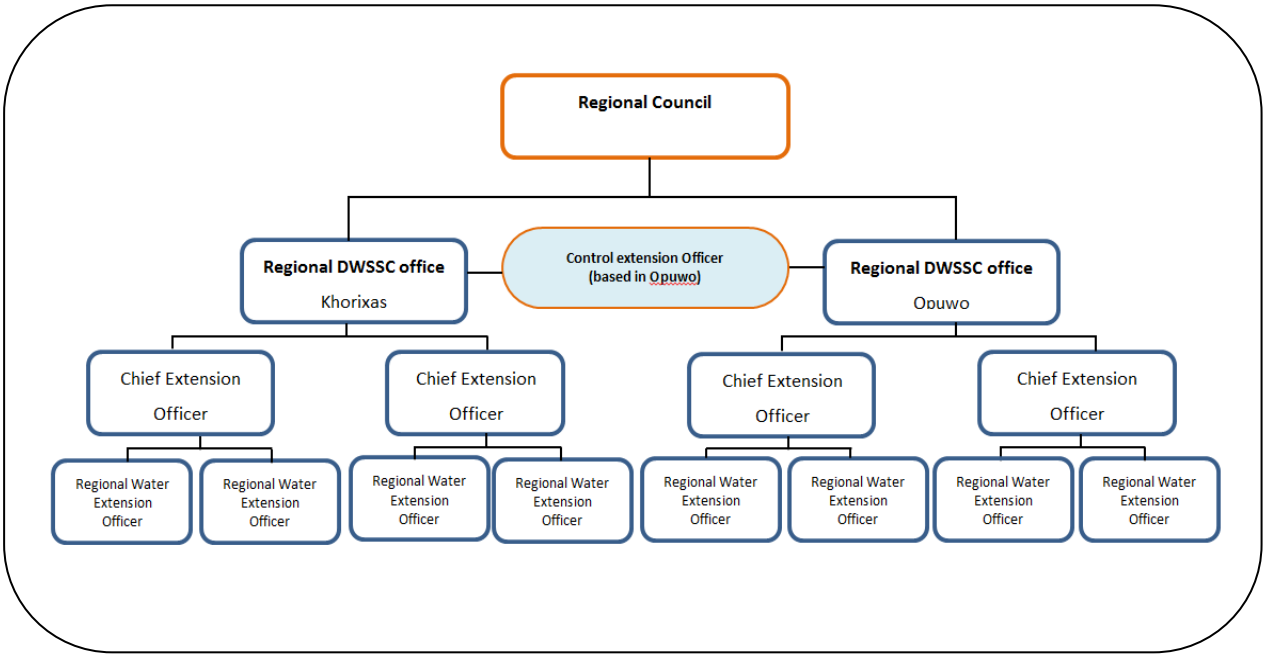


Figure 30: Organigram, DWSSC Extension Service, Kunene Region

Their role in the CBWM implementation process is to guide the process of establishing and training WPAs, to identify locations for new water points and WPAs together with the communities, and to follow up on the WPA's work. As the DWSSC Extension Strategy has it: 'Extension service is basic advice on technical, social and health aspects regarding water supply and water use through two main activities: technical support services and user education. […] User education is the provision of knowledge and skills through training, demonstrations, coaching, and other means of communication to equip the users to properly operate and maintain their water supply and sanitation facilities. Education also includes awareness-raising, mobilization, leadership roles, collective problem-solving and decision-making, financial management, etc.' (Department of Water Affairs 2002:10). Although they spend much of their working time visiting communities and water points in the field across the region, the typical tasks of the extension officers certainly also include some amount of administrative office-based tasks, such as compiling reports and preparing the constitutions and management plans, and leasehold agreements that come out of the community facilitation activities to found new WPAs.

The preparation of DWSSC field staff themselves for the introduction of the CBWM model in Namibia's communal areas was part of the first phase of introducing the CBWM model to Namibia's communal areas, and involved the training of RWEOs as community trainers.

8.1.2. Development assistance in the rural water supply sector in Kunene Region

Those actors that have provided assistance in the form of development cooperation in Kunene Region's RWS sector can be categorized roughly into the following groups, as depicted in table 25 below: a) bilateral donors; b) multilateral donors; c) NGOs; d) local advocacy organizations, and e) private consulting firms.

Table 25: Actors involved in CBWM implementation in Kunene Region

Type of actor	Name of actor	Relevant projects/ duration	Financial input (EUR)[146]
Bilateral donors	Icelandic Government (ICEIDA)	Supply of water to Epupa and Opuwo Constituencies, Kunene Region 2007-2011	999,468
	US Government (Millennium Challenge Account – MCA)/ GOPA Consultants/ Namibian National Farmers Union (NNFU)	Community-based Rangeland and Livestock Management Sub-Activity 2010 – 2014	9,400,000
Multilateral donors	UNIFAD With additional support from the Belgian Survival Fund and the Governments of France and Luxembourg	Northern Regions Livestock Development Project (NOLIDEP 1994-2003	13,277,400 (as of 01 January 1999)
NGOs	Namibian Red Cross Society (NRCS)/ Netherlands Red Cross Swedish Red Cross/ Belgian Red Cross	Water Supply Rehabilitation Project Kunene North 1995-1997 Water Supply and Sanitation Project for the Rural Communities in North Namibia 2007-2010	3,850,000 (2,500,000 out of that from an EU project grant)
	Desert Research Foundation of Namibia (DRFN)	Pilot projects on community-based groundwater monitoring in the Kuiseb basin.	no data
	IRDNC/ conservancies in areas with high wildlife density	Water points for wildlife and grazing management; RWS in communal area conservancies in Kunene North and South	no data
	HUIRADS Construction AgriFutura	Training assignments for WPCs and caretaker trainings in Kunene North	no data

[146] Calculated from amounts indicated in project proposals and donor documentation based on exchange rates at the time of projects' commencement.

	Agri Enviro	and South. Agrifutura has also been hired by the MAWF to train DWSSC extension staff for the CBWM implementation	
Local advocacy organizations	Hizetjitwa Indigenous Peoples' Organization (HIPO)	Community-based advocacy for local Himba, Zemba, Tjimba, and Twa population, including advocacy for improvements of general sanitation and water situation. Collaboration in the past with the NRCS in hand-pump rehabilitation in Kunene North. Support to locally initiated social projects such as: improvement of water and sanitation infrastructure through food for work; improvement of water supply for livestock and villagers by earth dam construction and provision of spare parts and equipment for water points with boreholes or wells (see (Hizetjitwa Indigenous People Organization 2011:8).	no data
Private Consulting Firms	GOPA/ GRM International partnering up with other international donors and implementers	Community-based Rangeland and Livestock Management Sub-Activity 2010 – 2014	Unclear which of the organizations involved provided or implemented which part of the project budget

Some of the details regarding the degree and nature of the involvement of the abovementioned organizations in relation to rural water supply in general, and to the CBWM roll-out at the regional level in Kunene Region in particular, will be described based on my data collection and some of the detailed, exemplary cases that I observed in the field in sub-chapter 8.3. below.

Before coming to that I will mainly describe the way that the national policies and guidelines for CBWM were meant to be implemented at the level of water points and the way that the regional water administration as the main actor in this context has been shaping the practice of CBWM implementation, based on my findings in Kunene North and South.

8.2. The process of rolling out community-based-management in Kunene Region – interstitial spaces

This sub-chapter provides an account of a series of standardized, typical events that constitute interstitial spaces in the travelling of the CBWM model from the offices of the water

administration and the cabinet and parliament to the local water users. Figure 31 below serves as a visual representation of the series of interstitial spaces, and some of the key actors and exemplary cases involved that will appear in my account. A more detailed visual representation of the extension process that the DWSSC's RWEOs engage in when implementing the CBWM strategy is shown in Figure 32 below.

Prior to describing the events along the chain through which the CBWM model was translated at the regional and local level in Kunene Region, I first of all have to point to some of the limitations of the travelling models approach which have become clear by applying it to my case. In order to trace the emergence of the Namibian CBWM model, and its connection to global environmental governance and international water-sector discourses and paradigms, followed by its adoption in the Namibian context starting in the capital Windhoek, data had to be collected at different scales and in a number of locations. The local setting, which is usually still the focus of most anthropological analyses, was thus just one of the settings in which I conducted research. As a consequence, the depth of the ethnographic data collected and the information available to me regarding the cultural embeddedness of individual actors and the function of local social systems is not as detailed as it could be had I conducted local-level long-term fieldwork for example. The individual actor is mostly seen only as the mediator of the CBWM model, in his or her role as part of an organization engaged with supporting the RWS sector, and not as a member of a community, family, or culture him- or herself. This is why in my account below, some of the activities and motivations of individual actors in the water administration, in the communities of water users, and in development organizations may not always appear to be fully explained. Also for a yet deeper understanding of the interstitial spaces on which I focus below, it would have been useful to have more data on the local cultural context of the actors involved in the mediation of the CBWM model at the local level. This is not however where the focus of my research has been placed. Rather, the main aim was to show how doing ethnography on global models such as the CBWM model can reveal the linkages and mechanisms through which these models connect different groups of actors at different scales.

8.2.1. WPA establishment

According to DWSSC documentation and confirmed by my observations and interviews, the usual process generally followed when a WPA is to be newly established by the regional DWSSC – or by other actors who are involved in WPA establishment under specific circumstances such as training providers or NGOs – entails the following:

a) The selection of the sites for water points to be newly installed or rehabilitated, which involves a pre-selection of potential sites by the DWSSC, often based on community requests, or in some cases on donor-driven processes. The site selection usually also involves an exchange between DWSSC staff and the area's political decision-makers (mainly Governors and Councillors), Traditional Authorities and community leaders.

b) A preparation process for sensitization and awareness-building purposes, lasting for approximately four months, and including for instance meetings with the community leaders and Traditional Authorities in the vicinity of the water point that is newly planned or supposed to be renovated. These meetings serve to provide information on the DWSSC's plans, and to gain the local leaders' opinion and agreement.

c) Community meetings to create awareness of CBWM and WPA establishment, to assess the status quo and identify and mitigate potential problems with regard to water management, and to plan for the bigger community meeting to be held to establish the WPA.

d) A community meeting lasting between 4 and 6 days, mainly consisting of the joint compilation of the WPA constitution and management plan, as well as the election of the WPC, and involving all the users of the water point as members of the new WPA.

e) Trainings for the WPC members and the water point caretakers.

f) A phase of following up on the newly established WPA and the work of the WPC with 'guided operation and maintenance' (see 8.4.4. below for a more detailed account).

All in all, for new water points with newly established WPAs, the entire process is estimated to take about 18 to 20 months of the work of a RWEO, according to the *Extension Strategy Procedural Manual and Participation Toolkit* (Department of Water Affairs 2002:Module 2 – The Rural Water Extension Officer and the Pre-entry Phase: p.18).

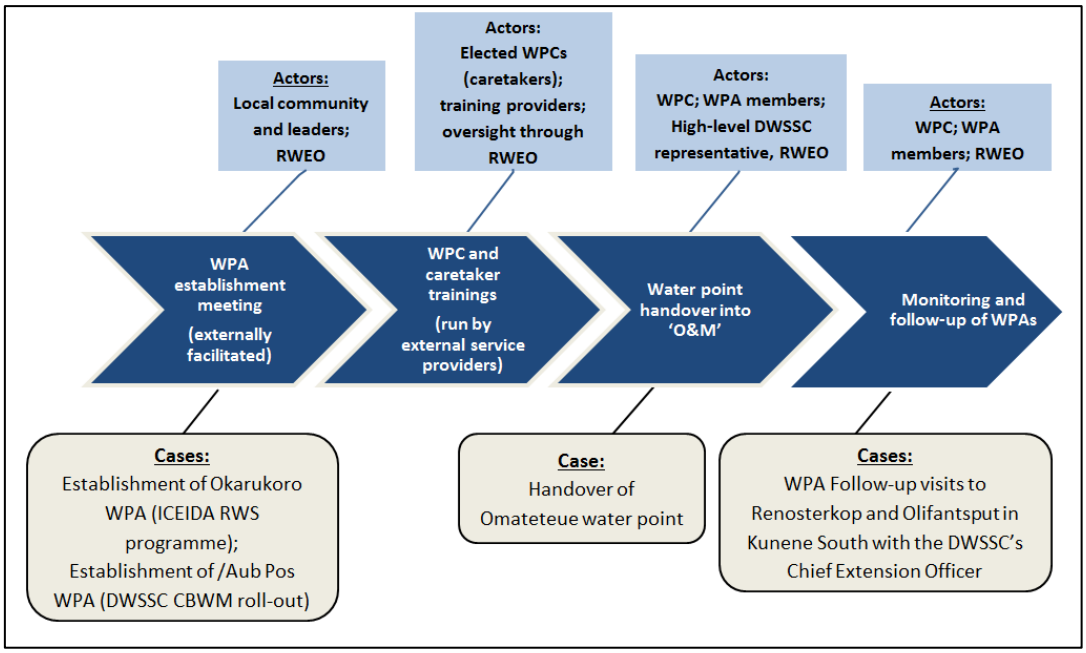


Figure 31: Interstitial spaces in CBWM roll-out at the local level in Namibia - events, actors and, cases

This toolkit to be used by DWSSC extension staff provides an overview of Namibia's CBWM model in the sector of rural water supply, its goals, targets and phases, and the role of the extension staff in achieving these targets through facilitating the process with the WPAs. The 'extension process' in which RWEOs engage with WPAs is outlined along four subsequent phases designed as a 'ladder of each phase of developing and owning their water supply system' (Department of Water Affairs 2002:Module 1 – Community Based Management and the Extension Strategy: p.17).

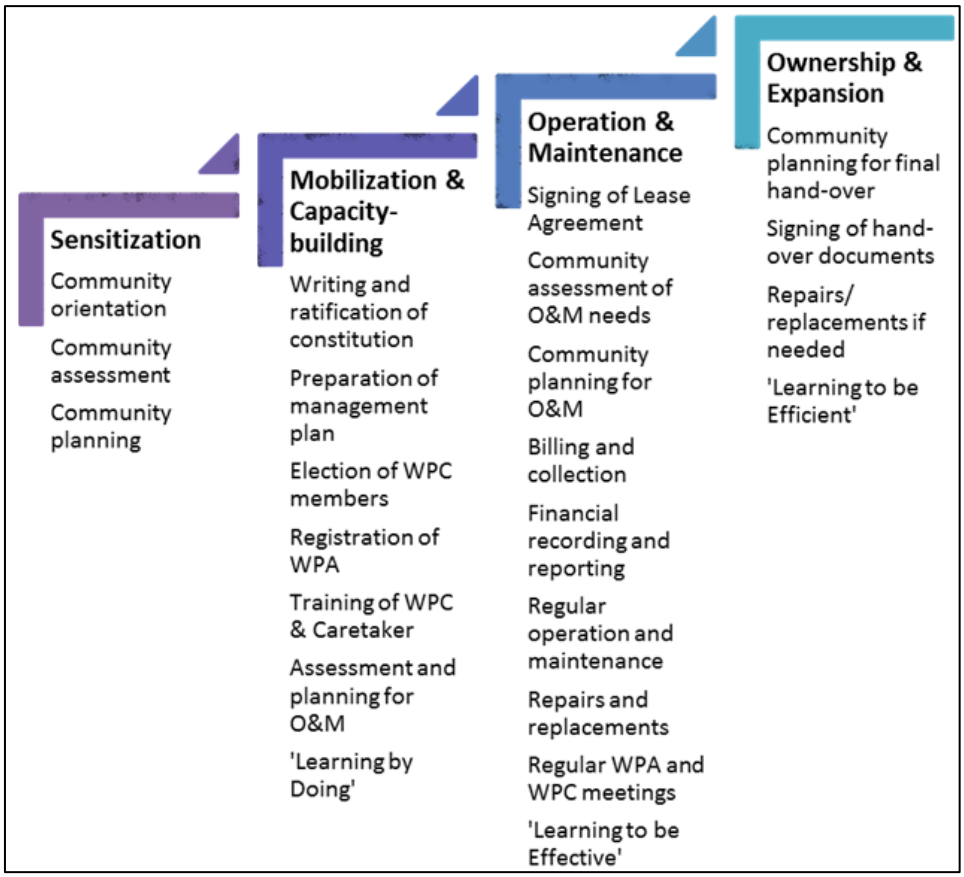


Figure 32: CBWM Extension Process according to DRWS Extension Strategy
Source: (Department of Water Affairs 2002)

When reviewing the descriptions of the extension process and of the participatory tools included in the DRWS extension strategy, it is notable that the description in the document in many parts seems based on a situation as if the RWEOs were totally unfamiliar with the communities, including with the way that one should communicate with leaders and community members initially, to gain local acceptance (Department of Water Affairs 2002:Module 3, p. 5-6). Judging from my interviews and observations it is doubtful that all the very detailed explanations and steps described in the community mobilization procedure are usually followed by the RWEOs, probably for two main reasons: One, it is likely is that the Extension Officers themselves frequently come from the area where they work, so that it takes them less time and effort to become familiar and to be accepted by local leaders and community members, and two, as often stated in my interviews, human and material resources – for instance vehicles – relevant to the CBWM implementation process are generally scarce. Time constraints faced during the extension process in each community thus pose a serious obstacle for the Extension Officers in the application of the various participatory tools that the extension strategy proposes as useful, such as semi-structured interviews, community mapping, transect walks, wealth ranking, seasonal calendars, etc. (Department of Water Affairs 2002:Module 3, p. 25-38). The overall duration of the different

phases frequently gets shortened, depending on the circumstances. It seems however to be one very central motif of the DWSSC to try and secure the support of the most influential and powerful people in a given community throughout the process of WPA establishment, by preparing them in meetings prior to the bigger community meeting in order to raise their understanding of the national CBWM concept and process, and by collecting their feedback on a continuous basis.

The WPA kick-off meeting – The making of community rules with state facilitation

The phase of community sensitization is followed by a central community meeting with the aim of the actual establishment of the WPA. This community meeting is scheduled and facilitated by the RWEOs – and follows a relatively standardized schedule and agenda based on the *Extension Strategy Procedural Manual and Participation Toolkit* (Department of Water Affairs 2002). During my fieldwork I had built up a relationship with some of the RWEOs, and two of them kindly allowed me to join them in visiting communities that according to the DWSSC work plan were planned to be registered as new WPAs – one in Kunene South, as part of the regular CBWM roll-out managed by the DWSSC office in Khorixas, and one in Kunene North, in the framework of the ICEIDA solar pump project. In these two cases I thus had the opportunity to follow the community meetings facilitated by the RWEOs to establish a new WPA, register the members, agree on the constitutions and management plans, and elect the WPCs.

Case Study: /'Aub Pos, Kunene South

Rural water supply in the settlement of /'Aub Pos, the cattle post of nearby /'Aub village in Kunene South, in 2011 was the responsibility of Viviane Gamises (RWEO based in the Kunene South DWSSC office, responsible for what used to be Ward number 9[147]). Viviane was a young woman in her early thirties, herself grown up in the rural areas surrounding Khorixas, and working for the DWSSC since the beginning of the 1990s. Her supervisor, Chief Extension Officer Mary Goagoses, was about ten years older than Viviane and came from the village of /'Aub itself, the place that /'Aub Pos belongs to. She had also been employed by the regional DWSSC branch in Khorixas since the beginning of the 1990s. We had become acquainted during a series of interviews I had conducted in their office in Khorixas a few weeks before, including guided interviews on the CBWM policy and roll-out process with both of them. They had invited me to accompany them

[147] *Ward* used to refer to electoral districts with local leaders of the 'Traditional Authority' which was installed by the South African administration in what were then the 'homelands'. The division into wards ceased to exist at Namibian independence, but is still used in Kunene Region to determine the geographical areas of responsibility of the different RWEOs of the DWSSC.

during their work, including the establishment and follow-up of WPAs and WPCs, which I had gladly accepted to do.

Both Viviane and Mary were born in Kunene South themselves, having their roots in the local Damara community, and speak the languages Nama-Damara and Afrikaans, which the majority of people in Kunene South are familiar with. Being based in Khorixas with family ties to relatives in the surrounding countryside, they are very familiar with people's everyday life there. In fact, during the five days I spent with them near /'Aub Pos in order to observe the WPA meeting, we stayed in /'Aub village, where Mary's own mother-in-law has her household and part of her herds of goats and sheep. Viviane and Mary had been witnessing the phase of CBWM implementation as part of the DWSSC staff since its very beginnings after Namibian independence. They had both also seen how water supply used to be organized and subsidized under the homeland administration before the 1990s.

Based on Mary's account of the process of WPA establishment with the rural communities in her area, the preparatory phase can consume a lot of time and energy, as it depends on providing information and collecting the feedback from sometimes widely scattered households and highly mobile people. The entire outreach from the side of the DWSSC to the communities has to be organized from the Khorixas office, as there are no more decentralized, permanent structures of the water administration in place. As in the Windhoek and Opuwo offices, DWSSC staff in Khorixas also mentioned the lack of staff and means of transportation as hampering the smooth conduct of their extension work. According to interviews I took with several RWEOs and their supervisors, many of the RWEOs are forced to spend lengthy periods in the field and away from the offices due to the long distances and often difficult road conditions, which means their extension work takes even more time.

/'Aub Pos, the settlement in Khorixas Constituency where the water pump was to be rehabilitated, is situated roughly 50 km to the north-west of Khorixas, and is reached from the central town by about an hour's drive on secondary dust and sand roads. At the time of my field research, informants from /'Aub Pos indicated that the settlement consisted of eight households. Based on Linke's data on settlement and household size in the LINGS research area in Kunene South, which she found to vary between 9 and 17 households per settlement, with an average of four persons belonging to each household (Linke 2015:116), /'Aub Pos – mainly being a cattle outpost of /'Aub settlement – is a relatively small community for this area. At the time of my meeting with members of the community in /'Aub Pos in August 2011, during the drier time of the year, all of the inhabitants were using the water provided by a wind-pump over a borehole with an open reservoir and a cattle trough next to it.

The WPA Establishment Meeting at /'Aub Pos

It was not the first time that a WPA establishment process had been started there, but according to Mary the documentation of the previous community meeting had gone missing so that part of the process had to be repeated. The WPA establishment meeting in /'Aub Pos had been on Vivian's and Mary's task list for a while, and they were hoping to hold meetings there and in nearby Nandes in the same week. When they found out that there would not be sufficient people around in Nandes, we travelled straight to /'Aub Pos in the evening of the 22nd of August, spreading the news that the meeting to establish the WPA was going to commence the next day. We arranged ourselves close to the goat kraal, where Mary and Viviane would sleep in a small stone house with a fireplace that Mary usually uses when she is at her mother-in-law's place. I decided to sleep in my tent next to the house.

By the time we arrived in /'Aub Pos (about five kilometres away) the next morning, equipped with the CBWM extension strategy of 2002, a few camping chairs, flipchart paper, adhesive tape and pen, we had to rely on the hope that the message that Mary had given to passers-by the day on the road before and to some community members in /'Aub Pos via mobile phone would suffice for the community to gather at the agreed meeting point next to the water pump. It turned out after half a day of waiting and chatting with the few occasional people who came to see the unexpected visitors or fetch water that it had not quite sufficed, but that we would need to return to /'Aub Pos the next day. The way back in the car with Viviane and Mary unexpectedly provided me with the opportunity to listen to their critical reflections on CBWM policy, based on their everyday experience with implementing it in Kunene South, and to follow up on my interviews with them in the DWSSC office.

Eventually, two days after we first arrived, the actual DWSSC extension visit to establish a new WPA and WPC in /'Aub Pos was scheduled to start on 24th August in the morning, in the shadow of the settlement's water tank, which is fed by a wind-pump. The agenda was put up on a flipchart paper taped to the water reservoir, and read as follows:

Box 6: Meeting Agenda, WPA establishment in /'Aub Pos

Day 1

(starting around 10 a.m.)

1) WPA Constitution
2) Figure out criteria for WPA membership and criteria for being a good water point caretaker
3) WPC election

12:30 – Lunch break

4) Management Plan part I

Day 2 in the morning

5) Management Plan part II including writing the WPA budget

Image 5: WPA meeting with the schedule attached to the reservoir in /'Aub Pos, Kunene South

The 17 community members present included three children who came to attend the meeting with their grandmother. Mary and Viviane began to facilitate those clauses of the MAWF's sample WPA constitution that are open to adaptation to the local context by the community. Mary and Viviane would explain the content and meaning of each clause in Afrikaans, including some key terms contained in the formulations in more detail where necessary. After the explanations to each clause followed a question and answer session to clarify any open issues from the side of the meeting participants, and then a moderated discussion as to how the community wanted the particular clause formulated. In this way the group determined the criteria for WPA membership: any interested water users of /'Aub Pos above age 18 could register as members; the positions in the WPC – a total of nine WPC members, namely chairman, secretary and his/ her deputy, caretaker and his/ her deputy, treasurer, and three additional members without portfolio; the length of term of the WPC – two years; and the frequency of meetings to be held – bi-monthly meetings of the WPC and an annual general meeting of the WPA.

The WPC election in /'Aub Pos before noon on the first day proved to be somewhat difficult, as several individuals whom the participants would have wanted to elect into WPC positions were temporarily absent at work on farms and lodges. Eventually it was agreed to elect three of them in their absence – namely the chairman, the deputy caretaker, and the treasurer. Concerning the election of the WPC at /'Aub Pos it is notable that, given the low number of participants in the meeting, once the ten WPC members had been elected, the number of WPC members present at the meeting was as high as the number of WPA members they were supposed to represent. I later discussed this issue with Viviane, who drew my attention to some of the favourable and unfavourable conditions for running a WPA sustainably and equitably. She said that in the case of such a small place as /'Aub Pos one should in fact establish one WPA for several water points in order to form a bigger membership. However, based on her experience, such combined WPAs break up frequently over quarrels regarding the user fees. This could be explained along the lines of the analysis contained in Linke 2015, and Schnegg and Linke 2015:212, with the hypothesis that social networks across different settlements in Kunene South might not display the necessary degree of density, connectedness, and multiplexity to achieve successful resource governance.

The discussion about the WPA's management plan, including the modalities of providing and paying for water, started towards the end of day one. The facilitation by Mary and Viviane continued along the same lines as before, by going through the standard management plan and encouraging the community members to discuss and decide upon the various headings contained in it. The results of the discussions about the management plan, which continued during day two of the meeting, can be summarized as follows:

The water point should be opened and accessible for water withdrawals from 8 a.m. to 7 p.m. The water point should be cleaned by the WPA members every second week. Nobody should be allowed to swim, bathe, or wash at the water point or in the reservoir. It is not permitted to send children to fetch water. Only the WPC has the right to grant or deny water access to users who are not members of /'Aub Pos WPA. In case of problems with water supply in /'Aub Pos it should be the WPC's responsibility to negotiate with other WPAs for water access at their boreholes. When the water level in the reservoir is low, only human beings should use the water, while livestock should be taken to other nearby water points or natural water sources.

The agenda point of determining the financial contributions for water was introduced by Viviane explaining the principle of contributing to water use in the form of different kinds of fees: membership fees to be paid per year; and household fees and livestock fees, which are usually paid on a monthly basis. The details that WPA members get to decide upon in this regard are the different amounts to be paid for each of these fees. The discussion of the fees is usually interlinked with and facilitated along the budgeting for the WPA expenditures foreseen for the future, which will be required to run the pump and maintain the water point infrastructure. In the case of /'Aub Pos WPA, this concerns the wind-pump, the concrete dam, and the cattle trough. Viviane did not influence the discussion on the fees during its initial phases, except when – in her view and based on her experience – the fee that people proposed seemed too low when compared to the expected expenditures. At some stage she took on a more active role by providing the following set of fees as an 'example' – thereby noticeably guiding the discussion to some extent: 20.00 N$ per (head of) household per month as household fee; 1.00 N$ per head of cattle, horse, or donkey as livestock fee; and 0.50 N$ per head of small stock. People initially became irritated and started protesting in reaction to what they saw as a big financial burden. The fact that the WPA of /'Aub Pos consisted partly of absent herd owners who had left their livestock in the hands of local caretakers proved to further complicate the issue, and Viviane made it clear once again that those who looked after big herds of cattle belonging to other livestock owners would still only be made to pay for those heads of livestock they themselves actually owned.

This point, which touched upon the different wealth levels of those who were living at /'Aub Pos, or just keeping their livestock there to be watched over at the time, prompted further, somewhat heated discussions: An elderly woman who had been listening and actively participating in the meeting since its beginning that morning pointed to her particular case, in which she was actually looking after the herds of her grown-up children, who were not residing in /'Aub or /'Aub Pos themselves any longer. She was doubtful regarding the willingness of her children to help her settle the water bill, and regarding her own ability to make them pay. This is a point which was not really resolved during the discussions at /'Aub Pos that day, but neither is there any mechanism to

regulate this issue foreseen in the standard WPA rules provided by the DWSSC. While the caretakers looking after the herds have to make sure that the animals get enough water to drink and that the water is paid for, they are not the ones responsible for the payment of water fees, but rather have to make the individual, mostly absent livestock owners pay for their animals on time. After a rather long discussion about the modalities of payment and the question of affordable and realistic fees, the participants settled on figures matching the very examples that Viviane had provided earlier on, adding a membership fee of 50.00 N$ per year per registered member to the list.

The ensuing discussion of the sanctioning of water users for non-payment, which is also a pre-set element of the standard WPA constitution, took quite a while again, and resulted in the option for people who cannot pay the water fees due to their economic circumstances to render services to the WPA in the form of cleaning the water point and its surrounding instead. For those who are known to be able to pay but still refuse to do so, one month's notice shall be given, and continued refusal to pay shall result in denying such a person, and his or her household and livestock, access to the water point. The meeting participants further decided that people who settle at /'Aub Pos and refuse to register as WPA members shall be reported to the local headman and asked to leave the settlement.[148]

When reflecting on the discussion about the water fees and rule compliance later on with Viviane on the way back in the car, she pointed out that the problem that the elderly woman who was looking after her children's herds was facing was actually going to be a big obstacle to collecting the fees from her and from other WPA members who were in a similar position later on:

> 'They will now say they will pay, but when payday comes they will just say they don't have that money. And it will be difficult for people to get the contributions from their children who own part of the herds' (Interview with Viviane Gamises, 25 August 2011).

Viviane was generally sceptical regarding the way that the payment rules discussed at the meeting would later be put into practice:

> 'Some people in the meeting talk off the topic, which makes everything take long. But those who remain silent are more problematic. When payday comes or when they get sanctioned, they'll just say they were not part of the decision and they will not comply. And it's very strange for people to ask them to come up with a set of rules themselves all of the sudden. People frequently forget about the rules they've made and about their management plan and

[148] On the element of sanctions and their application or non-application in resources management in general and in the LINGS research region in particular, see Menestrey Schwieger (2015b:193ff.; 246ff.); Schnegg and Linke (2015).

> about paying contributions by the time we visit them for follow-up next. This can sometimes take a whole year after the WPA was set up due to resource and time constraints within Rural Water Supply [by this she is referring to the DWSSC]. It would only be made to work through regular follow-up visits. Which we do not have the resources for…' (ibid.).

Viviane's statements shed light on several issues regarding the way that the Namibian Government is enforcing a blueprint approach to CBWM in the communal areas based on models of participation and community-based management rooted in development discourses dominated by the Global North. It remains questionable to what extent the rules being promoted through blueprint documents such as the WPA constitution and management plan, and through the writing process facilitated by DWSSC extension staff, can survive and be enforced in communities characterized by a complex blend of formal and informal, traditional and modern resource-management arrangements (Cleaver 2002:17), as well as by other sets of cultural norms and rules, and sanctioned social relationships. Viviane's description of the way local people react to the rules that the state's representatives are trying to establish also leaves room to interpret their behaviour as outright resistance, or – using Scott's term from his analysis of the relationship and discursive patterns evolving between dominant and subordinate groups – as 'hidden transcripts' (Scott 1990). Scott argues that the hidden transcripts of subordinate groups are often manifest in public discourse, albeit not expressed openly, but rather in indirect ways, for instance through rumours, gossip, or non-verbal expressions such as gestures. In the case of the interaction between water users and administrative staff in Kunene Region this can be observed in the form of talking off the topic or even not talking at all during community meetings, and also in the form of 'forgetting about the rules they've made and about their management plan and about paying contributions'. During my field research I did not hear any open critique of the national water-sector reforms, which had led to a bigger financial burden on water users and the loss of fully subsidized water supply from the side of the users themselves. However, the abovementioned hidden disapproval or disobedience can be understood, following Scott, as replacing such open critique of the decisions made and enforced by those in power.

The other question concerns the functioning of the participatory grassroots, bottom-up approach promoted and allegedly used by the state and its representatives in introducing the new CBWM paradigm in settings where decision-making in such a way does not belong to the usual institutional inventory. Based on my observations from community meetings to establish WPAs, and on the interviews I conducted with DWSSC staff in Kunene Region, the participatory, bottom-up discourse which the CBWM-related strategy and implementation guidelines in Namibia (and elsewhere) are based upon is the basis of an administrative practice that still leaves the water

administration staff in the dominant position when it comes to rule-making, and frequently renders actual decision-making from below impossible.

8.2.2. CBWM Training

Following the establishment of a WPA and the election of its WPC during community meetings, the training of the WPC members is the next important step in the roll-out of the national model of CBWM. The training sessions form crucial interstitial spaces in the travelling of the CBWM model. There, members of the regional water administration – the RWEOs – and sometimes NGO staff or volunteers in the case of donor-funded RWS projects, meet the newly elected WPC members with the express aim of translating the CBWM model to local community members and conveying the background information, central messages, and rules that the administration deems necessary to the communities for them to implement the CBWM model 'satisfactorily' – or 'successfully' – according to the DWSSC's criteria. The training sessions are meant to provide the new WPCs with the necessary skills for them to manage the infrastructure of their water points and facilitate the implementation of the rules set out in the WPA constitution along the WPA Management Plan once the water point is handed over to them for operation and maintenance.

The standardized curriculum used for the WPC training nowadays – the 'Water Point Committee Skills Training' (Republic of Namibia. Ministry of Agriculture Water and Forestry 2006) – is based on earlier versions which have been developed, disseminated, and regularly updated in the MAWF, by its subdivision Human Resource Development and Training since the 1990s. The first version, titled 'Water Point Committee Skills Training' was developed in a consultative process between 1997 and 1998 by a team of DRWS staff and consultants – some of who are currently still actively involved in the water sector in Namibia. The course curriculum was translated into Namibia's eight vernacular languages, tested with selected RWEOs, and piloted with two WPCs in the Otjozondjupa Region.

The newest version of the WPC Skills Training course curriculum of 2006 jumps straight into the first session, which presents the rather complex background and explanation of CBM for the RWS sector in Namibia, its legal foundation, the rationale behind its introduction, and the assumed benefits for the communities. This section also includes a graphical outline of the organizational structure for RWS as well as a description of the roles and responsibilities of the different administrational branches and community management bodies involved. The curriculum continues with a brief session on leadership styles and qualities, followed by one on planning and assessing progress during which among others the WPA Activity Plan and the three-monthly work

plan are introduced as planning formats for the WPC. In the same session, WPC members receive guidance on monitoring and evaluation activities.

While most of the sessions are designed to provide background knowledge and skills to the WPCs, probably the one training session with the biggest impact on the actual content of the rules that the WPAs formulate in their management plans and that the WPCs get to implement is session 5 – 'Managing WPA Finance'. The session is subdivided into the three sections: 'Planning Finance', 'Collecting Finance' and 'Looking after Finance'. This session touches upon one of the most sensitive and crucial issues around the CBWM approach used in Namibia – the payments for water use and the related management processes. It defines the different kinds of user fees as 'annual membership fee', 'monthly membership contribution' (members being all heads of households or all individual adults in the WPA), 'fee for human consumption', 'stock fees', and 'garden fees'.

The passage on stock fees also includes the express recommendation that users should pay per head of large or small stock, rather than in the form of a common 'flat rate' for all. Two main reasons for this bias towards the per-head-of-cattle, or 'p.h.o.c. rule' are given in the WPC training manual, as follows: 'A flat rate for livestock (each member owning large and/or small stock paying the same amount) is not recommended as this would mean that those members with few livestock would indirectly subsidise those households with many livestock which is not a fair system. Besides flat rates would probably not raise enough money to sustain the water point' (Republic of Namibia. Ministry of Agriculture Water and Forestry 2006:48).

After this central session, which is crucial for the water fee structure and the management of the WPA finances, the course curriculum continues with three more sessions conveying skills which are deemed relevant to the roles of treasurer, chairperson, and secretary of WPCs in the eyes of the water administration: Session 6 – 'Treasurers' skills training', Session 7 – 'Chairperson and Secretary Skills Training', Session 8 – 'Solving Problems and Managing Conflict'. Compared to the older version of the course, three additions were made to the sessions contained in the WPC Skills Training of 2006: 'Clean water for good health', 'The roles of men and women in water point management', and 'HIV and AIDS' (sessions 9, 10, and 11). Furthermore, the session on 'Treasurer Skills Training' saw major revisions. The languages used in WPC and Caretaker Trainings in Kunene Region depending on location are: Afrikaans, Damara, English, and Otjiherero. Each of these training sessions is commonly scheduled for five days, while the duration of the Caretaker Training differs depending on the pump technology in question.[149] A modified version, created in an attempt to extend the WPC Skills Training course from five to seven days, was piloted somewhere

[149] The Caretaker Training for diesel-run pumps last for five days while those for wind-pumps and solar pumps last for four days, and those for pipeline schemes and hand-pumps last for three days.

during the preparation of the current, 11th version of the training curriculum, but abandoned again based on feedback from participants, and existing resource constraints within the DWSSC.

The initial plan had been to conduct all the necessary training sessions for the WPCs that the communities would be asked to establish based on a pool of DWSSC staff members who were trained as trainers (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1999:26). At some point around the end of the 1990s it became obvious that the DWSSC on its own was unable to carry the burden in terms of staff time and other resources involved in having to conduct the training sessions for all of the then existing 5,100 water points that the DWSSC had planned to cover with the CBWM introduction – a number that has kept rising since, with new water points being established. By the time the Kunene Region RWS Development Plan was published in 2001, training of WPCs and caretakers was already being outsourced to Namibian training providers. The new approach the MAWF has been using since is to launch public tenders to outsource the organization and conducting of the training sessions to private training providers such as NGOs and consultants. These tenders are administered centrally by the MAWF head office for all the RWS regions in Namibia, and regularly awarded on a yearly basis to applying organizations and individuals, per region. Tenders for caretaker trainings are also sometimes awarded for each category of technology at the water points, e.g. to one training provider for solar pumps and to another one for diesel pumps. While the state, through the MAWF central office, is awarding the training tenders to the private training providers and setting the rules to be conveyed through the training sessions, regionally the DWSSC is responsible for monitoring their implementation and outcomes. According to the tender specifications, DWSSC staff from the headquarters or the regional branches are supposed to visit the training sessions to monitor and evaluate training quality and content, as well as the level of understanding among the participants. However, this monitoring function is also hampered, according to statements of both DWSSC staff and the external training providers, by a lack of resources on the part of the DWSSC.

According to information I obtained in the MAWF's central and regional offices, the training tenders for WPC and Caretaker Training in Kunene Region over the past few years have been awarded to the local consulting firms AgriFutura (for Kunene North and South), Agri-Enviro Training and Consultancy Services (for Kunene North), and HUIRADS Construction (for Kunene South), all run by local managers and staffed with Namibians from different parts of the country. Their profiles and role in the process of CBWM roll-out will be described in more detail in chapter 8.3.2. below. Agrifutura and Agri-Enviro have also been conducting the trainings for the newly established WPCs as part of the ICEIDA-funded solar-pump project (see sub-chapter 8.3.1. below). There were other private consulting firms involved in training through MAWF tenders in Kunene Region earlier on according to the RUWIS database. As described further below, the NRCS has

been conducting training sessions for WPCs and hand-pump caretakers using their own staff and volunteers in the framework of their hand-pump construction and rehabilitation activities. Upon completion of the training activities the training providers are requested by the MAWF to conduct follow-up visits some three months later in order to assess the status and functioning of WPA and WPC based on meeting minutes, bank information, payments to the caretaker, the construction of a hut for the caretaker, etc., and to report back to the DWSSC.

To my knowledge, the current version of the WPC Skills Training course is used throughout Namibia as a standardized, general blueprint regardless of the regional/cultural setting or the actual features of the WPCs in question, for instance in terms of their educational background, literacy levels, ages etc. A modified version of the course curriculum targeting semiliterate WPC members that was announced to be developed early in the 2000s has never featured so far. During my field work however, through interviews with stakeholders who were involved in different ways in conducting training sessions for WPCs and caretakers, I came across two modified versions of the official model curriculum the use of which had been confined to certain regions and projects. In these two cases a local NGO and an external development agency had been involved in the implementation of the CBWM model in the framework of development projects and re-written and/ or adapted the official MAWF guiding documents for the CBWM roll-out. These organizations and their staff members had taken an active role as translators and mediators between national guidelines on the CBWM model and local communities with their existing institutions related to water management.

One of the modifications to the national model training curriculum that I came across during my fieldwork was a version of the Caretaker Training for WPAs with solar pumps designed by AgriFutura who had been commissioned to do so in the framework of the ICEIDA RWS project. Agrifutura is an independent, locally managed and staffed consulting firm established and headed by a team of two directors, one of whom, Colin Usurua, being of Damara origin and the other one, Adolf de Klerk, an Afrikaaner. I interviewed Colin Usurua in their headquarters in Windhoek. According to him Agrifutura had been involved already in developing the national CBWM strategy for Namibia itself since the early 1990s and in training MAWF extension staff to prepare them for their involvement of CBWM roll-out. They had been awarded the training tender in the framework of the ICEIDA-funded project. When discussing the applicability of the CBWM model to Namibia's communal areas and Kunene Region in particular with Colin Usurua, I was told that in the framework of the ICEIDA project in Kunene Region, Agrifutura had seen a need to adapt the Government's WPC skills training manual to the specific context and needs of the Himba communities targeted by the project. According to him, the modifications to the national official curriculum were made to 'adapt the training better to the Himba communities by introducing:

- An extended timeframe to slow down the pace of instructions.
- An adapted, easily understandable terminology.
- More illustrative lessons' (Interview, 12.08.2011).

The other modified training curriculum I found through contact with the German lead consultant who was temporarily based in the DWSSC branches responsible for Kavango and Caprivi Regions[150] and advising the CBWM roll-out between 2008 and 2011 in the context of a project by Lux-Development. The consultant had been active as a freelancer in the water sector in different Sub-Saharan African countries for some time. She explained to me that her team had taken part in WPC training and analyzed the official training curriculum, concluding that the approach used was too teacher-centred, lacking a participatory, student-centred approach that they saw as being more fit for the target audiences. They had thus decided to come up with an adaptation of the official curriculum[151], accompanied by the introduction of community mobilizers during training sessions, who were recruited from among the rural communities themselves, as well as a newly employed method of following up on the training through theatre plays developed with local drama groups. The modifications that the Lux-Development project team made to the official curriculum consisted of:

- Incorporating sanitation-related topics into the training;
- Adding additional units on calculation and budgeting to the session on financial record-keeping skills training;
- Adding additional units to the session on chairperson/ secretary skills training;
- Extending the training duration from five to eight days

The Lux-Development 'Guidelines for the Trainer for Water Point Committee Training' include some entirely new content that constitutes an extension and part-modernization of the latest version of the DWSSC's WPC skills training, such as chapters on 'Water and Health' and 'Basic Hydrology' as well as a discussion of the pros and cons of making WPA contributions in kind rather than in cash (Luxembourg Agency for Development Cooperation 2011a:65ff.) and the management of WPAs at water points with solar pumps (ibid.: 66). Regarding the application of the p.h.o.c. rule versus flat-rate payments, the Lux-Development training manual for WPCs goes

[150] The north-eastern-most administrative region of Namibia used to be called Caprivi Region up until August 2013, when it was re-named Zambezi Region in a move to eliminate the names of colonial administrators from its current maps.

[151] Lux-Development 'Facilitator Guidelines' in three volumes: Luxembourg Agency for Development Cooperation 2011c, 2011b, 2011a.

into detail and is explicitly in favour of the p.h.o.c. rule, stating that 'A simple calculation exercise shows that the flat rate is not really fair, and that the poorer members of the community in fact subsidize the richer ones who own livestock or businesses' (Luxembourg Agency for Development Cooperation 2011a:63), and: 'This calculation clearly shows that in communities, where large numbers of livestock are owned by few individuals, the WPA should introduce payments according to the number of cattle and other businesses the family owns, which require water such as *shebeens* [local pubs] and vegetable gardens. The amount should be fixed as cost per animal or business per month. For communities where livestock ownership is more homogenous across families, flat rate contributions can be used' (Luxembourg Agency for Development Cooperation 2011a:65).

When discussing the component of CBWM training in Kunene North with an NRCS advisor for the Kunene water and sanitation project in Windhoek, he mentioned similar obstacles for conducting the training sessions in more effective ways suited to the audiences in the communal areas of Kunene, as the Lux-Development and AgriFutura informants had done. He had become aware of the modified version of the curriculum developed by Lux-Development through a national WatSan coordination meeting held by the MAWF, and became interested in also applying it in the NRCS' work in Kunene Region. The NRCS was going to seek the MAWF's approval to use the Lux-Development curriculum for CBWM trainings in future project activities. As with the facilitation of WPA establishment meetings and WPC trainings by the NRCS, which will be discussed below, the Lux-Development training manuals are an example of how external actors in Namibia influence the CBWM model's translation chain by substituting the state actors, by providing alternative material, or by taking over some of the administration's tasks. I was also told by both the NRCS external advisor and the Lux-Development consultant that at least the central MAWF staff responsible for the implementation of the CBWM strategy were not seen as flexible in adapting the existing implementation guidelines, related processes and documents to particular regional contexts, and that it was easier to introduce a certain level of modifications and adaptations without the agreement of the central MAWF office at the regional level.

8.2.3. Water point handover

The handover of water points into community operation and maintenance constitutes the final step in the translation of the Namibian CBWM model to the local level in the communal areas. It serves to draw a line under the CBWM roll-out process for any given water point up to that point, and is designed from the side of the state as a visible sign – almost in the sense of a rite of passage – for the WPA to be readily prepared managers of their own water point and the new CBWM institutions introduced by the constitution and management plan to be in place. During the

handover meeting, the 'certificate of recognition' of the WPA and the 'agreement of lease' are signed by the DWSSC and WPC representatives. I am told that the certificate of recognition is later to be replaced by a 'certificate of registration' once the new Water Act is finally passed.

The lease agreement, including an inventory of all WPA assets, forms a legal contract between the DWSSC (lessor) and the WPA (lessee) that 'defines and delineates the legal obligations of both the WPA/LWA and the government during the phase of O&M (maximum period of five years during the second phase of CBM implementation). During this phase the WPA/LWA are responsible for good functioning and maintenance of the water point. Replacement of, for instance, a water tank is still the responsibility of the DRWS during this phase' (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1999:18). In addition to assigning to the WPA the overall responsibility to 'ensure sound management, operation and maintenance of the equipment at the Water Point as defined in the Water Point Association constitution' (Republic of Namibia. Ministry of Agriculture Water and Forestry:clause 6.1), and 'to ensure that the Water Point is well looked after and functions properly in a hygienic environment and in a sustainable manner' (Republic of Namibia. Ministry of Agriculture Water and Forestry:clause 6.3), the lease agreement regulates the WPA's obligations down to relative detail and includes among these for instance the determination and collection of financial contributions of WPA members, the setting up of a reserve fund for maintenance and repair, and the keeping of records and minutes (Republic of Namibia. Ministry of Agriculture Water and Forestry:clauses 6.7; 6.8; 6.10; 6.12). Table 26 below presents a list of different tasks involved in managing the water point and the division of responsibility between the WPA and the DWSSC after handover into leasehold.

Table 26: Sharing of responsibilities for a borehole in leasehold between Water Point Association and water administration

Task	Responsible party
Construct soakaways at delivery point	WPA
Make sure that the reservoir is full at the end of the day	WPA
Clean tap stands, wash basins, troughs	WPA
Clean inside of tanks and reservoirs	WPA
Do minor repairs on reservoir	WPA
Repair taps	WPA
Repair leaking pipes	WPA
Replace broken pipes (PVC)	WPA
Repair WP fencing	WPA
Major Pipe repair	DWSSC
Major Repair tanks and reservoir	DWSSC
Replace tanks	DWSSC

Source: (Linke 2015:252).

Case study: Water point handover in Omateteue

A meeting had been called for the 17th September 2011 at the water point of Omateteue in order to hand over the water point for operation and maintenance to the WPA founded back in 2009. The Opuwo-based Chief Extension Officer from the DWSSC, allowed me to join him, the Regional Head of the DWSSC, and the RWEO from the Opuwo branch who had been responsible for setting up Omatateue WPA to the handover ceremony. All three of them were middle-aged, male Otjiherero-speakers, partly originating from Kunene Region themselves, so it was clear that the entire meeting would be conducted in Otjiherero. As the size and location of the meeting outside, next to Omateteue water point would not allow for a good enough quality recording, I had asked my field assistant to accompany me and help me follow the proceedings by whispering the main content of the different speeches held into my ear. She also provided me with more details about the discussions when reflecting about the meeting together afterwards.

Compared to average standards for Kunene North, Omateteue is a relatively small settlement with an ethnically mixed population, many of whom are weekend farmers and thus only present at the settlement occasionally and irregularly. The WPA was established in 2009 when the settlement had 17 households and a mere 25 registered members. The community consists to a large extent of workers employed by the weekend-farmers to take care of their livestock. I was informed by the head of the DWSSC who attended the handover meeting that the WPC therefore also consists of the workers, not the livestock owners themselves. He thus assumed that a resulting high turnover of the WPC members would become a problem for its sustainable functioning and would make re-training necessary, which is not in the plan of the DWSSC. Another issue, according to the DWSSC representatives, may be that the decisions made by the workers will not always be well accepted by the 'owners of the place'. The RWEOs had tried to encourage the livestock owners to be trained and then transfer their skills to the workers, so they can be able to replace them when they are away.

In order to avoid livestock getting onto the main road, which is close to the water point, the farmers had decided to lay pipes to a place about 500 metres further away from the road and build the reservoir there. This was the place where the DWSSC staff and I stopped our vehicles in the morning of the meeting day. First, I joined the DWSSC representatives for a short assessment of the status quo at the diesel engine, which was found to be running. Five women and twelve men had gathered around the water point which consisted of the diesel engine and a large concrete water reservoir. I was told that four people present belonged to the WPC (the vice chairperson and treasurer – both women – and the chairperson and one additional WPC member without portfolio, who were young men).

The meeting started with a prayer followed by brief opening words from the head of the DWSSC in Kunene Region, who introduced himself, the Chief Extension Officer from Opuwo, and the RWEO who was then responsible for Omateteue. In the course of the next two hours, speeches were held by the Regional DWSSC Head and the Chief Extension Officer, following a word of welcome by the area's Traditional Councillor, who had also come to attend the handover ceremony. Following some brief words of gratitude offered to the DWSSC by one of the local farmers, the DWSSC representatives used the occasion to explain once again their basic understanding behind the WPA constitution, as well as the content and role of the lease agreement which was to be signed at the end of the meeting between the DWSSC and the WPA. In his introduction, the Regional DWSSC Head summarized the division of Namibia's water supply and its administration into urban and bulk water supply under the responsibility of NamWater, and rural water supply under the responsibility of the DWSSC. He mentioned the Water Supply and Sanitation Policy of 2008 as underlying the way water is administered in Namibia, including also the CBWM approach.

The head of the DWSSC in Kunene Region went on to make the connection with the WPA rules set out in the model WPA constitution, and stressed that they are made to follow national legislation. Following this basic introduction, he then summarized some of the general problems that he saw with the implementation of the CBWM rules – having held his current position and having dealt with RWS in Kunene Region since 1998: He referred to people not making financial contributions and sometimes bringing diesel instead – a practice that can damage the engine if the diesel is of low quality. He also complained that people would not keep the receipts they got for material they bought for the maintenance of their pump, which made it more difficult for the DWSSC to assess the functioning of the water point during follow-up visits. The deficits that the Head of the regional DWSSC pointed out in relation to Omateteue WPA in particular were the absence of the caretaker at the water point while the engine was found to be running, the uncleanliness of the area around the water point that had not yet been fenced, and leakage from the reservoir and the storeroom, which at the time was found to be not properly locked. The RWEO responsible for Omateteue went on to add that the WPA money was not kept in the bank, and that bank statements were usually not available when he was conducting follow-up visits.

The Head of the regional DWSSC also made a direct comment regarding what may be the most crucial institution that is supposed to be introduced through the CBWM model, namely the WPA fees and the p.h.o.c. rule. He stated that it was important to have the livestock of the local farmers counted in order to pay fees based on the p.h.o.c. rule, rather than paying a flat rate which would result in the poorer farmers paying for the richer ones. The WPA constitution for Omateteue, like many others in Kunene Region, bases water payments on the p.h.o.c. rule, as preferred by the DWSSC – a 2N$ fee per head of large stock and 1N$ per head of small stock. This way of paying for

water, as opposed to the flat-rate payment, does make a big difference in a place such as Omateteue, especially to avoid having poorer workers living permanently in the settlement subsidizing the richer – and mostly absent – livestock owners. However, during the meeting the Traditional Councillor complained that, when it came to counting livestock, the WPC chairman himself felt too shy to visit the homesteads to do that.[152]

After this the Head of the regional DWSSC branch made a rather general statement regarding the introduction of new institutions for the management of rural water supply through the introduction of CBWM which kept re-appearing in the various informal talks and interviews I had with DWSSC staff in Kunene Region, saying that 'people are not following their own rules', by which he implied the institutions that were discussed and agreed upon during community meetings and taken down in writing in the WPA constitutions and management plans. The head of the regional DWSSC Kunene appealed to the WPA members several times to 'follow their own rules', because otherwise they would violate state law. At some point he even went so far as to claim that in such cases the local police chief from Opuwo – who was attending the meeting as he himself had a cattle farm there – could go ahead and arrest them. All this seems a rather harsh stance considering that the original CBNRM and for that matter CBWM discourse is based on people being able to make decisions about the way they want to go about managing their natural resources, rather than the state being in the driver's seat and predefining rules, costs, and sanctions, as used to be the case previously. In the context of the statement made by this high-ranking member of the regional administration, the CBNRM discourse appears as mere rhetoric.

It was the police chief from Opuwo himself who then raised the general question whether a WPA that is obviously not performing satisfactorily should actually be given the responsibility for operation and maintenance of the water point through the handover ceremony at all. He added to the points raised by the DWSSC representatives before, stating that the WPC was not performing and that he did not even know the treasurer, and neither did she know him. He complained that the water sometimes came out of the tap green, and the reservoir was not kept clean.

The RWEO who had been responsible for setting up the WPA and WPC in the first place replied that he had been explaining repeatedly and spent such a lot of effort on the CBWM roll-out in Omateteue up to this point that, based on his assessment, the community must be ready for the handover. Soon after these two contrasting pleas were made, the head of the regional DWSSC office summed up the discussion by reminding the community that – no matter what – everyone

[152] Analysing the various issues connected to the introduction of the p.h.o.c. rule and the effects that the alternative, flat rate payments, which have also been observed in parts of the LINGS research area by myself and my colleagues can have, would go beyond the scope of my study. For more on this topic, refer to Linke 2015:282–89; Menestrey Schwieger 2015b, 2015a; Schnegg et al. 2016.

would suffer if the water point ended up malfunctioning. He closed his final statement by saying that 'no matter how many times people might ask and not understand, I will be available to answer their questions'.

Following the speeches and discussions, the certificate of recognition of Omatateue WPA and the agreement of lease were signed by the DWSSC and a WPC representative. Versions in the local language, Otjiherero, were handed over to the WPA as well.

Status quo of building robust CBWM institutions

As can be seen from the police chief's intervention, at several points the atmosphere during the meeting in Omateteue seemed rather tense to me as an outside observer. Open conflict did not break out however, as most of the WPA members present remained largely passive. If a more intense discussion including the WPA and WPC members present had come up, it seems to me that the handover could have derailed totally, at least for that day. It was striking that in many encounters and guided interviews I had with DWSSC staff, here again the main concern of the head of the regional DWSSC seems to have been the degree to which 'the people's own rules' as set out in the WPA constitution, were being implemented, rather than placing more emphasis on or inquiring into the status quo of actual water access, quality, etc. in the community. This approach implies that the rules defined in the WPA constitution in a participatory process with the communities – though to a large extent pre-defined by the national administration and mediated by its extension workers – are supposed to be 'the people's rules', obviously expecting that they would be followed due to the mere fact that they were written down during a community meeting. The fact that these rules are very recent, predefined by Government and facilitated by state representatives over a period lasting only a few days, and that they were embedded in the wider web of pre-existing and continuously changing and emerging local institutions, is omitted by such statements and views.

The lease agreement is supposed to be a legally binding document, and breaches can be arbitrated. According to my own data and those of my colleagues in the LINGS project, certain clauses of the lease agreement, for instance on the keeping of regular records and financial documents in a safe and easily accessible place, and on starting a reserve fund from financial contributions of WPA members, are frequently not followed by the WPAs and WPCs. There are also recurring issues with keeping the water infrastructure functioning in a sustainable manner and keeping the surrounding of the water point in a hygienic condition, at least at a number of water points that LINGS researchers surveyed. However, parallel to the fact that some of those rules laid down in the WPA constitutions and management plans are frequently not followed and that breaches are hardly sanctioned – or at least not sanctioned along the lines foreseen in the

WPA constitutions, I have not heard of any case where breaches of the leasehold agreement of a particular WPA would have been arbitrated or sanctioned.[153]

8.2.4. CBWM Monitoring and Follow-up

In order to be able to discover issues to do with the functioning of the WPAs and the water points themselves, regular monitoring and assessment forms part of the Namibian CBWM model. Once the full cycle of WPA establishment and training is complete for a given water point, the DWSSC's RWEOs would conduct follow-up visits to WPAs regularly, and on particular occasions (such as for instance upon the completion of WPC Skills and Caretaker Training sessions). The same kinds of follow-up visits may also be conducted by the external providers of WPC trainings or by the NRCS in the case of hand-pumps and springs. A standardized questionnaire that is part of the so-called Extension Service Job Card is used for assessment of the status quo and functioning of both the water point infrastructure and the institutional mechanisms of the WPA and WPC. The same form for the standardized collection of information is also used for other visits by the DWSSC extension staff as well, such as for sensitization and mobilization visits, WPA establishment, and WPC establishment. The person conducting the follow-up and monitoring of the water point is supposed to assess the effectiveness and functionality by assessing the water point and its infrastructure, as well as the functioning of the WPC, by asking a set of 32 questions. The main criteria used in this assessment can be grouped as follows:

1) Are WPA and WPC in place and holding regular meetings?

2) Are the related documents – written WPA constitution, work plan and budget in place?

3) Are the caretaker and other WPC members fulfilling their roles?

4) Are financial contributions to the WPA budget being collected? Is the money kept safe? Are financial reports being presented?

5) Are maintenance tasks taken over by the community and are financial inputs made into the upkeep of the water point infrastructure?

[153] The issue of sanctioning mechanisms and their (non-)application to local resource-management practice alone is a complex one which can only be explained with more in-depth knowledge of the local social fabric, cultural norms and values, etc. As long-term field research at the local level of communities and water user groups has not been the focus of my research I cannot explain the lack of cases of sanctions or arbitration *in extenso*. There are however some interpretations of this situation offered in the work of my project colleagues concerning their particular field locations and understanding of the regional background of Kunene North and South Linke (2015:290ff.); Menestrey Schwieger (2015b:193ff; 246ff.); Schnegg and Linke (2015).

Rural Water Information System

The data collected by RWEOs and NGO staff during WPA follow-up is supposed to be entered in Access format into a database format called the Rural Water Information System (RUWIS), which was developed by a private consulting firm for the needs of the DWSSC in Kunene South. It contains 644 data sets containing basic information on water points in Kunene South. The data are divided into six wards. Out of the 644 water points, 100 had registered WPAs at the point of the last update of the database in 2010. A considerably higher number – 287 water points – had registered WPCs, while the full roll-out including WPA establishment had not been completed in 35 per cent of these cases. Based on the follow-up data, the RWEOs rate the functionality of WPCs by awarding points on a scale between 0 and 100 - 0 being the worst and 100 the best. In order to provide an overview of the way the DWSSC has assessed the functionality of WPCs in Kunene South (at different times between 1997 and 2010) I have grouped the rating results for a total of 154 WPCs available from the RUWIS database into five groups for which the percentage of water points is shown in table 27 below.

Table 27: Rating results based on RWEO assessments of WPC functionality

Rating (points)	Number of WPCs	Proportion (%)
0-20	42	27.3
21-40	43	27.9
41-60	31	20.1
61-80	22	14.3
81-100	16	10.4
Total	**154**	**100**

Source: DWSSC. Rural Water Information System, September 2011.

All in all, the ratings show a relatively negative assessment of the performance of WPCs by the regional water administration staff. Altogether over 55 per cent of the WPCs were in the two lowest categories, receiving less than 40 points out of a possible 100. Only 16, or 10 per cent, of the WPCs were rated as rather well functioning, receiving between 80 and 100 points. The figures depict the general picture I gained from my informants in the DWSSC in Kunene Region, who would often complain about the failure of WPAs and WPCs to 'stick to their own rules', and point to some of the typical problems WPAs and WPCs were facing, such as negative consequences of the high turnover in WPCs; difficulties in achieving cost recovery or collecting water fees in general; problems with achieving an equitable distribution of the costs and benefits of water use; and a lack of functioning sanctioning mechanisms in case of non-compliance with WPA rules.

There were however certainly also positive examples of well-functioning WPAs and WPCs, one of which I witnessed during a follow-up assessment visit on which I accompanied the Chief Extension Officer of the DWSSC office in Khorixas.

Case study: Follow-up assessment of the Water Point Association of Renosterkop, Kunene South

Renosterkop is a small settlement about 50 km – or an hour's drive – along the C35 road to the South-East of Khorixas in Kunene South. According to the information obtained during the meeting I observed in Renosterkop in August 2011, the community then consisted of six households, and derived income mainly from keeping cattle and small stock, as well as from engaging in paid labour in Khorixas or other towns. According to Teshirogi, who conducted long-term field research in Renosterkop between 2006 and 2007, the community used to have 11 households and about 40 people then. Teshirogi describes small stock farming as the most important activity for obtaining food and cash. Pension and remittance money are also described as important. Referring to wealth differences or the distribution of wealth among the community of Renosterkop, Teshirogi (2010:105) points out that some households had more than one hundred goats while others were keeping as few as ten. At the time of his field research only two households were keeping cattle. The RUWIS system also supplies some basic socio-economic data on Renosterkop, in this case based on a survey from 1999 that indicates a total of eight households – two of which belonged to 'permanent weekend farmers'. The number of livestock provided in this survey amounted to 120 cattle, 220 small stock (sheep and goats), and 20 donkeys.

According to DWSSC data the first WPC was established in Renosterkop at the very early stage of the CBM roll-out in 1996, while the WPA was officially registered in 2001. WPC and Caretaker Training was carried out by Agrifutura in January and March 2001 respectively. The WPC back then consisted of four men (two chairmen, secretary, and caretaker), and three women (vice chairperson, treasurer, and additional member without portfolio). After the training, the water point, which is located about 1 km from the settlement and consists of a diesel pump, a wind pump, and an open reservoir, was rehabilitated in March 2001. The rating that Renosterkop WPC gained on the scale of 0 to 100, based on a DWSSC assessment on 19 May 2010, was 84 – the highest rating in Braunfels Ward recorded in RUWIS and among the highest 10 per cent of all 154 such ratings conducted in Kunene South.

During the follow-up meeting organized by the Chief Extension Officer Mary Goagoses from the DWSSC office in Khorixas, which I attended on the 30th of August 2011, I became witness to some of the probable reasons for this relatively high rating for Renosterkop WPC. The first thing that struck me after parking the cars under some trees and unpacking our equipment – our chairs and

my recording device – was that apparently the community members had been waiting for us, and it was not necessary for us to sit in the shade waiting for the news of our arrival to spread and for people to gather. Mary told me that she had been in touch with the WPC chairperson – an elderly woman who proved to be a very well organized, active and outspoken representative of Renosterkop WPA during the meeting – beforehand and had informed her of our coming via mobile phone so that she had time to gather the WPA members and the WPC. We were greeted by a total of eight community members – of whom these six women and one elderly man represented the households of Renosterkop.

Before entering into data collection mode using her RUWIS questionnaire, Mary started with a general assessment of the status quo and potential problems at Renosterkop water point. We were informed that due to the rather unusual type of engine that was installed at the borehole in 2002, people faced problems with obtaining spare parts and replaceable parts such as filters, which need to be changed regularly. When asked about the status of the infrastructure and the frequency and process of repairing it, the group mentioned a number of bigger problems in the past, including pipes falling into the borehole, tree roots pervading and damaging the borehole, and the borehole filling up with sand. The community members state that they would look for professional assistance in the case of some of these problems, but not necessarily wait for the DWSSC to help them fix them. Up to that point they said that all the problems had eventually been fixed. When asked about the WPA regulations and documents they state that their WPA constitution has been modified and taken for re-typing and signature to the DWSSC office in 2009 and not brought back since. They could not think of any other problems related to the WPA, WPC, or water provision in general in Renosterkop.

They state that they did not hold WPA and WPC meetings frequently as they worked well together on a daily basis, and that there was nothing much to discuss during bigger meetings except for the financial reporting of the WPC to the WPA members twice a year. They stated that they had no major problems with payment of water fees and that nobody was refusing to pay. The fee structure they have determined in the management plan was as follows: 20 N$ yearly membership fee; 15 N$ monthly household fee; large stock fee of 2 N$ per head of cattle; small stock fee of 1 N$ per head; garden fee for a small garden of 10 N$ per month, and garden fee for a bigger garden of 20 N$ per month. As for the payment process, we were told that they would usually calculate the entire yearly amount due per household, and that WPA members usually paid at once, and in cash. They would mostly sell small stock on that occasion to cover their water fees. In particular cases they would accept payment by instalments. They would usually try to arrange for buying diesel and machine oil in bulk in Khorixas, so as to go less frequently and buy bigger quantities, in order to lower the prices they paid as well as the transportation costs. They

stated that quantities of 200 litres of diesel and 5 litres of oil usually lasted for four to five months. Mary continued to check the WPA bank book, which stated a current balance of 47,471 N$ (4,518 € at the time). During the course of the meeting the group discussed moving the money to a bank account with interest so that they could lower the fees everybody paid and re-invest some of the savings back into the community from time to time. They mentioned several ideas for such re-investments during the meeting, such as buying vaccines for their livestock, and buying more small stock for the poorer community members. The WPC vice-chairperson even mentioned the idea of buying a solar-driven pump for the borehole. There was certainly a high level of confidence in the functioning of the water point institutions and the collection of water fees evident from this plan.

When looking back at the discussions together with Mary after the meeting, she presented me with her view of some of the potential factors for success present in Renosterkop's WPA: According to her, Renosterkop is a small, cohesive community with low levels of tension or conflict and high levels of mutual trust. The setup of the community is relatively stable, and this is depicted by the stability of the WPC membership since 2001. In addition, the WPA has no problems with water users from outside the community. Water payments do not seem to pose a big problem for anyone in the community; nor do they lead to local disputes. The WPA members have set their own fee-payment rules – with outside facilitation as in all the WPAs. They manage to stick to these rules and administer the money collected reliably.

8.3. Receiving assistance from Namibia's 'development partners': Internationally funded water supply projects in Kunene Region

As is the case for other national strategies and concepts – such as for example those contained in the CBNRM policy regulating the management of wildlife and forest resources – in many cases part of their implementation becomes part of development projects, externally funded and run by Governmental or non-Governmental, international or local development organizations. This was also the case for the CBWM roll-out in Kunene Region.

In the following sub-chapter I provide more detailed descriptions of the roles played on behalf of RWS in Kunene Region by each of these organizations, and in particular in relation to the CBWM roll-out where applicable. The two donor-driven initiatives in rural water supply in Kunene Region in the focus here had taken place shortly before my field work commenced: Firstly the ICEIDA water and sanitation project ICEIDA, focusing on providing new boreholes with solar-powered pumps in Epupa and Opuwo Constituencies, and secondly a water and sanitation project implemented by the NRCS and funded by external Red Cross Societies and the EU, focusing on

rehabilitation of hand-pumps and protection of unprotected drinking water sources in Epupa, Opuwo, Sesfontein, and Khorixas Constituencies[154]. Both of these projects were planned and implemented in close cooperation with the DWSSC and following the national CBWM rules and processes, but working along a division of tasks according to pump technology – one of them focusing on the introduction of solar pumps, and the other on the installation and repair of hand-pumps and the protection of hand-dug wells and springs.[155]

Based on my field work, I go into more detail on these two initiatives – presenting one as a case study of an officially Government-funded project of bilateral development cooperation, and the other one as an example of a project implemented by a local NGO, with funding from various external donors and a limited number of external staff employed for project management. I discuss these two projects as exemplary cases of a situation where what would be an obligation of the state – the supply of safe drinking water to rural communities according to the CBWM principles designed by the state – is taken over by an external bilateral donor organization in the one case and by a local, though externally funded NGO in the other case. ICEIDA and the NRCS are probably the two organizations among the development actors involved in water supply and management in Kunene Region in the past two decades that have had the biggest influence on household water supply.

8.3.1. Bilateral and multilateral donor programmes

ICEIDA was the only donor of bilateral, official development aid over the past ten years to fund and implement a RWS programme for household water supply, including a CBWM component, in Kunene Region. Before going into more detail on that, I will provide a brief overview of other official donor activities touching on the water management sector in Kunene Region since the 1990s:

In the field of rangeland management, the *Northern Regions Livestock Development Project (NOLIDEP)*, was funded by an international consortium of the UN's International Fund for Agricultural Development together with the Belgian Survival Fund and the Governments of France and Luxembourg and executed by the then Ministry of Agriculture, Water and Rural Development (MAWRD) together with the United Nations Office for Project Services (UNOPS) between September 1994 and June 2003. In Kunene Region, as in the other project areas in Omusati, Ohangwena, Oshana, Oshikoto, Kavango and Caprivi Regions, NOLIDEP had included the

[154] At the time of my field research, NRCS activities in Khorixas Constituency had not yet commenced.
[155] As the topic of sanitation is not related directly to my research, those project components of both projects that are relevant to sanitation will largely be left out of the analysis here.

construction of dams and boreholes in conjunction with rangeland management to relieve pressure on areas that were perceived as over-grazed or degenerated (International Fund for Agricultural Development 2003). Along with the dominant development paradigm of CBNRM of the time, the aims and approaches of 'bottom-up participation' and 'decentralising development' formed prominent priorities in project implementation (ibid.). The project was planned to promote participatory development and 'local empowerment' through the means of CBNRM and CBWM, including the setting up of water point committees, including community contributions to the installation costs of new water infrastructure.

Another development programme that has recently been marginally impacting on the water supply situation and on rangeland management in Kunene Region is the *Community-based Rangeland and Livestock Management* (CBRLM) Sub-Activity of the Agriculture Support Programme under the *Millennium Challenge Account* (MCA) Namibia, which did not however directly facilitate the introduction of the CBWM model in Kunene Region.[156]

'Solar power for rural water supply in Kunene North'

The case of an Icelandic development project

At the time when the team of LINGS researchers from Cologne had only recently arrived in Namibia for field work in November 2010 – though unfortunately unknown to us and thus unobserved by us – the Icelandic International Development Agency handed over a total of 33 water points to the Namibian Government at the Omuhonga village in the Epupa Constituency, Kunene North.[157] The water points had been drilled in the framework of a project called '*Supply of water to Epupa and Opuwo Constituencies, Kunene Region, Namibia*' between 2007 and 2010, planned and implemented in cooperation with the MAWF. They were officially handed over by ICEIDA Country Director Dr. Vilhjalmur Wiium, to Deputy Agriculture Minister, Petrus Iilonga. Apart from the aim of increasing rural communities' access to water by adding to the regionally available water infrastructure, the project objectives included the aim of 'improving community based

[156] Focusing on 'reducing environmental degradation of grazing land and increasing the incomes of poor households' in Northern Communal Areas of Kavango, Kunene, and Omusati Regions (GOPA Consultants (2010:2), the programme involves supporting local communities in cattle-breeding and is supposed to result in the upgrading and the installation of new water supply infrastructure to increase and improve grazing areas, among other things. The project was not targeting water supply for households near settlements however. According to information from my project colleague, the caretaker training sessions for the new water points were carried out according to the DWSSC training manual (Kathrin Gradt, pers. comm.).

[157] Development cooperation between the Namibian and Icelandic governments dates back to Namibia's struggle for independence, when the Republic of Iceland, through its development agency ICEIDA, rendered material support to Namibian refugees in SWAPO camps. After independence the fisheries, education, and water and sanitation sectors, among others, continued to receive development aid from Iceland until the Nordic country closed its offices in Namibia and stopped bilateral official development cooperation at the end of 2011.

management of water resources by offering training courses for the communities of the two constituencies' (Republic of Namibia. Ministry of Agriculture Water and Forestry 2007:ii). This goal was to be reached through the establishment and training of WPAs and the putting in place of community-based management institutions, and through CBWM training for local leaders (ibid.) along the official national guidelines put in place by the Government through the CBWM reforms.

The construction of the new water points, including the newly drilled boreholes, had cost close to 10 million N$ (1,052,000 EURO at the time of handover), and was jointly funded by the Icelandic and Namibian Governments. The Namibian Government contributed around 500,000 N$ out of the total project funds, mainly in the form of staff time. The core day-to-day steering team of the project consisted of one of the DWSSC's Chief Extension Officers and a project manager – an Icelandic national employed with ICEIDA and based in its Windhoek office. The day-to-day implementation work for the project was carried out by the Project Implementation Unit that had been set up specifically for the ICEIDA project, consisting of two DWSSC staff, one professional geo-hydrologist from the MAWF Directorate of Resources Management, an independent consultant as geo-hydrologist, the ICEIDA project coordinator, and two community representatives from Kunene North. The DWSSC's tasks in project implementation were foreseen as follows: 'a. Invite tenders from registered training institutions; b. Evaluate and award tender; c. Conduct community based management training, management skills training and water point caretaker training; d. Supervising; e. Conducting village visits during on site training' (Republic of Namibia. Ministry of Agriculture Water and Forestry 2007:8).

As opposed to the usual process run by the water administration to establish and train a WPC at any of the given water points in Namibia's communal areas and to hand over the water point to the WPC to maintain and manage it, the ICEIDA project design included a rather active role in the borehole and pump construction process for the local communities, including the provision of locally available material and labour and of safe places for storage of construction materials (Republic of Namibia. Ministry of Agriculture Water and Forestry 2007:iii). It also states the requirement for express support and motivation on the side of the region's communities and leaders for ICEIDA's water supply project as a justification to move ahead (Republic of Namibia. Ministry of Agriculture Water and Forestry 2007:4). The communities' contribution to the ICEIDA project are outlined in detail in the project document as follows:

> 'Expected contribution by local communities:
>
> 1. Provision of locally available materials and labour.
> 2. Organisation in the villages and participation in finding places for boreholes.
> 3. Organising of Water Point Committees for implementation of the project.

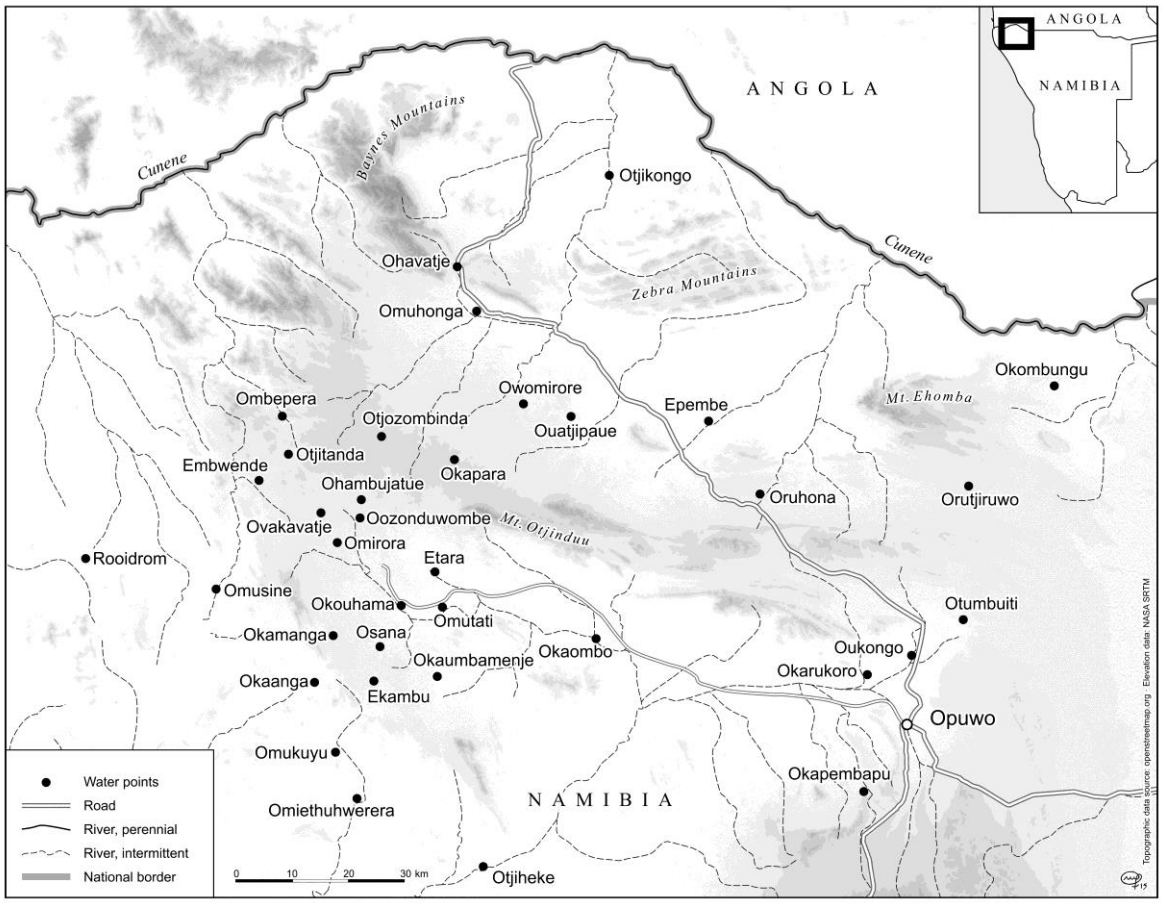
4. Carrying out local organisational tasks such as collection and delivery of local construction materials.
5. Providing safe places for storage of construction materials.
6. Reporting regularly on the various stages of construction.
7. Assuming ownership and taking full responsibility of management and maintenances of the water points through the Water Point Committees.
8. Establishing a local fund for maintenance and spare parts of the water infrastructure' (Republic of Namibia. Ministry of Agriculture Water and Forestry 2007:10).

According to media coverage by the Namibian Broadcasting Corporation, at the handover ceremony in 2010 Dr Wiium explained that the water points had the capacity to provide about 320,000 litres per day and 117 million litres of water per year, enough for 21,000 people and about 8,000 heads of cattle per day. Dr. Wiium said that ICEIDA had achieved its objectives in terms of water supply and the provision of proper sanitation. He stressed that access to potable water can reduce the spread of water-borne diseases among communities that draw water from open unprotected sources. Dr. Wiium encouraged the communities to take ownership of the newly built facilities. Receiving the water points on behalf of the Government, the Agriculture Deputy Minister, Petrus Iilonga, thanked the Icelandic Government for its efforts to help alleviate poverty among rural Namibian communities (Maketo 2010).

Just like the NRCS project initiative described further below, the project on solar pump water supply in Epupa and Opuwo Constituencies had to adopt the national model of CBWM to be introduced at newly drilled boreholes in communal areas and thus a CBWM component had to be integrated into the project plan according to the national CBWM guidelines. According to an interview with the then project coordinator for ICEIDA, the project idea had evolved within ICEIDA mainly to contribute to the aim of ensuring stable and safe water supply for especially remote rural communities. The implementation of the ICEIDA water supply project in the Epupa and Opuwo constituencies was originally planned to provide a reliable source of potable water to a total of at least 4,000 people, which – based on the data available to ICEIDA during project planning in 2007 – represented 10.5 per cent of the rural population of Kunene Region (Republic of Namibia. Ministry of Agriculture Water and Forestry 2007:6). According to the Government census of 2001, which is cited in the ICEIDA project document, the proportion of households with access to safe water then was 36 per cent in Epupa Constituency and 70 per cent in Opuwo Constituency. So the overall goal of the project was to contribute to achieving the national vision of access to safe water supply for 90 per cent of the population by 2015 (Republic of Namibia 2004:58f.). The ICEIDA project document mentions the drilling of a total of 33 boreholes as one out of three expected project outputs, but also includes 'adequate and properly trained water

point committees established and qualified to maintain boreholes and pumps' as well as 'committees and leaders trained in Community Based Management' (Republic of Namibia. Ministry of Agriculture Water and Forestry 2007:ii). ICEIDA had picked out predominantly Himba communities in Kunene North as target communities and had started work in the area around Etanga in Epupa Constituency when exchange and later cooperation with the MAWF and mainly with its regional DWSSC in Kunene North began.

The selection of the eventual 33 sites for boreholes was made together with the DWSSC and with traditional leaders of the project area, who initially came up with their priority locations. A resulting initial list of 50 potential borehole sites later had to be narrowed down by ICEIDA and the DWSSC to 33. Due to leftover funds from the first phase of drilling the 33 boreholes, six more borehole sites were selected later together with the MAWF in a second phase, and were drilled throughout 2011 (see map 7 for an overview on ICEIDA borehole locations)[158].



Map 7: Locations of boreholes of the ICEIDA rural water supply project[159]

[158] The GPS coordinates of four additional ICEIDA boreholes (in Otjovihe, Otjitunganane, Omauatu, and Oturindi) drilled in 2011 are not available to me.
[159] Produced by Monika Feinen.

Through the community water supply project, ICEIDA chose to introduce solar water pumps – then a relatively new and rarely used technology for water supply in Namibia's communal areas. Judging from the project document and the interview I had with the project coordinator, although the CBWM component had not been part of the original priorities for ICEIDA's project plan, it was not perceived as an obstacle or an additional burden by the donor, but was rather embraced and incorporated as one out of two components into the project plan and its implementation, as the following quote from the project strategy shows:

> 'The strategy of this project will be to increase the accessibility to safe drinking water through construction of new boreholes and the promotion of community based management and conservation principles.
>
> The main emphasis of the project will be on two components:
> 1. Infrastructure: Siting and drilling of new boreholes, followed by the construction and installation of water points. 2. Community work and training that will focus on managerial and maintenance skills, implementation competency, and adoption of technologies' (Republic of Namibia. Ministry of Agriculture Water and Forestry 2007:7).

The extent to which the national CBWM model was adopted as part of the planning and implementation of the ICEIDA-funded RWS project becomes clear when comparing the four phases of project implementation outlined in the project document with the different steps outlined in the national CBWM guidelines for 'CBM implementation: operation and maintenance of water points and pipeline schemes' (see table 28 below).

Table 28: Phases of CBWM implementation – A comparison between the national CBWM Implementation Guidelines and the ICEIDA RWS Project

ICEIDA Rural Water Supply Project	MAWF, DWSSC CBWM Implementation Guidelines
Selection of the borehole locations was not expressly included in the project phases outlined in the project document, but done at the beginning of the project by ICEIDA and DWSSC in consultation with traditional leaders (see above).	1. Selection of Water Points for Community-Based Management
Phase 1 Awareness-raising and General Mobilization: Start-up meetings with the communities, Regional Councillors, traditional leaders, ICEIDA and MAWF will be held.	2. Sensitization and Mobilization of Selected Communities and traditional leaders; community meetings and consultations
Phase 2: Community Action Planning: Meetings at each water point to re-introduce CBM and re-establish CBM structures where necessary, discuss and agree on individual and community operating plans and to sign the required legal and managerial documents which will be prerequisites for training water point rehabilitation.	3. Establishment of Water Point Associations and Water Point Committees through community meetings; writing of WPA constitutions and management plans

Phase 3: Construction of boreholes: Siting and drilling of up to 33 new boreholes in the Epupa and Opuwo Constituencies, starting with nine boreholes identified by the communities where kindergarten projects are in place or being planned.	4. Training of Water Point Committees and caretakers
Phase 4: Training and Handover of Water Points: Training of Water Point Committees, Training of Water Point Caretakers, follow-up visits to all trained communities and caretakers, handover of Water Points including community inspection and acceptance of the water points and the signing of the necessary lease and ownership agreements.	5. Construction/ Rehabilitation of Water Points 6. Follow-up Support of Water Committees and Associations 7. Hand-Over of Water Points to Water Associations for Lease

Sources: (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1999:chapter 5; Republic of Namibia. Ministry of Agriculture Water and Forestry 2007:7).

Except for a few differences in the way that the phases of implementation were structured, it becomes clear that the ICEIDA project – driven and financed by an independent, external donor – had embraced the national CBWM model almost completely. The establishing of local water management institutions formed a central part of the resources to be spent on the project.

Following WPA establishment for the new ICEIDA boreholes by MAWF extension staff and the construction of the water point infrastructure, the WPCs and caretakers were trained, using the standardized training packages developed by the MAWF. Just as in the case of the national CBWM roll-out coordinated by DWSSC, the WPC training sessions conducted as part of the ICEIDA project in December 2009 and December 2010 were outsourced through a public tender procedure to commercial training providers, in this case to AgriFutura and Agri-Enviro TCS – two of the local training providers that have also been commissioned through Government tenders for other CBWM trainings. The same two organizations were also commissioned by ICEIDA and MAWF to conduct a series of follow-up visits to the newly established WPAs during a twenty-four months period after the establishment of the WPAs, in order to check on the state of the water points and the performance of the WPAs and WPCs (Agri-Enviro Training and Consultancy Services 2007; AgriFutura 2010).

The handover of the new water points into community leasehold was part of the project activities, and executed according to the national CBWM guidelines. Official hand-over and ownership agreements were signed by the WPAs and the DWSSC, using the MAWF's blueprint leasehold agreement between the WPA and the DWSSC as contained in the ICEIDA project document (Republic of Namibia. Ministry of Agriculture Water and Forestry 2007:19ff.).

8.3.2. The role of local training providers

The local NGOs AgriFutura, Agri Enviro, and HUIRADS were identified during my field research as intermediaries between the MAWF (DWSSC) and the communities, specifically in the field of community training for WPCs and water point caretakers, which was being outsourced to them through public tenders overseen by the MAWF. These tenders are centrally organized by the DWSSC in Windhoek, and private companies as well as NGOs were free to apply for each region separately. According to my information the three above-mentioned NGOs were the only training providers that have successfully applied in these tenders for Kunene region thus far.

In addition to the training commissioned by the water administration, the two local NGOs Agri Enviro and AgriFutura were also involved in the implementation of the solar pump project funded by ICEIDA as described above. Agri Enviro provided WPC trainings and follow-up visits to 16 WPAs in 2009, and AgriFutura did the same at seven of the ICEIDA-founded WPAs between December 2009 and April 2010.[160]

AgriFutura is of particular interest in this context since, according to an interview I had with one of its directors, it had already been involved with advisory services in the development of the national CBWM approach in the early 1990s. AgriFutura is a Windhoek-based local organization established in 1992 and registered as a not-for-profit corporation. It specializes in providing training to the private sector, individuals and communities, NGOs and CBOs, and also Government entities. As the flyer depicted below shows, CBWM is an express field of Agrifutura's activity in what they call the 'community sector'.

At the regional level, in Kunene Region among others, AgriFutura was and is involved in various training processes connected to the CBWM roll-out, including early capacity-building in the 1990s for DWSSC extension staff who would become facilitators of the introduction of CBWM in the local communities. The target groups of AgriFutura's water supply-related trainings at the regional level also include private construction companies who provide infrastructure for rural water supply (AgriFutura undated).

[160] See ICEIDA project documents downloaded from ICEIDA project website: https://sites.google.com/site/kunenewater/home, last accessed 10 April 2016.

Figure 33: Promotional flyer distributed by AgriFutura

8.3.3. NGO programmes and the input from CBOs

The Namibian NGO *Integrated Rural Development and Nature Conservation (IRDNC)* has been running a big CBNRM programme supporting local communities country-wide in applying for and managing communal area conservancies and community forests since the early 1990s. At a later stage, IRDNC has also started to engage in rangeland management programmes, which, though not focused on rural water supply to local communities, have nevertheless influenced the local water supply system in Kunene Region by drilling additional boreholes for grazing and game, though with limited direct influence on the water points of permanent settlements. According to an interview with IRDNC's Executive Director, whom I met during one of his visits to Kunene Region in the IRDNC office in Opuwo, some conservancies have started attending to and investing into water points used by the households in settlements on the land of the conservancy in question. He mentioned Sesfontein conservancy as a case where new boreholes had even been drilled using funds generated from the operation of the conservancy. It would be the conservancy committee, elected by the conservancy members, which would make such decisions, which depend on their intention to assist their members more widely with the latter's basic living conditions in terms of a community development approach. I could not find any indication of IRDNC itself becoming more deeply involved in household water supply, and neither the NGO nor

the conservancy committees seem to have been implementing the national CBWM guidelines, as other NGOs and donors in the research area running water-related projects explicitly have.

Furthermore, conservancy development in some cases has strong influences on the neighbouring communities with water points in the vicinity of conservancy areas, because wildlife numbers have increased and as a result roaming elephants particularly have begun frequenting village water points (Jones and Weaver 2009:227). These water points may be damaged in the process, and their maintenance and the high additional costs incurred pose a big problem for the water users where expensive infrastructure needs to be replaced – sometimes several times over relatively short time spans – and protection measures such as elephant walls or alternative water sources for the animals would have to be built. Matters for the WPCs become worse as the responsibilities within the regional administration seem unclear, and resources on all sides to cover the costs are lacking (Linke 2015:240f.). Currently – at least in several cases that the LINGS research team has observed in Kunene Region – these costs are neither compensated by the MAWF – responsible for rural water supply – nor by the MET – responsible for wildlife management and the conservancy programme. In addition to the analysis provided for the area around Grootvlakte by Linke (2015), another case in point is the water infrastructure of Olifantsput, where I observed a DWSSC follow-up meeting with the WPA that has been suffering from recurring damage by elephants, including the complete destruction of its wind pump (see image 6 below).

Image 6: Wind pump in Olifantsput, Kunene South, damaged by elephants

According to interviews and analyses conducted by the LINGS research team, compensation schemes established by the Government, such as the Management Plan, which is supposed to regulate human wildlife conflict (Republic of Namibia. Ministry of Environment and Tourism 2009) and a self-reliance scheme contained therein to be run by the conservancies themselves, does not seem to work sufficiently well either (Linke 2015:240). The complexity faced by communities who try to gain compensation through this scheme for damage to harvests or infrastructure increases in cases where non-member individuals or communities are forced, in the current setup, to apply to neighbouring conservancies, which will usually give priority to their own members. Government policies also foresee compensation payments to communities outside conservancy areas to be derived from trophy hunting on state land (Republic of Namibia. Ministry of Environment and Tourism 2009:10). For the LINGS research area however, successful cases of application for compensation through this channel are not known to us so far.

The CBWM roll-out process, which would include the handover of rehabilitated water points to local user groups, is hampered in these cases by the impacts of another national CBNRM programme with broad international support which has contributed to an observed increase in the elephant population with its adverse effects on local water infrastructure. While the conservancy programme is designed to open up economic opportunities from game management to local communities, it may have adverse effects on some of the neighbouring communities, who end up in a situation where they not only bear the costs of running the local water point in the framework of CBWM implementation, but also the additional costs incurred by increasing elephant populations due to presence of the conservancies. Protection measures for rare species such as the desert elephant are globally supported and welcomed, since they appear necessary, and are not to be questioned in principle. It becomes clear however from the effects of an expanding elephant population on local water infrastructure in Kunene Region that the water users – frequently economically marginalized anyway – are bearing part of the costs for both CBNRM initiatives – the CBWM scheme and the conservancy programme.

Image 7: Omateteue water point, Kunene North, with elephant protection wall

The Namibian Red Cross Society (NRCS) is the NGO with the longest-lasting and geographically most widespread activity in the field of rural water supply and sanitation in Kunene Region since 1992 –activity which is still continuing, and which has formed one focus of my observations in Kunene Region during my field research. The NRCS's activity in the field of RWS has been concentrated on installing, fixing, or upgrading hand-pumps for water supply to households and animals, as well as on upgrading and protecting dams, springs and wells. Already at the time when the CBWM approach to be implemented by the then DRWS was still under development, the NRCS WatSan projects were mentioned in project-related publications and analyzed as 'examples of coordinated participatory approaches in the water sector' (IRC - International Water and Sanitation Centre undated:66). NRCS has been the main actor in the formation of WPCs for hand-pumps in Kunene Region. The NRCS input usually also includes training on the usage of water systems and on aspects related to hygiene at the water point, the hygienic use of water, and the prevention of water-borne diseases. NRCS programmes were frequently partially funded by various development donors.

In addition to the role the NRCS has begun to play in the establishment of CBWM institutions in their project localities, the interaction between the national authorities and the NRCS also includes its involvement in national as well as regional information and coordination meetings

organized for RWS stakeholders by the DWSSC. This regional interaction between the water administration on the part of the state, and the NRCS as a non-state actor is fed back into communication loops at the national level where the NGO also takes part in regular water-sector coordination meetings convened by the MAWF central office. The NRCS is even seen by some of the stakeholders in Kunene Region as the actor responsible for the entire field of hand-pump water supply in particular (see further discussion below).

The local CBO HIPO is a regional member organization with the full name Hizetjitwa Indigenious Peoples' Organization, registered since 2007 and consisting of Himba, Zemba, Tjimba, and Twa.[161] Like other CBOs in Namibia and elsewhere, HIPO works through community-based committees. By the end of 2010, HIPO's members had established 85 such committees in villages in North-West Namibia (Kunene and Omusati Regions), and South-West Angola. At that point in time HIPO had a total of 1,960 paying members (Hizetjitwa Indigenous People Organization 2011:1). The organization is directed by the members' annual meetings, and the HIPO Board and has an administrative office with a few staff based in Opuwo. At the time of my field research it was run by three local staff members headed by an Otjiherero-speaking executive director and supported by a Norwegian advisor. The Namibia Association of Norway (NAMAS) is HIPO's main funding source, a civil society organization based in Norway which had been established as part of the international Anti-Apartheid movement and is now providing development aid with major financial contributions from the Norwegian government (NORAD).[162] According to its constitution, HIPO works towards 'the general well-being of indigenous people by advocating and lobbying for improvement of general sanitation, water, shelter, communication, road network, health facilities and employment opportunities of these people' among other goals (Hizetjitwa Indigenous People Organization 2009).

HIPO's engagement in water and sanitation activities – judging from the data available to me – has been somewhat selective, and mainly involved the upgrading and protecting of water sources such as earth dams and natural springs. In some cases HIPO is approached proactively by communities and local authorities who are looking for support in particular with dams and springs.[163] In an interview with the head of the NRCS office in Opuwo, an Otjiherero speaker who has been working in this post for more than ten years, she explained that HIPO is usually short of human resources, especially of people who are technically capable of working on water infrastructure. If HIPO could get funding for material to repair or upgrade water points such as

[161] See http://www.hipo.org.na/, last accessed 28 March 2016.
[162] See http://www.namibiaforeningen.no/hjem.138016.no.html, last accessed 28 March 2016.
[163] Pers. comm. with Kathrin Gradt.

pipes and cement, they would join hands with the NRCS by providing these resources, while the NRCS would provide the staff for the construction work. During my survey on NRCS project sites in selected communities in the LINGS research area it was found that HIPO had previously built some dams and protected springs that were later upgraded or repaired by NRCS. According to the HIPO annual plan for 2011, under result 6, 'supporting locally initiated social projects', funding was foreseen for food for work components of water and sanitation activities and for the construction of one earth dam and the purchase of equipment and spare parts for community maintenance of four boreholes or wells (Hizetjitwa Indigenous People Organization 2011:8). However, it is not known to me whether and to what extent HIPO has its own view of CBWM or CBNRM in general, and its own approach to implementing it in its member communities.

'Low-tech water supply in Kunene North'

The case of the Namibia Red Cross Society Water and Sanitation Project

The case of the RWS interventions by the Namibian Red Cross Society which I will discuss in this section demonstrates the interplay between state and non-state actors in translating the CBWM model at the local level. It shows the part that the local NGO has continued to play in building CBWM institutions with the help of international donor funding and local staff and volunteers along the standardized Government guidelines. Although it becomes clear that the state has the lead in determining the rules of CBWM introduction to local communities, I will also show how establishment and maintenance of an entire section of the water supply infrastructure in Kunene Region has depended on the NGO's activities for some time. As a consequence, the idea of an actual community-based, independent management of this infrastructure aside from the mere creation of WPA constitutions and election of WPCs seems hard to implement in a sustainable, long-term manner.

The *Water Supply and Sanitation Project for the Rural Communities in Northern Namibia* was implemented by the Namibia Red Cross Society and funded by the EU Water Facility based on a successful application to the second call for proposals by the ACP-EU Water Facility in 2006 (European Commission. EU Water Initiative 2006), with co-funding from the Belgian-Flanders and Swedish Red Cross Societies. The official start date for project implementation was November 2007 and the official end of the project was originally scheduled for the end of October 2010. The Swedish Red Cross (SRC) as the main applicant for EU funding for this project, was responsible for the overall project management and reporting in relation to the EU. Together with the SRC the Belgian Red Cross Flanders was partner and co-financer, and as such closely involved in the monitoring of the project. Belgian Red Cross Flanders was also involved in the selection of an expatriate to be delegated to the NRCS office in Windhoek, and, as a long-term partner of NRCS,

provided ad hoc support when requested for the WatSan project. The NRCS – based on its experience in WatSan project implementation since 1992 – was the local implementing partner, and responsible for local project coordination and the implementation of activities. Local project teams – comprising both Namibian NRCS staff and volunteers from the local communities of Kunene Region – were responsible for contact with the beneficiaries, for liaising with local government in the project regions, and for capacity-building measures and day-to-day project management. Volunteers recruited by the NRCS in the project locations were involved in all implementation activities in the communities, including in hygiene promotion activities that also formed part of the project outline. According to the project plan, the 'end-beneficiaries' (communities/ individuals/ households) were expected to also contribute to the project implementation (Namibian Red Cross Society 2011) – which took place in the form of providing labour for infrastructure construction and maintenance. The local project teams received on-going management, and administrative and logistical support from the NRCS head office in Windhoek, among others from the expatriate SRC staff who had been placed in the NRCS office as an advisor to the WatSan project.

The project was meant to provide water supply construction and rehabilitation, institutional and household latrines, capacity-building, and hygiene promotion for 65,000 people in Kunene and Ohangwena Regions in the north-western and north-central parts of Namibia. As noted in a subsequent NRCS grant application to the EU of 2010, in 2006 there were a significant number of broken hand-pumps in Kunene North. These were bush pumps that draw water from deep bore holes, as well as from hand-dug wells (Namibian Red Cross Society 2011:4). Water infrastructure provided through the project between 2006 and 2010 consisted of hand-pumps on hand-dug wells, natural springs, or boreholes which were either newly constructed or rehabilitated (see overview in table 29 below). Furthermore, a number of natural springs were protected, and some of these were equipped with piped systems and water taps. According to an NRCS assessment there are 39 springs in Kunene region which provide sufficient water of good quality throughout the year (Swedish Red Cross Society 2010). Usually the local communities use the springs for human consumption and livestock, but there is frequently no protection of the spring water from contamination, nor are there generally water distribution systems from the springs to the households. The WatSan project targeted 25 springs for protection in the period of 2006 to 2010. By the time of my field survey, work had been conducted by the NRCS on 34 out of these 39 springs, ranging from the repair of an existing hand-pump on a spring to the protection of the spring itself with a concrete construction and dam. In some cases the water was piped from the spring to as closely as possible to the village, where a communal water distribution point was constructed. The community contribution to the project activities that is usually required in the

NRCS project setup mainly included the construction of the trenches for the pipeline and other works that require manual labour. Hand-dug wells are frequently used by communities drawing water by using rope and buckets, with the attendant risk that the water will be contaminated by the bucket. The measure practised by the NRCS to avoid this contamination is to install a rope-and-washer pump on top of the well, along with a proper apron. According to the NRCS list of WatSan project activities in Kunene Region of October 2010, 85 hand-dug wells were improved by installing new pumps or repairing existing pumps in Kunene North. Discussions were held with the communities in order to see if such pumps would be accepted, whether there were technological alternatives and whether people were willing to contribute financially to the repairing of pumps.

Table 29: NRCS water and sanitation project - progress by October 2010

ACTIVITY	TARGET	PROGRESS (October 2010)
Hand pump construction/ rehabilitation	150	140
Thereof on hand-dug wells	not specified	85
Thereof on springs	not specified	4
Thereof on boreholes	not specified	51
Spring protection	25	22
Piped water supply from springs	not specified	22
WPA establishment	175	172
WPC establishment	175	105

Sources: Targets based on project mid-term review report from July 2010; progress according to project documentation – list of locations from October 2010.

The hand-pump hardware that was provided and/ or rehabilitated by the WatSan project of the NRCS described here consisted of *Zimbabwe bush pumps* and a small number of *rope-and-washer pumps* – both of which could be termed travelling models of infrastructure which have made their way from their countries of origin to different places of manufacture and to a variety of user communities around the world. In fact, both pump designs have been in the public domain for a long while.

The rope-and-washer pumps used in the NRCS project were newly constructed locally and installed on shallow, hand-dug wells suitable for this pumping technology. This pump type – also called an 'elephant pump', is a low-cost pump that can be made by local producers using locally available material (rope, cups, wheel, PVC pipe, cement, and iron rods). The technological principle of rope and washer pumps is ancient and widespread, based on a continuous loop of rope with pistons (or 'washers') attached to the rope at intervals that fit with a small clearance in

the pump pipe, pushing the water up when the rope is drawn up. The rope and washers pass around a winding wheel and return to the bottom of the pipe to start drawing water up again (see figure 34 below). A rope-and-washer pump is relatively easy to maintain, and spare parts are easy and quite inexpensive to obtain. The technology is suitable for abstraction from shallow wells of up to 10m depth, or from rivers and streams. It is easily adaptable to changing volumes by adapting the diameter of the pipe and washers.[164] Starting in the 1970s and 1980s, and most successfully in Nicaragua in the framework of a Dutch-funded development project, the basic design and the material used in rope-and-washer pumps were modernized and adapted the requirements of rural water users in the global South (Alberts 2004).

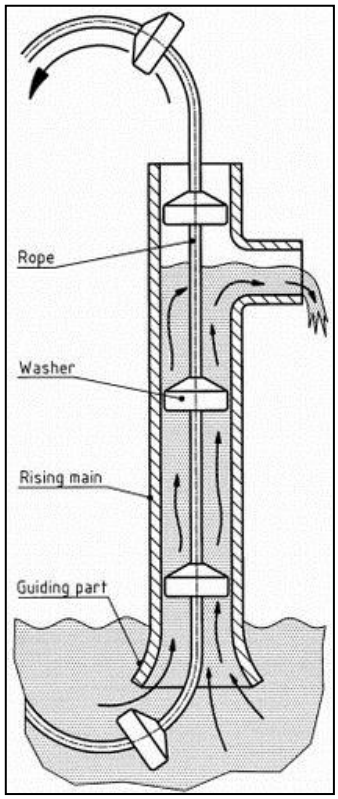


Figure 34: Pumping action of a rope-and-washer pump[165]

The Zimbabwe bush pump, based on the underlying technological principle developed in 1933 by the Government Water Supply Officer Tommy Murgatroyd in what was then Matabeleland, nowadays exists in several different variants and is one of the most successful pump models in the world (Baumann and Furey 2013:9). Zimbabwe bush pumps are currently the predominant pump

[164] Compare www.ropepumps.org, last accessed 28 March 2016; Lambert 1990; Brikké and Bredero 2003:47–49.

[165] Source: http://akvopedia.org/wiki/File:Rope_pump_action_diagram.jpg, last accessed 10 April 2016. Developed by Skat (Swiss Resource Centre and Consultancies for Development) for the Rural Water Supply Network (RWSN).

type installed in Kunene Region. The variant used by the NRCS is the so-called 'type B' bush pump (see figure 35 and image 8 below). 'Type B' bush pumps using a 'floating washer' system were designed in Zimbabwe in the late 1980s by Peter Morgan, in the Ministry of Health's Blair Research Laboratory, tasked by a Government Committee that was overseeing Zimbabwe's National Rural Water Supply and Sanitation Program (Morgan 1995; Baumann and Furey 2013:9). As de Laet and Mol have shown in their insightful analysis of the spread and adaptability of the hand-pump model of the Zimbabwe bush pump, this device has had a long history of travelling to 'intractable places' since its invention in 1933 in Zimbabwe (Laet and Mol 2000). Being a public domain model, freely available to any manufacturer who wishes to produce these pumps, today the Zimbabwe bush pump is manufactured mainly in Zimbabwe, South Africa, and Namibia itself (Baumann and Furey 2013).

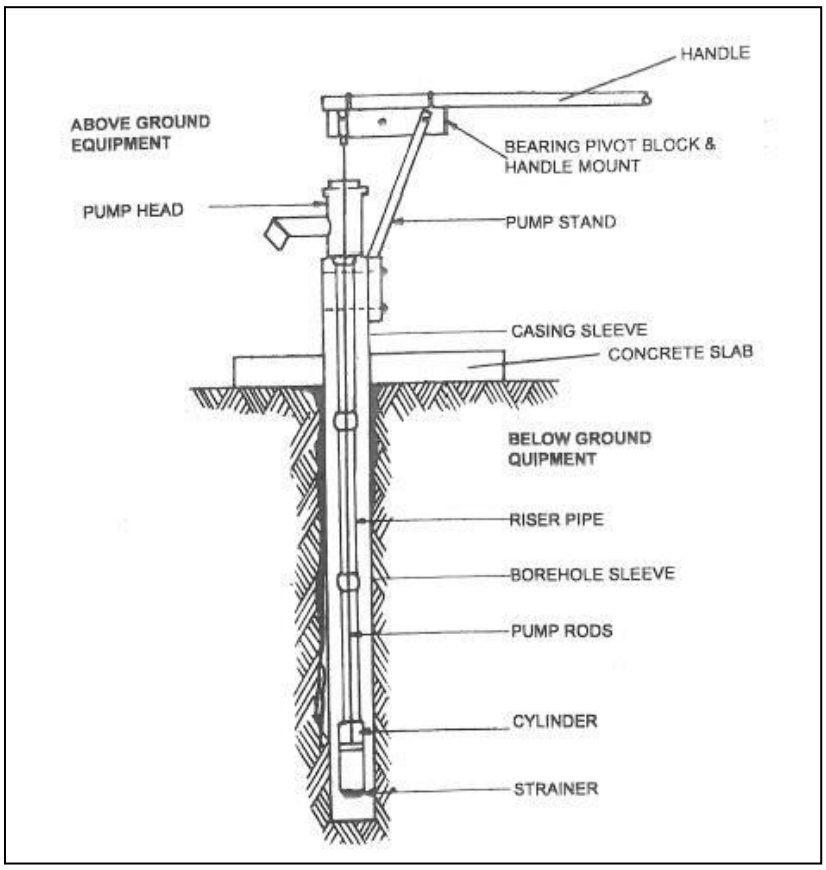


Figure 35: Schematic depiction of Zimbabwe bush pump - Type 'B'[166]

[166] Source: Republic of Namibia 1996c:22.

Image 8: Zimbabwe 'bush pump' with wooden cattle trough in Ouongeama, Kunene North

Throughout the project implementation, the plan was to collaborate and coordinate closely with responsible line-ministries and other relevant national authorities (DWSSC, MoH, MoE, Regional Councils), partners and stakeholders involved in WatSan activities in Namibia, among others through the WatSan coordination meetings chaired by the MAWF and taking place regularly in Windhoek and the regions. Villages were selected in collaboration with DWSSC and Ministry of Health, targeting villages that were most vulnerable (according to surveys assessing the water quality and health status in communities), and where an intervention was seen as likely to have positive impact. According to my informants from the DWSSC and the NRCS, it is a general practice in Kunene Region that water points for rehabilitation or construction of water infrastructure by the NRCS are usually chosen in close coordination with the DWSSC which compiles priority lists of water points based on community needs and shares them with the NRCS. According to interviews with some of the DWSSC RWEOs in Kunene North, and with the Head of the NRCS office in Opuwo, a systematic way was established over time whereby the DWSSC hands over the construction of hand-pumps to the NRCS upon receiving requests from communities. The requests that are seen as priority by the DWSSC are handed on to the NRCS to be included into their WatSan projects (Namibian Red Cross Society 2011:15). The hand-pumps are a type of water infrastructure that the DWSSC is hardly taking care of at all, according to several of my informants

both within and outside the MAWF. As many communities in Kunene North strongly associate the NRCS with the construction and repair of water infrastructure other than diesel, solar, and wind pumps, there also are cases when communities approach the NRCS office or its staff in the field directly, expecting their support with hand-pumps, open-water dams, hand-dug wells, or natural springs, including maintenance and the provision of spare parts.

An extension of the timeframe of the project without any additional funding from the EU until April 2011 had been applied for in 2010 to finalize training and above all handovers of readily rehabilitated water infrastructure to established WPAs. A list of project locations from October 2010 shows 172 functioning WPAs – it remains unclear, however, which of these were newly established through the project. Judging from the lists, caretaker training had been conducted for 105 out of these WPAs, and thus WPCs had been newly established. The hand-pump rehabilitation consisted of changing the cylinder, pipes, and rods and, when necessary, parts of the upper structure. Some concrete work on the apron was also done when required. It became clear during my field work that handovers had not yet been conducted for all the water points – a task that was supposed to lie with the DWSSC rather than the NRCS.

Building CBWM institutions through NGO activities along Government guidelines

Just as in the case of the ICEIDA RWS project, the NRCS was asked by the MAWF to integrate a CBWM component along the lines of the standardized national CBWM roll-out process in their project plan. The establishment of new WPAs with WPCs through community meetings, followed by training for the WPCs and the water point caretakers according to the Ministry's training manuals, thus formed part of the project activities, including in some of the LINGS research locations. The elements of the process of WPA establishment described in the NRCS project document (Swedish Red Cross Society 2010:22) are identical with those described in the MAWF's official documents (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1999). In addition to that the NRCS also follows some internal rules and objectives that the International Federation of Red Cross/Red Crescent Societies (IFRC) has formulated for water and sanitation projects as part of its Global Water & Sanitation Initiative (GWSI) launched in 2005 for the period of 2005 to 2015. The GWSI targets also include specific water-related targets in response to the MDGs 3 (concerning the representation of women in community water committees) and 7 (concerning the general aim of community engagement and participation) (Swedish Red Cross Society 2010:27).

The CBWM component that was integrated into the project design by the NRCS, according to the national requirements set by the state, involved major inputs in terms of capacity-building of the local communities of water users – and also capacity-building for the NRCS volunteers who were

carrying the major part of the workload connected with the CBWM processes. Community meetings and training sessions were usually held by Red Cross volunteers and Red Cross staff members, and observed by DWSSC extension staff where possible. According to my observations and interviews, the DWSSC usually spends 7 to 10 days in total with one community on the entire process of WPA establishment, while this seems to have been done by the NRCS in only one day, as stated by all the informants I asked.

Given the number of inputs a community usually receives during WPA establishment, as well as the decision-making processes that the water users themselves have to go through in order to set up the predefined documents they need to get their WPA registered with the DWSSC, it is at least questionable whether a one-day meeting incorporating all this can lead to sufficiently sustainable and well-considered outcomes on the side of the community. At the same time it is clear that the amount of knowledge, human resources, time, and logistics involved in conducting the process of WPA establishment according to the rules defined by a state institution in the case of Namibia is demanding. Once all this has to be incorporated into the project design of a national NGO, it automatically enlarges the project's budget to an extent that might be hard to bring in agreement with donor requirements. In the case of the NRCS it seemed to me that the NGO had actually decided – or been forced to – save resources on the CBWM component by shortening the time period of the WPA establishment meeting.

The training sessions following the election of the WPCs were conducted by local NRCS volunteers who had been recruited among the population in Kunene Region itself and trained for this specific task themselves. The facilitators followed the official MAWF concepts and guidelines for the facilitation of the 'Water Point Committee Skills Training' (Republic of Namibia. Ministry of Agriculture Water and Forestry 2006) and 'Handbook for the Water Point Caretaker' (Republic of Namibia 1996c). During the five-day training sessions, NRCS volunteers usually trained three WPCs at the same time, sometimes together with DWSSC staff, who oversaw the trainings. Usually, an RWEO is supposed to be present during community meetings and training sessions to oversee the implementation when done by others. According to my information however, this was not always possible in the case of the NRCS project, due to a lack of resources on the part of the MAWF mentioned in several other contexts as well. After WPA formation and WPC training, the next step was to rehabilitate or construct the water infrastructure. Once this task was finished and the quality approved, the responsibility for its management was given to the WPC at a similar inauguration and official handover ceremony also entailing the signing of the standard leasehold agreement between the newly established WPA and the DWSSC, as in the other cases of water point handover into community operation and maintenance, such as for example during the handover ceremony in Omateteue described above).

The responsibility for the handover ceremony should in fact lie with the DWSSC. However, as with other steps in the CBWM process that the NRCS follows in its water and sanitation activities in Kunene Region, frequently the DWSSC does not have the capacity in terms of staff and vehicles to carry out this task in a timely manner, so this final step to formally grant community leasehold of the water point remains undone for an extended period, and the water point's status remains unclear. This is a finding from statements of my NRCS informants which was also confirmed by focus group discussions at nine of the water points I surveyed in 2011.

After the handover of the water point to community leasehold, it should be the continuous task of the DWSSC extension staff, as described above, to monitor the functioning of the WPAs and WPCs and to follow up on the way they carry out the management of their water point. In the case of the NRCS WatSan project of 2006 to 2011, during the project's duration, the non-Governmental actor decided to set up a parallel structure and remain engaged in monitoring and follow-up activities at the water points for a while, including those that were rehabilitated during an earlier project. As a basis for its monitoring and follow-up activities, the NRCS divided the WPCs into three categories of functionality as follows:

'1) The *proactive* committee; i.e. the committee is formed, trained, collects water fees regularly, they have a bank account, they buy and store spares, and when breakdown occurs they can quickly repair it.

2) The *reactive* committee, does not collect fees regularly and do not store spare-parts; when a breakdown occurs they take the initiative to collect money to buy spare–parts and carry out the repair. In this case the water point will not work for a longer period of time.

3) The *dysfunctional* committee exists 'on paper' but does not react on the breakdown of water point' (Namibian Red Cross Society 2011:3).

According to an assessment of project implementation and outcomes conducted by the NRCS itself in April 2009, at that stage, 'most committees formed are and will be in the second category, which is an improvement from pre-project state of affairs, but not as good as one would hope. In the remaining time of the project, it is recommended that the team revisits formed committees and evaluate their performance, according to DRWS check-list, and analyse it with the database analysis tool' (ibid.).

With the help of trained local volunteers, the NRCS thus aimed to improve the performance of established WPCs by transforming those falling into categories 2 and 3 into proactive committees. A team of NRCS staff and volunteers determined the performance of the WPCs during assessment visits and – based on the outcome – identified their weak points. The DWSSC's service job card

used for monitoring and follow-up visits by the RWEOs formed the basis of the data collection during the NRCS assessment of WPCs. This was one more example of the NGO using material in its work that belonged to the CBWM software established by the MAWF; i.e. playing by the rules of the state. During the LINGS field research, the team observed cases where the NRCS volunteers and/ or staff were carrying out the assessment described and filling in service job cards that were then signed by DWSSC staff (Kathrin Gradt, pers. comm.). Following the assessment, the NRCS would take measures to overcome the WPCs' weaknesses. In some cases refresher training sessions for WPC were held. As this was an activity that cannot usually be undertaken by the DWSSC due to a lack of resources, there is no set procedure or guideline for such refresher training from the state. During another water- and sanitation-related project in Kunene Region, the NRCS itself had designed a booklet for the monitoring and follow-up activities, and distributed 5,000 copies of it to the households (Swedish Red Cross Society 2010:23).

The 'NRCS hand-pump field survey'

Following my interviews with DWSSC RWEOs and NRCS staff involved in WatSan projects in Kunene North, during two weeks in September 2011, together with two field assistants, I undertook a field survey of a total of 21 water points that had been subject to NRCS interventions in the framework of the WatSan project of 2006 to 2011. The main objective was to gain an idea of the extent to which an externally funded development initiative of limited scope in terms of time and financial resources such as the NRCS project realistically served to implement part of the roll-out of the CBWM model in Kunene North. As a second thought, my idea behind the survey format was to choose the same format of follow-up visits I had witnessed together with my DWSSC informants in Kunene South, which would usually be carried out for water points that had passed all the phases of implementation of the CBWM model to assess the functioning of the infrastructure, but mainly also of the new community-based institutions the DWSSC had aimed to put in place. Thirdly, it would provide me with the opportunity to add to the data I had collected thus far some more information from discussing the implementation and outcomes of the NRCS activities with the local target communities.

The NRCS had been almost as active in rehabilitating water point infrastructure and introducing WPAs and WPCs over the past few years as the DWSSC had been – except focusing on a totally different section of the local pumping technologies – and the NRCS project was soon to come to an end. At that point, sparked by my inquiries into the NRCS project activities, it was seen as interesting and relevant by both the NRCS and the regional water administration to collect comparable information on the outcomes of the NRCS initiative. Although it had been planned for one of the RWEOs from the side of the DWSSC to accompany me during the entire survey,

unfortunately, due to other commitments, this agreement was cancelled shortly before I embarked on the first visits to the WPAs. My two assistants were thus very helpful with translations from Otjihimba into Afrikaans or English, and sometimes indispensable in terms of geographical orientation on the drives to the more remote villages.

I integrated the main criteria that the DWSSC would use to assess the functioning of the water management institutions in the focus group discussions. One might of course question the degree to which fulfilling these criteria can realistically be expected in the given local/ cultural circumstances in Kunene North. Another, probably more interesting question is to what extent they can or should actually serve to measure the successes and failures of the Government's policy on CBM in the water sector (see the brief discussion on 'success criteria' below). If one approaches the analysis from the angle of the state agents implementing CBWM in Namibia's communal areas however, the impressions I gathered in the communities at the water points, and the data from the focus group discussions and interviews, may serve to illustrate the extent to which the communities are integrating the basic principles of CBWM communicated during workshops and training sessions into their water management.

The information collected during my visits to the communities in the vicinity of the water points and the focus group discussions and interviews with WPA and WPC members, was complemented by project documentation received from the NRCS offices in Windhoek and Opuwo, by interviews with NRCS project management and staff in Windhoek and Opuwo during August/ September 2011, and by additional information on the NRCS engagement obtained from the MAWF and its DWSSC in the form of interviews and documents.

The villages, each of which we visited for approximately half a day during the survey, were selected based on the following criteria:

a) Distance from main road – they had to be reachable with my vehicle both in terms of the time it took to get there and back to our overnight location and in terms of road quality;

b) Location within Kunene Region – I was looking at ensuring a relatively wide geographic distribution of the water points in the areas around Ombaka and Omao, which are LINGS research sites where we temporarily set up camp next to my colleagues' houses during the survey;

c) Population size – I chose locations of varying population size and numbers of households, assuming that differences in the water supply situation might also partly depend on that;

d) Type(s) of water source – out of the 21 water points I included in the survey, there were 7 that consisted of hand-pumps on drilled boreholes, 7 were hand-pumps on hand-dug wells, 4 had

hand-pumps on protected springs, and 3 consisted of protected springs and piped systems leading to public standpipes (see table 30 below for details).

Table 30: Overview of water point infrastructure assessed[167]

Handpumps on boreholes	Handpumps on hand-dug wells	Handpumps on protected springs	Protected spring and piped system
1. Epungue	1. Epembe (Oputjikongo)	1. Erova	1. Ombombo
2. Okaaru/ Omasaratundu (Everero)	2. Okakuara/ Orukune (Eombo)	2. Kaoko-Otavi 3 *(defunct)*	2. Omuhiva
3. Kaoko-Otavi 1*	3. Omungareva	3. Ongango	3. Oruvandjai
4. Kaoko-Otavi 2	4. Orue	4. Otjiuetjovakaendu *(defunct)*	
5. Omao 1	5. Otjikojo		
6. Ombaka	6. Otjomatemba		
7. Omuangete	7. Ouongeama		

* For the sake of clarity the three hand-pumps seen in Kaoko-Otavi were numbered arbitrarily by the author

For a more detailed list of water points visited and data collected see Appendix 11.3.

The interview guide used for the survey at the water points was developed based on the extension service job cards that the DWSSC uses during follow-up visits to WPAs to assess their functioning. Comments and inputs from the Red Cross project team were integrated into the interview guide in order to better adapt it to the project region and the specific infrastructure of hand-pumps. Unfortunately no NRCS volunteers were interviewed or became involved in the research activities. It must be noted that in many of the communities visited, the NRCS had been assisting with water-related infrastructure and capacity-building already during prior projects. Sometimes the boreholes or springs had been equipped with pumps and/or improved in earlier years, as far back as in the first half of the 1990s. In the interviews and focus group discussions however, I tried to focus on the activities that had been carried out since 2007.

The findings from the 'NRCS survey' can be clustered roughly along the lines of (a) assessing the outcomes of the project activities with regard to the reliability and quantity of water access, and (b) doing the same with regard to the effectiveness and to some extent also the sustainability of the introduction of new management institutions for rural water supply according to the national CBWM model, implemented by a local NGO. I will provide an overview on the findings from the NRCS survey looking at these two aspects according to the following, more concrete themes: (i) water accessibility; (ii) the condition of the water point infrastructure and related maintenance needs and capacities; (iii) quality and quantity of the water supplied; (iv) existence and functioning of WPAs and WPCs; (v) creating WPCs in a highly mobile environment; (vi) WPA documents and

[167] Names written in brackets are the names that the communities have given their WPAs in some of the places.

handover; (vii) financial management of the WPAs; and (viii) maintenance of water point infrastructure.

Findings on reliability and quantity of water access

i. Water accessibility

All in all, the Red Cross intervention has certainly improved water accessibility for the local water users, especially in those cases where there was no access to alternative boreholes with other technologies, or to permanent natural alternative water sources in the vicinity of the settlements. In almost all cases, too, the input from the NRCS was assessed positively by my informants. The NRCS staff were apparently visible in the villages more frequently than DWSSC staff, informants felt they were approachable, and the NRCS was mentioned as the regional stakeholder who was 'in charge' of the hand-pump supply. In those cases where a completely new water source was made available during the project through the equipping of a borehole with a hand-pump (at 7 out of the 21 water points), the distance that people have to cover and the time they have to spend fetching water have decreased. In all cases the quality of the available water for human consumption has been improved by providing people with an alternative to open water sources through equipping a borehole, or protecting a spring or a hand-dug well. The positive effects on people's health – although not the focus of the interviews and discussions – has been mentioned by my informants in many places, too. Although the impacts of the NRCS intervention on hygiene and health in the communities are not the main focus here, this was something that the project had also expressly aimed at. On the other hand however, there were still a lot of problematic issues in terms of the hygiene conditions directly at the water point, as can be seen from the overview table in Appendix 11.3.

ii. Condition and maintenance of water point infrastructure

Most of the infrastructure we saw during our survey included hand-pumps – whether on a borehole or on a hand-dug well. Only in three of the cases had a spring been protected and then directly connected to communal taps and/or reservoirs through a piped system. All of the hand-pumps we saw were 'Zimbabwe type B bush pumps' (see exemplary image of the hand-pump in Omungareva below). Out of the 18 we visited, only two were not working at all – one in Kaoko-Otavi and one in Otjiuetjovakaendu. The one of Kaoko-Otavi had been removed completely from the protected spring on which it had been installed. The second pump, which we found to be out of order, was in Otjiuetjovakaendu, which – like the pump in Kaoko-Otavi – was used to supply the users with water from a protected spring. In those two cases where the pumps had broken down completely, the spring water still remained accessible, as it was flowing continuously from the protected source. The consequential lack of incentive to repair these pumps might be the main

reason for the communities not having taken better care of their maintenance. We observed some minor hardware problems at nine of the other pumps, which were however not hampering the reliable supply of drinking water too greatly in most cases (as summarized in table 31 below).

Image 9: Handpump at Omungareva water point, Kunene North

Asked about the frequency of damages/ repairs needed at their respective water points, in 9 out of 14 cases the informants recalled no, or only one case of damage to the pump which they could not fix themselves. In one community people recalled two recent instances of damage, while in three cases informants reported frequent, regular damage, or problems that the community had not been able to fix on their own. One of these was the hand-pump in Ombaka – one of the LINGS research sites – which was reported to be breaking down regularly. Our informant mentioned different forms of damage, like the breaking of the handle and cylinders, as well as pipes falling into the borehole. He said that in Ombaka no one is able to fix these, so they usually ask the NRCS for help. As Ombaka also has a diesel pump, and only a few households use the water from the hand-pump for anything except bathing, the pressure on the community to get the pump fixed quickly seems to be rather low.

Of the piped systems we visited, especially Omuhiva – with pipes running several kilometres downhill, taking the water from a protected spring to a communal standpipe in the school yard – was experiencing regular problems with pipes breaking and/or clogging, with plants growing

inside them, and even sometimes with snakes coming out of the broken pipes. On the day of our visit there was no water flowing from the tap in the school yard – which is supposed to be used by the entire community – due to a damaged or clogged pipe. Instead, the community was getting water from an open pipe branching off the main line, where the water was not regulated by a tap, but running freely. The community was able to fix these problems themselves, but were complaining about the costs/ lack of contributions from the WPA members and about the frequent occurrence of such problems.

iii. Quality and quantity of the water supplied

As shown in table 31 below, problems with water quality were reported/ observed in six places (Erova, Kaoko-Otavi, Omuangete, Omuhiva, Ongango, and Orue). The problems described mostly seemed to result from plant- or soil-matter which was entering the pipes and made the water look greenish (Ongango). In the five other places people have been observing things like sand, plant pieces, roots and even snakes coming out of the pump or pipes. The taste of the water is reportedly badly affected in Erova (‘rusty taste’) and in Orue (‘sour taste’).

Table 31: Overview of damages/ problems observed at the water points

Broken or loose screws/ bolts	Problems with fencing (not existent or broken)	Water appearing only after some time of pumping	Discolouration/ strange taste, other reported insufficient quality	Breaking or clogging of pipes	Leakages	Handpump not functioning
Erova quoted from the focus group discussion: 'Things are old and loose, the entire pump should be replaced. We are waiting for the Red Cross to come and do that.' **Okaaru** (own observation): The pump handle feels shaky while pumping. **Omuangete**: pipe extension is broken off the water outlet. **Orue** (own observation): The pump handle is not well fixed to the wooden handle mount.	**Oruvandjai**: solid fence in place, but gets damaged more and more by livestock and their owners.	**Erova** (after 5 times) **Kaoko-Otavi** 1 (after 7 times) **Okaaru** (after 4 times) **Ongango** (after 5 times)	**Erova** (focus group statement): 'The water has a rusty taste; roots and plant parts appear in the water.' **Kaoko-Otavi 2** (interview with caretaker): Sand appears in the water although the pump keeps being fixed. **Omuangete** (interview with caretaker): Snakes have come out of the pump several times recently. **Omuhiva** (focus group statements): 'Plant pieces and sometimes snakes are coming out of the pipes.' **Ongango** (own observation): Green water comes out of the pump initially. **Orue** (focus group statements): People describe the water as 'sour'. 'The water almost tastes just like the river water. It also contains sand during the rainy season and we wouldn't use it then.'	**Kaoko-Otavi 2** (regularly) **Omuhiva** (regularly)	**Kaoko-Otavi** 1 (apparently from underneath the concrete block) **Okaaru** (apparently from underneath the concrete block) **Omungareva** (water coming out of a hole in the pump head) **Ongango** (water flowing out of the spring through an unconnected piece of pipe which used to fill the cattle trough) **Orue** (water squirting from the floating washer during pumping) **Otjikojo** (stagnant water on top of the concrete slab as water is squirting out from the floating washer)	**Kaoko-Otavi 3** *(defunct and removed)* **Otjiuetjovakaendu** *(defunct)* **Omuangete**: According to informants two unused hand-pumps are installed at a cattle outpost. **Omungareva**: One of two pumps installed opposite one another on hand-dug wells is not functioning, but might still be used for spare parts or in a different location.

Findings on the introduction of CBWM institutions

iv. Existence and functioning of Water Point Associations and Water Point Committees

In terms of assessing whether the WPAs and WPCs established by the NRCS in cooperation with DWSSC under the given project still existed, we can say that at all 21 water points we visited, the existence of the WPA and often the approximate date of its establishment was known to the villagers. Someone was usually able to direct us to some of the WPC members, and most informants were able to recall a more or less complete list of the entire membership of their WPC. Those WPC members we had the opportunity to meet were often in a position to describe some of the major rules laid out in the WPA constitution and storing the actual document in their houses. They also frequently provided detailed answers to our questions about the regulation of financial WPA contributions – including the actual amounts payable for members, non-members, and their livestock.

Taking into account however the criteria by which the DWSSC assesses the 'correct', or successful functioning of WPAs some time after their establishment, two of the major indicators used by the DWSSC are the regular holding of WPA and WPC meetings, and the collection and safe-keeping of WPA financial contributions. Ideally, in the eyes of the DWSSC, these should be documented in writing in the form of meeting protocols and financial reports. These two criteria were not fulfilled in the vast majority of places we visited. Different reasons were given for the non-existence of WPA-related documentation and of regular meetings. One that we heard several times was that, because training participants had not yet received the training documents and/or certificates and the water point had not been officially handed over following the training, 'we have not really started working yet'. People seemed to be waiting for some kind of kick-off, a formal or at least somehow visible event marking the actual beginning of the WPA's and especially the WPC's functioning in its new role. This is exactly one of the purposes that the handover ceremonies, usually organized by the DWSSC as part of the CBWM roll-out, can serve. However, due to the resource constraints on the part of the DWSSC described above, handover meetings had not been held for many of the NRCS project water points, and training certificates to be issued on DWSSC forms had not been handed out to some.

Another reason for the irregularity and in some cases lack of WPA and WPC meetings in many places was that people obviously preferred to hold meetings on an ad hoc basis, depending on the occurrence of water-related issues which needed to be discussed or decided upon. Written documentation of such meetings, as well as of the budgetary situation of the WPA, often seemed

negligible to them, given the fact that in many cases most of the WPA members are not able to read and write.

v. Creating Water Point Committees in a highly mobile environment

I generally found WPCs in place and functioning – in terms of being present at least partly to answer our questions, being informed about some of the basic CBM rules introduced, and being in the possession of the WPA constitution document – at all but four water points we visited. And even in those four cases the absence of WPC members was most likely due to the fact that we arrived unannounced.

Apart from that there are two inter-related points that came out of the discussions we had with WPC members and other water users: One was the high rate of turnover among WPC members, i.e. people who were elected as WPC members initially by the WPA membership, but then left the place and thus the WPC often during the first year after WPA establishment due to various reasons.

A slightly different, though connected problem also seemed to be that WPAs often had difficulties replacing the absent WPC members altogether. So instead of the deputies or newly elected people taking up their jobs, their positions would remain entirely vacant for months. This was especially the case in places where WPA and WPC meetings were not taking place regularly and the WPC had not actively picked up their new role and become operational in the first place. In none of these cases, though, were any major problems with water management or the maintenance of the pump infrastructure detected which would have been more serious than in other places. One might thus conclude that the continued existence of a complete WPC is simply not a necessary precondition for a functioning water management at local level.

Regarding the representation of both men and women in WPCs, which is one of the set criteria for election of their members used by the DWSSC (Republic of Namibia. Ministry of Agriculture, Water and Rural Development 1999:25), all the WPCs we visited did have female members; they were however usually in the minority – about two thirds of the members tended to be men in most cases.

vi. Water Point Association documents and handover

The issue of missing written documentation related to the establishment of WPAs, such as training/ handover certificates and sometimes the WPA constitution described above, was reported expressly at four of the water points visited: Okakuara, Erova, Omuhiva, and Otjikojo.

Okakuara is one such case which highlights how the functioning of WPA and WPC is connected to receiving written documentation on training and the handover of the water point in the eyes of the local water users. When asked about the different roles the WPC members were supposed to have fulfilled since they had received training in April 2010, the treasurer said she was not really working yet, she had not taken up her duties, as they were still waiting to receive their training certificates and the written documentation of the training from the Red Cross. The official handover of the water point into operation and maintenance not done up to that point, and the WPA had only met on a single occasion, shortly after its establishment in April 2010. When asked why the WPA members had not fulfilled their initial plan of fencing the water point, focus group participants answered that this would be done once the training certificates arrived. The WPC members would then take up their roles and schedule a WPA meeting, so that fencing and other issues would be decided upon. Discussing the collection of financial contributions from WPA members and outsiders, people claimed that this would only commence once the water point was fenced.

As described above, I found that in several places the absence of training certificates, official handover and related documents – at least according to the informants' statements – was hampering the motivation of people to really 'start implementing' the CBM approach to water supply management. In this context it became apparent how the bureaucratic framework created by the state through the DWSSC, including the training, constitutions, committees, and related documents, did acquire a certain symbolic meaning among some of the water users. Once implementing organizations such as the DWSSC and the NRCS failed to comply with the rules the state had created, or lagged behind with some of the steps of the implementation, water users felt even less motivated to switch to the new institutions of CBM in rural water supply prescribed by the state.

The same holds true regarding the final step of officially handing over the water point to the WPA members. Handover had not been completed for about half of the water points we visited. People at those water points frequently referred to the official handover not being completed as keeping the WPA and WPC from functioning fully.

vii. Financial management of the WPAs

In all the focus group meetings and interviews, I inquired into the payments of financial contributions by WPA members and potential non-members using the respective water point. I was interested in whether people were aware of the different fees the WPA members themselves had defined as part of their constitution. Furthermore, I assessed to what extent WPA members were sticking to these rules, and whether WPCs were enforcing them.

Only three of them were actually collecting user fees regularly and rather successfully (Okaaru, Omuangete, and Oruvandjai). In the latter place the WPC was still experiencing some degree of resistance by community members who were reluctant to register for the WPA and/or not willing to pay. In another place financial contributions were only collected when an immediate need for money for maintenance arose. One group told me they were collecting fees, but only from outside water users who had not registered as WPA members. I did not check or inquire into budgetary reports or WPA bank accounts as part of my research activities, so I do not have empirical data showing which of them were collecting contributions and how regularly.

viii. Maintenance of water point infrastructure

When asking who is taking care of the regular, day-to-day water point maintenance, clearly the elected caretakers were mentioned by the informants in the first place. When discussing damage or serious malfunctioning of water point infrastructure though, most informants mentioned the NRCS as assisting them with these. In all cases where people were describing the most recent damage to their pumps, which they had not been able to repair on their own, it had been the NRCS who had assisted them with know-how and spare parts. The Ministry's DWSSC was said to be monitoring water points with hand-pumps only occasionally, as they were focusing more on water points with other types of infrastructure. They also do not seem to be usually assisting with damage to hand-pumps on the spot. I had the opportunity however, to observe the way some groups of water users made use of the DWSSC workshop in Opuwo when hand-pumps were damaged. They would remove their hand-pumps from the water points and organize transport to take them to the DWSSC workshop, where they received technical advice and tools in order to fix the pumps themselves (see image 10 below). Judging from the three protected springs connected to piped systems I visited, these seem to have a slightly higher potential for maintenance and repairs to be carried out by the water users themselves. This is most probably due to the lower need for spare parts, which may be more expensive and/or difficult to obtain than is the case for hand-pumps.

Image 10: School learners from Opuwo visiting the DWSSC workshop

Image 11: - Communal repairs to the water reservoir in Ondjete, Kunene North

8.4. On another note: CBWM and its outcomes in Kunene Region – Criteria for successes or short-comings

After having sketched the emergence and travelling of a particular model for participatory water governance institutions at community level and spent much time discussing the model and its application in the Namibian context, and probably also due to my own professional experience in international development cooperation, I could not help but become interested in drawing some preliminary conclusions about the outcomes of the CBWM endeavour in Namibia – certainly with a focus on what I have learnt from my research on Kunene Region. As the first major insight in this regard it has become clear that these outcomes can and will be assessed on the basis of different sets of criteria and in different ways depending on where they are assessed and by whom, and that different actors involved, as well as 'outsider analysts' such as myself will all arrive at slightly different assessments of the recent developments in RWS in Namibia and of the status quo.

Despite the seemingly blanket coverage of local water points with the standardized national CBWM model, it was notable from our relatively short-term and superficial contact with the WPAs established and trained through the NRCS project that the project's CBWM component did not quite lead to the outcomes that the MAWF would have called for in terms of sticking to the rules set out in the WPA constitutions. According to my interviews with regional DWSSC staff in Kunene North and South, the same was true for many of the WPAs established by the DWSSC, no matter which type of water infrastructure these were managing. Some of the major criteria by which the DWSSC defines a functioning WPA were not met in most of the places we visited. Based on the focus-group discussions during the survey I can say that meetings in the WPAs we visited were hardly taking place, financial contributions were not being collected in most cases, and repairs to water point infrastructure were rarely carried out by the WPA members and caretakers on their own. In the WPCs we visited, I detected a high rate of turnover among the elected members of the WPCs, which can be seen as an obstacle to a more consequent implementation of the CBWM rules. Not only did WPC members frequently leave their positions to be replaced by others, but in many cases the positions remained permanently vacant. Written documents regarding the water points, such as documentation related to the cost-recovery component of the CBWM model and meetings of the WPAs and WPCs, did not seem to play much of a role in the water point management, and were frequently not to be found in the communities. This can partly be connected to the fact that written documents in general do not play an important role for most of the communities in Kunene North, where many people cannot read or write. In addition to that, as I explain in more detail below, in many of the cases, the question remains who takes over and

accepts responsibility of the water points, which have benefitted from the establishment of WPAs and WPCs under the most recent NRCS project after it has come to its end.

Not only on the basis of my analysis, but also when it is seen in combination with the works of my LINGS colleagues Menestrey and Linke regarding the local reactions to the way that the blueprint approach to CBWM in the rural communal areas is being enforced by the Namibian Government, it remains doubtful to what extent the new water management institutions can take root in the user communities, or will rather remain contested or to some extent ignored – and replaced by other sets of functioning local rules which may lead to sustainable and well-adapted ways of securing the local water supply, as is partly already the case (Linke 2015; Menestrey Schwieger 2015b).

When moving away from the set of possible assessment criteria in use by the DWSSC, which is mainly based on rule-abidance by the newly established CBWM institutions, and when assessing the outcomes of the NRCS project using a different set of criteria based on water quality and access, one can conclude that improved sources of drinking water were provided to all but one of the communities I visited. All in all, in a large number of settlements, hand-pumps had been rehabilitated or repaired, and springs protected and connected to pipes which are now taking the water closer to the people. These achievements were valued highly by many of my informants.

According to administrative and policy documents, documentation of interventions of international development cooperation, and the insights I gained from many of my informants, CBWM-related water-sector reforms in Namibia, just like in other countries of the Global South, were introduced mainly to achieve objectives such as equity and access. As a representative of one of the major donor organizations currently active in the country's RWS sector expressed it to me, when presenting his view on the successes of and the obstacles to introducing the CBWM model to the Namibian national context[168]:

> 'CBWM is in principle rather successful overall. Except on the cost-recovery issue. The alternatives would be to extend the NamWater function and make them responsible for ensuring cost recovery. This would mean increasing prices because the unit costs for water supply would be higher. Alternatively the MAWF could take the rural water supply function back into their functions, which would however lead to a budget increase on the part of the state. Subsidization options to assist poorer households are currently under discussion. The main criteria for a successful implementation of CBWM would be equity and access. Political

[168] As is also the case with all the donor NGO and Ministry representatives cited in this thesis, it is important to note that these are their personal views, which were conveyed to me in a guided, qualitative interview for the purpose of my research work, and that they do not necessarily represent the views of their employers.

> support needs to come in in order to ensure full implementation, including financial support and performance management.' (Interview with André Devereux, 12.07.2011)

If success is thus measured mainly in terms of accessibility of clean drinking-water, one can still conclude that the model is a success: rural water access in Namibia has been improved since independence, and stands at 62.8 per cent (though 2001 figures were higher, as presented in chapter 4.3. above).

Concerning the criterion of equity, however, which has featured prominently in Namibian water-sector policies since independence, the picture is not as clear. There have been voices not only in political but also in scientific circles that have raised concerns as to the affordability of water for the poorer parts of the Namibian population at rural water points after the implementation of the cost-recovery principles through the CBWM model (Bock, Falk Thomas, and Kirk 2009). After a debate in the cabinet on 16 October 2007 on 'Ways and means on how to control higher tariffs of electricity and water supply to the consumers, especially the poor sections of the Community', the cabinet resolved (Decision no. 18th/16/10/07/007) 'that an independent Consultant be engaged to determine the subsidy scheme to assist those who cannot afford the tariff'.

It had taken years to reach such a decision, even though the need for subsidy schemes within the new water-management framework had been included in several previous policy documents and strategies. The consultancy (to establish a subsidy scheme) in 2007 was commissioned by MAWF, and resulted in a 'report on the formulation of a policy for the subsidization of rural water supply in Namibia' (Gildenhuys 2010). To elaborate on its content and implementation would go beyond the scope of this study. It seems clear from the report and the motivation to commission it, however, that both cost recovery and equity, judging from the Namibian case, do not seem to be automatically achievable through the introduction of the CBWM model, but rather that the state still needs to recognize its obligation to regulate the sector of supplying a vital resource such as water based on the principle of fairness.

8.5. Preliminary Summary

In this chapter I have provided detailed accounts and case studies of the different translation phases involved in the local roll-out of the CBWM model which had been agreed upon at the national level, as well as an overview of the mediators involved in translating the CBWM model at regional level in Kunene Region and locally at individual water points. It has become clear that despite a lack of resources to roll out the CBWM model and conduct the follow-up activities foreseen more effectively, the state, represented by the regional branches of the DWSSC, retains the lead role in the sector of RWS. The MAWF sets the rules for the management of RWS in

accordance with the national CBWM model down to community level, including in the framework of development interventions by bilateral donors and civil society organizations. Judging from the processes of WPA establishment, the WPC elections, and the examples of WPA constitutions I have seen, there seems to be little variability with which the blueprint for the local CBWM implementation is adopted by water user groups in terms of the process, the underlying documents, and the local water-management institutions contained therein. The translation of the CBWM model is influenced and standardized through the facilitation of the regional DWSSC staff, who promote certain standards such as the p.h.o.c. rule for the payment of water user fees, even though the CBWM model constitution for instance would leave room for greater variation and adaptation of local institutions. The training sessions for WPCs are conducted according to the standard manual designed by the MAWF as well, which has been adopted into the water-sector projects of NGOs and bilateral donor agencies. Some alterations however have been made to these manuals in particular local contexts, such as for the work done with predominantly Himba communities in Kunene North by a local training NGO, and for WPC trainings in Kavango and Caprivi Regions by Lux Development. At the national level however, such modifications of the Government blueprints are not easily adopted or spread.

The NGOs, just like ICEIDA as a donor of official bilateral aid, have been obliged by the Ministry to stick to the rules set out in the CBWM strategy, and even to take an active part in rolling out the CBWM model as part of their externally-funded project measures. Some of the NGOs, training providers, and donor agencies were, and are, also active in the field of policy advisory and capacity-building, on the invitation of the Government, sometimes (re-)designing parts of the national CBWM model currently in place in the process. For what I have observed in Kunene Region I can summarize that it is the NGOs which play a particularly active part in translating the CBWM model on the ground. The above description of the involvement of NGOs in rural water supply development, management, and related institution-building in Kunene Region demonstrates that they have been playing a rather prominent role at least in some particular cases, such as the close cooperation – or rather division of labour – between the NRCS and the DWSSC. According to the NRCS, not only in Kunene but also in Ohangwena Region, the DWSSC is dealing with water facilities equipped with diesel pumps, wind pumps, and larger piped water supply schemes, while the NRCS has been working with smaller shallow hand-dug wells (something that the DWSSC does not engage in), spring protection and hand-pumps for boreholes (Swedish Red Cross Society 2010:17).[169]

[169] It is quite possible that a similar division of tasks also exists in other parts of Namibia, but due to the limited geographical scope of the LINGS research no proven statements can be made in this regard.

As can be seen from this account, in some cases, NGOs have been among the prominent and visible pioneers in promoting and implementing CBNRM in general – particularly in the case of IRDNC – as well as CBWM, in the case of the rural water supply projects of the NRCS. These actors can be seen as having shown particular responsiveness to global trends towards community participation as part of development discourses and cooperation. Some of them have also been successful in acquiring related funding from the very early stages of their involvement in rural development in Namibia. In the case of the NRCS – the major development actor in the field of RWS in Kunene Region until today – the engagement in CBWM commenced before the policies and reform strategies of the Namibian Government in this field had been adopted. All this is the case, although not all of the organizations involved have explicit expertise in the field of RWS as such, nor explicit stances on CBWM as individual organizations.

It can be seen from the description of the NRCS's involvement in rural water supply in Kunene Region, though, that its role has long extended beyond that of implementer of a variety of time-bound projects in water point construction and rehabilitation. Twenty years after the commencement of the CBWM-related reforms of the Namibian RWS sector, some of the communities still see both the state and the NRCS as the providers of functioning water point infrastructure. An informant in the DWSSC regional office in Opuwo confirmed that it is the NRCS which primarily gets called upon in the case of damage to hand-pumps. He stated that the DWSSC was simply unable to cater for all the needs connected to hand-pump water supply in the communities, due to a shortage of resources. It is difficult however for the NRCS to cater for this persisting need for inputs at established WPAs with rehabilitated infrastructure, especially where project implementation phases and funding for these particular communities have come to an end. The NRCS staff claim that due to the absence of DWSSC staff from many of the villages, and the delaying of the handover ceremonies, among other factors, it was very difficult to make it clear to the communities that after the end of the training the Red Cross would no longer be supporting the maintenance and repair of the infrastructure, but that this should rather be the responsibility of the communities themselves – assisted, in the case of underground repairs or problems, with spare parts of the DWSSC.

Regarding the application of the travelling models approach to my case, it should be noted once again that due to the complexity caused by this approach during data collection in general (since I was dealing with different scales and different research locations in Namibia, and was also including historical data in my analysis) the ethnographic data collected do not provide the detail and depth which would be needed in order to achieve a more fine-grained analysis of for instance the activities and motivations of individual actors in the water administration, in the communities of water users, or in development organizations. Based on my experience with the travelling

models approach it was at the regional and local level in Kunene Region where this became most obvious. With more time available it could have been an idea for instance to focus at some stage on one particular water point where the material and 'social infrastructure' for CBWM was being established, and to include more detail about the way in which the motives and relationships that the mediators of these processes have with CBWM and the local community impact upon the dynamics of WPA establishment.

During my research in Kunene Region and Windhoek however I have also experienced some of the major benefits of the travelling models approach in gaining a structured way of looking at a social situation – be it at the national, regional, or, in the case of chapter eight, sometimes also at the local level – where actors from different contexts meet to negotiate, facilitate, adopt, etc. a model which emerged or was translated in entirely different contexts previously. Using the travelling models approach sharpened my view of the way in which a standardized blueprint for social practices or institutions gets translated during translation phases, such as during the phase of establishing a WPA, and of the extent to which single interstitial spaces, such as a meeting to officially hand over the water point into community operation and maintenance, can demonstrate certain local dynamics around the implementation of a resource-management model. Although for a deeper understanding of these interstitial spaces, too, it would certainly be beneficial to collect broader material on the social fabric, norms, and values of a local community, and on the local political ecology, my account can serve to demonstrate the potential of the travelling models approach in ethnography and anthropological analysis, especially in situations of connectivity between actors from different spheres and scales, such as in the realm of development anthropology, and in interactions between representatives of the state and civil society organizations, and between both of these and local individuals and groups.

9. Conclusion

The aim of this case study has been to ethnographically trace, follow, and demonstrate a connecting thread. The hypothesis was that this thread would connect in more or less clearly discernible ways some of the water-sector discourses and paradigms which have been prominent at the global level in policy-making, in water-sector interventions, and also in scientific analyses over the past few decades, with water-sector-related policy-making and practice in Namibia. The challenge was then to produce an account of the way in which the model for community-based management currently in place for rural water supply in Namibia's communal areas emerged, and of how it was and is being translated and transformed along routes between global, national, regional and local scales. I also aimed to show how this model and the related implementation processes and outcomes are perceived by the model's mediators, and by water users in rural communities in Kunene Region.

This turned out to be a complex endeavour when approached as a research project conducted by a single researcher for several reasons: Not being a water-sector 'expert', engineer or politician myself, I first had to determine the kinds of discourses and paradigms I was actually looking for – those that have been influential in the emergence of CBWM at the global level. It became obvious that some of the debates and approaches among water-sector politicians and practitioners which had influenced the emergence, consolidation, and travelling of the CBWM model in question had evolved in the 1970s and peaked at different stages over the past four decades. Planning my research thus meant deciding how far I would look back into history to complement the data on the more recent past and on the present situation around the adoption of the CBWM model in the Namibian local context.

Meeting the methodological and theoretical challenges

My research thus had to connect findings from different scales, locations, and periods of time, applying anthropological methods adapted to these. I started out by analyzing archival and secondary sources for instance on global water-sector events and strategy-setting processes, starting at the time when the move towards global environmental governance gained momentum in the 1970s. I further defined some of the moments of increased engagement during which the CBWM model was translated between different settings, such as the adoption and mainstreaming of the Millennium Development Goals in national-level politics, and development initiatives bringing in donor advice and financial support. During fieldwork in Namibia, I conducted interviews with water-sector actors, and also did participant observation, including ethnography of administrative practice during different phases of local CBWM implementation and in different

locations. I also collected insights on one of the main development interventions in RWS in Kunene Region by the NRCS through a survey of a total of 21 groups of water users at their water points. Furthermore, I used archival and literary sources in order to grasp some of the objectives and contextual factors which had shaped the Namibian water-sector developments in the past. The analysis of earlier phases of water-sector discourse centred around a combination of secondary literature including a lot of grey literature generated by water-sector organizations and interventions with historical archival sources from the global and national level.

Emergence of CBWM – Global discourses and ideas as influencing factors

Looking back into the history of environmental governance during colonial rule in Southern Africa I found two strands of ideas which have influenced water-sector interventions from the side of the state prior to the emergence of community-based, participatory policy models for resource governance in the Global South; namely (1) concepts of water being a scarce resource per se, accompanied by calls for instruments for its cautious and sustainable management, and (2) based on this notion of water scarcity, the idea of hydrological advancement through the augmentation of water supply to create favourable economic conditions, in particular for settler farmers.

The idea of water scarcity sui generis as a universal condition of human society, which dates back to neo-classical economic thought of the 18th century (Xenos 1989; Mehta 2003a), has played a role for colonial water sector politics in the Global South. It continued to be prominent in public and scientific discourses, and gained discursive presence as part of a growing global environmental movement and as the underlying rationale of development programmes in the water sector, in the second half of the 20th century. Up until today the notion of water scarcity is present among water-sector policy-makers, in development cooperation and public discourse. This can also be observed in Namibia where – based on the climatic conditions, and partly also on the political economy – different forms and constructions of water scarcity exist.

The hydraulic mission was widespread among water-sector practitioners and politicians in the 19th century – including in the colonies of Southern Africa, and influential on water management world-wide far into the 20th century. Thinking and acting according to the logics of the hydraulic mission and with the aim of mitigating water scarcity led to a concentration on augmenting water supply in often capital-intensive and technologically challenging ways. Along with this focus on infrastructure, a transfer of technologies, know-how and administrative models has been going on in the water sector since (Allan 2006).

Against the historical background and political economy of water management in Namibia, these global discourses and ideas have been translated to different contexts and audiences – among

others in the form of scientific publications (Niemann 2002; Heyns 2005), media contributions (Pretorius 2011), large-scale public awareness campaigns, and publications in the framework of development programmes. These ideas have contributed to shaping the context out of which the CBWM model and other water-sector paradigms prevailing in Namibia today have emerged.

The idea of users as decision-makers – the consolidation of the CBWM model globally

The CBWM idea along with the general trend towards community-based natural resources management has appeared to emanate mainly from a participation/ democratization paradigm. At the same time however, emerging at the time of the Washington Consensus and in a phase of weakening state intervention and increased calls for market regulation and cost recovery, national water-sector reforms have encouraged commoditization, and frequently not taken into account the wider cultural meanings and settings attached to resources management – be it in the Global South or the Global North. As my analysis of the participatory paradigm has shown, sometimes opposing underlying ideas and objectives were brought in from different political camps, but have led to similar calls for increased participation and ownership in water governance, which became louder during the 1970s. It is relative power, financial resources, and shares in global-level discourses which have led to a bias towards concepts of treating water as an economic good and devolving the service costs to the users according to market-based principles. Governments, development organizations, and water-sector experts have been quoting the same global policy documents which have been supported financially by some of the more influential international donors led by the World Bank, and facilitated by a travelling community of water-sector policy advisors. In the meantime, the message from one of the major water-sector events of the 1990s in New Delhi – 'Some for all rather than more for some' – has been eclipsed from the global water-sector discourse. Subsequent water-sector reform approaches internationally which show striking parallels have been referring to the same set of management principles frequently linked to those of the Dublin Conference in 1992, the water-sector event that dominated subsequent policy-making (Varady and Iles-Shih 2009).

The consolidation of the CBWM model internationally is framed by the first big UN conference on the environment, the UN Conference on the Human Environment 1972 in Stockholm and the UN Earth Summit in Johannesburg 2002. By the 1990s the ideas of demand-based water management and the participation of water users in decision-making processes gained momentum and started travelling. As a consequence, similar reform processes leading to decentralized, community-based decision-making in the sector of water supply, as well as to increasing financial responsibility on the side of the water users, have been taking place in much of sub-Saharan Africa and around the world.

For South Africa and Namibia, the analysis shows a gradual progression from a supply-oriented colonial water management, which had focused on supplying water to white settler farmers and the developing colonial economy, towards demand-based and participatory water management models. Following Namibia's independence, incoming aid money along with policy advice from the Global North contributed to bringing forward these paradigms by way of policy-making, strategy-setting, and a legislative initiative. The CBWM model was actively propagated and translated to the national context by donors, NGOs, and state actors in Namibia, as elsewhere, within the framework of community meetings, institutional blueprints, and training guidelines.

Although less well-off rural local communities have since been the focus of attention, at the same time, questions of equity and pro-poor development in the water sector seem to have lost ground. Examples of expressly pro-poor orientation of national water policies are rare. The debate around the human right to water and sanitation is ongoing. Five years after this right was officially declared by the UN in July 2010 its supporters still claim that generally not enough is being done, or not enough of the right things, in order to enforce that basic human right worldwide. Another continuing debate is the longstanding confrontation between supporters of the idea that water as a public, common good should be managed publicly in order to ensure equitable access and sustainability, and proponents of the idea of water as an economic good and commodity, which ought to be managed based on market principles. I witnessed the energy and emotionality with which both debates are still being pursued during the World Water Forum in Marseille in 2012.

The CBWM model in Namibia

In Namibia, as in other countries in the Global South, the CBWM model was introduced on the basis of both the abovementioned prevailing global-level CBWM paradigm and against the background of a recent national history of discriminatory policies resulting in inequity in terms of access to social services. Against this background, the motivation of national policy-makers to re-install the fundamental rights of local communities to participate in decision-making pertaining to their natural environment and to basic service-provision is self-evident. Some of the quotes from policy documents as well as statements made by political leaders after independence speak for themselves. However, the question of whether under such circumstances water users have the necessary capacity and resources to fully take over institutional and financial responsibility for their water supply, following major institutional restructuring at the grassroots level facilitated by the state, has been asked critically by various analysts (Vavrus 2003; Marcus 2007; Bock et al. 2009:133).

In Namibia, notwithstanding the decades of discrimination and deprivation of basic services along racial lines, a subsidization policy accompanying the introduction of new institutions in rural water

supply has been lacking. The financial implications of safe water supply for the users must be discussed against the background of Namibia being among the countries with the highest income inequality in the world. It is surprising that – notwithstanding the public debate around water pricing and several scientific publications which have shed a critical light on the fact that water might not be affordable to everyone in the country's economically less well-off communities under the current circumstances – subsidization mechanisms in the field of rural water supply have not been introduced and implemented in practice, although options for this have been assessed on the initiative of the MAWF and the donor community (Gildenhuys 2010).

Poorer community members in many cases have been further disadvantaged because the per-head-of-cattle rule introduced by the facilitators from the side of the national water administration has sometimes been ignored by richer cattle-owners, who would opt to consume water based on flat-rate payments, and thus at the cost of the poorer community members, who would pay the same even though they use much less water (Menestrey Schwieger 2015b; own interviews with Government extension staff). Problems for local communities also occur as different branches of the national administration which – on paper – are still responsible for the mitigation of the effects of increasing wildlife populations lack the resources to meet their obligations (Linke 2015; cases of damage to water points incurred by elephants mentioned in chapter 8.3.3).

Twenty years after the initial steps towards the adoption of the CBWM model for Namibia's water sector at the beginning of the 1990s, the Government is lagging behind its own plan in the implementation of CBWM. To meet the plan's objectives, a significant number of WPAs still have to be established. With the target of country-wide coverage far from being reached, political debates around the principle of users paying for water are still continuing, and the new legislative basis for the reforms of Namibia's water resources management has not formally been put in place. The third phase of the national CBWM roll-out process, that of handing over water points to the local communities as the new owners, has been completely halted after a political decision made by the MAWF's previous Permanent Secretary, pending further decision-making. The current approach in practice is to keep implementing the CBWM strategy up to the so-called phase 2, 'operation and maintenance' (O&M), where the WPAs become responsible for all water-related infrastructure above the ground, while the DWSSC remains responsible for underground infrastructure and for cases of breakdown which call for the replacement of pumps. The main cause of discontent, and probably the reason for this moratorium, is the dispute around whether water should be paid for and how much it should cost, or whether it should be free of charge in a country where rural water supply used to be completely catered for by the state before independence. The introduction of subsidization mechanisms by the implementing Ministry – and

potentially supported by the donor community that has been supporting the CBWM roll-out in Namibia – might have served to counteract not only the political opposition to the CBWM principle of user payments, but also the actual difficulties that some of the economically disadvantaged households and their communities currently have with the community financing component of the CBWM model in the water sector.

Non-state actors filling in for the state

The changes introduced to Namibia's communal areas through CBWM essentially entailed the passing on of a large part of the costs for water supply to the communities where previously water use had been subsidized by the state. The introduction of the new CBWM-related policy directions for rural water supply thus meant a gradual withdrawal of the state as it ceased to carry maintenance costs and cater for repairs, which was experienced negatively by many of the communities I visited. The Namibian case however is not one of state withdrawal combined with an increased role of the private sector, as it had been propagated by some of the proponents of CBWM during the period of its consolidation in international water-sector discourses. Judging from my findings in Kunene Region, state presence in Namibia's communal areas with water administration extension staff facilitating and monitoring the CBWM process remains high – only its nature has changed, from that of implementer to that of rule-maker and facilitator. The state's withdrawal from the role of provider thus brought with it a continued or altered engagement by the state. In this way the state remains in control of local arenas where new institutions for local water management along the national CBWM model are negotiated and codified.

Concerning the roles of the state vis-à-vis other actors in the management of rural water supply in Kunene Region I found state disengagement at least in parts of the water sector, and non-state actors being almost forced to fill in for discontinued public services. Non-state actors have become facilitators of the CBWM introduction, taking over the role of mediators in different phases of the CBWM model's translation to local settings at the water points and in various relationships to the state – be it funded by external donor money or commissioned by means of public tenders from the side of the Ministry. Their staff members and sometimes volunteers establish WPAs, train the WPCs, and conduct follow-up visits for monitoring. It has been found that except for rather minimal adaptations of the material produced by the Government for the WPC training sessions to local conditions, the other actors are working along the national CBWM guidelines and manuals without major modifications. What is more, for parts of the infrastructure such as the hand-pumps and natural springs in Kunene Region, the state has almost completely discontinued its engagement in construction, rehabilitation, and CBWM-related activities at the water points.

The Namibian Red Cross Society – which has been active in the sector of water and sanitation in Kunene Region for decades – and the regional water administration both indicate that they cooperate in maintaining the different aspects of the regional water infrastructure along informal ways and lines of communication. As part of a programme with a more limited duration between 2007 and 2011, the Icelandic bilateral development organization ICEIDA had introduced solar pumps as a new form of technology at water points in Epupa and Kunene Region. One can thus conclude that parts of the expenditures incurred by supplying rural communities with safe drinking water and by introducing innovative technologies to Kunene's rural water-supply sector are no longer carried by the state, nor have they been devolved to the communities. These costs are rather being taken over by external actors. This has led to a situation where communities also expect some of these actors to continue to contribute to the maintenance of the water point infrastructure – expectations which cannot easily be met. Whether the Namibian rural water supply system as it has evolved is sustainable in this way remains to be seen.

In such systems, fluctuations in donor engagement are creating a certain element of unreliability and instability. Water-sector funding in Namibia has had its lows and peaks – with an unprecedented high relatively recently due to a large amount of budget funding from the side of the EU. It is questionable though how long funding directly targeting community-based water management would last. Donor trends are volatile by nature; discourses and paradigms tend to lose influence over time. Looking into more recent donor paradigms of water-sector programmes for the Global South, such as for instance of concepts of basin management and their interaction with CBWM in rural water supply, would make for potential future research topics.

The promises of CBWM accompanied by a lack of incentives

Compared to the CBNRM approach applied to other natural resources in the country's communal areas, such as wildlife and forest resources, the CBWM approach does not seem to offer a similar set of incentives for Namibian water users. In the case of rural water supply, the main outcome at the level of the water users is the sharing of costs which previously used to be covered fully by the state. In the case of wildlife in conservancies and plant resources in community forests, the main idea is the sharing of economic benefits with local communities – while also partly handing over responsibility for conservation efforts. In both cases the idea of community participation is being presented both as a means to achieve the level of devolution desired by the state and as an objective to be achieved in and of itself for the good of the community. My data show for the RWS sector – as others have shown for the application of CBNRM in local settings in Namibia – that the actual application of the participation concept to the local realities in Namibia's communal areas is marked by the distance between the designers and facilitators of the participative processes and

institutions, and the local resource users who are embedded in local social structures and resource-management institutions. As research by my LINGS colleagues has shown, local power structures can play an important role for the implementation, success, or failure of the new CBWM institutions (Bollig and Menestrey Schwieger 2014; Menestrey Schwieger 2015b). Economic differences between local water users sometimes hamper the adoption or implementation of the institutional set-up defined through the CBWM model (Linke 2015).

In many cases the current CBWM model seems completely without incentive for anyone. The state could have just gone and left the water points and their users on their own, cutting the previous subsidies – which in a way almost happened at least in some regions, judging from the observations in Kunene Region, as the resources to do a proper follow-up after the CBWM roll-out are lacking. The only incentive for communities is the one-off rehabilitation of water points once the CBWM structure in place is assessed positively as sufficient by DWSSC. At the same time the state keeps spending huge amounts of resources on the CBWM roll-out, while many of the actors involved complain about its 'failure' as the institutions introduced are widely not adhered to.

Notably, although being potentially more attractive and offering higher incentives for local resource users, the CBNRM model introduced to the management of game and forest resources in Namibia has also failed to achieve a complete handover of management responsibilities for natural resources to the users, and still partly depends on outside facilitation and financing support twenty years after its adoption.

Assessing the outcomes

The water sector reform outcomes in Namibia can be measured by the different stakeholders using different sets of objectives and indicators. Based on the findings so far one can say in conclusion that although the Namibian Government's objective to devolve a large part of the responsibility for the rural water infrastructure to local water users has been met, the CBWM model has not been implemented the way it had been foreseen. Contrary to the aim of achieving full coverage of all the water points in the communal areas with the new CBWM institutions, ten years have passed since that aim was to be met according to the plan with CBWM roll-out still continuing. A lot of new WPAs are to be established, WPCs trained, and water points handed over into community O&M.

Currently, the water sector reforms are monitored and evaluated by the same actors implementing and monitoring the CBWM model, and their main indicator for the functioning of CBWM and the newly established Water Point Associations seems to be the extent to which the water users implement 'their own rules', according to the newly adopted water point constitutions

– written under the active facilitation of Government employees. In most of the places I visited many of the criteria applied by the responsible national water administration were not met. What is more, sanctioning mechanisms established as part of the new management institutions, such as in the case of non-payment of user fees, were not implemented either.

At the same time, however, only a few of the WPAs I visited reported any shortcomings in terms of accessibility of sufficient water quantities. In a nutshell, water in these places seemed to be managed in a generally reliable and satisfactory way for local users, even though WPAs did not comply with the official management rules introduced by the state. My two project colleagues, Theresa Linke and Diego Menestrey, report similarly from their research areas in Kunene South and Kunene North respectively. In most of the cases, we observed during our fieldwork that 'the pump keeps on running', as formulated fittingly in Menestrey's title. At the same time, rural water users are forced to share a large part of the costs for rural water supply which previously used to be covered fully by the state. The model's mediators from the side of the state and the non-state actors and external donors seem to have lost sight of the question of whether its rules suit the living conditions of the rural water users.

Based on in-depth research on the local socio-economic setting and cultural values, my project colleagues have offered some explanations for the fact that although CBWM institutions are not applied according to the national model, water access seems to be relatively safe, widespread, and sustainable at most of the water points visited. In this context a comparison with other regional and local settings in Namibia could generate more insight.

Although in 2008 the MDG on halving the proportion of people without access to clean drinking water had been reached and access to safe drinking water still stands at relatively high levels in Namibia compared to other countries of the Global South, according to census data access to safe water sources nationally and in Kunene Region has gone down over the years between 2001 and 2011. Many of Namibia's rural communities are particularly disadvantaged, as their access to safe water sources is 39 per cent lower than that of urban dwellers.

While one of the underlying motivations of reforming the rural water supply sector starting in the 1990s was to mitigate the detrimental effects that a century of colonization and Apartheid rule had had on the society and the environment, questions such as for instance: 'Is there any distributional justice in regard to the access to water?', 'Are water costs distributed equitably and is water affordable for all?', or 'Is water being used sustainably?' do not seem to have been priority matters of discussion in Namibia's water sector or politics during the time of my field work. To some extent, this might have to do with the fact that the actors involved have significant

vested interest in the decentralization program continuing as it is; yet it would be worthwhile to (re-)evaluate these and other aspects of the CBWM-measures.

One of the research areas for the final phase of the LINGS research project will be the question of how water politics in general, and the CBWM model in particular, are assessed and evaluated within the Namibian context. The discussions around the national water legislation have gained increasing attention. The aim is still to replace the outdated South African Water Act which was adopted in 1956. Future research will investigate how the evaluation of the national outcomes of CBWM introduction is fed back into national politics and potentially international discourses among actors promoting the model in other countries.

How the stone still keeps rolling – though the model has stopped travelling

Judging from my research findings at least in relation to the situation in Kunene Region, the state of CBWM roll-out in Namibia seems to have become an end in itself. Although currently the conditions for the process to achieve the result set by the Government are not in place, the implementation of the initial two phases of the national CBWM model at the local level has been going on ever since. The time of my field research revealed a picture of a machinery of administration staff and other resources which needs to be maintained and financed in order to keep introducing the first phases of a model for the past twenty years which has stopped travelling somewhere along its trajectory. The costs connected to this self-referential system are being borne by the state and some of its development donors as the model's implementation keeps generating outside funding which is invested in Namibia's rural water sector in the framework of development interventions.

Given that the CBWM model has never been implemented to the full original plan, it is has been clear for quite some time that it cannot possibly lead to achieving those changes in the management of Namibia's rural water supply which had been envisaged by its designers and facilitators. However, this situation has not led the water-sector stakeholders to switch to alternative objectives and plans or changed the way that those who are directly involved in facilitating the travelling of the model currently assess its 'successes' or 'failures'. This could only be done by them orienting themselves by an alternative set of objectives such as access to safe water, sustainable water use, or equitable access to water.

What remains, judging from the situation on the ground in Kunene Region, is a discourse on participatory, community-based management institutions as prescribed by the state and its international partners and advisors, rather than a situation of actual management institutions generated and applied by the resource users themselves. The sequence of the different steps and

activities involved in the CBWM roll-out at every water point before its rehabilitation appear like some kind of ritual carried out by the agents of the state that local communities are put through together with the facilitators. As if, before transforming the water point at the end of that ritual by rehabilitating it, its users also needed to be 'transformed' from users into 'owners', 'managers', 'caretakers', and 'chairpersons'.

The fact that – according to my findings from Kunene Region – many local water-user communities for a variety of reasons currently do not take over operation and maintenance and embrace the set of CBWM institutions conveyed to them through the facilitation of the national water administration and development actors after water point handover, poses several questions. These could be examined in future scientific analyses, but also in evaluating the way that state and non-state actors in a setting of rural water supply such as in Kunene Region influence and depend on one another from an applied perspective: What consequences does this situation generate in terms of the sustainability the CBWM system envisaged by the Namibian authorities? What consequences does it have for water quality and accessibility in the communities in question?

What the travelling models approach had to offer – and some of its downsides

Approaching the topic of community-based water management with a 'travelling model' perspective first of all proved to be a useful way of dealing with the complexity of the topic. By helping me to maintain a focus on a certain set of management institutions for the sector of water supply – be it at the global, national, or local level – this approach provided the opportunity to single out as units of analysis certain translation phases which are parts of the translation chain of the travelling CBWM model, certain actors who have a role as mediators in translating the model, and a series of interstitial spaces – those moments when different mediators engage in its development, promotion, and introduction over differing periods of time and at different scales. Furthermore, the travelling models approach is one that aims to reveal linkages and trajectories, which remain in the foreground of the analysis. This helped me trace some of the connections between the water-sector discourses and paradigms which have been prominent at the global level in policy-making, in water-sector interventions, and also in scientific analyses over the past few decades, with water-sector-related policy-making and practice in Namibia. Looking at travelling models is thus a suitable way of 'cutting a vertical slice' in doing ethnography on complex situations and interlinked actors covering different scales.

Applying it to my case worked particularly well in identifying which constituting elements belong to the Namibian model of CBWM, and which ideas and discourses partly reaching back into history have contributed to its emergence as a travelling model at the global level. Using the travelling models lens in approaching a description and analysis of global water-sector mega-events also

turned out to have potential in gaining an understanding of the role and nature of such events and the way that a global policy model can be shaped and translated by them. When following the CBWM model in the national setting in Namibia, identifying some of the decisive interstitial spaces and mediators, as well as their interlinkages with global and local scales, helped me to understand the way the model was translated through political, legislative, and strategizing processes. Although this has posed additional methodological and conceptual challenges, this study shows that taking into account a historical perspective on travelling models and on how certain context factors in the past have influenced the model's emergence and travelling, and its national and local application, can broaden the analysis and understanding of recent and ongoing translation processes.

There are however certain downsides and challenges connected to taking a travelling models approach to doing ethnography, and also of the research objectives resulting from it. Some of the downsides to the multi-sited, multi-scale approach chosen for my research have been mentioned above already. They can be summarized as leading to a loss of focus and detail on the socio-political settings and in consequence on the actors in each of the locations which are part of my account. Often contrary to how individual actors would usually be approached in anthropology, the way of approaching them here of necessity remains one where the actors are mostly seen as translators, negotiators, implementers, and 'users' of the model in question, rather than as deeply embedded into local social structures and cultural perceptions, norms, and values. This is something that – given the complexity of the topic – I found to be unavoidable in the framework of a research project endowed with limited resources and carried out by an individual researcher. In my account here this downside probably becomes most obvious at the local scale in chapter eight, where a relative lack of detail with regard to the actors in question, as well as the local political ecology on the whole, might be perceived as a certain gap.

There was yet another obstacle, which was probably the first I faced: Initially I had to decide which part of the translation chain between the global and local scales was a suitable starting point to initially identify the CBWM model in more detail, and at which scale to begin my data collection, analysis, and, later on, the writing up of this account. My experience has shown that it made a lot of sense to start out at the national level, by describing in detail the nature of the Namibian CBWM model and the institutions prescribed by it, the actors dealing with it, and the processes which had led to its adoption. First of all, grasping what CBWM in the rural water supply sector in Namibia's communal areas was supposed to mean according to the national blueprint then provided the grounds for my research at the global level, and for following the model to the local level.

Of course the search for ideas, discourses, and other potentially relevant models existing prior to the Namibian water-sector reforms at the global level still proved to be an extremely difficult and complex one. As others have pointed out before, processes of model transfer that have come to span ever greater distances and a varied group of actors at different scales pose new methodological challenges. Demonstrating the connecting thread linking how, by whom, and why the model in question here was translated more clearly would have called for a network analysis of some of the actors involved, and for in-depth data collection on their socio-cultural origin and embeddedness. All of this was rendered methodologically difficult. Participant observation and interviews with the individual actors involved, as well as identifying and analysing the intensity and nature of linkages within networks of individuals and organizations, proved to be largely impossible at the global scale, as well as across scales, partly due to the fact that my analysis of the global scale dealt with past events, starting in the 1970s. An analysis of social networks spanning scales has not been attempted here due to a lack of time and data. New research strategies are needed to capture the interconnectedness of actors on different scales and discern the mechanisms and effects of model transfer, while at the same time still rendering ethnographic research with limited resources feasible. It turned out to be possible, however, to identify those phases during which the underlying principles of the CBWM model in question here emerged in the 1970s, and when the model itself started travelling in water-sector policy-making in the 1990s, supported by international development cooperation and the lobbying of influential actors such as the World Bank and the World Water Council.

Regarding the applicability of the concept of translation chains, it has to be noted of course that it would not have done the analysis of my case much good to use it in a rigid manner, isolated from contextual factors such as political interests of the individual actors and organizations involved, and from ideas such as participation and decentralization, which were prevalent prior and during the model travelling and which have contributed to shaping its translations. In order to fully sketch the way in which such models travel globally, in my view an entire web of translations instead of a chain would have to be drawn – something which lay outside the scope of my research. It could also be beneficial to include something like a genealogy of ideas and paradigms shaping the context of the model's translations at the relevant points in time. This has partly been demonstrated by my analysis of the 'buzzword' concepts in chapter 6.2. A more systematic integration of discourse analysis into research on travelling models and translations than has been achieved here might lead to a further enhancement of the methodological approach outlined, offering even deeper insights into the 'black boxes' of interstitial spaces and discursive formations. The way such possibilities have been suggested here may serve to inform future research on similar topics.

I argue on the whole that the theoretical framework of travelling models, applied here to the Namibian regulation and practice of rural water supply, could benefit from further operationalization in future research projects both conceptually and methodologically in order to increase the fruitfulness of ethnographic research conducted within this framework. The findings from my research project would have been further enriched by linking my work more closely with the work of my team mates in the overall LINGS project – something that was not done systematically during either our field research or the writing-up phase of our PhD theses, due to time constraints, different time schedules, and the cost and resources that a greater level of coordination would have incurred. Another, even more pronounced way of benefitting both from the travelling models approach and, potentially, also from doing ethnography at water conferences, as well as from the in-depth local field studies conducted by my colleagues, could have been longer phases of joint field research as part of a team. However, part of the potential of combining our approaches, findings, and analyses can certainly still be levied for instance when compiling further publications jointly once we have left the PhD phase successfully behind us.

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11. Appendices

11.1. List of strategy papers by the Namibian Government related to CBWM

Documents	Type	Date	Objective
A digest of the water supply and sanitation sector policy of the government of Namibia	Memorandum	Nov 1993	Outline the government policy for the water and sanitation sector Matters were officially approved 21 Sep 1993 as the Water and Sanitation Policy (WASP) guidelines of government
Cabinet Memorandum on CBM and cost recovery	Memorandum	1997	The implementation of the community management and cost recovery aspects of the water supply and sanitation sector policy Purpose: obtain cabinet approval
Guidelines for the implementation of community based management and cost recovery for rural water supply	Guidelines	1999 first edition, 2000 second edition	Facilitate CBM; first version, still a number of outstanding aspects that need to be worked out for implementation
National water policy white paper	Policy Framework	2000	Equitable, Efficient and Sustainable Water Resource Management and Water Services Result of the Water Resource Management Review launched in March 1998
Extension Strategy Procedural Manual and Participation Toolkit	Guideline and Training	June 2002	5 Modules about the Extension Approach and Methodology
Water Resources Management Act	Act	2004	Is published in terms of Article 56 of the Namibian Constitution; 23-12-2004
Water point committee skills training	Participant Handouts	2006	Training Course Materials
Water supply and sanitation policy	Policy	2008	Review of WASP principles, Replaces Policy of 1993

Source: (Linke 2015:201)

11.2. Examples of water point infrastructure in Kunene Region[170]

Image 14: Diesel pump installation, Renosterkop, Kunene South

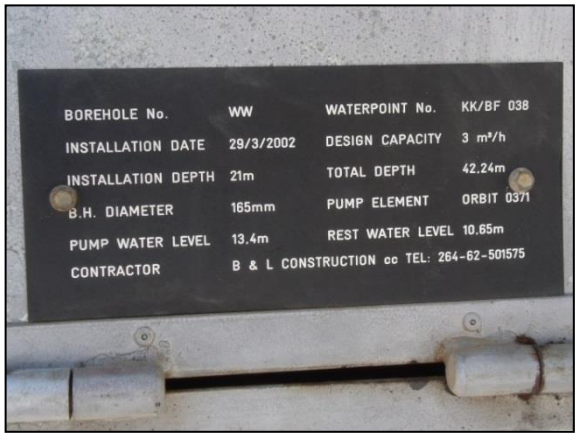

Image 13: Sign on diesel pump, Renosterkop

Image 12: Solar pump installation and reservoir, Owomiwore, Kunene North

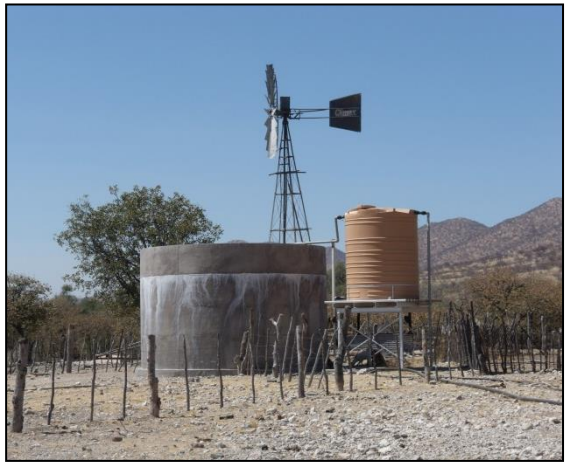

Image 17: Wind pump and reservoir, /'Aub Pos, Kunene South

Image 16: Reservoir and cattle trough, Waterval Pos

Image 15: Combination of wind pump and diesel pump, Waterval Pos, Kunene South

[170] Own photos except for image No. 12 which was made available to me by Diego Menestrey.

11.3. List of NRCS project water points visited in Kunene North – basic information

Place/ WPA name	WPA Establishment	Infrastructure	WPC Info	Trainings conducted by the Red Cross	Handover yes/ no; date	Fencing/ Hygiene
Epembe	June 2008	Handpump on hand-dug well and ICEIDA solar/electric pump; new pump on hand-dug well built in October 2008; repair done last by NRCS in June 2010.	Elected July 2008 (DWSSC); Total: 7 members; male: 4; female: 3 Ages: up to20:1, 21-40:6, 41-60:0, over 60:0	Caretaker training RC: July 2008, for 2 men	hand-pump yes, 29.01.2009	Handpump unfenced; solar pump fenced
Epungue	?	2 boreholes situated next to one another (one hand-pump, one diesel pump); reservoir and trough.	?	?	?	Diesel and hand-pump unfenced, very close to reservoir and cattle trough, but not directly linked to trough
Eombo WPA (Okakuara/ Orukune)	April 2010	Handpump on hand-dug well; repair done by NRCS in October 2010.	Elected April 2010 (NRCS) Total: 7 members.	Caretaker training NRCS: June 2010	?	Handpump and open spring pool unfenced, livestock have direct access
Erova	April 2010	Handpump on protected spring; installations by NRCS in November 2010; Needs assessment for spring extension with piped system conducted in November 2010, but not built yet.	Elected April 2010 (NRCS). Total: 7 members; male: 5; female: 2	Caretaker training NRCS: June 2010	not done yet, people waiting	Handpump and open spring pool unfenced, livestock have direct access

Everero WPA (Okaaru/ Omasara-tundu)	2009 according to DWSSC; March 2008 according to NRCS table	2 boreholes situated next to one another (one hand-pump, one diesel pump). Reservoir near diesel pump.	Elected 2009 (DWSSC) Total at establishment: 5 members; at date of interview: 10; male: 6, female: 4	Caretaker training NRCS: March 2009	Diesel pump handed over 2008 or 2009 together with Omao Handpump; ceremony took place at Omao	Handpump unfenced near a river bed, cattle trough directly connected to pump
Kaoko Otavi	No WPA yet according to informant, whereas according to NRCS files it was established in March 2008.	1 unprotected spring, 2 functioning hand-pumps on boreholes, 1 defunct hand-pump on protected spring; NRCS repaired hand-pump on hand-dug well in August 2008 and assessed possibility of extension with piped system to the spring in November 2010. Community decision on whether and how to build it was pending.	According to NRCS file elected in May 2008; Total: 7 members; male: 2; female: 5	?	No	Handpump unfenced
Omao	Unclear for hand pump; April 2010 for diesel pump	Handpump on borehole; Diesel pump on second borehole.	April 2010 (DWSSC); Total: 10 members; male: 7; female: 3.	?	Done 2008 or 2009 together w. Omasara-tundu diesel pump	Handpump unfenced
Ombaka	July 2003	Handpump on borehole; diesel pump on second borehole.	Elected July 2003. Total: 11 members; male: 8; female: 3	?	?	Handpump unfenced
Ombombo	February 2010	Protected spring and piped system to almost all households + diesel pump + Government diesel pump at the local school. Spring protected by NRCS: June 2010.	Elected June 2010 (NRCS). Total: 8 members; male: 5; female: 3.	?	?, no copy of certificate seen	Pipes connecting spring pool with reservoir and cattle trough unfenced; some pipes in the ground are hardly covered with soil

Omuangete	July 2008	Handpump on borehole. Tank and self-built wooden fence.	Elected July 2008 (NRCS). Total: 8 members; male: 5; female: 3.	Caretaker training NRCS: August 2009	done on 29.01.2009	Pump partly protected by self-made wooden fence; dam placed on an iron stand (well protected)
Omuhiva	May 2010	Protected spring and piped system leading downhill to a tap on the school premises. Spring extension done by NRCS in June 2010	Elected May 2010 (NRCS). Total: 8 members;male: 5; female: 3.	?	not done yet, no documents in place	Tap unfenced
Omungareva	August 2008	Handpump on hand-dug well, self-built wooden trough. Repairs to hand-pump by NRCS in March 2010	Elected Aug. 2008 (NRCS). Total: 8 members; male: 6; female: 2.	Caretaker training NRCS: May 2008	done on 29.01.2009	Handpump unfenced, on a river bed where livestock come to drink; very bad hygiene conditions
Ongango	2009, date unclear	Handpump on protected spring. Repairs to hand-pump by NRCS in September 2009.	Elected in 2009 (NRCS). Total: 15 members, with several additional ones; 5 of them women; the headman himself is also a member.	Caretaker training NRCS: October 2009	not done yet, people waiting	Spring pool fenced, hand-pump itself unfenced

Orue	2010, month unclear (DWSSC files); November 2008 (NRCS files)	Handpump on hand-dug well, repaired by NRCS in October 2009.	Elected in 2008 (NRCS). Originally 8 members (NRCS files, male: 4; female: 4), out of which by the time of interview 5 had permanently left. Out of the 3, the caretaker is a woman.	Caretaker training NRCS: September 2010	?	Handpump unfenced
Oruvandjai West	April 2010	Protected spring and piped system; protection done by NRCS with HIPO in November 2009.	Elected May 2010 (NRCS). Total: 8 members; male: 5; female: 3.	Caretaker training NRCS: May 2010	?	Spring pool fenced, water reservoir and taps unfenced; saw a person drinking with his mouth touching the tap outlet.
Otjikojo	June 2010 (NRCS)	Handpump on hand-dug well from 2005, repaired by NRCS in September 2009.	Elected in 2010 (NRCS). Originally 8 members, out of which by the time of interview 2 had permanently left.	Caretaker training NRCS: November 2010	?	Two hand-dug wells next to small river bed, only one of which is fenced, hand-pump unfenced with trough connected directly to the pump.
Otjiuetjo-vakaendu	March 2008 (NRCS)	Handpump on spring from 2000; broken. Repaired last by NRCS in August 2008 and April 2010.	Elected in March 2008 (NRCS). Details on members unavailable.	Caretaker training NRCS: October 2009	?	Handpump directly connected to cattle trough, water running freely from the spring; unfenced and livestock having direct access.

Otjomatemba	January 2001; Constitution of May 2002. (A second mgmt. plan exists for the diesel pump from July 2007.)	Diesel pump and hand-pump on hand-dug well. Handpump repaired by NRCS in October 2010.	Elected January 2001. Total: 8 members; male: 6; female: 3.	Caretaker training NRCS: November 2010	done on 29.07.2002	?
Ouongeama	October 2009	Handpump on hand-dug well (NRCS) from 2006; self-made wooden trough. Repairs recorded by NRCS: August 2008; September 2009.	Elected September 2009; At the time of field work only 4 members are in place.	Caretaker trainings NRCS: September and October 2010	?	Handpump and trough - directly connected - unfenced, caretaker complaining about children, small stock and lack of hygiene.

Curriculum Vitae

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Home address	Sinziger Str. 11, 50968 Cologne, Germany
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Education

Humboldt University Berlin, Centre for Advanced Training in Rural Development (SLE) – 01/2003 to 12/2003

- Management of development interventions: methods and instruments, monitoring and evaluation, teamwork and team management, moderation and presentation techniques
- Economic principles of international cooperation, project appraisal, rural regional development and decentralisation
- Organisational development
- Crisis prevention and conflict transformation

University of Cologne, Master's in Social Anthropology – 10/1994 to 01/2001

Focus: Development anthropology, resource management, land rights and land conflicts, economic anthropology, methods of empirical social science research.

MA Thesis 2001: 'Transformationen kommunalen Ressourcenmanagements im Tsumkwe Distrikt (Nordost-Namibia)' – English: 'Transformations of Communal Resource Management in Tsumkwe District (Northeastern Namibia)'

Subsidiary subjects: African studies and sociology

Professional Experience

Since 04/ 2014 DVV International, Bonn	Senior Desk Officer with regional responsibility and Senior Manager Monitoring and Evaluation.
04/ 2010 – 03/ 2014 University of Cologne	Research Associate and Lecturer at the Institute of Social Anthropology and PhD Researcher in the DFG-funded project 'Local Institutions in Globalized Societies' (LINGS), with fieldwork on water sector reforms and community-based water management in Namibia.
Between 07/ 1999 and 06/ 2013, intermittent, various organizations	Various consulting assignments in international development cooperation, in the fields of monitoring and evaluation and project advisory services.
02/ 2005 – 12/ 2007 UN Country Team, Tajikistan	Head of UN Coordination Unit.
05/ 2004 – 12/ 2004 UNDP, Tajikistan	Information Platform Manager.

04/2001 to 09/2002 University of Cologne	Research Associate and Lecturer at the Institute of Social Anthropology.
01/1998 to 09/1998 Working Group of Indigenous Minorities in Southern Africa (WIMSA) and the Centre for Applied Social Sciences (CASS), Namibia –	Field Worker: establishment of a community based natural resource and tourism management project.

Scholarships

DAAD-scholarship to conduct field research for the Masters Thesis – July to October 1999.

DAAD-scholarship for an intensive Bambara language course in Mali – August to October 1996.

Research Interests

Governance and management of natural resources, political ecology, development anthropology,

Southern Africa, Central Asia.

Language Skills

Native language: German

Other languages: English, Russian, Afrikaans (excellent), French (advanced), Spanish, Tajik (basic)

Publications

2016: "Recordando para el futuro: reflexiones sobre la Primera Guerra Mundial desde la educación de personas adultas en Europa", *Decisio. Saberes para la Acción en Educación de Adultos*, núm. 43 (in print).

2015: 'Remembering the Past to Live the Present and Shape the Future. The Contribution of European Adult Education'. *International Perspectives in Adult Education (72)*. Edited volume, co-edited by: Emir Avdagic.

2014 'Remembering for the Future. Erwachsenenbildungskonferenz und Preisverleihung in Sarajevo'. *Diskurs (4/2014):40*. Bonn: DVV International.

2004: 'Transformationen kommunalen Ressourcenmanagements im Tsumkwe Distrikt (Nordost-Namibia)'. *Kölner Ethnologische Beiträge (14)*.

2003: 'Development of a Peace and Conflict Impact Assessment for Communities in the South Caucasus'. SLE, Berlin, co-authored by: Kirsten Lautenschläger, Matthias Lichtenberger, Daniela Schwarz, Shirley Wouters.

2003: 'San and the State. Contesting Land, Development, Identity and Representation'. Köln: Köppe (edited volume).