



A systematic analysis of legal disputes on road development in Kenya

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Accepted: 28 February 2025
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Abstract Expansion and improvement of road infrastructure in Sub-Saharan Africa are considered an essential component of economic and social development. However, infrastructural projects often lead to unintended consequences like conflicts and even lawsuits among stakeholders involving economic, social, environmental and land aspects. In this paper, we systematically examine the circumstances and characteristics of lawsuits related to road development in Kenya. Using the Sys-

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tematic Quantitative Content Analysis, we analyse 125 court cases to determine the parties involved in lawsuits, the geographic distribution of the projects causing conflicts, reasons for filing lawsuits, and the basis for defence and judgement decisions. The results indicate that 59% of the cases involved private individuals seeking redress for violation of their rights. The claimed rights are predominantly on compulsory land acquisitions and the associated rights such as access to information, participation, and compensation. Government institutions were the main defendants and were sued in all but one case, either alone (57%) or together with a private company and private individuals (42%). We found that the judgement decision outcomes were evenly balanced between the plaintiffs and defendants. Several lawsuits filed in court are closely linked to mega-infrastructure projects in the southern part of Kenya. We show that roads cause many conflicts around land and property rights, but environmental concerns, despite the substantial impact of roads on ecosystems, are rarely considered as an argument.

Keywords Roads · Infrastructural development · Systematic Quantitative Content Analysis · Kenya

1 Introduction

Road infrastructure has been expanding rapidly in most countries in Sub-Saharan Africa (Enns 2019). Since the adoption of its ambitious development policy, called Vision 2030 launched in 2008, Kenya has established one of the highest numbers of mega-infrastructure projects (Deloitte 2016) including transport corridors in East Africa. These projects are intended to link infrastructure development, mining, and agriculture for export through a network of roads, railways, ports, waterways, and telecommunications (Chome et al. 2020; Mkutu et al. 2021). For instance, the Lamu Port–South Sudan–Ethiopia–Transport (LAPSSET) Corridor was set up in 2012 with the intention to develop a modern transport network in the North and coastal regions of Kenya. LAPSSET encompasses a new port in Lamu, a standard gauge railway, oil pipelines, and mega-highways. Other transport corridor projects include but are not limited to the Trans-Africa Highway, the Northern Corridor, and the Nairobi-Thika Superhighway.

Road development is often envisioned as a precursor to industrialization, spurring economic growth, and poverty reduction, especially in rural areas by facilitating the movement of people and goods (Enns 2019). In most cases, these visions of development focus on potential socio-economic benefits brought about by roads, while unintended consequences and negative impacts, in particular on the environment, are given little attention (Greiner et al. 2021; Müller-Mahn et al. 2021; Vilela et al. 2020). Roads can also cause pollution, land grabs, and displacement of people in urban areas (Demirel et al. 2008; Mkutu 2021). Additionally, roads in rural areas are associated with rising land prices, impaired access to land for disadvantaged groups and high risks of social, economic and ecological damage and increasing disparities (Alamgir et al. 2017; de Grassi 2009).

These dynamics often result in conflicts between stakeholders over land, economic concerns, and environmental values (Bogojević and Zou 2021). These conflicts include illegal or irregular land acquisition, exclusion from participation in key processes, inadequate, or lack of compensation for land and property, inflated project costs, abuse, or infringement of human rights, damage or potential damage to the environment and national heritage sites, and non-compliant and opaque tendering and contracting processes (DCP Kenya 2019). The conflicts may be resolved through Alternative Dispute Resolutions (ADRs) or through the courts. ADRs are formal and informal dispute resolution methods outside the formal judicial system, often managed by government agencies under various laws, e.g. cultural tribunals (Chianda 2023; Desai et al. 2022). Alternatively, impacted parties can also take legal actions against alleged unlawful road infrastructure projects through formal courts to ensure their rights and interests (Oloka-Onyango 2015).

While traditional legal research frequently focuses on interpretative readings, commenting on applicable national and international legislation and case law (Langbroek et al. 2017), a systematic approach to material selection and the methods used is often absent in many legal analyses and publications (Salehijam 2018). Empirical legal research has been increasingly discussed and adopted by legal research scholars (Epstein and Martin 2014; Hall and Wright 2008), giving rise to the use of Systematic Content Analysis (SCA). SCA complements traditional legal research, allowing for systematic and reproducible analysis of texts, and the identification of patterns, concepts, and interactions (Salehijam 2018).

In this study, we explore if and how effectively legal litigations are used to enforce land and environmental rights connected to road infrastructure development projects in Kenya. To this end, we analyse the legal decisions emanating from road development conflicts in Kenya focusing on the following research questions: (i) Who are the parties (plaintiffs and defendants), and what are the reasons for filing a case? (ii) What are the response strategies and arguments of the defence, and (iii) What is the basis of judgement decisions? Additionally, we provide a geographic analysis of the distribution of legal conflicts related to road infrastructure expansion in Kenya. These research questions are important to understand the origin, process, and outcome of legal cases and the potential of legal litigation to enforce land use rights and to address environmental concerns.

2 Empirical and conceptual background

2.1 Road development in Kenya

Road transport is the predominant mode in African countries, conveying 80% of goods and 90% of passengers. But there is still a major infrastructure deficit across the continent. In addition, more than half of the road network is unpaved and a significant percentage of the population has limited access to road, especially in rural areas (African Development Bank 2014). Kenya has 177,500 kilometres (km) of road network administered by various county and national government departments (PwC Kenya 2025). A significant portion of this network (76%), is in fair or poor condi-

tions and often requires maintenance to remain usable (Kenya Roads Board 2024). The Government of Kenya has responded by increasing efforts in road projects aimed at enhancing quality and connectivity (Enns 2019). Following Kenya's independence, road projects were funded through allocations from the country's own budget. However, limited resources and demand for integrated modern infrastructure led the Kenyan government to adopt new funding models such as Private-Public Partnerships (PPPs), and international loans or grants from institutions like the World Bank, the African Development Bank and bilateral collaborations, particularly for mega-projects and transport corridors (Wasike 2001).

As the government expands the road infrastructure, its implementation is influenced by a complex interplay of multifaceted factors, including land acquisition, impact assessment and mitigation, stakeholder management, and political and financial interests (Biber-Freudenberger et al. 2025). To address these challenges, the government has introduced various strategies through funds mobilization, legislation, policy reforms, and the restructuring of road management institutions. These initiatives aim to promote good governance and foster inclusive stakeholder engagement throughout the road development lifecycle, ensuring road projects are ecologically and economically sustainable, while addressing community needs (Kenya Roads Board 2024; Wasike 2001). Despite these reforms and management systems, challenges remain, such as the uneven geographic distribution of road projects, unclear strategies for evaluating and communicating their impacts, limited public participation, unmet expectations, unfulfilled promises, and shifts in socio-ecological dynamics, which contribute to conflicts (Biber-Freudenberger et al. 2025).

2.2 Legal framework

The legal framework for road development in Kenya is derived from various legal sources, heavily influenced by the National Land Policy of 2009 (K'Akumu and Olima 2018). The 2010 Constitution dedicates an entire chapter (Articles 60–68) to land (Kariuki and Ouma 2021), stating that “land shall be held, used, and managed in a manner that is equitable, efficient, productive, and sustainable” (Government of Kenya 2010). Additionally, Article 40 of the Constitution protects land as a form of property, granting every individual the right to acquire and own property in any part of Kenya. Article 40 (3) of the Constitution serves as the supreme law, empowering the state to compulsorily acquire land for public purposes or in the public interest, provided that just compensation is promptly paid in full (Government of Kenya 2010). Furthermore, the Constitution incorporates general rights critical to the judicial enforcement process, including the right to fair administrative action under Article 47 (Government of Kenya 2010).

Various parliamentary land laws offer the enabling legislation necessary to implement constitutional principles and procedures (Boone et al. 2019). Part 8 of the Land Act 2012 provides the main legal framework for compulsory land acquisitions (Mbila and Shikoli 2020). In response to litigation concerning the Standard Gauge Railway project, the Land Value (Amendment) Act No. 15 of 2019 revised the land laws, introducing a definition of “just compensation” (K'Akumu and Olima 2018).

In terms of environmental legislation, the 2010 Constitution guarantees the right to a clean and healthy environment under Article 42. Additionally, the Environmental Management and Coordination Act (EMCA) serves as the overarching environmental legislation (Birgen et al. 2022), mandating that an Environmental Impact Assessment (EIA) study and report be conducted prior to project authorization (Sections 58 and 59 EMCA).

3 Research methods

3.1 Data collection

Court decisions, or judicial opinions, are a valuable source for systematic studies, notably in common law cases where judicial opinions stand at the centre of the legal system and are basically law. Therefore, we collected legal cases of road expansions and new road infrastructure in Kenya from the Kenya Law database ([url](#)), which contains cases since 1924. The search was done between October and November 2022. Subsequently, we subjected the extracted cases (ranging from 2005 to 2022) to a Systematic Content Analysis. We identified the circumstances which lead to legal conflicts, and determined the characteristics of the different outcomes and decisions. In addition, we analysed and visualised the geographical location of the legal cases.

The data collection was divided into two components, namely the sampling frame and the sampling method. The sampling frame is the theoretical universe of all relevant cases. It should be noted that not all disputes or grievances result in legal claims in court. Some disputes are either unfiled in any dispute resolution mechanism or are filed but settled outside the law courts (Hall and Wright 2008), such as through ADR (Desai et al. 2022). Unlike the judicial system database (the Kenya Law database), disputes that are resolved through ADR mechanisms are not archived in searchable and retrievable databases. Moreover, most cases filed in ADR institutions are held in analogue formats that are not easily accessible to the public. They are therefore tedious to track, especially at the national level. As a consequence, this study was limited to cases stored in the Kenya Law database. Nevertheless, the analytical value of the more than one hundred decided cases outweighs the limitations.

Another constraint relates to the Kenya Law database itself because it does not include all decided court cases on the subject, even though it contains a massive number of cases and is growing steadily. Moreover, some decisions might not have been published in the database, and in some cases, only a ruling was published, but not the final decision, despite its existence—as evidenced by mentions of the same in literature or newspapers.

As emphasised by Hall and Wright (2008), case data must be identified and collected based on the premise of replicability. Moreover, it must be decided which judicial opinions or cases can answer the research question, and any selection criteria must be clearly articulated. In this regard, legal researchers tend to create a sampling frame that limits the scope of research to a specific topic, geographic context, or predefined time frame (Salehijam 2018). In our case, we constrained our subject to

the construction of roads in Kenya and limited our data to that sourced from the Kenya Law database for the period between 2005 and 2022, and used a combination of search and filter functions to select the relevant cases (Hall and Wright 2008). Additionally, we followed the PRISMA 2020 guidelines for conducting and reporting systematic literature reviews to ensure transparency, reproducibility, and quality (Page et al. 2021).

In this study, we treated all court cases equally, regardless of the level of the court the case emanated from or whether it was an appeal, a petition, or other. We conducted a systematic law case search of the entire database (all cases since 1924) using a selection of governmental authorities involved in road construction in Kenya as ‘Parties’ including the Kenya National Highways Authority (KENHA), Kenya Urban Road Authority (KURA), Kenya Rural Roads Authority (KERRA), National Environmental Authority (NEMA), National Land Commission (NLC), and the Ministry of Transport and Infrastructure. Additionally, we searched for LAPSSSET in the advanced search for ‘Case Content’ to filter for large-scale infrastructure projects specifically.

These searches resulted in 691 cases (Supplementary Fig. S1). We filtered duplicates (125 cases) and excluded irrelevant cases which were unrelated to our research questions (435 cases). Furthermore, we excluded 6 cases where both rulings and judgments were available, keeping only the final judgments. This final judgement refers to a court final decision that is no longer subject to change, except through legal remedies like appeal or revision in a higher instance. The final corpus consisted of 125 cases, all originating from the area of public law (Supplementary Table S1). All decisions were downloaded from the Kenya Law database as PDF files and imported into MAXQDA software, which supports content analysis (Rädiker and Kuckartz 2019). Subsequently, a table with characteristics of cases (variables) was exported and amended manually with variables like the type of plaintiff (private person, company, NGO, government authority), gender of the plaintiff (male, female, no gender), type of defendant (government authority, company), city of the court, name of the road and land parcel number (if available in the court decision). The new Excel table was re-imported to MAXQDA for further analysis.

The coding of the cases followed a four-step procedure (i) creation of a set of initial coding categories, (ii) preparation of a codebook including a coding sheet and coding instructions, (iii) addition, deletion, or revision of coding categories and coding instructions based on pilot experience, and finally (iv) analysis of the material (Hall and Wright 2008).

3.2 Development of the coding system

A coding system consisting of factual categories was developed under both a deductive and inductive process, as described by Reisner (2023, p. 47ff). The initial broader code categories of court and decision type, cause for the lawsuit, argument of defence, and basis of decisions were created deductively (Hall and Wright 2008; Wahi et al. 2017). This concept-based approach was built on the general court case procedure and relied on in the literature and legal framework review. The full coding system with the sub-categories was then developed through an inductive, data-driven

process following Rädiker and Kuckartz (2019, p. 102ff). Each case was read, existing codes assigned, and new codes or refined codes developed to further investigate the research questions.

The use of MAXQDA facilitated the development of a hierarchical code system with multiple sub-categories (Supplementary Tables S1–S5). For example, if a plaintiff claimed that he was not properly informed of compulsory land acquisition for road expansion, the section was coded under the main category of lawsuit ‘cause’, the sub-category ‘land and property’, and under an additional sub-category of ‘no information/public participation’.

To make the cases comparable, each code was counted only once per case, which is the unit of analysis. Following Reisner (2023, p. 47ff), we first selected a sample of codes (deductive and inductive), created counting rules, and then developed a numerical description of the data by counting the frequencies of codes.

3.3 Data analysis

Once the documents were coded, we exported the binarized Code Matrix, which shows whether a code was assigned in a particular document, to an Excel file. Descriptive statistics and the interrelationships among different variables were calculated using the programming language R (R Core Team 2024).

Our quantitative content analysis was dedicated to the central structures of the data, and it sought to recognise, measure and quantify patterns rather than analyse individual cases. As a result, this article provides an overview of the field of research without delving into detailed case analyses. This approach limits the explainability of the quantified patterns.

To identify road locations, we used information from court cases, including land parcel numbers, road names, and nearby city or village names. Additional information, such as company names and court locations, were also utilized. As geographic coordinates were unavailable, we focused on road names, city or sub-county names, and company details, and verified these using Google Maps and Open Street Maps. Duplicate road names were resolved (where possible) while roads that could not be identified were excluded. Out of 125 cases, 120 had road names that reduced to 72 unique roads. Of these, 35 were included in the analysis, while 37 were excluded due to non-identification or lack of assured allocation.

We used QGIS (QGIS Development Team 2023) to locate and display the road names on a map derived from Open Street Maps (OSM) of Kenya. Additionally, we intersected the mapped roads with a layer from Thorn et al. (2022), which included road data from all development corridor projects in Kenya. As this study was limited to legal cases related to roads, we excluded other transportation infrastructure developments such as railways, airports, and ports.

We used ChatGPT 3.5 and 4o (OpenAI 2023a, b) to edit our draft paper for grammar and language clarity because none of the authors of this paper is a native English speaker.

4 Results

4.1 Parties of the lawsuits

We found that most lawsuits were filed by private individuals, either by themselves (68 cases) or in collaboration with a company (6 cases), followed by companies (41 cases). Governmental institutions filed a lawsuit in 7 cases only. Overall, government authorities were the main defendants in 71 cases, followed by 52 cases in which a government authority was sued together with a private company, mostly the construction company.

Most lawsuits by private individuals were filed by men (30 cases) or mixed groups of men and women (35 cases). In 21 cases, the mixed groups were anonymous (e.g. filed by private individuals on behalf of a community) and we assigned them both genders. Only 3 lawsuits were brought up by women alone, highlighting a considerable gap between men and women claiming rights before a court (Fig. 1). One possible reason for this gender gap is that women and men have unequal access to land and other resources in Kenya. According to a policy brief by Kenya Land Alliance and FIDA (2021), only 1% of land titles are registered solely in women's names, while 5–6% are registered jointly with men. An analysis of gender inequalities in land rights in Kenya and the exact reasons for low female litigation is beyond the scope of this study. However, Santpoort et al. (2021) indicated that women are often unaware of their property rights.

4.2 Legal grounds for filing lawsuits

The substantive legal grounds, or reasons for filing lawsuits, were divided into five categories (Table 1). Because the plaintiffs could raise multiple legal claims in one lawsuit, the number of analysed cases and the number of different categories of legal grounds differ. For sub-codes in each category, the reader is referred to Supplementary Table S2. Below, we explore further the five categories for filing lawsuits.

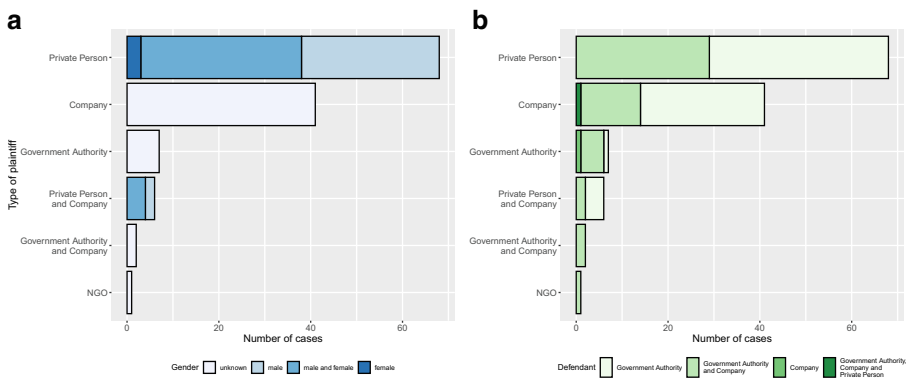


Fig. 1 Type of plaintiff (a) by gender and (b) by type of defendant faced in the 125 analysed road-related lawsuits filed in Kenya

Table 1 Distribution of cases for 'Legal grounds' and 'Defence arguments'

Category	Number of Cases	
	Legal grounds	Defence arguments
Procedure	27	53
Land and property	113	66
Environment	12	9
Construction	9	–
Road and infrastructure	–	48
General aspects	12	40

Note that the 'Road and Infrastructure' category was not identified under 'Legal grounds,' nor was 'Construction' under 'Defence arguments'

Procedure The claims concerning procedure included violation of plaintiff's rights to fair administrative actions (Article 47 of the Constitution of Kenya) (Government of Kenya 2010). For example, in the ELC (Environmental and Law Court) Civil Suit 976 of 2012 p. 3, the plaintiffs claimed that their rights to information were violated before acquisition because they were not notified that their plots allegedly fell wholly or partly within the boundaries of the link road connecting the Northern Bypass to Limuru Road. Also in Petition 1303 of 2016, the defendants were accused of not considering the objections raised by the petitioners on the project.

Land and property Land and property-related claims concerned 90% (113 of 125) of total analysed cases. Sixty-seven percent (84 of 125) of plaintiffs claimed an ownership-related dispute and presented their Land Reference Number to the court to prove ownership. In most cases, the plaintiffs sought for apt compensation for the acquired land and property, and adequate inclusion in the acquisition process.

Environment Only 12 cases claimed that environmental regulations were violated. Specifically, those included the failure to conduct Environmental Impact Assessments (EIA), and a violation of the right to a clean and healthy environment under Article 42 of the Constitution. While seven cases argued that an EIA was not conducted, in only one case an EIA report was criticised by the plaintiffs as deficient. For instance, in Constitutional Petition 1 of 2012, three petitioners filed on behalf of a village claiming that the methods used to build the Eldoret–Malaba Highway (such as drilling, and blasting big rocks) violated their rights to a clean and healthy environment. Thus, this was not the direct impact of the road, but of its construction violating environmental regulations. Public participation was argued to not only apply to land acquisitions, but also to the EIAs. Four cases claimed lack of involvement in the EIA process.

Construction and general aspects This category included disputes on construction contracts, procurement, and tenders. We found 9 cases, mostly related to breaches of contract. The general aspects (12 cases) were the unassignable arguments in any of the above enlisted categories. Only 3 cases were explicitly concerned with mega-infrastructure projects, such as LAPSET or the Northern Corridor. In

Petition 22 of 2012, for example, the petitioners were residents of Lamu County who generally opposed the LAPSSET project on grounds like damage to the environment, no public information and participation, and violation of cultural rights. However, this lawsuit was not only based on the construction of roads alone, but was in the context of the construction of a port, several railways, oil pipelines, and all other aspects of the transport corridor. Similarly, Petition 16 of 2017 questioned the overall LAPSSET project and the accompanying land expropriations. Therefore, no road was extracted from these decisions for geographic analysis.

4.3 Arguments of the defence

In addition to the plaintiffs' grounds for filing suit, we collected information on the defendants' counterarguments, which also fell under five categories (Table 1). However, defendants did not necessarily employ the same arguments as the plaintiffs. Rather, as shown in Fig. 2, they based their arguments on categories of 'Procedure', 'Land and property' and 'Environment'. For example, while in 27 cases the plaintiffs based their cases on procedure, this was mirrored in only 15 cases by the defence. Overall, the legal grounds based on land and property were the majority with 113 cases, even though this category, was used in only 66 cases by the defence. The environment category was hardly used by either party. Thus, there is no strict symmetry in arguments between plaintiffs and defendants, and the absence of such symmetry is unrelated to the plaintiff's success in court (indicated by a 'positive decision' in Fig. 2).

Similar to the situation with plaintiffs, defendants could also use various arguments in one lawsuit. Therefore, the number of analysed cases does not necessarily equal the sum of the code totals (Supplementary Table S3).

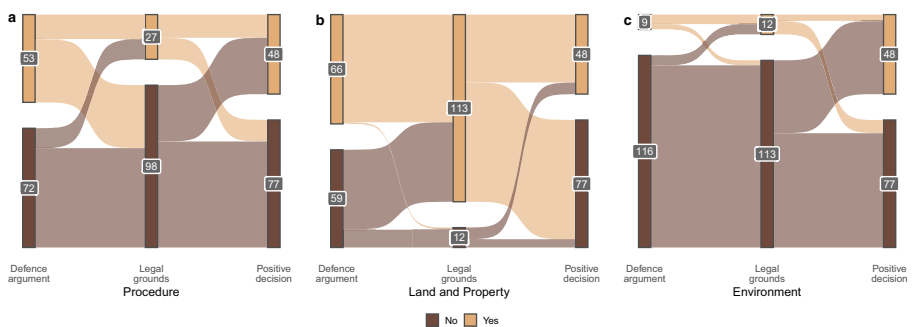


Fig. 2 Flowchart of arguments for different categories: (a) Procedure, (b) Land and Property and (c) Environment. The argument of the plaintiff is not necessarily reflected by the defendant. For the categories, 'No' indicates that the argument was not used and 'Yes' that it was used by the plaintiff or the defendant. For the decision, 'Yes' indicates a positive decision for the plaintiff and 'No' a negative, partial or no decision. (Note that the three categories 'Procedure', 'Land and property' and 'Environment' were common to both positive and negative decisions for the plaintiff (c.f. below). Therefore, we restrict the figure to these categories.)

Procedure For this issue, the defence argued that the plaintiffs were abusing the law and/or the court process by filing the lawsuit (20 cases) and, therefore, attempting to use the judicial process to achieve a result that is unlawful or outside the judicial process. In 15 cases, defendants alleged that the court lacked jurisdiction on the respective legal issue. For example, in Judicial Review 366 of 2016, the defence argued that only the Environment and Land Court (ELC) had jurisdiction to hear and determine disputes relating to the compulsory acquisition of land and any resultant compensation, not the High Court. In the end, the case was, therefore, dismissed.

Land and property Consistent with the plaintiff's arguments, an often-used counterclaim by the defendant was that the plaintiff is not the legal owner of the property. Out of the 23 cases in which this argument was used by the defendant, 22 cases contained the respective counterclaim by the plaintiff. In the remaining 62 cases, in which the plaintiff had asserted such a property right, the defendant did not argue to the contrary.

Most counterarguments centred around the land acquisition process. In 18 cases, the defendant claimed to have obeyed the laws pertaining to lawful compulsory land acquisition. This is supplemented by 32 cases where the defence argued that public information and participation possibilities were offered by the relevant government authorities during the acquisition process. Furthermore, in 18 cases, the defendants argued that the respective authority already paid enough compensation to the plaintiff during the land acquisition process or will pay it in the near future. In Petition 409 of 2012, the defendant even accused the plaintiff of being responsible for the delayed compensation, as he/she had contested the value of the property. In Judicial Review 366 of 2016, the defendants vindicated themselves by contending that they had forwarded the award payment to the NLC and, as such, compensated the plaintiff properly.

Road and infrastructure For this category, we collected additional arguments in favour of the construction of roads, with the prevalent defendant assertion being that the plaintiff's property was located on a road reserve in 37 cases. In some cases, such road reserve dated back many years. For example, in Environment and Land Suit 911 of 2013, which centred on the construction of the Nairobi Southern Bypass, the defendant noted that the road reserve was set aside in 1975 to accommodate future growth in Nairobi's traffic. Moreover, in 14 instances, the defendants argued that compulsory land acquisition was justified by the need to provide roads and infrastructure systems for Kenyan citizens.

Environment In 9 cases, the defendants relied on environmental aspects in their argumentation, namely that an EIA study was conducted and/or the respective report prepared. In the Environment and Land Petition 228 of 2016 p. 2, the defendants declared that "contrary to the petitioner's claim that the respondents have not undertaken an environmental impact assessment study on the project, the study had been done and the residents of Muthurwa were involved in the process. He has stated that there were a number of public awareness meetings at which the area residents were informed of the nature of the project, the project timelines, likely positive and

adverse effects of the project and mitigating factors that were to be employed to address the adverse impacts of the project.”

General aspects Within the general claims of the defendants, the argument of operating in the public interest or benefit stands out with 34 cases. They state that public interest in the respective road projects overrides and outweighs the plaintiff’s private, sometimes economic, rights. The public interest is argued differently, often mainly as a benefit to the greater and wider public, as a public interest in development (Environment and Land Petition 6 of 2021), to spur and promote economic development (Petition 62 of 2018), or as “the interests of the nation and posterity pursuant to Article 10 (2) (d) which aims at ensuring sustainable development while preserving the environment both for the present and future generations to come” (Environment and Land Civil Suit 976 of 2012 p. 7). Two other lines of argument relate to economic and financial reasons, including a monetary loss in 8 cases and a negative effect on taxpayers in 6 cases if a court decision halts the road construction.

4.4 Basis of court decisions

Judgements were made based on the parties’ arguments and evidence provided. We categorized the decisions as positive or negative for the plaintiff and identified the underlying arguments (Table 2). Additionally, we found 11 cases with partial decisions, where the plaintiff was not awarded more than half of his asserted claims. However, they were not completely defeated but received part of their claims. No substantive decision was made in 5 other cases. Four (4) of these cases were referred to a higher court, one case was settled during the proceedings. Additionally, in two cases, the plaintiffs had to amend their action.

Our analysis showed a relatively balanced outcome for both private individuals and companies as the main plaintiffs. Thirty-five percent (35%) of cases filed by private individuals alone ended positively, while 49% ended negatively. Similarly, companies won 46% and lost 44% of their cases (Fig. 3).

Note that a case may have more than one decision base (c.f. Supplementary Table S4 and Supplementary Table S5 for sub-categories) since court decisions often address multiple claims from the plaintiff, incorporating various factors. Therefore, isolating individual aspects for analysis does not imply that the decision rested solely on them. Nevertheless, determining the decisive factor considered by the court is beyond the scope of this study. While courts must justify decisions clearly, internal

Table 2 Distribution of decision categories for positive and negative decisions for the plaintiff

Category	Positive decision for plaintiff	Negative decision for plaintiff
Procedure	43	49
Land and property	33	37
Environment	4	5
General aspects	–	21
Total cases	48	61

Note that no ‘General aspects’ were detected in ‘Positive decisions for plaintiff’

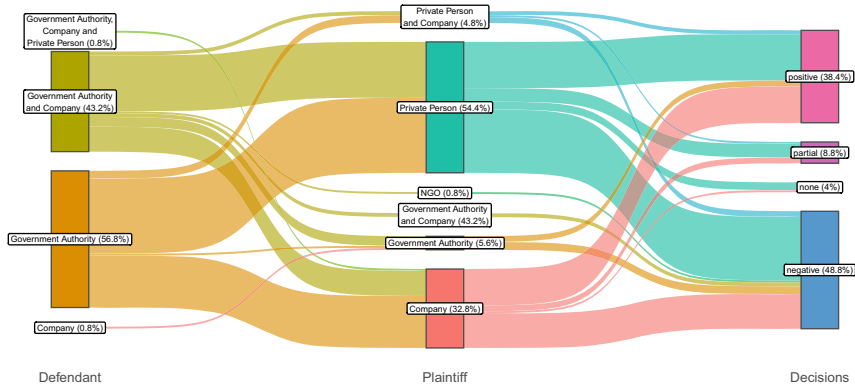


Fig. 3 Type of decision for different types of plaintiffs. The diagram should be read starting from the middle. Plaintiff to Defendant shows which type of plaintiff filed the lawsuit against which type of defendant, and Plaintiff to Decisions indicates whether the plaintiff won the case

considerations are not publicly accessible. Furthermore, the credibility of witness statements cannot be assessed without first-hand presence or all hearing proceedings and protocols.

4.4.1 Positive decisions for the plaintiff

Procedure In 18 cases, the courts found that the defendants failed to provide sufficient evidence, while in 14 cases, they acknowledged that the plaintiffs provided enough evidence. For example, evidence can be in the form of written documents, as was the case in Environment and Land Case Petition 4 of 2010, or oral statements by witnesses in Environment and Land Case 1 of 2020. Presenting evidence to support one's claims can be critical to successfully winning a lawsuit. Ultimately, litigation is not a matter of merely establishing the theoretical legal position, but also of proving the basic facts supporting it. For example, in Petition 13 of 2015 p. 8, the court confirmed that it “cannot quash Petitioner’s title where there is no evidence that the title is defective or illegal” and ultimately ruled in favour of the plaintiff.

Three important arguments in the context of procedure are essential about the admission of the lawsuit or, in the case of rulings, about the admission of the individual action. First, the courts ruled in 8 cases that it had jurisdiction over the respective lawsuit. This was preceded by the defendant’s challenge of the jurisdiction in 5 of these 8 cases. In Environment and Land Case Petition 30 of 2015 p. 5, for instance, the court decided that “the mere fact that the Petitioner invoked inappropriate jurisdiction does not render the petition defective or irregular. The only setback for the Petitioner is that the court would not be able to grant some of the reliefs sought in the petition, which cannot be granted in a petition of this nature.” Despite the lack of jurisdiction for one submitted claim, the case was not dismissed or referred to another court. The plaintiff could, however, not be awarded all the claims asserted because the court did not have the respective jurisdiction to do so.

Second, in 8 rulings the judges identified that the applicant had proved a *prima facie* case, which is the prerequisite to granting a preliminary or mandatory injunction. ‘*Prima facie*’ refers to evidence that is sufficient at first glance to establish a case, warranting further consideration or action. And third, in 7 cases the defendants were unable to meet the threshold for a preliminary objection against the plaintiff’s suit or motion, leading to the dismissal of the preliminary objection against the defendant and ultimately in favour of the plaintiff.

Land and property The court decided in favour of the plaintiff based on the lack or insufficient payment of compensation for land acquisition in 14 cases. Consequently, the court ordered, for instance, that the “Petitioner be and is hereby entitled to prompt, just and adequate compensation in full within the meaning and tenor of Article 40 (3) (b) (i) of the acquired portion only” (Environment and Land Case Petition 36 of 2021, p. 7) because no compensation was paid yet. Other decisions concerned the fact that the prior valuation was incorrect: “The 1st Respondent be and is hereby directed to conduct a fresh valuation in respect of LR Sigona/1271, bearing in mind the portion acquired and the just value of the suit property belonging to the Petitioner within 60 days from the date hereof” (Petition 13 of 2018, p. 6). Accordingly, the court addressed the calculation of the compensation amount.

In 12 cases, the court ruled in favour of the plaintiff because the defendants unlawfully acquired the land and property of the plaintiff. In Petition 13 of 2015 p. 8, the court declared: “If the Respondent desires to acquire all or part of the Petitioner’s property in question, it can only do so in accordance with the provisions of law as related to the compulsory acquisition of property.” It follows that the deprivation of property and privacy rights may only take place in compliance with the legal requirements. This is the only way to prevent arbitrary and unfair actions by the state. A violation of these provisions simultaneously constitutes a violation of constitutional rights in Article 40 of the Constitution as shown, for example, in Environment and Land Case Petition 36 of 2021.

In another 8 cases, it was additionally identified, that the entering of the plaintiff’s property by the defendant and subsequent trespassing and demolitions were done in breach of the legal requirements. In Petition 402 of 2013, the court argues that the state may only enter the property with the consent of the property owner or after completion of the compulsory land acquisition: “The State and or its entities have no right to enter a person’s property without the consent of the owner until the property is vested in the government.” The unlawful behaviour again may amount to a constitutional violation of the right to property under Article 40 of the Constitution, as was declared in Environment and Land Case 7 of 2018.

The courts formulated a positive decision in 11 cases because the defendant did not inform the property owner accurately or did not provide opportunities for public participation. For this purpose, the courts consulted the respective editions of the Kenya Gazette as evidence. This information gap may relate to the land acquisition directly, as was the case in Environment and Land Case 7 of 2018, p. 5, where “the Plaintiff herein was not served with any copy of a Gazette Notice on the impending acquisition for reasons that no such Gazette Notice had been published by the Commissioner of Lands on the said acquisition.” In Petition 402 of

2013, the property of the plaintiff was inspected and entered before an acquisition notice was gazetted, which violates Section 108 of the Land Act 2012 and also amounts to a constitutional violation of the right to property under the Article 40 of the Constitution. The unlawful withholding of information may, in addition, also pertain to the valuation of the property, as in Petition 13 of 2018 p. 5, where it was declared: “With regards to Article 35, it is not in doubt that the Petitioner had the right to access the information on how the Valuation of his property was done” and further: “The 1st Respondent had an obligation to provide the said information and having failed to do so, the Court finds and holds that the Petitioner’s rights under Article 35 were violated.”

Another two favourable decisions are derived from the plaintiff’s diligent adherence to Section 67 of the Kenya Roads Act on ensuring proper notification of the defendant regarding the intended suit. In three additional cases, the court decided that the plaintiff’s property was not situated within a road reserve. Nonetheless, it should be noted that plaintiffs asserted in 21 instances that this was indeed the case.

Environment In all four cases, the court found a violation of the right to a clean and healthy environment protected under the Article 42 of the Constitution or a violation of environmental principles. Such principles may refer to the polluter pays principle, which is explained in Petition 1 of 2012 p. 7: “In international law, the principle is embedded in the Rio Declaration on Environment and Development (1992) which reads at principle 16 as national authorities should endeavor to promote the internalization of environmental costs and the use of economic instruments taking into account the that the polluter should, in principle bear the costs of pollution with due regard to the public interests and without distorting international trade and investment. In this case, the 1st respondent is held liable as he is the polluter.” In Environment and Land Case Petition 228 of 2016 p. 6, the precautionary principle was applied: “I am of the view however that in the circumstances of this case, it would be appropriate to apply the precautionary principle. The principle is also referred to as ‘In dubio pro natura’ which means, if in doubt, favour nature. It provides that, in cases of doubt, matters should be resolved in a way most likely to favour the protection and conservation of the environment.”

In two cases, the basis for the positive decision is also rooted in the not fulfilled or inadequately fulfilled Environmental Impact Assessment (EIA), and the non-information and participation of the plaintiff during the EIA.

4.4.2 Negative decisions for the plaintiff

Procedure Like in the positive decisions, the most important decision basis for a negative decision in the procedure context was the non-existence of evidence in 28 cases, especially in judgments (21 cases). Thus, the provision of evidence was a critical factor in the dismissal of claims, especially in final decisions. This applies to all facts that could establish a right of the plaintiff. For example, in Petition 1 of 2012, the petitioner neither proved that he was the rightful owner of the property nor that the property was damaged by the defendant. In Environment and Land Case Petition 6 of 2020, the petitioners showed no evidence of how the constructed road

had degraded parcels of their land. In Petition 27 of 2016, the petitioners failed to prove how they requested information from the respondent and how the respondent refused to provide the same.

In 8 cases, the court justified its negative decision on its lack of jurisdiction for the respective suit or specific claim. For instance, in Petition 42 of 2015 before the High Court, the judges stated that the question of the correct valuation of a property is not a constitutional question, but should be raised before the Environment and Land Court (ELC). Lack of jurisdiction in this study also refers to cases where the right court was addressed, but the wrong kind of lawsuit was chosen. In Environment and Land Case Petition 9 of 2018 p. 5 before the ELC, the judge explained that the “petitioner’s recourse lay in the Land Act which is mandated to handle the kind of grievances the petitioner had against the respondents and not through a constitutional petition.”

Other negative decisions include 11 rulings which were decided negatively because the applicant could not fulfil the requirements of a *prima facie* case. In another four cases, an already existing decision prohibited the court from ruling again on the same issue. In addition, five other cases were already time-barred, meaning that the plaintiff did not file his action within the stipulated period. From a process-economic perspective, it is also interesting to note that in two cases, legitimate claims could not be awarded because they were not explicitly mentioned in the complaint. In this respect, the courts are bound by the applications, which is the responsibility of the parties or their lawyers.

Land and property In the cases we analysed, negative decisions bases in the context of land and property are very diverse, with, on one hand, decisions being based on the fact that the plaintiffs established an unlawful situation. Specifically, in 11 cases, the court found the plaintiff not to be the rightful owner of the property. In seven other cases, the defendant proved that the plaintiff had illegally encroached on a road reserve. While in one other case, the plaintiff did not notify the defendant of the intended suit, which contravenes Section 67 of the Kenya Roads Act.

On the other hand, many decisions were based on the defendants’ adherence to the laws. In 12 cases the said compulsory land acquisition was lawful. For example, Environment and Land Case Petition 14 of 2017 p. 5, the judge did not “find the actions of the Respondents to compulsorily acquire the suit land to be unconstitutional and oppressive nor calculated to benefit them”. The courts decided in 10 other cases that information and public participation were provided to the affected people in accordance with the law. In Petition 58 of 2019 p. 6, for example, the judge found that “there was compliance with Sections 107 and 112 of the Land Act, that is, there was gazetted the notice of intention to acquire, and a date for hearing for inquiry into the compensation payable, for all the properties”. In six other cases, the court found the defendant’s processes to be fair administrative action, that did not violate Article 47 of the Constitution. Demolitions by the defendant were found to be lawful in two cases. For example, in Environment and Land Case 73 of 2020, the plaintiff had illegally encroached on a road reserve. Therefore, demolition of structures on the road reserve was allowed by Section 91 of the Traffic Act, Cap 403. Concerning the important topic of compensation in the context of compulsory

land acquisitions, which was claimed in 35 cases by the plaintiffs, the court determined only in 10 cases that enough compensation was paid. In six cases, the court was persuaded that the land was public and not private. In five of these six cases, the property in question was a road reserve. As in a last interesting decision basis for a negative decision in the land and property context, the court relied in two cases on an implemented Resettlement Action Plan. However, the plaintiffs claimed a non-existent resettlement action plan in six cases and a not executed resettlement in four cases, meaning that in 8 decisions, the court did not make the design of a Resettlement Action Plan or resettlement implementation a basis of its decision.

Analysing the verdicts also revealed that, although the claims originally filed were not conceded in some cases, the court still granted certain orders to the defendant. For example, in Miscellaneous Civil Application 130 of 2014 p. 17, the court wanted to ensure that the defendants complied with the Resettlement Action Plan as well as with the minimum guidelines for forceful evictions. Therefore, whereas the judge declined the plaintiff's prayers, he ordered the defendants to, among other things, undertake the project "in strict compliance with the Resettlement Action Plan and in the presence of representative/s from the Kenya National Commission on Human Rights."

Environment Environmental considerations for negative decisions occurred in two cases, in which the court argued that an EIA was properly conducted by the defendant. Another two cases were decided in favour of the defendant because he informed the plaintiffs about the projects and their environmental consequences and allowed them to participate in the EIA process. For example, in Petition 533 of 2014 p. 8, the judge pointed out that "a notice pursuant to the Environmental Management and Co-ordination Act was published in 2010 inviting persons affected by the implementation of the project to send in objections; that an Environmental and Social Impact Assessment Study Report was done; that several meetings were held with residents, the business community and other stakeholders in the areas affected by the project, among which were the meetings of 8th October 2012, 25th February 2013, and 24th October 2014". And in one case, the court was not persuaded that the right to a clean and healthy environment was violated by the defendant.

General arguments In 16 of the cases we analysed, the courts argued that the public interest in the litigated road projects outweighs the private interest of the individual in his or her property. For example, in Environment and Land Case Civil Suit 911 of 2013 p. 8, it was the judge's view "that the wider and greater public good and interest would militate against the court granting an injunction in favour of the plaintiffs who only constitute a small segment of the public compared to the other public for whom the construction of the Southern Bypass is intended." In 12 of these cases, the road was part of a mega-infrastructure project. Conversely, it was determined in two other cases that the public importance alleged by the plaintiff did not exist. Other general decision bases include financial reasons in two cases, where in Petition E013 of 2021 p. 6 the judge stated the following: "I note the issue herein is the payment of the balance of the revised compensation and I find that it is indeed the Respondents that will suffer irreparable harm if the project is delayed". In the

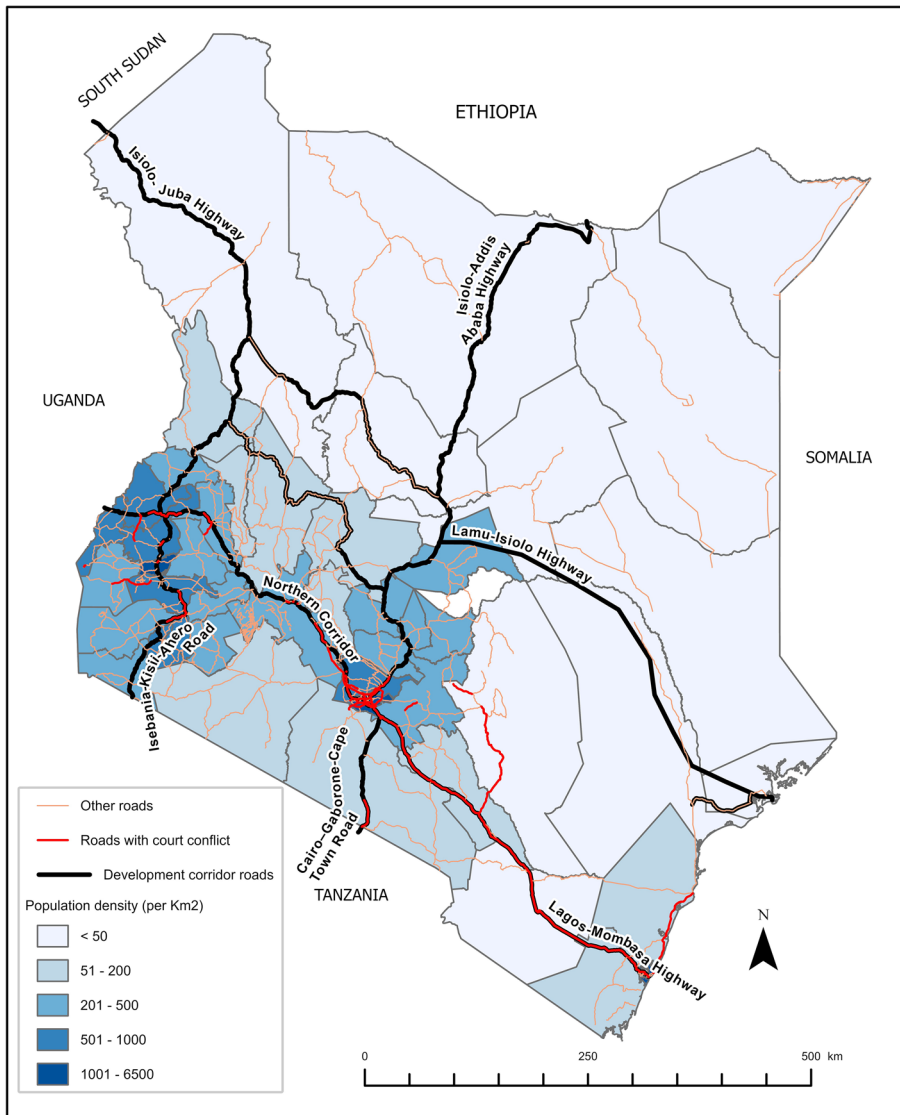


Fig. 4 Map with identified conflict roads (road names were obtained from case proceedings and geographic locations from OpenStreetMap contributors [2017](#)), development corridor (Thorn et al. [2022](#)) roads and total population across different counties in Kenya as per the 2019 census (Kenya National Bureau of Statistics [2019](#)). (Note that the information in the cases was insufficient to mark the exact location of the conflict. Thus, the whole road is marked as having conflicts.)

other case, Environment and Land Case Suit 911 of 2013, despite the establishment of a *prima facie* case, the injunction was not granted because the project had already been commenced, and enormous public funds were involved in it.

4.5 Geographic analysis of conflicts

We analysed the cities where the legal conflicts occurred if available from the decision, or otherwise used the location of the appointed court. The lawsuits were found to be spread across 36 cities or regions with 59 filed in Nairobi, 9 in Mombasa, 7 in Kisumu, 4 in Mavoko, 3 in Kakamega, 4 in Machakos, 3 in Kericho, and 3 in Chuka. These 8 cities accounted for 92 cases (73.6%) of all decisions and are mostly located in the South and West of Kenya (Fig. 4). We did not find any conflicts associated with roads in the northern part of Kenya in the analysed cases because most of Kenya's population and roads are in Southern part of the country. Even there, the roads that are associated with many legal conflicts are frequently located in counties with a high population and thus road density.

Many roads that are linked to development corridors are built in regions with a lower population density, for example the LAPSSET project in the northern part of the country (Fig. 4). According to our results, roads in the western and southern development corridor are connected to the most legal conflicts, particularly the Northern Corridor which is also known as the Mombasa–Nairobi–Nakuru–Kisumu–Kakamega–Webuye highway. In some legal decisions, no, or no explicit road name was given, hence their absence on the map. This was also the case in the two decisions within the scope of LAPSSET, where project roads were noted in general, but not specifically named.

5 Discussions

5.1 Compulsory land acquisition

Seventy of the 125 analysed cases (56%) explicitly involved compulsory land acquisition, categorized under the sub-codes 'Unlawful land acquisition' and 'Land acquisition without compensation' (Supplementary Table 1). 'Unlawful land acquisition' (42 cases) involved questioning of the legality of the acquisition process. In contrast, 'Land acquisition without compensation' (28 cases) referred to instances where plaintiffs accepted the acquisition process but disputed the fairness of the compensation or were not compensated. This is in agreement with other studies such as Wahi et al. (2017), who also reported both, acquisition procedure and compensation, to be at the core of legal disputes in land acquisitions in India. However, in their study, only 37% of cases were associated with claims regarding the procedure and 63% with compensation claims. This difference can most likely be attributed to a different sociopolitical context in India, as well as the different coding system used in their study. While both studies distinguish between claims of unlawful land acquisition and lawful land acquisition without compensation, we also included a separate category for generally unpaid compensation which could appear in the

context of unlawful acquisitions or entirely outside the context of land acquisition. Twenty-five (25) of the analysed cases were classified under ‘Unpaid compensation.’ Thirteen cases in the ‘Unpaid compensation’ category involved plaintiffs challenging the legality of acquisition and claiming compensation, while, the other 12 cases related to general compensation claims for property damage not necessarily land.

Unlawful land acquisitions were mainly based on claims of information gaps, demolitions, trespassing, and damage by the defendants. This contrasted with the defendants’ argument that the land acquisition was lawful. However, only 18 cases used this argument; otherwise, defendants cited factors such as state ownership of public land, encroachment on road reserves, or plaintiffs’ alleged abuse of the court process. The legal arguments presented by one party are not always addressed or directly countered by the opposing party. Instead of refuting those points with counter-evidence, the opposing party may choose to base their case on entirely different arguments to win the case in court (Fig. 2). This is based on the nature of compulsory land acquisitions and their conflicting private and public interests, where private parties wish to preserve their property while the government or public sector seeks to expand and improve existing infrastructure. This is why compulsory land acquisitions are highly susceptible to conflicts.

Despite conflicting interests, a legally compliant decision must be reached in each individual case for the court to fulfil its role as a successful mediator in society (Gyampo and Obeng-Odoom 2017; Kimeri-Mbote and Odote 2009). Our analysis reveals an approximately equal number of positive and negative decisions regarding land acquisition cases in Kenya in the study period. Obviously, we cannot judge whether the decisions were accurate or unbiased. However, the approximately balanced number of positive and negative decisions seems to contradict the literature on land acquisition processes in Kenya that states that land acquisition processes continue to occur unfairly and unlawfully (K’Akumu and Olima 2018; Olima 2019). The results also indicate that while government authorities do not always adhere to existing laws, in some cases, the plaintiffs also act outside the legal framework. In particular, encroachment of road reserves by plaintiffs and others is a common problem that the Kenyan government faces when implementing infrastructure projects (Kinuthia et al. 2021).

Plaintiff claims that compulsory land acquisition is unlawful in cases of information and participation gaps align with Wahi et al.’s (2017) study. Non-compliance with legal procedures for acquiring land was a common claim in both their study and ours, especially when it comes to irregularities in information access and participation by the interested parties. In general, we do not differentiate between the various errors in the information and participation process. However, it appears that in some cases, landowners were not informed at all about compulsory acquisition of their land. In other cases, incorrect land parcel numbers or incorrect property titles were cited. In contrast to the remarks of (Kibugi et al. 2016), the form of representation, e.g., the indication of coordinates of the property to be acquired in the Kenya Gazette, was not litigated. Overall, we found in our study a clear information deficiency in 36 cases (29% of all analysed cases) and agree with Kibugi et al.’s (2016) criticism of the government for providing incorrect or incomplete information to citizens through its Kenya Gazette notices. Further qualitative research, for example

in the form of expert interviews (Wahi et al. 2017), is needed to substantiate the reasons behind this behaviour on the part of the authorities. Our analysis indicates that such information errors by the authorities can result in misleading Kenya Gazette editions. For the property owners, mistakes can occur when Gazette issues are either inaccessible, not read or are misinterpreted or are misleading.

The issue of compulsory land acquisitions was brought to court both for intended acquisitions in the near future, and already accomplished acquisitions, even though we did not distinguish between these 2 categories in our analysis. Nevertheless, our results indicate that filing a lawsuit on the grounds of land acquisition is more likely to occur during the planning phase of a project soon after the intended acquisition has been published, or during the implementation phase, when the property has already been acquired, and the buildings thereon possibly destroyed. This confirms the importance of timely announcements of land acquisitions to allow owners to object and, if necessary, to file a lawsuit without stalling the project timeline as the Office of the Auditor-General (2017) has outlined. Overall, compulsory land acquisitions will never be flawless and without conflict, given their disruption of private rights even as they foster public interest in development projects. Government authorities must thus educate and train staff on correct and lawful implementation of compulsory acquisitions, while individuals and companies should adhere to existing laws and avoid encroaching on road reserves.

5.2 Prompt and fair compensation

We found out that fair compensation, which applies to 53 cases (42% of the 125 cases) in this study, is a crucial subject for courts in the context of road infrastructure construction and compulsory land acquisitions. This is in line with reports from the Office of the Auditor-General (2017), which identified lack of enough budgetary allocations and delayed payments and open bills as major constraints in land acquisitions between 2008 and 2013. While the auditor did not comment on the legal effects thereof, it is reasonable to assume that delayed compensation likely causes more lawsuits and delayed projects. Thus, authorities like KENHA or other government institutions and private companies might consider including a budget for compensation in the early planning phase of road projects. Our analysis of defence arguments further revealed that the involvement of different government authorities leads to difficulties or delays in compensation disbursements (Judicial Review 366 of 2016). As Wahi et al. (2017) showed, these delays might result from a lack of knowledge and training on the part of the authorities which could be counteracted by appropriate capacity building measures.

To mitigate some identified difficulties, the Land Value (Amendment) Act was enacted in 2019 to define appropriate compensation measures and to determine land value based on various criteria. The general definition of compensation and the specification of valuation criteria are indeed very useful, as the compensation amount was contested in 20 cases. However, other aspects of the Act related to the new definition of prompt compensation, which delays the time of payment significantly up to one year after land acquisition, is problematic because the loss of land without immediate financial compensation can threaten the livelihoods of its

owners, especially small-scale farmers. As the Act was introduced 2019 and only a limited number of subsequent judgments have been examined, we were unable to assess whether it has resulted in an increase in lawsuits due to delayed or decreased compensation since the authorities now have legally been granted up to one year to complete such payouts. However, since frequently the lack of money for the projects is the main reason for delayed payments (Office of the Auditor-General 2017), longer time frames for payments are unlikely to change the situation. In line with Kibugi et al. (2016) and Olima (2019), we suggest that the payments be split into two halves (before and after acquisition) to help mitigate the economic difficulties of landowners and reduce the number of compensation claims.

In the decision bases for compensation, more proven cases of inadequate compensation were found. In their decisions, the courts evaluated how the amount of compensation had been calculated and whether it had been paid. The courts likewise have an evidence-based ground for their decision. As such, they can make their own calculation, independent of the estimates of the state authorities, and determine whether sufficient or insufficient compensation payments were made to the plaintiffs. In the end, criteria such as market value, damages, and expenses are used in each individual case. These criteria are not independent of subjective opinions and change over time. Obviously, intangible values of land like sense of belonging or attachment cannot be objectively considered in any calculation. The Criticism of the amended 2019 legislation seems valid, because it worsens the compensation issue by allowing payment delays of up to a year after land acquisition. According to Cheloti and Mooya (2022) and Okoth (2019), this change compounds the problem of compensation instead of solving it, making the process more burdensome for affected parties.

5.3 Environmental aspects

While land and property claims play a prominent role in disputes, we found only 12 cases related to environmental claims. The procedural requirement of showing locus standi (the legal right to bring a lawsuit, requiring the party to show a sufficient interest in the matter to justify their participation in the case) in environmental lawsuits has been obsolete since Article 42 (Right to a clean and healthy environment) and Article 70 (Enforcement of environmental rights) of the 2010 Constitution came into force. Although this procedural hurdle may have been a reason for fewer lawsuits related to environmental concerns before 2010, we do not find any sudden increase in environmental lawsuits after this year in the context of road expansion in our study. Furthermore, we found that no lawsuit exclusively focused on environmental violations. Rather, this violation was always invoked in tandem with violation of other private rights. Therefore, we conclude that as of now, Kenyans would rarely take legal action involving environmental violations unless they are personally affected.

This might be due to many reasons, including the public's limited awareness of the negative environmental consequences of roads, as well as the high cost of filing lawsuits. Indeed, it was in only 8 (or 6% of 125) analysed cases that the EIA was criticized by the plaintiff, although it is integral to every road project. While

Non-Governmental Organizations (NGOs) and other organizations do not appear as direct parties in the analysed lawsuits, they might still be contributing to ensuring compliance with existing environmental regulations by offering information, support, or participation in legal processes, particularly when individuals lack the necessary knowledge or financial resources to do so themselves.

In this study, we were unable to ascertain whether lack of awareness of environmental rights was the main reason for the low number of environmentally related lawsuits. However, Biamah et al. (2013) note a general lack of awareness among citizens and legal practitioners regarding environmental rights and legal processes in Kenya, particularly under the Environmental Management and Coordination Act (EMCA). This deficiency is probably due to low civic education on environmental matters on the part of citizens, lawyers, and judges. Indeed, most lawyers and judges were educated before environmental law became a distinct discipline, leaving them ill-prepared to handle environmental cases (Kameri-Mbote and Odote 2009). emphasize the need for ongoing and integrated training in environmental law. The scarcity of environmental cases in Kenya also reflects the underutilization of the ELC as a basis for litigation on the right to a clean and healthy environment (Birgen et al. 2022).

Another reason for few environmental lawsuits might be the favourable attitude of the public toward (local) road developments. While land acquisition for such road expansion is prone to conflicts, many citizens perceive such roads as vital for their country's economic development, given its poor road network. Consequently, public support for such road expansion projects often trumps the environmental concerns of a few (Enns 2019; Greiner et al. 2021). In contrast, large infrastructure projects like LAPSSET including ports and coal plants face more opposition and litigation (Githaiga and Bing 2019; Kabata 2023) related to concerns about environmental harm.

Only a few cases involving environmental concerns can be discussed regarding the decision basis. While four positive decisions found a violation of environmental rights, the courts reached the opposite conclusion in five negative decisions. The results suggest that courts consider environmental arguments in their decisions, indicating they do not dismiss them outright or disregard environmental claims entirely. Further qualitative research is needed to explore whether the positive attitude towards road expansion contributes to the limited number of lawsuits concerning environmental rights because court decisions alone do not provide this information.

5.4 Public interest and better infrastructure

While public interest was not used as a basis for litigation by the plaintiffs, it was the main defence argument in 34 cases (27% of 125 analysed cases). The argument for better infrastructure as a specific public interest was used in 14 cases (11% of analysed cases). Additionally, public interest and importance of road construction was a decision basis in 16 cases (13%), and in 12 of these cases where the public interest prevailed, private interests were connected to mega-infrastructure projects. The courts never questioned the benefits of roads to the public in their decisions. They only stated that road projects were of great relevance and good to the public

without providing specifics, probably because Section 1 of the Land Act 2012 (Government of Kenya 2012) defines public purpose or interest to include transportation infrastructure such as roads. This gives the impression that road projects are invariably in the public interest, even though sections of the literature disagree (Alamgir et al. 2017; Laurance and Arrea 2017). The cases analysed in this study reveal that transportation projects are not comprehensively evaluated by the courts for their overall reasonableness across all relevant aspects. Instead, the courts are limited to enforcing compliance with existing minimum legal standards and regulations. Thus, the public, through the legislature, needs to set clear statutory standards for environmental protection that courts can use to comprehensively protect the public interest (Manak 2021).

5.5 Provision of evidence

Insufficient evidence was a common procedural argument in both positive (18 cases) and negative (28 cases) decisions for plaintiffs. While our study does not delve into which aspects lacked proof or why, the lack of evidence was often related to ownership, information, participation, and property damage. While some facts could be easily proven, over half of the claims were dismissed due to insufficient evidence. Two main reasons can explain this. Either the lawsuits were unsubstantiated, or the plaintiffs could not sustain their cases due to legal or factual reasons such as exact boundary lines which are hard to prove given the incomplete digitization of Kenya's cadastres (Siriba et al. 2011). Practical difficulties may also occur in cases requiring an expensive expert report to provide evidence on, for example, the market value or damage caused to a property. Addressing the underlying reasons for providing insufficient evidence would require more qualitative research involving interviews. Exploring whether the lack of evidence of ownership reflects administrative flaws in Kenya's land registration system is outside the provision of this study but a promising future research avenue. Overall, our study points to balanced decision-making in Kenya's environment and Land Courts with no clear winners or losers, thus pointing to their adherence to the law. Despite limitations in analysing judges' motives, our findings do not support widespread allegations of corruption or unethical practices in the Kenyan environment and land courts (Deche 2023).

5.6 Geographic analysis of regional differences between the North and the South

An analysis of the geographical locations of our court cases indicates that all cartographically depicted decisions relate to roads in the southern part of Kenya. Although not all court decisions included specific road names and some conflicts may reside in the northern part of the country, this result is unexpected. Indeed, a large section of the literature on road expansion projects addressed the northern part of the country in the past decade (Kochore 2016). One possible explanation for this result could be that northern counties are sparsely populated. Therefore, expanding or building new roads is easier there than in the rest of the country. Moreover, more than 65% of Kenya's land, especially in the north of the country, is communally owned (Pas

et al. 2023). The legal and practical difficulties for communities to officially register their land have led to most parts of this land being unregistered (Alden 2018), thus discouraging many communities from suing for a possible infringement of their rights and payment of compensation in court (Mkutu 2021).

Due to the focus of this study on court decisions, land cases that were resolved through alternative conflict resolution mechanisms were not examined. However, studies already exist on this topic (Enns 2019), which indicate that many individuals and communities tend to resolve conflicts through other means than court proceedings, ranging from protests due to resisting displacements, to negotiating the terms of land deals. However, further specific research on alternative land dispute resolutions pertaining to road expansion could add valuable information to the court cases analysed in this study. The concentration of court cases in the southern regions of the country also points to the need to provide residents there with sufficient legal information to help them protect their properties. Residents in urban informal settlements especially need this information to protect their rights as communities (Smith Ouma and Weru 2023).

5.7 Mega-infrastructure projects

Our results indicate that mega-infrastructure projects (e.g. LAPSET and Northern Corridor) were direct causes for lawsuits in only three cases. This seems to contradict the general literature on these major infrastructure projects. Unfortunately, neither the dataset of (Thorn et al. 2022) nor the Development Corridor websites (url, last accessed on 2024-04-22) enumerate all roads that are being or have been constructed as part of these projects. However, a comparison of the maps and the list of our conflict roads shows a large overlap between the two, even if no exact quantification of the overlap is available. This includes, at least, all bypass projects around Nairobi (15 cases), Mombasa–Nairobi Highway (24 cases), and Outer Ring Road (5 cases), which are part of the Northern Corridor Project, the Thika Superhighway (2 cases), and LAPSET roads (2 cases). Therefore, our results show that even though mega-infrastructure projects are not explicitly mentioned in the analysed legal decisions, they might still be the underlying causes of many court claims which are then decided as regular cases under existing laws. A different situation may arise in the context of third-party states, investors, and construction companies, where international agreements and customized contracts are negotiated. This raises the question of whether Kenya's financial and economic dependencies, as noted by Oloka-Onyango (2015), might influence judicial decisions, an issue that merits further exploration.

6 Conclusions

In this study, we analysed 125 legal cases related to road conflicts in Kenya. We found that most plaintiffs were male private individuals, followed by companies. Unsurprisingly, governmental authorities were rarely on the plaintiff's side, but were the defendants. The most frequent reason for filing a case was the claimed

violation of land and property rights, which the defendants did not necessarily rebut using the same arguments as those presented by the plaintiffs. Our research aligns with prior studies that indicate gaps in citizen information and participation in road development projects. It is crucial for government authorities to provide training and education for staff to ensure the proper and legal execution of land acquisitions in a manner that fully involves citizens in the process. Similarly, individuals and companies should follow existing laws diligently to avoid encroaching on road reserves. Fair and prompt compensation was another crucial theme in the lawsuits. Thus, we recommend future research to explore the impact of the new Land Value (Amendment) Act of 2019 on lawsuits and compensation payments. We propose that the National Land Commission (NLC) should include sufficient compensation funding in the early stages of project planning to avoid delayed payments and disputes that might delay road projects.

Overall, our findings show that roads cause legal conflicts pertaining to land use and property rights, and that numerous lawsuits brought before the court are closely associated with road projects located in the densely populated southern region of Kenya and probably also with mega-infrastructure projects. However, in court proceedings, the same legal arguments and national laws apply to all conflicts, regardless of whether they stem from mega-infrastructure projects or not. By contrast, environmental concerns are rarely considered when filing a lawsuit, as defence arguments, and in court decisions, although roads likely play an important role in environmental degradation.

Supplementary Information The online version of this article (<https://doi.org/10.1007/s10037-025-00237-z>) contains supplementary material, which is available to authorized users.

Acknowledgements We thank Professor Jan Börner from the University of Bonn for insightful discussions on the conceptualisation of the study. Mrs Mrinalini Shinde and Mrs Linet Nyagwondo helped with legal advice.

Funding Funded by the German Research Foundation (DFG) through the collaborative research centre “Future Rural Africa” funding code TRR 228/2.

Author Contribution Conceptualization: C. Franzke, L. Biber-Freudenberger, C. Bogner; Methodology: C. Franzke, N. Nyamari, J. Mäsgen, C. Bogner; Formal analysis and investigation: C. Franzke, N. Nyamari, C. Bogner; Visualization: N. Nyamari, C. Bogner; Writing—original draft preparation: C. Franzke, N. Nyamari, JM, C. Bogner; Writing—review and editing: all authors; Funding acquisition: L. Biber-Freudenberger, C. Bogner; Supervision: N. Nyamari, C. Bogner

Funding Open Access funding enabled and organized by Projekt DEAL.

Data, materials, and code availability Will be published in the database of the CRC/TR 228 upon acceptance of the manuscript. The material contains the MAXQDA file (including the PDFs of analysed cases), the extracted binarized Code Matrix, the characteristics of plaintiffs and defendants and the R code for analysis and visualisation.

Conflict of interest C. Franzke, N. Nyamari, J. Mäsgen, D. Otieno, L. Biber-Freudenberger and C. Bogner declare that they have no competing interests.

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