Managing stakeholders for implementing innovations

The case of a flood protection project in Kenya

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Empirical Research Paper

Managing stakeholders for implementing innovations: The case of a flood protection project in Kenya

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ABSTRACT

Innovative projects, such as those for flood protection in developing countries, are urgent, stakeholder intense, and need to be carried out even in contexts where sufficient governance frameworks are not in place. This research seeks to understand how innovative projects can be implemented in weak institutional contexts by focusing on managing stakeholders in the single in-depth case study of the implementation of the SLAMDAM innovative project in the Isiolo County in Kenya. Following the analysis of 12 semi-structured interviews with 27 different stakeholders and 7 observations of stakeholder interactions, we answer the following questions: 1) what are the challenges during implementation of the innovation projects in weak-institutional contexts? 2) how are these challenges addressed through strategies? 3) how can we theorize the relationship between challenges and strategies in weak institutional contexts? The challenges include community resistance, information fragmentation, disjoined efforts, and governance inefficiency. Theoretically, we highlight how ad-hoc workarounds are operationalized in weak-institutional contexts and how they can lead to lasting changes by building governance frameworks in the long term. Practically, this research offer valuable guidance for practitioners involved in innovative projects, particularly in developing countries with weak institutional frameworks.

1. Introduction

Extreme weather events like floods can cause widespread damage to life and property. Floods can lead to loss of life, displacement of people, sweep away livestock like sheep and goats, destroy infrastructure, disrupt communication networks, damage cropland, and cause soil erosion, resulting in significant economic losses (Opere, 2013). In the Kenyan context, 60 % of disaster victims are the result of flood-related fatalities with the 2018 flood resulting in 183 loss of lives, displacing more than 225,000 people, including about 145,000 children, and closing more than 700 schools (Osanan, 2023). The damage to the infrastructure caused by the 1997/1998 El Niño rains was approximately one billion US Dollars, with severe damage to transport networks, dams, water pans and pipelines (Government of Kenya, 2016). In the future, climate change will increase the frequency and intensity of extreme weather events like floods. Many innovative projects are deployed in developing regions in Africa, such as Kenya, to prevent flooding and reduce damages.

Innovative projects in Africa focus on delivering transformational objectives such as disaster prevention, poverty reduction, capacity building or governance improvement, and they take place in resource-poor, higher-risk, lower capacity or conflict-ridden settings where weak institutions prevail (Ika et al., 2020). In addition, Africa is considered the next hotbed for technological development and growth by Ika et al. (2021), considering the billion-dollar investments of global technology firms in economic and social infrastructure to transform the region. Many of these innovative projects, such as those for droughts, floods, and poverty alleviation, are urgent, and we cannot wait for governance upgradation before carrying them out. While strengthening its infrastructure to tackle multiple problems at the same time, Africa is also diversifying its economies by investing in information and communication technology, fostering innovation, promoting value-added agriculture, and pursuing greater regional integration resulting in 11 African countries listed in the 2024 world's 20 fastest growing economies (African Development Bank Group, 2024). Here, the management of projects play a significant role in translating these

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investments into reality and meeting their business case expectations (Ika, 2012). However, irrespective of whether the infrastructure projects in Africa are economic in nature, such as roads, or have a social focus, like schools, there's a shared agreement that an economy requires institutional infrastructure to thrive (Ika et al., 2021). Particularly, there is a prevalence of weak capacity in both the private and the public sector at the individual, organizational, and societal level in the African context, and this is highlighted as a priority area in the 2063 agenda of the African Union (African Union, 2015). Institutional voids, characterized by lack of market-supporting institutions, specialized intermediaries, reliable contract-enforcing mechanisms, and effective transportation and communication networks is one of the greatest challenge for carrying out innovations in Africa (Khanna and Palepu, 2010). Additionally, the business landscape and the systems in place are often unpredictable and prone to rapid changes, mainly because of the decisions and sometimes lack thereof by governments (George et al., 2016). There is a need to explore the challenges to implementing innovation projects in Africa, where weak institutional contexts prevail (Liedong et al., 2020). Thus, this research seeks to answer this gap of implementing innovative projects in weak institutional contexts by focusing on managing stakeholders in the case of a flood protection innovative project in Kenya. The study focuses on the implementation of a SLAMDAM project for flood protection, and we intend to answer the following questions: 1) What are the challenges during the implementation of the innovative projects in weak institutional contexts? 2) How are these challenges addressed through strategies? 3) How can we theorize the relationship between challenges and strategies in weak institutional contexts?

To address these research questions, the following section explores current research on stakeholder management for implementing innovation in projects. Subsequently, the research methodology, case selection, data collection and analysis are discussed. We use a case study approach of theory elaboration (Ketokivi and Choi, 2014) as our aim is to elaborate existing literature on ad-hoc solutions (Sheu and Lee, 2011). The reasons for selecting the SLAMDAM project case in Kenya included it being an innovation implementation project in a weak-institutional context. Following this, the multiple challenges during the implementation of the flood protection project are listed, and the strategies devised to address these challenges are discussed. The discussion section offers multiple avenues for theorization, such as the relationship between strategies and challenges, between strategies, project work in limited governance contexts, the role of identity, and balancing ad-hoc workarounds and building governance. Finally, in the conclusion section, the contributions to theory, practice, study limitations and future research directions are discussed.

2. Literature review

Countries in Africa are actively addressing pressing issues such as floods, droughts, and poverty reduction, all while making substantial investments in fostering innovation, promoting value-added agriculture, and advancing regional integration. Effective project management plays a crucial role in turning these investments into tangible outcomes and ensuring they meet their intended business objectives (Ika, 2014). Despite the increasing prevalence of project-based work in the African context, there's a noticeable lack of literature discussing how projects are initiated, managed, led, executed, and assessed across different contexts, industries, and sectors to drive transformation and growth on the continent (Muriithi and Crawford, 2003). These projects are often characterized by high levels of complexity and uncertainty and they encounter setbacks such as complete abandonment, cost deviations, schedule delays, scope changes, and stakeholder dissatisfaction, requiring the navigation of political and community pressures on project resources (Gil et al., 2019; Damoah et al., 2018). Projects in Africa operate in environments characterized by limited resources, elevated risks, lower capacities, or conflicts, often dominated by weak institutions and therefore grapple with significant socio-political complexity, leading to substantial transactional and institutional costs (Orr et al., 2011). These challenges in the project environment in Africa also affects innovative projects such as those for droughts, floods, and poverty alleviation.

Organizations introduce novel ideas, products, services, process technologies, organizational structures, administrative systems, or practices by implementing innovations (Tesluk et al., 1997). Innovation involves the process of adopting new organizational ideas and behaviors through a series of steps, such as idea generation, development, implementation, etc., and is often considered as the lifeblood of organizations (Damanpour, 1996). In their seminal work on innovation in projects, Keegan and Turner (2002) defines innovation as the means through which innovation is put into action. However, Cooper (2019) note that out of 10 innovative product ideas only one becomes success with nearly 40% failing at launch itself. Innovation project failures come at significant costs, often resulting in damages exceeding millions of dollars and investments in resources that cannot be recouped or redirected to other uses, and therefore are cited as the cause of organizational downfall (Szatmari et al., 2021; Marwa and Zairi, 2008). The main reasons for the failure of innovation projects is the high uncertainty in these type of projects characterized by financial constraints, information asymmetries, and also stemming from their context (García-Quevedo et al., 2018). Even though previous research in projects (Laine et al., 2016; Maes et al., 2022) have focused on managing uncertainties in innovation projects, Fanousse et al. (2021) states that there's still a lack of understanding on intraorganizational and interorganizational practices considering the various stakeholders involved in the innovation project to effectively mitigate uncertainties.

The successful implementation of innovation, resource allocation, leadership, and organizational culture depends on the active involvement and support of various stakeholders (Autio et al., 2013; Chesbrough, 2003). While some stakeholders find innovation to be a positive change and support it, others may resist innovation due to fear of change, uncertainty, or perceived risks. Thus, the innovation journey involves motivating and coordinating people to develop and implement ideas by engaging in transactions with others while making the adaptations needed to achieve desired outcomes within changing organizational contexts (Van de Ven et al., 2008). Multiple players interact with the organization in the process of implementing innovation projects, and the organization must consider these stakeholders (Reypens et al., 2021). Mitchell et al. (1997) consider a broad definition of stakeholders, including virtually anyone who can impact an organization's actions or who experiences an impact as a result. Stakeholders around a project can involve internal stakeholders such as employees, managers, or shareholders and external stakeholders such as customers, suppliers, government, or community (Ninan et al., 2022). The success of any innovation initiative depends on the vision of internal stakeholders, such as those in leadership roles (Chebbi et al., 2020). Employee cohesion due to shared values, expected behaviors, arrangements, rituals, and language facilitates innovation (Alves et al., 2016). At the same time, external stakeholders are highly relevant when an innovation depends on the preferences and needs of customers and users, as well as in contexts where the community has a fundamental role in defining problems and providing knowledge input to solutions (Bogers et al., 2017). Thus, there is a need to leverage an organization's external and internal stakeholder networks for sharing knowledge and resources to plan and implement innovative projects such as flood protection projects collaboratively (Loureiro et al., 2020).

Stakeholder theory claims that an organization's core purpose is to create the maximum value for its stakeholders (Voyer et al., 2017). Stakeholders are in a position to influence the well-being of an organization, defined in terms of its capacity to achieve goals (Freeman, 1984); thus, they are significant in the project context (Achterkamp and Vos, 2008). Stakeholder management in project management scholarship involves bringing stakeholder concerns to the surface and developing

robust stakeholder relationships in complex project environments (Bourne and Walker, 2005). These stakeholders' involvement in the project's early stages can contribute to project success (Olander and Landin, 2005).

Stakeholders can be managed through ad-hoc solutions or systematic stakeholder management, such as building governance. Ad-hoc or impromptu solutions are temporary, bottom-up, improvised, or unplanned responses to specific problems or situations, usually designed without considering the broader context or long-term implications (Cunha et al., 2014; Jacobsson and Hällgren, 2016). Ad-hoc solutions lack a comprehensive and integrated approach and may not be sustainable or scalable in the long run (Briggs et al., 2003). In contrast, systemic solutions address the root causes of problems rather than just treating the symptoms (Banson et al., 2018). These solutions are integrated into existing systems or processes, leading to lasting change and continuous improvement (Sheu and Lee, 2011). Where systems and processes are not in place, organizations resort to ad-hoc working methods. There is a need to explore the role of this ad-hoc working methods for implementing innovation projects in Africa, where weak institutional contexts prevail. Thus, in this research we look at the stakeholder management practice in the case of implementing flood protection innovation projects in Kenya to understand the challenges during implementation of innovation projects in weak institutional contexts, the different strategies such as ad-hoc working methods for addressing these challenges, and theorize the relationship between challenges and strategies in weak institutional contexts.

3. Research setting and method

This section discusses the choices made concerning research design, case selection, data collection, and data analysis. We use a case study approach of theory elaboration (Ketokivi and Choi, 2014) as our aim is to elaborate existing literature on ad-hoc solutions. Previous research by Sheu and Lee (2011) has suggested that ad-hoc workarounds are integrated into existing systems and can lead to lasting change and continuous improvement, however, fall short of highlighting in what contexts ad-hoc workarounds operate, how it operate, and how they lead to lasting changes. We used single case studies as they provide excellent opportunities to enhance contextual understanding because of their depth in data collection and analysis (Lundin and Steinthórsson, 2003) and thereby enable theory elaboration. Single case studies in innovation projects enable diverse linkages of evidence and incorporate multiple dimensions, functioning as collections of mini-cases as they are uniquely positioned to due to their expansive scope (Ragin, 1992). These mini-cases can be considered as embedded case studies and offer abundant material for theoretical development (Mui and Sankaran, 2004).

To understand how flood protection projects are implemented in Africa, we conducted a single in-depth case study of a SLAMDAM project in Isiolo County in Kenya, which is one of the 21 flood-prone areas in Kenya. SLAMDAM is a movable water-filled flood barrier, or modular dam, which can be used as a flood mitigation measure or for water retention or storage (Stephens, 2023). The inflatable dam is made of a flexible material and the cost of installation is less making it ideal for flood-risk situations adapting to uneven surfaces (UNEP, 2022). The water stored in the dam can be used afterward for irrigation or other uses. The SLAMDAM, being a technology from a foreign country, required tax exemption considering its critical infrastructure nature and stakeholder management for its implementation. The project is supported by the Adaptation Fund Climate Innovation Accelerator (AFCIA) program with the UN Climate Technology Centre and Network (CTCN) backing innovative adaptation technologies such as SLAMDAM with the aim of scaling them up to enhance resilience against extreme climate events across Africa (UN CTCN, 2023). The project included determining the best suitable location for the mobile barrier, implementing the barrier to prevent damage from flooding and ensure water availability in times of drought, and stationing a flood response team to decide when the barrier is being deployed. Thus, the theoretical reasons for selecting the SLAMDAM project case in Kenya included it being an innovation implementation project with the need for stakeholder management.

We collected diverse data from the selected project to understand the challenges during implementation and the strategies addressing these challenges. These included semi-structured interviews, observations during site investigation, demonstrations, and webinars. The details of the data sources are given in Table 1.

We conducted 12 semi-structured interviews with 27 stakeholders surrounding the SLAMDAM project to develop contextual information that would help us understand the challenges during implementation and the strategies for addressing the challenges. Semi-structured interviews facilitated the collection of comprehensive data on individuals' experiences, interpretations, and emotions without sacrificing flexibility and spontaneity (Ritchie and Lewis, 2003). The respondents were selected through a snowballing approach and belonged to different stakeholders such as client, NGOs, interest groups and consultants. Interview questions were mainly open-ended, encouraging interviewees to answer descriptively (Patton, 2002), such as 'Can you highlight some of the challenges encountered in the project?' and 'How did you manage them?'. Further, 'how' and 'why' questions were asked to discover the linkages of constructs within a specific case context (Eisenhardt, 2021). Interviews were conducted with project stakeholders, such as clients, contractors, sub-contractors, NGOs, interest groups, consultants, etc. Such purposeful interviews with diverse participants can shed light on the hidden elements of the phenomenon under investigation (Tansey, 2007). The respondent organization, designation of interviewees and the interview duration are summarized in Table 2.

By combining semi-structured interviews with observations, we were able to triangulate data (Miles and Huberman, 1994). Since the African context has not been studied to sufficient depth, we used observations to provide richer insights that record patterns or phenomena that participants might not recognize or articulate in interviews, enriching the analysis. Two demonstrations of the SLAMDAM were carried out, with the first one in Isiolo attended by 34 participants from different organizations such as WRUA Isiolo, Kenya Red Cross, WRA ENN Basin Area Regional Office, WRA Isiolo, NDMA Isiolo, and SNV. The second demonstration in Nairobi was attended by 31 participants from different organizations such as WRUA Kiambu, WRA Kiambu, WRA Nairobi, WRA Basin Area Regional Office, Ministry of Water, Irritation and Sanitation, ActionAid, Embassy of the Netherlands, Blue Deal Programme, and SNV Nairobi. For the two webinars, the first one was held halfway through the project, and the attending parties included WRA Nairobi, WRA ENN Basin Area Regional Office and the Embassy of the Netherlands. WRA Nairobi, ActionAid, Ministry of Water, Irrigation and Sanitation, ICPAC, SNV, WRA Isiolo and World Waternet attended the final webinar. We triangulated the data collected with other data sources such as public reports to enhance the validity of our data, display in-line and block quotations to substantiate the claim to enhance reliability, and got the transcripts approved from the respondents as part of member checking to enhance the verification of the data (Miles and Huberman, 1994; Gopaldas, 2016). The data was collected till theoretical saturation, i.e., when the collected data ceased to provide additional insights into the core category and its attributes (Strauss and Corbin, 1990). Since the value of the study is based on the quality of data and constructs our 12

Table 1
Diverse data sources in this research.

Data source	Number	Details
Semi-structured interviews	12	20 h 30 min
Observations of interactions	7	19 h; Observations during site investigation (3), demonstrations (2), and webinars (2)

Table 2
Details of interviews conducted.

Sl. no	Interviewee organization	Designation of interviewee(s)	Type of stakeholder	Duration of interview
1	Zephyr Consulting	Communication and project management specialist	Consultants	2 h
2	Water Resources Authority (WRA) Nairobi	1. Surface Water Officer 2. Principal Hydrogeologist 3. Principal Water Resources 4. Two interns	Client	2 h
3	Netherlands Development Organisation (SNV), Nairobi Head Quarter	Country Director	Interest group	2 h
4	Embassy of the Netherlands	1. First secretary, Food Security and Water 2. Policy Officer Food Security, Water and Climate	Interest group	1.5 h
5	National Drought Management Authority (NDMA), Nairobi	Research Assistant	Client	1 h
6	Water Resources Authority (WRA) Nairobi & Water Resources Authority (WRA) Kiambu	1. Surface Water Officer (Nairobi office) 2. Sub Basin Area Coordinator (Kiambu office) 3. Hydrologist (Kiambu office) 4. Hydrologist (Kiambu office)	Client	2 h
7	Netherlands Development Organisation (SNV), Nanyuki department	Project Coordinator for Nexus (LISTEN) project	NGO	2 h
8	Water Resources Authority (WRA) - Ewaso Ng'iro North (ENN) Basin Area Regional Office	1. Assistant Technical Coordination Manager 2. Catchment management officer	Client	1.5 h
9	Water Resources Authority (WRA) Isiolo	1. Sub Basin Coordinator 2. Hydrologist 3. Account issues 4. Community engagement	Client	2 h
10	National Drought Management Authority (NDMA) Isiolo	County Drought Information Officer		1.5 h
11	Water Resources Users Association (WRUA), Isiolo	1. Chairperson 2. Secretary of WRUA of Isiolo 3. Treasury of WRUA Isiolo 4. Community manager of WRUA Isiolo 5. Local members of WRUA Isiolo (7 scouts and members in total)	NGO	2 h
12	Centre for Training and Integrated Research in ASAL Development (CETRAD)	1. Catchment Management Officer	NGO	1 h

semi-structured interviews with 27 stakeholders surrounding the project and 7 observation of interactions were deemed sufficient (Di Maddaloni and Davis, 2018).

We used abductive thematic qualitative analysis as it is suitable for areas where a concept is not well-established and there's a need to develop the major concepts of a phenomenon and establish a theoretical framework (Jabareen, 2009). Through an iterative process, we analyzed the data collected from interviews and observations in parallel with the data collection stage. In the process, we employed a combination of open coding, axial coding, and constant comparisons concurrently to develop the theoretical model (Groat and Wang, 2013). Open coding consisted of breaking down, scrutinizing, and categorizing the data into open categories (Strauss and Corbin, 1990). For example, when there were issues of counties writing their own policies, we first categorized it to 'policy incompatibility,' and when there were other issues relating to geographic dispersion of offices, we expanded the category to an all-inclusive category of 'disjoined efforts' as shown in the data coding pattern (Fig. 1), inspired from Gioia et al. (2013). Thus, an effort was taken to make the codes more generalizable, de-contextualized, mutually exclusive and exhaustive (Morse, 1991). We also moved back and forth between theory and empirical data to create an increasingly elaborate understanding of challenges and the relationship between strategies. Moving back and forth between theory and data helped us anchor the data in the literature and extend it to sharpen generalizability, improve construct definition, and raise the theoretical level following the guidance of Eisenhardt (1989). We return to the methodological limitations in the conclusion section.

4. Challenges during implementation of flood protection projects

The challenges from the flood protection projects in Kenya can be categorized into resistance from the community, fragmentation of information, disjoined efforts, and governance inefficiency. We now discuss each of these categories in detail.

4.1. Resistance from community

Community support through long-lasting relationships and loyalty is required to complete a project successfully. In the case of the flood protection project in Kenya, land from people upstream is required to mobilize the dam to prevent flooding downstream. The people upstream saw no benefit from giving their land for this purpose, as quoted by an employee from the Water Resources Authority (WRA) in Isiolo below.

> *"As for water resource management, not all people upstream want to retain water for the people in the city downstream. Not everyone has much land and then finds it unacceptable that their land should be used specifically."* (Interview #9)

There were other land use issues as well because water flows over land from multiple owners, and implementation of new technologies requires the willingness of these owners. In addition to land use issues, community resistance can also be in the form of vandalism and theft, as noted by a respondent, *"The SLAMDAM is made of plastic material and, therefore, vulnerable to vandalism. People not aware of the dam's purpose might try to steal the material or damage it"* (Interview#5). In addition to the vandalism of SLAMDAM, there was also much vandalism of early warning systems where people loot steel from the infrastructure. Theft and vandalism are common across development projects in Sub-Saharan Africa and are highlighted as one of the reasons for the failure of these projects (Ikejemba and Schuur, 2018).

4.2. Fragmentation of information

Another challenge observed in the flood protection project was the fragmentation of information. Since the governance system in Kenya is

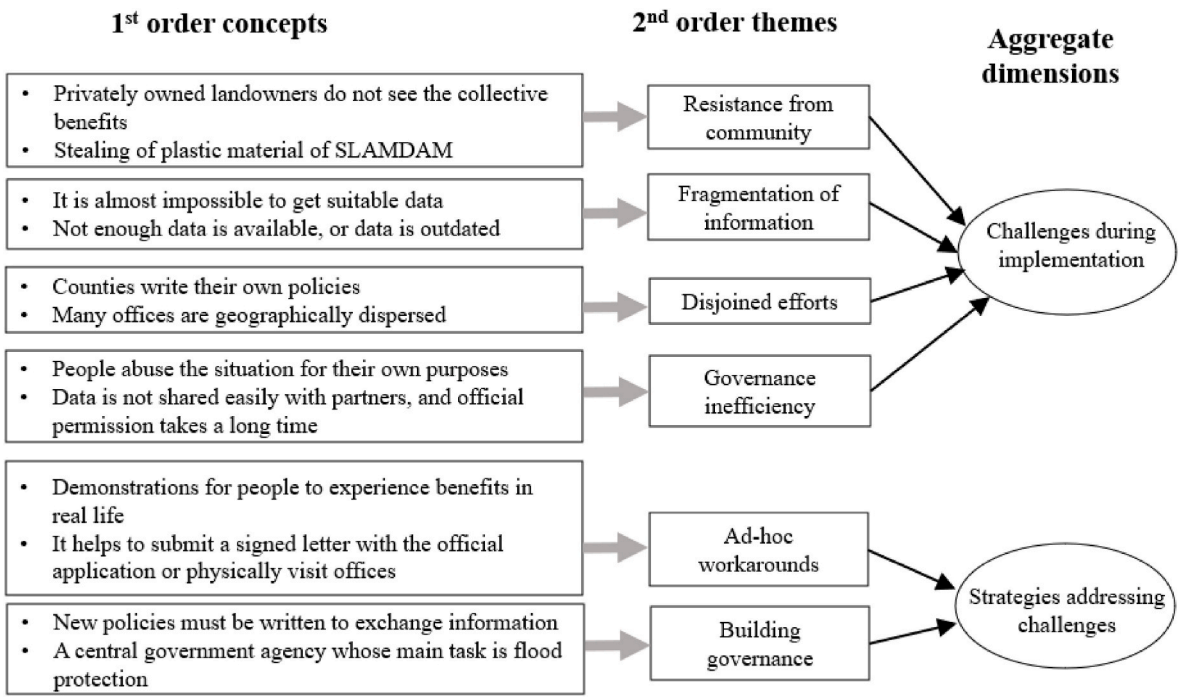

Fig. 1. Data coding pattern.

evolving with the Constitution 2010, Water Act 2016, and many other policies being written, there is fragmentation of information with different government agencies. This is evident in the quote by a representative of the Netherlands Development Organization (SNV) in Nairobi below,

> *"There is fragmentation of government agencies where it is sometimes unclear who is responsible for what. Sometimes there is overlap in this, sometimes not, and for Water Resources Users Association (WRUA), it can be difficult to deal with this when dealing with multiple counties."* (Interview#3)

The fragmentation of information implies that project members must visit numerous offices to collect all the data. They also claimed that if there are gaps in the data, the officers responsible would use gut feeling to make up some data. Hence, there is also difficulty in checking the authenticity of the information available, as quoted by a project professional below, *"Sometimes data collection is done manually and is hard to read. It is difficult to check whether people are passing the right numbers or making something up"* (Interview #1). It is difficult for project members to get suitable data even though many parties say it is available in the context. The lack of reliable data can lead to inefficient decision-making.

4.3. Disjoined efforts

Along with the fragmentation of information, there were also disjoined efforts from project stakeholders. There was a lack of cooperation between the different offices involved in flood protection. A respondent from the Netherlands embassy stressed that there is a lack of understanding of the actual impact with farmers willing to accept any solution as it is free money for them, as quoted below,

> *"Counties or farmers are quick to accept anything because, for them, it is easy to accept the 'free money' and support coming their way. There needs to be a good understanding of the actual impact and whether the solution matches the demand/problem."* (Interview#4)

There is also a lack of coordination from the government as there is a lack of a government agency responsible for flood protection. Often, numerous geographically dispersed government offices write their own policies, resulting in many parallel projects and initiatives for the same problem, as noted by a Water Resources Authority (WRA) Isiolo employee, *"There are many projects, and allocating financial resources is difficult in such a large area. Money can only be spent once, and if the first project turns out to be more expensive, another project cannot go forward"* (Interview #9). There is a lack of synergy between the different initiatives to address flood protection in an area.

4.4. Governance inefficiency

Both fragmentation of information and disjoined efforts are often due to governance inefficiency. One interview respondent noted that multiple initiatives result from poor governance.

> *"Experience shows that many temporary solutions are devised because it is unclear who is responsible for what."* (Interview #11)

Unclear responsibility can be because of weak capacity, which is prevalent at all levels in the African context and is recorded as "the missing link" for the successful delivery of projects and programs in Africa (Ika et al., 2021). Additionally, due to bureaucracy, data is not shared easily with partners, and official permission takes a very long time. Governance inefficiency can lead to corruption in the system, or corruption can result in poor governance practices. In an instance, a representative of the Netherlands Development Organisation (SNV) in Nairobi stated that sometimes people abuse situations for their own purposes as a result of corruption, *"It is sometimes unclear what money is used for, or people try to abuse the situation for their own purposes"* (Interview #3). Corruption, cronyism, collusion, and collective choice are cited as silent killers of projects in Africa (Williams, 2017). Corruption is a significant factor influencing project failure in developing countries such as Ghana, where public sector corruption is pervasive (Damoah et al., 2018). The challenges observed from the flood protection project in Kenya are consolidated in Table 3 for quick reference, along with the strategies addressing these challenges.

5. Strategies addressing challenges

The findings from the flood protection project show that these

Table 3
Summary of challenges observed from the case study.

Sl. no	Instance	Challenges	Strategies to address challenges
1	People upstream do not want to retain water for the people downstream	Resistance from stakeholders	Ad-hoc workarounds
2	Privately owned landowners do not see the collective benefits of using SLAMDAM.	Resistance from stakeholders	Ad-hoc workarounds
3	Vandalism of early warning systems	Resistance from community	Ad-hoc workarounds
4	Stealing of plastic material of SLAMDAM	Resistance from community	Ad-hoc workarounds
5	Create local awareness not to demolish measurement equipment since it is their best to collect the data.	Resistance from community	Ad-hoc workarounds
6	Demonstrations for people to experience benefits in real life	Resistance from community	Ad-hoc workarounds
7	Tools such as the Flood Intelligence Service (FIS) Tool and 3Di for public consultation	Resistance from community	Ad-hoc workarounds
8	Actively approach people and locals to convince them of the importance of the project.	Resistance from stakeholders	Building governance
9	WRUA is voluntary, and people feel some sense of responsibility or affection to the community with issues surrounding water resources	Fragmentation of information	Ad-hoc workarounds
10	Many parties say data is available, but it is almost impossible to get suitable data.	Fragmentation of information	Ad-hoc workarounds
11	Fragmentation of information since the Constitution 2010 and the Water Act 2016 are new policies and many new policies must be written to exchange information.	Fragmentation of information	Building governance
12	Not enough data is available, or data is outdated, and therefore, there is a tendency to use gut feeling when there are gaps in the data.	Fragmentation of information	Building governance
13	Cooperation with different counties and offices with differing opinions is required.	Disjoined efforts	Ad-hoc workarounds
14	Slamdam demonstrations were given to understand interested organizations and to see if the technology can be well received.	Disjoined efforts	Ad-hoc workarounds
15	Newspaper article coverage about the demonstration near Isiolo County	Disjoined efforts	Ad-hoc workarounds
16	There is a need for close cooperation between counties and integrated management plans.	Disjoined efforts	Ad-hoc workarounds
17	Counties write their own policies, but water does not abide by those boundaries.	Disjoined efforts	Building governance
18	There is fragmentation of government agencies where it is sometimes unclear who is responsible for what	Disjoined efforts	Building governance
19	Many offices are geographically dispersed	Disjoined efforts	Building governance
20	Counties or farmers quickly accept free money and support coming their way.	Disjoined efforts	Building governance
21	The allocation of financial resources is complex as there are many projects in the large area.	Disjoined efforts	Building governance
22	There is a lack of a central government agency whose main task is flood protection, and essential government bodies like the Basin Water Resources Committee (BWRC) have not yet been established.	Disjoined efforts	Building governance
23	Many temporary solutions are because responsibility is not clear	Governance inefficiency	Ad-hoc workarounds
24	The process is unclear. It helps to submit a signed letter with the official application or physically visit offices.	Governance inefficiency	Ad-hoc workarounds
25	People abuse the situation for their own purposes	Governance inefficiency	Building governance
26	Stakeholders such as NGOs and foreign partners provide support in developing new systems.	Governance inefficiency	Building governance
27	Create a more transparent workflow schedule so meetings and agreements can be shared faster and more transparent.	Governance inefficiency	Building governance
28	Due to bureaucracy, data is not shared easily with partners, and official permission takes a long time.	Governance inefficiency	Building governance

projects in Kenya experience different sets of challenges. Different emergent strategies were employed to manage these challenges, as described below.

5.1. Ad-hoc workarounds

We grouped diverse strategies of gaining societal acceptance, volunteering and building identity as ad-hoc workarounds because they were not standard operating procedures. Many strategies were devised to gain societal acceptance for the project. One of the strategies was to use demonstrations to convince people of the new technology and its mutual benefits. Different stakeholders were invited to these demonstrations so that they could understand the technology and the project team could evaluate the reception of the technology by these stakeholders. A respondent noted during the interviews, *"We actively engage the local community and use demonstration so people experience the benefits in real life."* (Interview #2).

Similar to demonstrations in this case, Ninan et al. (2019) note that displaying prototypes of metro rail coaches are one of the strategies to reach the heart and minds of the community. The demonstrations were also covered in a national newspaper to increase the intervention's reach. Such media coverage of interventions can create an identity for the technology and unite disjointed efforts, leading to societal acceptance. Other benefits for gaining societal acceptance include making technology adoption easier, mitigating resistance from stakeholders, and preventing vandalism and stealing of parts of the project. As part of gaining societal acceptance, the community was educated on the benefits of flood defense and how it can improve the area's overall development.

When governance frameworks are not in place, the project team resorted to novel ways of working to get results quickly. For instance, when it was challenging to get datasets from government offices, submitting a signed letter or going along with a WRA employee helped, as noted below,

> *"It helps to submit a signed letter with the official application or physically visit offices; take, for instance, CETRAD Nanyuki where the student went along with a WRA employee and received dataset on the same-day."* (Interview #7)

Such novel workarounds can also help navigate corruption, as signed

official letters can bring some legitimacy to the request. In another case, visualization tools such as Flood Intelligence Service (FIS) Tool and 3Di were used as ad-hoc workarounds for the community to understand the project. There is also a need to document the ad-hoc workarounds that worked in other places in Africa. For example, a respondent from Zephyr Consulting highlighted that, *"Experiences from previous projects in Burundi and Nigeria have shown that to deploy SLAMDAM successfully, the local community must be open to new technologies"* (Interview #1). Agencies such as the Water Resources Users Association (WRUA) can also be ad-hoc workarounds as they work voluntarily to address disjointed efforts by different stakeholders. Ad-hoc workarounds were also used to mitigate governance inefficiencies. For example, a member from the embassy recorded that many temporary solutions were devised because it was unclear who was responsible for what. Thus, ad-hoc workarounds were used in response to all challenges, such as resistance from the community, fragmentation of information, disjoined efforts, and governance inefficiency.

5.2. Building governance

Governance structures must be set up to communicate effectively with the community to reduce opposition due to NIMBY (not in my backyard). It is essential to communicate the various aspects of the project, whether good or bad, minimizing the negative impacts and maximizing the positive ones to arouse all stakeholders' interest (Di Maddaloni and Davis, 2017). Additionally, governance can be improved, and corruption can be reduced by creating a clear workflow schedule to make agreements transparent and share them faster, as noted by a Water Resources Authority (WRA) employee in Isiolo, *"Create a clearer workflow schedule so meetings and agreements can be shared faster and more transparent."* (Interview #9).

There also needs to be a government agency whose main task is flood protection. Additionally, the government must establish essential government bodies like the Basin Water Resources Committee (BWRC). Structures should also be in place for actively approaching locals to convince them of the importance of the project, along with laws in place to prevent vandalism and stealing of materials. Governance structures should aim to create incentives and rewards for people to take responsibility and commit to the task, as a respondent below notes.

> *"Use money or some other type of reward instead of voluntariness. People become more responsible and try harder to take correct measurements with the right incentive."* (Interview #12)

In addition, to mitigate issues of fragmentation of information, there is a need to digitalize and automate information across government offices. New policies have to be written to facilitate the exchange of information, which will help prevent using gut feelings to fill gaps in the data. Thus, along with investments in infrastructure in Africa, there is a need to invest in governance institutions, as governments and government agencies have a poor track record (Bond, 2016).

6. Discussion

From the study of implementing flood protection in Kenya, multiple points of theorization are possible, as discussed below.

1. *Comparing challenges and strategies:* In this research, we highlight challenges in the Kenyan context such as resistance from community, fragmentation of information, disjoined efforts, and governance inefficiencies. Similarly, Ika et al. (2021) and Orr et al. (2011), note that projects in Africa are constrained by weak institutions which result in significant socio-political complexity and imposing substantial transactional and institutional costs. From our empirical case, we highlight that ad-hoc workarounds can be used for all challenges, as shown in Fig. 2. For example, ad-hoc workarounds addressed resistance from the community through demonstrations, reduced fragmentation of information through the work of NGOs, facilitated joined efforts through news article coverage, and tackled governance inefficiency through signed letters or visiting offices multiple times. We therefore highlighted how projects in Africa can navigate their greatest challenge of institutional voids characterized by lack of market-supporting institutions, specialized intermediaries,

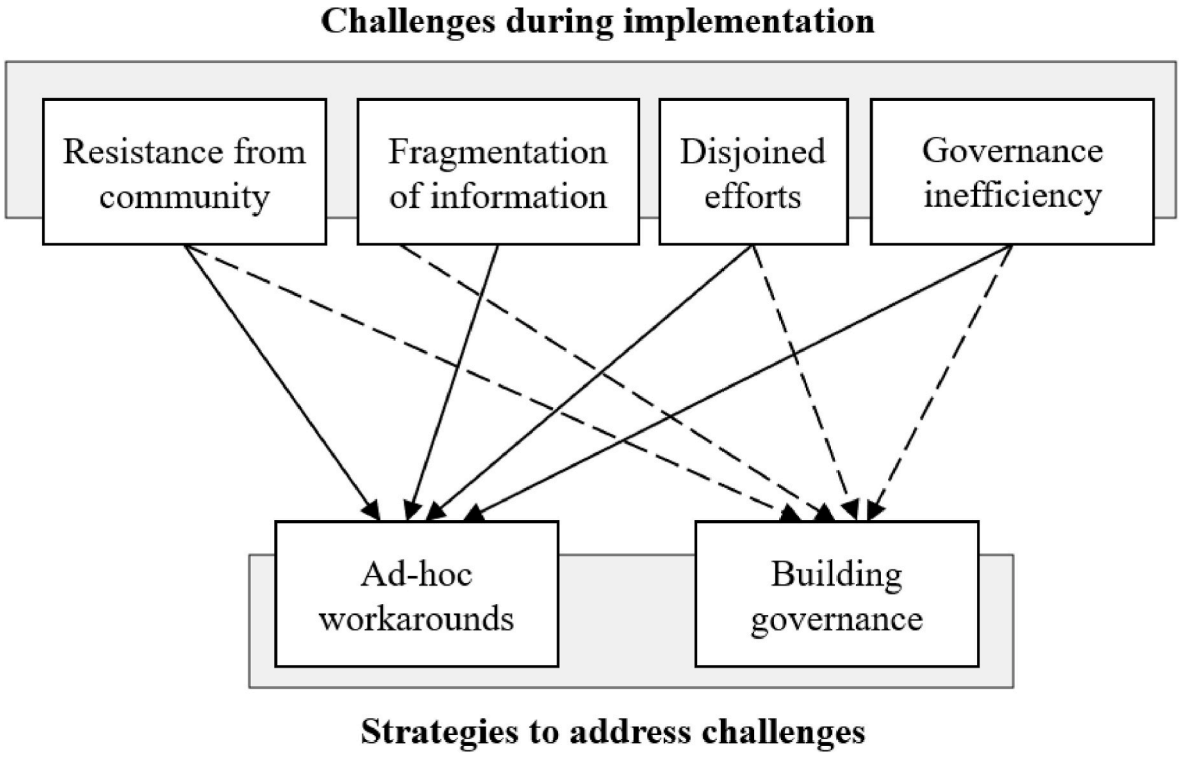

Fig. 2. Relationship between challenges and strategies.

and reliable contract-enforcing mechanisms (Khanna and Palepu, 2010) with the short-term ad-hoc workarounds.

However, ad-hoc workarounds such as voluntary work cannot solve such challenges in the long term. Governance structures should aim to create a dedicated government agency for flood protection and put incentives and rewards for people to take responsibility and commit to the task. Sufficient frameworks should be in place for public consultation and engaging the community to prevent resistance from the community. Thus, building governance can be the long-term solution to addressing these challenges, as shown in Fig. 2.

2. *Relationship between strategies:* Gaining societal acceptance can be treated as the first step for implementing flood protection projects in Africa. With the society accepting the project, ad-hoc workarounds such as volunteering are taken up by organizations such as the Water Resources Users Association (WRUA) to address governance inefficiencies. African cultures are commonly viewed as collectivist, placing strong emphasis on extended family bonds, clans, and ethnic groups (Blunt and Jones, 2011) and this research highlights how innovative projects can be built with the help of societal acceptance and volunteering. It has been proved that stakeholder engagement in construction projects will improve decision-making inclusiveness, construction sustainability, sustainable development and team collaboration, accelerating the transformation of integrated project delivery to productivity and optimal performance (Ebekozien et al., 2023). Thus, many overt strategies can be because of other covert strategies operating in the background (Ninan et al., 2021).
3. *Project work in limited governance contexts:* The ad-hoc approach was typical when project management was not recognized as systemic and when organizations applied ad-hoc methods to achieve their desired outcomes (Jaafari, 2003). The findings from Africa can help theorize express modes of project work in an uncertain environment with fewer governance policies. Such theorizing can help understand how projects can be resilient in areas with limited governance frameworks, such as changing societal demands and scope creep due to the hiding hand (Room, 2018). Organizational practices of documenting measures and learning from them can improve innovation project performance as noted by Fanousse et al. (2021). Documenting how projects move from ad-hoc workarounds to building governance can give more insights into the Fifth Hand behavior principle, acknowledging projects as complex and messy processes of pursuit, experimentation, and discovery with many shades of grey not only between optimism and pessimism but also success and failure (Ika et al., 2020). Ad-hoc workarounds with gaining societal acceptance, volunteering and identity creation were effective in contexts with governance inefficiencies. Many project sectors, such as construction, are inhibited because they favor loose collaboration and a project-based approach with the ad-hoc generation of knowledge is favored in such contexts (Mlecnik, 2013). While projectification is fundamental for Africa's development in weak institutional capacity (Ika, 2012), project management can learn from how Africa delivers projects with limited governance frameworks.
4. *Role of identity in navigating ad-hoc workarounds:* Societal acceptance of projects creates an identity for the community centered around the project or its vision. These can result in ownership of the solution, leading to volunteering first and building governance later. Identity garners legitimacy, and stakeholders' support is often considered a driver in situations of high ambiguity (Sergeeva and Roehrich, 2018). Developing an identity enables stakeholders to articulate shared interests and commit to preferred outcomes, thereby necessary action (Ashforth and Humphrey, 1997). Identity stimulates stakeholders to commit to the project as it focuses on developing shared interests and goals (Van Marrewijk, 2007; Sergeeva and Ninan, 2023).
5. *Balancing ad-hoc workarounds and building governance:* There is a need to move from ad-hoc to a more strategic PM approach to improve project delivery efficiency (Dai and Wells, 2004). An ad-hoc approach to PM is generally associated with inefficiencies, and establishing project management practices is recommended to foster consistency (Block and Frame, 1998). However, ad-hoc workarounds are valuable in projects as well. First, it is these ad-hoc workarounds that, in a longer time, can lead to more fundamental ecological pathology, resulting in systematic governance models (Weick, 1979). Second, developing practices for these ad-hoc changes are required to navigate complex project management scenarios. Ad-hoc strategies are impromptu responses to organizational problems and circumstances (Cunha et al., 2014), and project management scholars have to theorize the practice of ad-hoc working. For such theorization, contexts such as Africa and its developing countries provide an excellent avenue. Thus, there is a need to balance ad-hoc organizing with systemic organizing to improve efficiency and manage continuous change (Brown and Eisenhardt, 1997).

In summary, the findings from the case study of managing stakeholders in the flood protection innovation in Kenya offer multiple avenues for theorization, such as the relationship between strategies and challenges, between strategies, project work in limited governance contexts, the role of identity, and balancing ad-hoc workarounds and building governance.

7. Conclusion

Our study contributes to understanding stakeholder management in settings lacking sufficient governance frameworks. Using the case study of managing stakeholders in the flood protection innovation in Kenya compiled from 12 semi-structured interviews and 7 observations of stakeholder interactions, we discuss challenges during implementation, such as resistance from the community, fragmentation of information, disjoined efforts, and governance inefficiency. We also highlighted how these challenges are addressed through ad-hoc workarounds and building governance.

Theoretically, the study makes three main contributions. First, we highlighted how ad-hoc workarounds for stakeholder management are operationalized in weak-institutional contexts and how they can address various challenges, such as resistance from the community through demonstrations, reduced fragmentation of information through the work of NGOs, facilitated joined efforts through news article coverage, and tackled governance inefficiency through signed letters or visiting offices multiple times. We also note that ad-hoc workarounds cannot be a long-term solution, and highlight how they can lead to lasting changes by building governance frameworks in the long term extending the work of Sheu and Lee (2011). Second, we theorize the relationship between strategies by highlighting how gaining societal acceptance can lead to volunteering, further building governance extending the role of African culture of family bonds, clans, and ethnic groups (Blunt and Jones, 2011) in enabling societal acceptance of innovative projects. We also describe the role of identity in navigating ad-hoc workarounds since societal acceptance can result in a community-centered vision for the project, which can lead to volunteering. Finally, we record the need for project management scholars to map scenarios where established rules are not there to understand how project work can be carried out in such contexts. Contexts such as Africa, where project work is progressing despite a lack of governance structures, offer an exciting context for such studies. While projectification is fundamental for Africa's development in weak institutional capacity (Ika, 2012), project management can learn from how Africa delivers projects with limited governance frameworks, strengthening project management theorization.

We also provide multiple avenues for further research. There is a need to document ad-hoc workarounds in developing countries to extrapolate the findings to a wide range of contexts that lack sufficient

governance frameworks. The ad-hoc workarounds in this research are limited to stakeholder management, and there is a need to explore these in other contexts, such as safety or navigating complexities. Additionally, our findings are limited because of the retrospective nature of the case study. Future studies can consider in-depth ethnographic research to explore more strategies and the role of the institutional environment in the strategies used. We call for more studies to explore the untold stories of successes and failures in projects and the highs and lows of project leadership in Africa to bring about transformation and growth in the continent.

CRediT authorship contribution statement

Johan Ninan: Conceptualization, Supervision, Writing – original draft, Writing – review & editing. **Louis Nelen:** Data curation, Formal analysis, Investigation, Writing – original draft. **Lisanne Middelbeek:** Data curation, Formal analysis, Investigation. **Sunar Sutarto Hardjosusono:** Data curation, Formal analysis, Investigation. **Dominique Kromwijk:** Data curation, Formal analysis, Investigation. **Tristan Cheaz:** Data curation, Formal analysis, Investigation. **Lillian Kalela:** Investigation, Resources, Supervision.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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