



**SPARC**

Supporting Pastoralism  
and Agriculture in Recurrent  
and Protracted Crises

TECHNICAL REPORT

# DOES RESILIENCE-BUILDING LAST WHEN PROJECTS END?

Retrospective lessons from projects to support pastoralists  
in Turkana, Kenya

Dorice Agol



## Acknowledgements

This technical report is published through the Supporting Pastoralism and Agriculture in Recurrent and Protracted Crises (SPARC) programme, which is supported by the United Kingdom's Foreign, Commonwealth & Development Office (FCDO).

We are indebted to the many people and organisations who helped us in this study.

Most importantly, many thanks go to Turkana Pastoralists Development Organization (TUPADO), and in particular to Samuel Ekal and David Kang'ole, for supporting the research to draw lessons from their work and to make them public. Such openness in the face of independent criticism is rare and highly appreciated.

The report author was supported in her research in Turkana by Denis Mutuku Ngina, Francis Lomekwi and Philemon Erot.

Thanks also to Simon Levine of ODI Global who provided support from the initial design stage of the research through to the research analysis and finalisation of the report.

Carmen Jaquez from Mercy Corps, Nancy Balfour from Centre for Humanitarian Change and Dr Guy Jobbins from CoWater commented on earlier drafts.

Many thanks also to the SPARC communications team, including Julie Grady Thomas, and Rebecca Owens for copyediting, Lucy Peers for design and Nina Behrman for proofreading.

All opinions expressed in the report are those of the author who is alone responsible for any omissions and errors.

## About SPARC

Climate change, armed conflict, environmental fragility and weak governance, and the impact these have on natural resource-based livelihoods, are among the key drivers of both crisis and poverty for communities in some of the world's most vulnerable and conflict-affected countries.

SPARC aims to generate evidence and address knowledge gaps to build the resilience of millions of pastoralists, agro-pastoralists and farmers in these communities in sub-Saharan Africa and the Middle East.

We strive to create impact by using research and evidence to develop knowledge that improves how the FCDO, donors, non-governmental organisations (NGOs), local and national governments, and civil society can empower these communities in the context of climate change.

**How to cite:** Agol, D. (2025) *Does resilience-building last when projects end? Retrospective lessons from projects to support pastoralists in Turkana, Kenya*. London: SPARC (<https://www.sparc-knowledge.org/publications-resources/does-resilience-building-last-when-projects-end-turkana-kenya>).

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# ACRONYMS

<b>ASAL</b>	arid and semi-arid land
<b>CDD</b>	Community-Driven Development
<b>INGO</b>	international non-governmental organisation
<b>KDRDIP</b>	Kenya Development Response to Displacement Impacts Project
<b>LOLIMA</b>	Lokichogio Livestock Market Association
<b>NGO</b>	non-governmental organisation
<b>TUPADO</b>	Turkana Pastoralists Development Organization
<b>VSLA</b>	Village Savings and Loans Association
<b>WRUA</b>	water resources users association



An improved water supply system in the suburbs of Lokichogio, Turkana © Dorice Agol

# EXECUTIVE SUMMARY

## Why retrospective learning is essential

We cannot know immediately how far investments in resilience contribute to lasting change, since ‘resilience’, the continued ability of people or institutions to deal with challenges, can only be seen over time. Learning from experience therefore requires revisiting interventions several years later, after their implementation. Because of an almost total absence of this kind of retrospective study, very little is known about what resilience-building efforts actually help and in which circumstances.

SPARC is prioritising learning that contributes to filling this evidence gap by publishing a series of studies, including this paper, which documents lessons learned from a multi-sectoral resilience-building programme implemented in 2017–2018 by a local NGO in dryland areas in the county of West Turkana in northwestern Kenya.

## Methodology

This study was conducted in January and February 2023 in Lokichogio in Turkana West county. The project was regarded as successful. Three components of the project were selected because they were regarded as successful and because they were fairly typical interventions for supporting resilience in arid and semi-arid lands (ASALs).

The components were: (1) the rehabilitation of a livestock market; (2) the creation of Village Savings and Loans Associations (VSLAs); and (3) development of water supply systems. The study used process tracing to analyse what had happened to the project in the years since it ended. It gathered information from project documents, through interviews with people from the implementing agencies and other informants, in-depth interviews and group discussion with men and women of different ages in the communities in the project areas, and observation.

## **Livestock market**

A physical livestock market hub managed by the Lokichogio Livestock Market Association (LOLIMA) was set up in Lokichogio town. It was expected to have several advantages for livestock keepers: lowering transaction costs by bringing buyers and sellers together in one place; helping herders to sell their animals more easily and at better prices because of competition between buyers in the same place; and attracting other livestock services providers into a single hub that would facilitate access to services and information-sharing, thus increasing productivity.

LOLIMA members reported multiple benefits including better prices and good business networks, saying that a consistent supply and demand for livestock had brought them increased sales and profits. However, these claims were hard to interpret. During a week of daily visits, no trading was seen taking place in the market, while livestock selling was taking place outside the market, possibly because this avoided market fees.

Herders preferred informal trade interactions outside the market hub, finding more buyers and better prices. The formal trade networks at the market hub were generally built on older, informal trade networks which both herders and traders maintained.

The market may have facilitated connections for local traders with large-scale traders from outside the area, but there was no evidence that herders were receiving better prices or that a more certain market had changed their overall market behaviour. They continued to sell animals in response to a need for money, and not in reaction to prices.

## **Village Savings and Loans Associations (VSLAs)**

VSLAs were established, each one covering a number of villages that had a population of around 200–300 households, with training provided to members and committees. All 10 VSLAs investigated were still in existence, with an active membership of 15–30 people, mostly women, and a functioning management committee.

However, because members were neighbours and they understood each other's difficulties, it was difficult for them to impose formal rules. Nor could they prevent the more powerful members in the group from taking most of the loans for themselves and not respecting repayment schedules. Rules on monthly membership contributions (i.e. savings) and loan repayments had not been strictly enforced therefore, and the lack of consistent savings and regular defaults in loan repayments had eroded the capital base.

The VSLAs had been able to sustain their core lending functions mainly because each had received a grant in 2019 from another development programme. A condition of this grant was that there had to be exactly 15 grant beneficiaries in each VSLA, which reduced the effective membership of each VSLA.

The VSLAs performed a useful service for members, particularly in offering emergency loans and for income smoothing. Only a minority of loans were for investment. However, the reliance on new grant money and the inability to recruit new capital from savings illustrated that the vision of VSLAs generating a continuously growing source of investment capital from within the village economy has not proved to be realistic.

## Water supply systems

A number of existing boreholes were improved with solar water pumps, rehabilitated water troughs, protective fencing and improved distribution systems. Three boreholes were studied and all had a functioning water resources users association (WRUA). They were all well maintained and user fees were financing repairs whenever they broke down.

The WRUAs ensured that the elderly and people with disabilities received water for free. The number of people being supplied with water had increased. One of the boreholes was supplying a suburb of the town via a system that piped water to people's houses in return for a monthly fee, bypassing the village immediately next to the borehole.

Improved water supply had helped some people engage in economically productive activities and there were particular advantages for herders in the dry season when the boreholes reduced the time needed to trek in search of water. This allowed them to move, worrying only about where they would find pasture, and it meant the most vulnerable animals could stay close to home and to the water.

Herders reported advantages for their sons' attendance at school because they didn't have to migrate with herds, whilst women and girls saved time in fetching domestic water. Not all the predicted economic impacts materialised however. Water was insufficient for irrigation, and fodder production by pastoralists had failed despite support to stimulate it.

Reports attributing kitchen gardening to water provided by the project were based on the project's assumptions that water would lead to kitchen gardens: in fact, the few kitchen gardens that there were, were not watered from the boreholes but only functioned in the rainy season.

The impact of the water on resilience is harder to ascertain. Water had supported socioeconomic development, such as the expansion of schools, healthcare facilities and trading centres. But this was because it had facilitated increased permanent settlement in pastoral areas. The wider long-term impacts of this are hard to predict.

## Reflections and conclusions

- No resources had been made available to the local NGO to follow up after the project had closed. As a result, the NGO had learnt little from the experience and no lessons could be drawn to inform future support for resilience in drylands.
- A common characteristic of the three project components was that the success of the institutional support (for LOLIMA, VSLAs and WRUAs) was limited by the institutions' ability and authority to enforce formal rules. Agencies should not assume that formal institutional rules will be more powerful than the social norms that usually govern behaviours. This includes rules dictating who can control whose behaviour.
- In general, formal rules could be enforced only to the extent that informal power relations allowed. Institutional sustainability therefore depends on a minimum alignment or harmony between formal and informal rules. Support has to be offered in ways that do not depend on unrealistic expectations of rule compliance.
- Power asymmetries affected the outcomes of all the projects. This was largely in predictable ways. Some degree of elite capture is a universal constant and does not preclude successful resilience-building. All projects, public investments or policy changes should explicitly set out how they anticipate unequal power relations will affect the outcomes of work undertaken in the ensuing years and what mitigation strategies for dealing with this have been put in place.
- The aid sector still often sees resilience programming through the lens of transformative change, but these projects show that the vision of transformative potential is not always realistic. This tendency also leads agencies to ignore the richness of the existing ('informal') institutions that they seek to replace. Rather than looking to replace existing behaviour using a transformational model, an organic and slower transformation may be more realistic, starting from what people are already doing.

The impacts of each of the project components depended to some degree on factors that were entirely context-dependent. This is an unwelcome conclusion, because it means that one of the central questions that aid actors ask themselves – What works? – may be a false one. What works in one place may not work in another, and the only way to know will be to invest in finding out. This demands a very different approach to monitoring and learning, one that is separate from the function of ensuring accountability to donors.



A community water supply system in Peleketch, Turkana © Dorice Agol

# 1. INTRODUCTION

## 1.1 Why the study matters

We cannot immediately know how far investments in resilience contribute to lasting change, since ‘resilience’, the continued ability of people or institutions to deal with challenges, can only be seen over time.<sup>1</sup> Evaluations on project closure can draw few lessons about projects’ impacts on resilience. Since their actual contribution to resilience cannot be seen directly in this timeframe, conclusions have to be based on assumptions, e.g. that better anticipatory capacity, increased assets or diversified livelihoods will confer longer-term benefits in coping or recovery from shocks.

If these are the same assumptions that justified the investments in the first place, very little is learnt about how far those assumptions were true and thus whether further similar investments will be useful. It ought then to be surprising that retrospective evaluations and other studies are not routinely carried out several years after the closure of resilience-building programmes.

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<sup>1</sup> There is broad consensus around the approximate meaning of ‘resilience’: roughly, a secure ability to deal with challenges and/or to recover from setbacks. This paper does not deal with any specific definition or measurement of resilience and so avoids entering into such discussion.

Helping people in the arid and semi-arid lands (ASALs) across Africa to build up their resilience is one of the most important objectives of their own governments and international development partners. It is moreover a task made much more difficult because, however unpalatable it is to accept, very little is known about what actually helps and in which circumstances, due to the almost total absence of retrospective studies.

SPARC is prioritising learning that contributes to filling this evidence gap by publishing a series of studies that went back to revisit development or resilience programmes several years after closure.<sup>2</sup> This report documents lessons learnt from a multi-sectoral resilience-building programme implemented in 2017–2018 by a local NGO in dryland areas in the county of West Turkana in northwestern Kenya. This study is not an evaluation of the project, but an analysis of the dynamics which occurred in the years that followed, and the implications for supporting people's resilience.

## 1.2 Methodology

The study was conducted in January and February 2023 in Lokichogio in Turkana West county. Turkana pastoral communities are vulnerable to climate risks, conflicts and diseases which often disrupt their livelihoods. Several resilience-building interventions were implemented in 2017 and 2018 by TUPADO, a local NGO, with funding from the European Union. This was to help Turkana pastoralists to prepare for and cope with risks such as prolonged drought and high temperatures.

The study selected three components that are fairly typical interventions for supporting resilience in ASALs and that the NGO regarded as successful: (1) the rehabilitation of a livestock market; (2) the creation of Village Savings and Loans Associations (VSLAs); (3) development of water supply systems.<sup>3</sup> They were all locally based, and governed and managed by grassroots-level organisations.

The study followed the approach described in detail in Levine et al. (2024), based on an analytical approach sometimes known as theory-based impact assessment, programme theory evaluation or process tracing (Funnell and Rogers, 2011; White, 2009; Collier, 2011).

Rather than pre-determining a set of methods or tools, the research developed possible theories of change that could lead from the project inputs and activities to improved resilience. It tested each link in the causal chains using whatever evidence or tools are most appropriate. It relied on a study of the project documents, interviews with people from the implementing agencies, other key informant interviews, in-depth interviews and group discussion with men and women of different ages in the communities in the project areas, and observation.

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2 Levine et al. (2024) revisited public works programmes in Ethiopia and Kenya; Benoudji et al. (2025) studied the longer-term impacts of an international non-governmental organisation (INGO) project promoting climate-smart agriculture in Chad; Bedelian (2025) draws lessons about the impacts on the economic resilience of pastoralists following several years of market-oriented programming in Ethiopia; and Balfour et al. (forthcoming) analysed the contribution of new water sources to resilience in dryland areas of Kenya and Ethiopia.

3 All the studies in this series only looked at interventions which we were told by the implementing organisations were successful. Not all projects can succeed, but to learn what happened next, we wanted to go to places where something good had happened in the first instance.

## 2. LIVESTOCK MARKET

### 2.1 What was done?

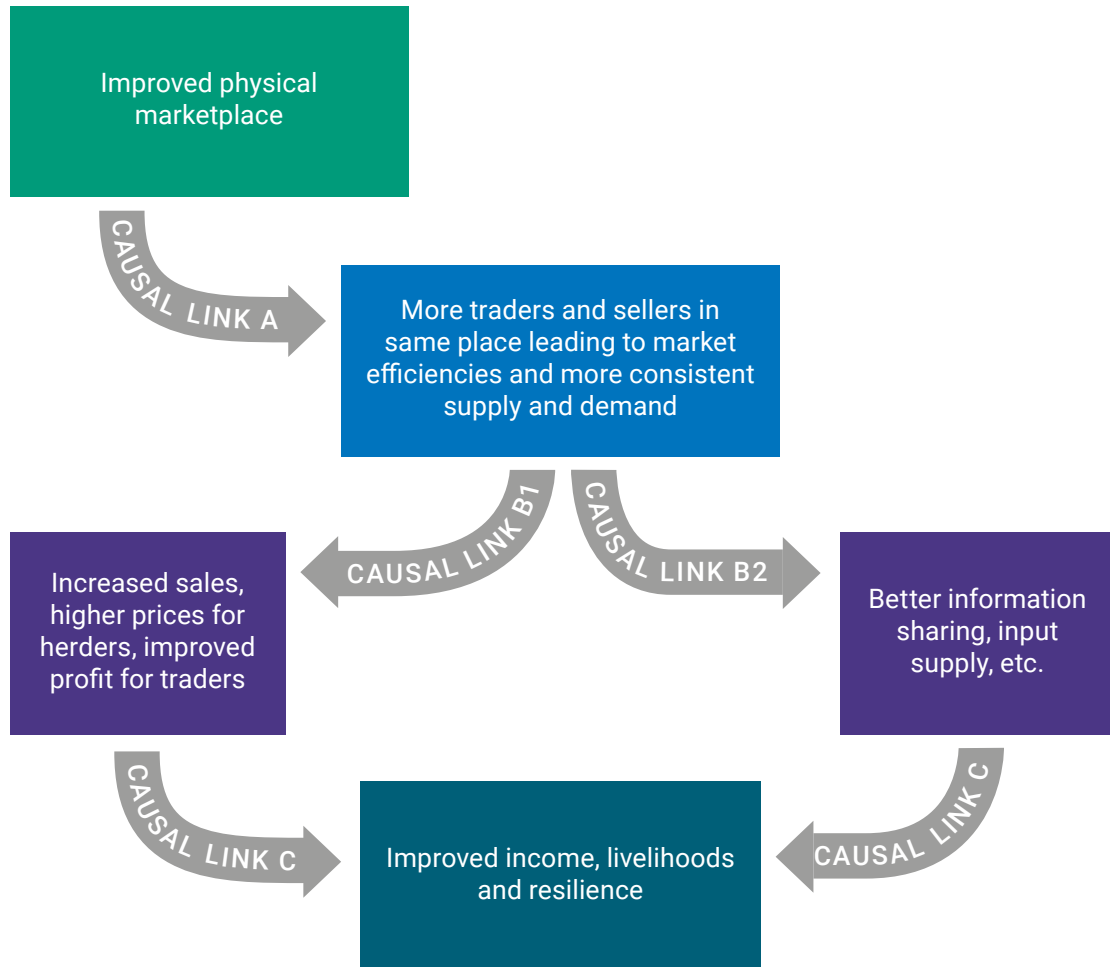
A physical livestock market hub was set up by TUPADO in Lokichogio town on the border of Kenya and South Sudan, to boost live animal trading for Turkana pastoralists. The hub's core function was to provide a favourable business environment by formalising more trade which according to the model would bring several advantages as follows for livestock keepers:

- By bringing buyers and sellers together in one place, traders would be able to buy larger volumes more easily, reducing transaction costs. This would help herders to sell their animals more easily because they would have certainty of finding a buyer in a known place. (See Link A in Figure 1)
- Livestock keepers would get better prices and would avoid exploitation, because there would be more competition between buyers in the same physical location. (See Link B1 in Figure 1)
- The networks of buyers and sellers congregating together would facilitate information-sharing and attract other livestock services providers (e.g. animal healthcare, input suppliers, etc.). These effects would help livestock keepers to increase animal productivity. (See Link B2 in Figure 1)



The market hub is located just outside Lokichogio town and has a building block, animal dip, and a water supply system. It was managed by the Lokichogio Livestock Market Association (LOLIMA).<sup>4</sup>

FIGURE 1: CAUSAL MODEL: FROM IMPROVED MARKETPLACE TO RESILIENCE



Source: Authors' own

## 2.2 Has the development of a market hub changed the trade networks in the livestock market system? (Link A)

LOLIMA members asserted that the physical market development had brought multiple benefits including better prices and good business networks. Moreover, a consistent supply and demand for livestock had brought them increased sales and profits. However, further investigation revealed a more complicated – and less clear – situation than the traders presented.

The market was far from being a hive of activity. Although the market hub was supposed to operate daily, during a whole week of daily visits during the fieldwork in the month of February,

<sup>4</sup> LOLIMA had nearly 200 members at the time of the research.

we saw no trading taking place. Far more livestock selling was taking place outside the market than inside. The herders said that they preferred informal trade interactions and negotiations outside the market hub where they could find more potential buyers and better prices.

This raised a difficult question: Why would buyers offer lower prices in the market than they would outside if a market hub would help them to reduce transaction costs by providing scale? Other informants suggested that formal market charges were a large reason for this. However, if so, we were unable to explain why the traders had not mentioned any problems, whether related to market costs or to finding sellers there, but instead insisted that the market was a success.

One possible explanation is that the physical market does provide an important service to traders even if it is not the service of providing a hub for actual trade. The theoretical or 'show' market can still act as a hub for attracting other resources, such as training and investments. Meanwhile real trade continues to happen through older networks that are less visible and therefore less useful in showcasing and promoting the importance of investing in markets.

Perhaps the only unambiguous finding is that in such research, it is not always possible to interpret everything that everyone says at face value.

The market was intended to create a trade network to the mutual advantage of buyer and seller. However, we found that the formal trade networks at the market hub were generally built on older, informal trade networks. Most herders said they preferred to rely on these earlier informal relationships rather than sell in the market, and LOLIMA traders talked of maintaining their old social networks with rural producers from more remote areas outside the market.

It remains unclear how the market hub has improved these networks or for whom; it appears, at least, not to have done them any harm.

The formal market seems to have provided a formally legitimate space for livestock trading, serving as a platform for linking to local, national and regional trade networks. Traders said that the market hub had facilitated LOLIMA members to build business networks with livestock traders from other parts of Kenya and with South Sudan. This may have enabled them to improve their trade and get better prices, but this is inevitably very difficult to assess.

Unlike in grain or other commodity markets, set prices for a species of animal do not exist: prices are set for each animal and vary hugely, depending on age, size, body condition, the supply of animals in different conditions, the time of day, the number of traders in the market on any given day, the season and due to annual fluctuations in conditions.

Neither traders nor herders have any reason to report accurately (or honestly) to strangers – traders in particular have no incentive to admit receiving higher prices from their purchasing clients. If they did, then these better prices were not probably being passed on to herders, which was the basic assumption underpinning the theory of change.

However, increasing the legitimacy of livestock trade has an additional advantage in the context of widespread livestock theft and banditry. Incidences of organised livestock theft are common, where hundreds of animals are taken away in raids by bandits and then sold to traders who may or may not be aware that the animals have been stolen.

LOLIMA argued that a formal market arrangement has helped them to monitor the entry of live animals into the market hub to some extent, and to validate their trade including from formal receipts. This gives external traders more confidence: LOLIMA traders told us of incidents where stolen animals brought to the market hub had successfully been identified and returned.

This underscores the importance of trust in livestock markets and illustrates how much of a nuanced issue this is. Informal networks are often more trusted between the parties who know each other; but the more formal arrangements of the market hub may facilitate trust between people who don't.

## 2.3 Have improved trade networks affected sales and profits? (Link B1 and B2)

The key assumptions were that: (1) a market would strengthen trade networks and lead to more consistent supply and demand, higher volumes of trade and market efficiencies; (2) these would translate into higher prices for herders and higher profits for traders. But to the extent that the market changed the trading networks, did these result in higher sales of livestock for traders and producers?

The trade networks provided good opportunities for the middlemen (i.e. LOLIMA traders) to make profits. These traders bought live animals from rural herders mostly in the dry season when prices were lower and then sold to elite traders for higher prices. In the dry seasons, rural herders were nearly always forced to destock their animals, many of which were in poor conditions due to lack of pasture and water.

Because livestock prices dropped during these times, LOLIMA traders took advantage of the situation and bought live animals from herders who were desperate to destock. The local traders fattened the thin animals for several months before selling them to the elite traders. This practice makes business sense for traders who have the capacity to enhance livestock productivity.

Rural herders too benefited from the trade networks in the dry season when they had to destock by selling their animals at the market hub. However, this does not necessarily mean they made profits from such distress sales:

**We are forced by extreme drought to sell our goats to LOLIMA because we don't have any other option. It's the only market around.**

**(Rural herder)**

This livestock market system was designed to accelerate livestock trading for rural pastoralists by driving change in behaviour through price signals and on an assumption of market- and profit-oriented objectives. However, Turkana pastoralists were seen not to be profit-oriented in their livelihoods, even though they engaged with livestock trading.

A typical Turkana pastoralist will only sell their animal when necessary, for example during hardships and emergencies (e.g. medical) and to meet basic needs such as food and education. Wherever possible, most would rather accumulate livestock than sell:<sup>5</sup>

**I come with my livestock from Moru Ngorok, by the border with South Sudan ... When I need money, I take one of my animals to sell ... If I sell, it's because I have to, because of how things are at home, for example my kids are hungry or sick.**

**(Young rural herder)**

As discussed above, most herders said that they preferred to sell outside the market hub, where informal connections might help them negotiate better prices. The overall picture remains very unclear. Middlemen and elite traders claimed that the market had helped them. A few rural herders appreciated the hub as providing a buyer of last resort, even if it was for a low price. But there was little evidence that the impact chains had in practice played out in anything like the expected theories of change.

## **2.4 Has there been any impact on livelihoods and household resilience? (Link C)**

The underlying project assumptions were that improved incomes from the sale of livestock would lead to improved livelihoods, e.g. improved nutrition, better shelter, etc. From the project documents, there was also an expectation that an improved market hub would help herders cope in times of crisis such as droughts, when buyers for animals in poor condition are scarce and when animals may be too weak to move to distant markets.

This seemed a plausible assumption and, if true, it seemed plausible also to assume that this would reduce the number of animals that herders would need to sell to meet immediate needs.

Despite it being plausible, according to the testimony of livestock keepers, this potential chain has not worked since livestock keepers prefer to sell outside the market hub. If that is so, then any benefits from the investment in the livestock market have not gone beyond the top end of the trade chain. Outcomes in livestock production and marketing are influenced by multiple factors and not simply by the economic rules of free markets. The motivations and interests of all the actors along the trade chain, and the power relations between them, have to be understood too.

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<sup>5</sup> It is beyond the scope of this paper to discuss the differences between the pastoral management of a herd for unstable conditions and herd management in ranching models based on stable-sized herds. See Krätli et al. (2013).



Members of a VLSA in Turkana West county © Dorice Agol

## 3. ROLE OF VILLAGE SAVINGS AND LOANS ASSOCIATIONS (VSLAS) IN BUILDING RESILIENT LIVELIHOODS

### 3.1 What was done?

The VSLAs were established to promote economic resilience and economic empowerment through increased financial inclusion. Despite the name, the VSLAs were not actually at village level. Each one covered a number of villages, which are very small in the project area, so each VSLA might be serving a potential population of around 200–300 households.

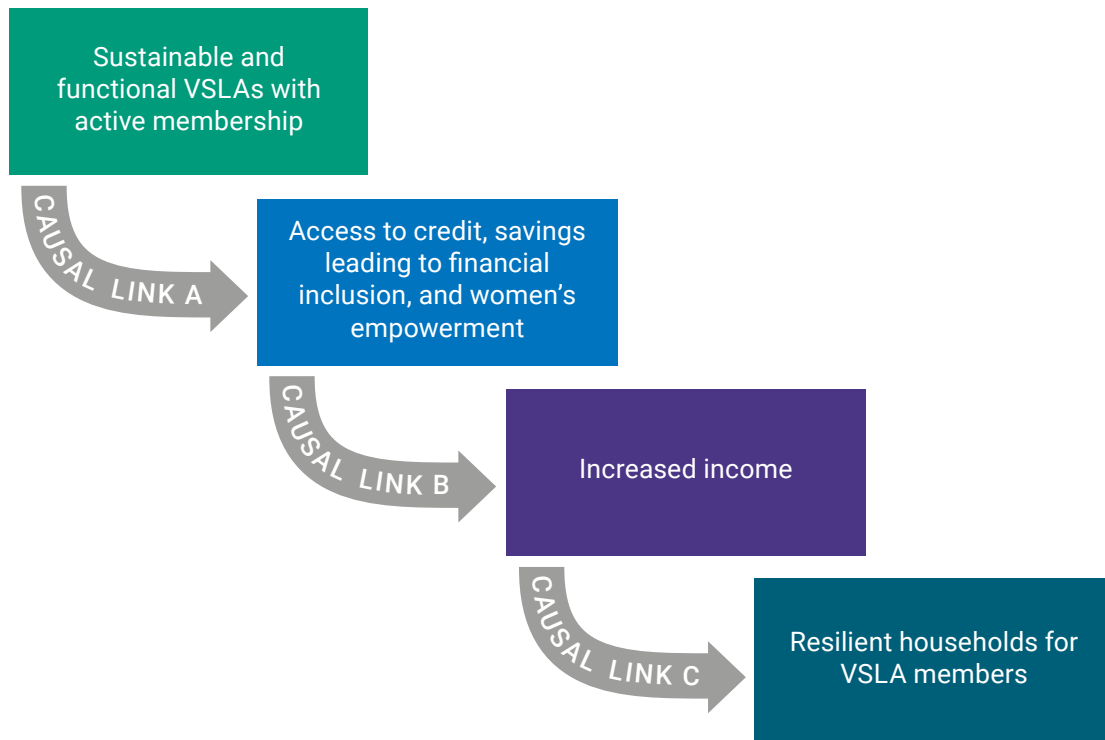
The project established the institution, i.e. the VSLA membership, its committee and its rules; it trained committee members in bookkeeping and loan disbursement; and trained members in financial management of businesses, leadership skills, conflict resolution and legal matters.

Based on project documents and conversations with the NGO staff, the theory of change by which a sustainable VSLA builds resilience is illustrated in Figure 2. This model for economic development relies on three sets of assumptions: (1) that the establishment of the VSLA will expand financial inclusion; (2) that access to a savings scheme and the ability to obtain credit increases household incomes; (3) that increased income improves economic resilience.

The first set of assumptions relates to the VSLA's continued ability to function and to provide a sustainable source of investment capital in the community. The second part relates to the underlying theory which suggests that people will change their economic behaviour as a result of the VSLA, i.e. their savings habits, their borrowing, how they use loan capital and their ability to advance economically as a result of new investments.

The third set is about the ability of new or increased income sources to continue in times of difficulty, i.e. to support resilience. This review looked at all three sets of assumptions.

FIGURE 2: INTERVENTION: VSLA TRAINING IN LOAN DISBURSEMENT AND ACCOUNTING



Source: Author's own

### 3.2 Has the establishment of the VSLAs improved financial inclusion? (Link A)

On one level, the intervention has remained sustainable. All 10 VSLAs investigated were still in existence and providing microcredit services in the pastoralist communities. Each had an active membership of 15–30 people, mostly women, and a management committee (30 members would represent around 10%–15% of the households in the project area).

Closer examination showed that things had not worked out exactly as the project theory predicted. The prediction was that VSLAs would be self-sustaining and even capable of expansion, with growth in their loan capital from savings accumulated over time and a steady income stream of interest payments, and monthly membership contributions.<sup>6</sup>

<sup>6</sup> The understanding of the project assumptions comes from a study of project documents and interviews with past NGO staff.

Rules on contributions and loan repayments had not been strictly enforced. Some VSLA members did not make monthly contributions, and most borrowers failed to repay loans with interest on time. VSLAs could not grow because of a lack of consistent savings, limited monthly membership contributions only, and regular defaults in loan repayments, all eroding the capital base.

This was not simply a 'failure' of VSLAs to operate correctly. There was a tension between the formal rules that were created for people-as-members and the informal rules that govern the interactions of people-as-neighbours:

**Some people miss meetings and default on loans payment, but we try to understand each other. We can't be strict, because of the tough situations [drought] that we are currently facing.**

**(VSLA member)**

The VSLAs had been able to sustain their core functions of lending mainly because each had received a grant in 2019 from another development programme (the Kenya Development Response to Displacement Impacts Project – KDRDIP<sup>7</sup>). This assured the continued existence of the VSLAs, but a condition of this grant was that there had to be exactly 15 grant 'beneficiaries' in each VSLA.

Because VSLAs relied on this grant money, the condition reduced the effective membership of each VSLA. The ambitious vision that VSLAs would generate a continuously growing source of investment capital from within the village economy has not proved realistic.

Unsurprisingly, power imbalances within VSLA membership restricted the distribution of benefits. For example, in one VSLA, a single (female) business owner had borrowed nearly half the total loan capital grant from KDRDIP, which she had still not fully repaid after nearly 12 months, far later than the stipulated 3–4 weeks. This prevented other members from benefiting.

The formal rules of the institution proved less relevant in governing behaviour than previously existing norms governing relationships between the more powerful – here, a relatively wealthy businesswoman – and everyone else. Formal rules cannot prevent elite capture of benefits if power imbalances within communities do not allow them to be enforced.

The rules may have been enforced more strongly if the loan capital had come from the accumulation of hard-earned savings from members. There are often different rules in the moral economy concerning what is seen as belonging to people in the community and what is regarded as a free gift from outside. (This was observed too by Benoudji et al., 2025).

If this means that sustainable financing for local investment cannot be built up faster than can be done through people's own efforts, it creates a dilemma.

### **3.3 Have VSLAs increased income? (Link B)**

Although the number of active members of VSLAs was relatively small, the 15 people benefiting in each VSLA clearly appreciated the services offered by them.

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<sup>7</sup> Kenya Development Response to Displacement Impacts Project (KDRDIP) is a national government initiative, supported by the World Bank to improve the lives of the refugee-hosting communities in the north of the country, based on the Community-Driven Development (CDD) approach.

The overall economic impact of the VSLAs was predicated on a common model where the increased availability of investment capital unleashes new economic activity, i.e. it is implicitly assumed that a lack of access to capital is a primary constraint to entrepreneurship.

VSLAs unlock endogenous capital from local savings which are invested in profitable enterprises, generating further surpluses for reinvestment. It is doubtful whether the local economy was functioning in this way in Turkana West. None of the VSLAs kept records showing how loans were used or what they had been requested for. Their concerns were that loans should be repaid and for members to make contributions.

This makes it more difficult to understand how far VSLAs supported productive investment and stimulated the local economy. Loan repayment was not evidence that a loan had generated any return: loans can be repaid by credit from other sources.

Some VSLA loans from the KDRDIP grant went for business investments which were said to be profitable. New business activity as a result could not be quantified however. People had access to multiple sources of finance, including remittances, loans from relatives, and other microcredit facilities and banks. These were used in combination.

This dynamic investment landscape does suggest the need to nuance a simplistic model that assumes that entrepreneurship in these dryland communities is primarily constrained by lack of access to any source of investment capital.

Most loans though were not used for investing in new economic enterprises but for income smoothing, to meet basic needs such as food, health, housing, education, and for dealing with emergencies such as illness and death. VSLAs even prioritised loans for emergency needs. This service was welcomed because borrowers found it easier to approach a village-level VSLA especially when a quick turnaround to process loans was needed.

Income smoothing is an important function, but it is not the function that was assumed in project documents. A facility for income smoothing is a part of resilience if it prevents recourse to distress strategies such as asset sales. An emergency loan might not increase income or livelihood diversification, but it can help prevent losses in future income.

It was not possible to establish how many distress sales were prevented however. People often had other ways to borrow, and the emergency loans provided by VSLAs were for idiosyncratic crises, i.e. individual household level emergencies rather than situations of widespread need such as droughts. These are when it becomes harder to find other loans from friends and relatives.

### **3.4 Has increased income brought economic resilience? (Link C)**

We have seen that most people in the communities did not borrow from the VSLAs and that most of those who did borrow used the money for consumption or household emergencies. Only a small number invested in business. These investments had some success in supporting household incomes but it proved difficult to establish the extent to which new sources of income increased people's resilience.

Some borrowers from VSLAs had been able to diversify their livelihoods, investing in businesses, education and healthcare. Such investments, whether financed from local credit institutions or other sources, were helping people to spread risks rather than relying entirely on livestock keeping.

Livelihood diversification did not always lead to resilience, though, because it is difficult to find livelihood opportunities in Turkana that are not subject to the same risks (Fuller and Lain, 2015: 12–13). The drought that devastated livestock production also hit livestock trading and even many other small businesses, because customers had no money. The generalised lack of purchasing power caused many businesses to close.

**I had started a kiosk, but it was too risky for me during the drought because people don't have money and the goods can go bad. And anyway, my children would just be eating the stock because they are hungry – they can't see food and not eat it. And then, I wouldn't be able to pay the loan back.**

**(Woman, small trader)**

Some borrowers bought additional livestock: this is a productive investment but not diversification, though if their incomes increase they may be more resilient by having more savings. People, however, remained vulnerable to droughts. Some had invested in assets such as improved housing which improve well-being but are not economically productive.

Others made long-term investments in their children's education. It is far too early to judge what contribution this will eventually make to their income or to the family's resilience. Overall, there are many challenges in building economic resilience in small, relatively isolated economies with markets offering limited economic opportunities.



Women carrying water from an improved water source in Peleketch, Turkana © Dorice Agol

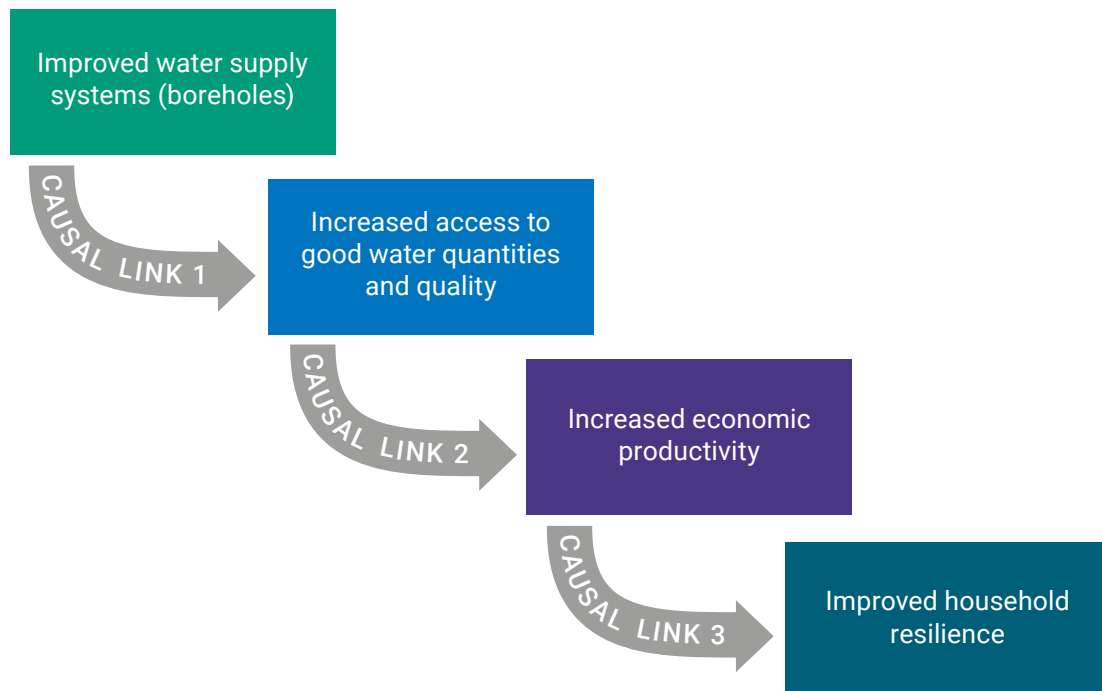
# 4. ROLE OF WATER SUPPLY SYSTEMS IN BUILDING RESILIENT LIVELIHOODS

## 4.1 What was done?

Turkana pastoralists lack access to reliable and good quality water supplies. TUPADO therefore improved a number of existing boreholes, provided solar water pumps, rehabilitated water troughs and fenced off water supply systems to prevent water contamination and vandalism. These interventions were intended to bring multiple benefits, including improved health and safety, time-saving and economic opportunities.

Three improved boreholes<sup>8</sup> were studied following causal links between improved water supplies and household resilience amongst the Turkana pastoralists. The study followed the chain of cause and effect as far as household use (Figure 3). We did not attempt to assess impacts on health or nutritional status.

FIGURE 3: IMPROVED WATER SYSTEM FOR TURKANA PASTORALISTS



Source: Authors' own

<sup>8</sup> Borehole One was located on a migratory route near the border of Kenya and Uganda. Borehole Two was located just outside Lokichogio town. Borehole Three was a largely piped system in the suburbs of Lokichogio.



Camels at a community water point in Peleketch, Turkana © Dorice Agol

## 4.2 Has the creation of physical infrastructure brought sustained increase in water supplies and quality?

All three boreholes were continuing to supply water well. To promote local level governance of the water supply systems, each borehole had a water resources users association (WRUA) under the leadership of a management committee.

The WRUAs were ensuring continuous water supplies, all the boreholes were well maintained, and user fees were financing repairs whenever they broke down. The WRUAs ensured that the elderly and people with disabilities received water for free.

The improvements had increased the number of people being supplied with water. Solar energy was pumping water in these remote areas where on-grid power supplies are extremely limited. This had increased water transmission from the boreholes to large storage tanks and then to various communal water points (e.g. water kiosks).

For example, before rehabilitation, the borehole on the migratory route had been serving fewer than 1,000 people because it used to dry up very quickly. Since rehabilitation, it was serving over 5,000 people, providing water when other boreholes had dried up.

Not all households had access to the water. This was clearest at the borehole in the Lokichogio suburbs, where water was piped from the borehole to supply one neighbourhood but bypassed the village immediately next to the borehole. The area where the borehole was sited was poor, unlike the peri-urban suburb where people paid a monthly fee to have a constant water supply piped to their home.

The payments maintained the systems but created a trade-off between the objective of sustainability and preventing elite capture.

### 4.3 Has improved water access contributed to productivity? (Link 2)

Improved water supply contributed positively to productive activities such as livestock production, building and construction and alcohol brewing. In the dry season when water scarcities are rife, many pastoralists were forced to trek for days in search of water.

Improved water availability reduced migration of weak and sick animals and lactating females, and the time herders needed to move as they look for water with their livestock in the dry season.

Pastoralists found that this made their movement more productive, because they could concentrate on searching for pasture, rather than pasture and water. They reported that their livestock were healthier, and in particular that the most vulnerable animals benefited most from avoiding the need to walk long distances in search of water.

Healthier animals were said to fetch better prices. However, it was not possible in this study to verify these impacts independently, e.g. by quantifying changes in mortality or multiplication rates. These reports of benefits are important, but it is necessary to be cautious, partly because of pro-project bias and also because conditions change so much from year to year.<sup>9</sup>

Previously, when boreholes had dried out, people had been forced to travel long distances for several hours in search of water for domestic use too. The time saved by women and girls, who have core responsibilities of childcare and household chores including fetching water for domestic use, was partly used by some for small-scale business activities.

Whereas men and boys, who have a core responsibility of herding, either used the time to move more productively with animals (as described above) or ran small businesses.

Boys attended school with less interruption if they were able to migrate less. The boreholes provided water for free for the elderly while those who were physically challenged could access water easily which was an important aspect of social inclusion.

Some of the predicted economic impacts did not materialise, however, particularly those related to the intended changes in livestock production. It had been expected that water would be used for irrigation and lead to fodder production by Turkana pastoralists, and external technical support and seedlings were given to stimulate it. This was not successful because the water was insufficient and the fields of fodder plants dried out completely.

Project reports had attributed kitchen gardening to water provided by the project, but in fact very few households had established small kitchen gardens, and these were not watered from the boreholes but only functioned in the rainy season. This is an example of project monitoring (and evaluation) relying on its own assumptions: it had been assumed that borehole-water would lead to kitchen gardens, so any kind of agricultural activity found was assumed to be a project impact.

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<sup>9</sup> Fieldwork for Balfour et al. (forthcoming) frequently found pastoralists initially reporting great benefits from new boreholes, only for it to become clear later in the interview that the boreholes were of extremely limited value because of excess salinity. Elsewhere in Kenya, Levine et al. (2024) quantified such pro-project bias for a different water project at 71%, i.e. almost three-quarters of positive testimonies were not true.

## 4.4 Has the productive use of water improved resilience? (Link 3)

The link between the productive use of water and resilience is the most difficult link in the chain to analyse. It is important not to base a conclusion on a set of assumptions about what makes people and communities more resilient, repeating the mistake (detailed above) found in project reporting.

The benefits of the water on livestock have been discussed but the overall impact on resilience is harder to ascertain. Balfour et al. (forthcoming), in a companion study in this series, has focused in much more detail on the impact of new water infrastructure on herders' resilience in northern Kenya and southern Ethiopia and found that the evidence points to both positive and negative impacts.

There is a little more diversified income from small-scale activities such as brewing, but as discussed in Section 2 on VSLAs, shocks like droughts deplete purchasing power in the local economy, hitting many other retail businesses. Income diversification has thus contributed less than might have been hoped to drought resilience.

New income streams also enable households to build savings as a buffer and to make other investments. Some had invested in more permanent housing, sometimes because they had greater income but also because they did not need to move so regularly to look for water. This is an improvement in well-being. Improved water supply had also brought socioeconomic development, such as the expansion of schools, healthcare facilities and trading centres.

This has increased permanent settlement in pastoral areas with wider impacts that are hard to predict. (See Balfour et al., forthcoming, for a longer discussion of the implications of settlement resulting from new permanent water sources.) The borehole on a livestock migratory route near the Kenya and Uganda border is a popular stop-over for pastoralists moving to Uganda with livestock during the dry season. Increased transitory movement and more permanent settlement at the borehole area are already leading to scrambles for resources such as grazing land and a perceived risk of conflicts.

It is harder to foresee the impacts of deep boreholes on the water table and how this might affect other nearby water sources. We could not find an overall plan guiding water development in the watershed which could help avoid the risks of maladaptation and take into consideration likely changes in recharge rates from rainfall as a result of climate change.

There may be wider impacts in different directions on social relations, which are also an important part of community resilience. Pastoralists saw better family ties and social cohesion because water had reduced their migrations. On the other hand, water also brought conflict between different users who are fighting to be prioritised, particularly in the dry season when water is scarce. Those managing the water systems had already been threatened and operators had sometimes been forced to open water for their own safety when it was supposed to be closed.

The longer-term impacts of water occur against a background of wider change. Turkana pastoralists were found to be increasingly valuing education. Households have sold animals to pay for education for their children as a long-term investment, hoping for their educated children to find formal employment and support them in future. This is also driving a more settled lifestyle, which water development is facilitating.

# 5. REFLECTIONS AND CONCLUSIONS

## 5.1 Understanding what is happening

This research took place six years after the projects had ended. Because funding had ended, the implementing NGO was of course no longer monitoring what was taking place. As a result, none of the assumptions underpinning the programme theory were ever tested or challenged. When we began our fieldwork, we found that it was being assumed that everything was still working as planned. Very little was therefore being learnt about which interventions really helped in building resilience or how best to bring about positive change.

Longer-term impacts were not on the radar, e.g. understanding the impact of deep boreholes on water supply at other water sources, or the impacts on resilience of changing settlement patterns. This knowledge void is the norm with aid interventions, and it is hard to exaggerate its significance: the aid sector has proven unable to put in place systems for learning from its own investments.

## 5.2 Understanding power relations and the dynamics of grassroots institutions

All three project components looked to establish or strengthen institutions with a long-term role in managing and governing services at local level, i.e. VSLAs, WRUAs and LOLIMA. The successes of these institutions were all limited by their ability and authority to enforce rules, and how much people were willing to follow rules.

All three institutions had a mixed record. For example, WRUAs won acceptance for the elderly to receive free water, but traders found ways to avoid market fees; water committees had to give in to threats, and VSLAs could not control their more powerful members.

The projects tended to assume that these grassroots institutions existed in a vacuum. However, LOLIMA traders had pre-existing networks on which they continued to rely; there was already a whole ecosystem of borrowing and credit into which VSLAs fitted; and water committees had to fit into an established set of social rules dictating who could forbid whom from accessing resources.

Development agencies tend to assume that formality gives rules more power because that is how social norms work in much of the western world. But institutional behaviour and effectiveness were shaped by the interplay of pre-existing relationships (often thought of as 'informal' by outsiders) and the 'formal' institutional rules, often created or imposed by external agencies.

The two are not always in competition or opposition to each other. The example of the VSLAs shows that formal rules could be enforced but only to the degree that informal power relations allowed. Institutional sustainability perhaps needs a minimum alignment or harmony between formal and informal rules.

People's behaviour in the face of formal rules is foreseeable. Support for local institutions has to be informed by an understanding of pre-existing institutions and the so-called informal rules that govern social relations in each community or society, what Cleaver (2012) calls 'institutional bricolage'. Support has to be offered in ways that do not depend on unrealistic expectations of rule compliance.

### 5.3 Understanding power relations and dynamics in resilience-building

Although the existence of power asymmetries between different actors is widely recognised, incorporating an understanding of how these influence project outcomes is more challenging. Many projects cannot show clearly how they anticipate unequal power relations will affect the outcomes of work undertaken in the following years or what mitigation strategy for dealing with this has been put in place.<sup>10</sup>

No community-based project, whether a water supply system or a microcredit initiative, will benefit every household equally. Access to a water source is not only about physical access (e.g. distance), but also about a household's ability to pay for the water, and the ways in which the system shares out the water.

This was evident in all the boreholes, but most starkly in Lokichogio suburbs where water flowed to money and power, so that better off households (including officials of the project) had a piped water system installed in their homes whilst a poorer neighbourhood adjacent to the borehole was bypassed. (That 'water flows uphill, to money and power' is neither a new finding, nor one confined to regions such as Turkana. Reisner (1986), writing of the western United States, called it 'the [American] West's Cardinal law'.)

It is increasingly obvious at global level how dominant companies are able to use markets to further concentrate power in their hands. It should be no surprise that this same dynamic plays out on a smaller scale at every level from national to local. Power asymmetries are too strong and too entrenched to be overcome by building a physical market or by expecting market forces to create equal competition.

Some degree of elite capture is a universal constant however and does not preclude successful resilience-building. Those intervening from the outside need to understand and to plan for these imbalances, and to recognise how often community leaders, ostensibly speaking on behalf of communities, may have their own interests that partly overlap and partly conflict with others' interests.

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<sup>10</sup> Benoudji et al. (2025) report that villagers in Chad identified one such mitigation strategy with hindsight. If the wider community had received the same training that had been given to various committees established in the village, they felt they would have been better able to hold them to account.

## 5.4 The insistence on achieving transformative change

The interventions hoped to achieve some measure of transformative change in different ways. The market hub would both incentivise herders to be more market-oriented and would also enable more market-oriented production by acting as a hub for knowledge and services. VSLAs would turn savings potential into capital for investment, releasing nascent entrepreneurialism. Water would enable diversified income sources and transform household economies.

Though all of these project components had some successes, the vision of their transformative potential has not been realistic in any of the three cases. The VSLAs only provided capital based on further external grants. Water provision has been helpful, but the increase in economic activity that it has enabled has been limited.

The establishment of a physical market hub at Lokichogio did not transform the dynamics of livestock trade and pastoral production: pastoralists continued to sell animals only in response to the timetable of their household demands for money. The design of market-based resilience-building projects can rely too much on a belief that predictions about how people's market behaviour will respond to changing prices are social theories, not economic laws (as Bedelian, 2025 also found).

And yet, transformative change is still the basis of how much of the aid sector sees resilience programming. Transformative visions risk relying on the ability to ignore the details of the present and what maintains it, and a failure to recognise the richness of (and inequalities in) existing informal institutions that external interventions seek to replace.

Rather than seeking to replace existing behaviour with a transformational model, an organic and slower transformation may be more realistic, starting from what people are already doing, e.g. their informal trade or credit networks.<sup>11</sup>

This study of the longer-term impacts of interventions that had been well implemented shows that it is much harder to find successful models than we would like to imagine. There remain huge disparities between idealised theories and real-life experiences, making it difficult to avoid unrealistic expectations.

How far each of the project components succeeded in bringing positive change to many people depended to some degree on factors that were entirely context-dependent, e.g. the interplay between the rules of the project and the informal rules and power relations that already existed. This is an unwelcome conclusion, because it means that one of the central questions that aid actors ask themselves – What works? – may be a false question. What works in one place may not work in another, and the only way to know would be to invest in finding out.

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<sup>11</sup> See Benoudji et al. (2025) for a related discussion on 'the adjacent possible'.

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Cover image: Goats drinking at a water point in Oropoi near the border of Kenya and Uganda © Dorice Agol

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This material has been funded by UK aid from the UK government; however the views expressed do not necessarily reflect the UK government's official policies.