PERCEPTIONS OF THE SERVICE DELIVERY AND VALUE OF THE KENYA LIVESTOCK INSURANCE PROGRAMME (KLIP)

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ACKNOWLEDGEMENTS

This note was written by a team of the World Bank comprising John Plevin (Senior Financial Sector Specialist), and Lindsey Jones (Senior Operations Officer) under the Financial Resilience Program, supported by USAID. The team wish to thank Karlijn Morsink for her substantial guidance throughout, as well as Titus Wanjala for leading the collection of survey data.

The team would also like to thank Evie Calcutt, Qhelile Ndlovu, and James Sinah (World Bank), as well as Richard Kyuma (Program coordinator, Kenya Livestock Insurance Program) for their review, input and guidance.

Finally, the team wish to acknowledge the significant value brought by peer reviewers: Isaku Endo, Senior Financial Sector Specialist and Rhoda Rubaiza , Senior Agricultural Economist (World Bank).

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EXECUTIVE SUMMARY

Drought represents a major threat to the livelihoods of nearly 60 million pastoralists living across the Horn of Africa and the Sahel. The consequences of drought can be devastating: limiting the availability of pasture; threatening the health and size of herds; and reducing the value of livestock assets as animals are sold off (Jensen et al., 2017). The knock-on implications for poverty, food security and human capital accumulation are potentially severe, especially if pastoralists resort to adverse coping strategies – such as reduced consumption or removing children from school (Jensen et al., 2017; Janzen and Carter, 2019; Son, 2021).

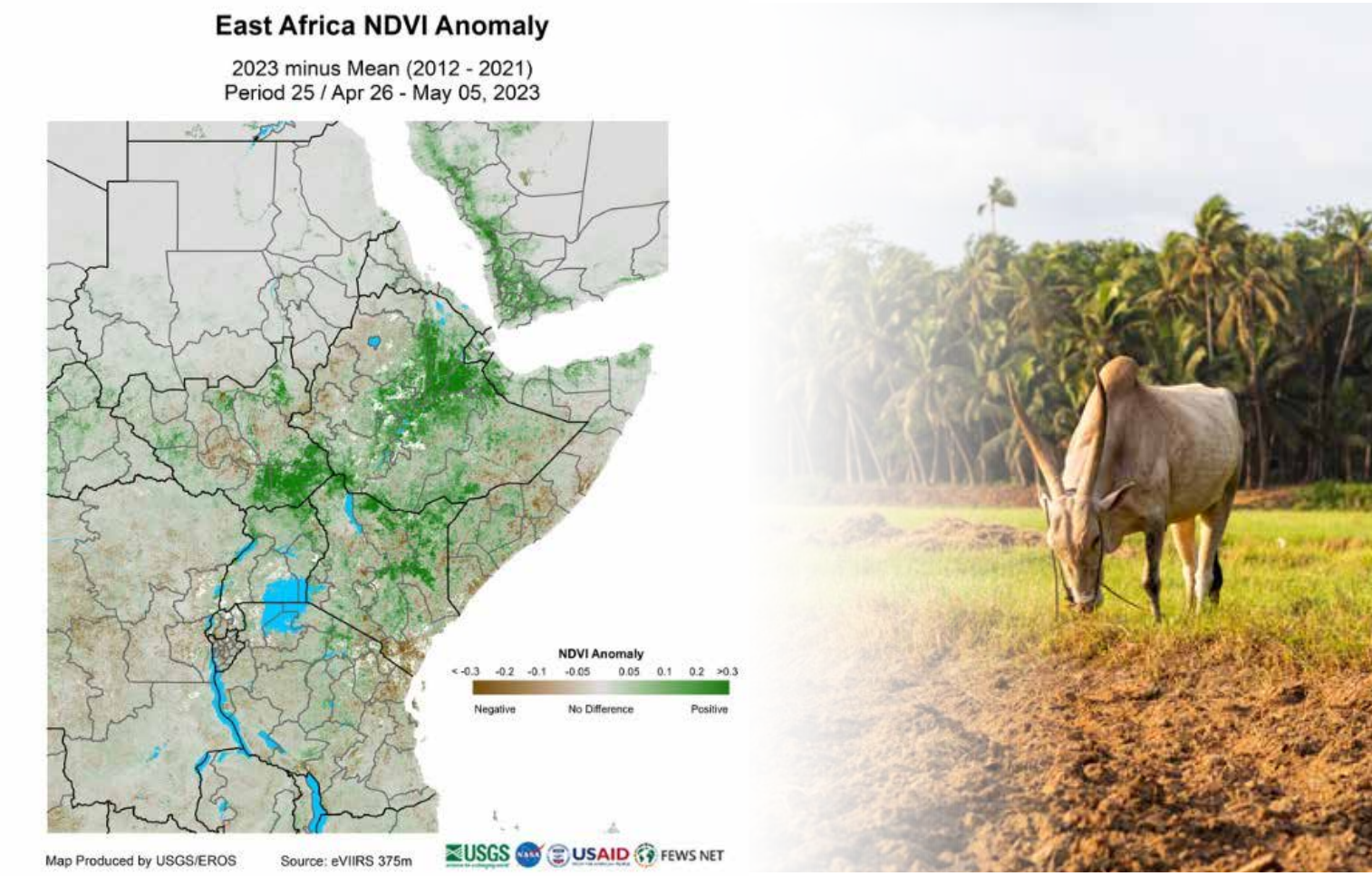
Kenya's Arid and Semi-Arid Lands (ASAL) are particularly vulnerable to drought occurrence owing to high levels of exposure and sensitivity. ASAL counties comprise 80% of Kenya's land mass, with pastoral systems accounting for the vast majority of livelihood opportunities. An increase in the incidences of severe droughts in recent decades and uncertainties over the impacts of climate change on drought trends, as well as weather variability, further underscore the need to strengthen the resilience of pastoral communities (Ndiritu & Muricho 2021).

In recent years, livestock insurance has been introduced in the ASAL regions of Kenya as a means of enhancing pastoralists' capacity to manage drought risk. The idea of insurance in this context is that it transfers the risk of drought-induced low quality of pasture for grazing by livestock from the pastoralists to a risk aggregator (e.g., an insurance company), in exchange for a regular premium payment. The logic of insurance is that by providing pay-outs in case of covariate shocks, the ex-post shock effect of insurance is to smooth household consumption and accelerate recovery from shocks. Additionally, the ex-ante risk coverage, which occurs even in the absence of realized losses, reduces the need for households to worry about the (downside) extreme losses they may face, and may allow households to follow a higher-risk but higher-return production path, to escape the low-level equilibrium in which they are trapped. Indemnity insurance, which directly compensates losses, is typical ill-suited for insuring against agricultural and livestock-related risks in these contexts because it is fraught with moral hazard and adverse selection, and relatively to the total value of insured assets the administration costs are high.

Index-insurance provides a solution to many of these challenges because claim payments are not determined on the basis of actual losses, but on an independently verifiable index which is correlated with losses, such as rainfall measurements at weather stations or satellite readings of pasture quality. Pay-outs are then made whenever the index reaches below or above a certain threshold, which is determined based on historical realizations of the index, irrespective of materialised losses. The low cost of monitoring and administration means that insurance can be extended to markets previously considered uninsurable – including low-income and vulnerable communities in Kenya's ASAL counties.

The Kenya Livestock Insurance Programme (KLIP) is a social livelihood protection scheme which is built on index insurance principles. Targeted at some of the most vulnerable pastoralists in the ASAL regions, the Government of Kenya (GoK) pays domestic insurance companies an annual premium to provide financial protection against drought for more than eighteen thousand vulnerable households. Livelihoods in these regions are especially challenged during two annual dry seasons, when droughts can cause poor quality of forage, in turn increasing the likelihood of livestock mortality. If satellite-derived measures of forage scarcity (based largely on a Normalised Difference Vegetation Index, NDVI) fall below the predetermined threshold KLIP for an area insured under the programme (unit area insured, UAI) makes claim payments to all pastoralists in the registered under the programme for that area.[1] Crucially, these index-linked pay-outs are designed to be made in time to allow pastoralists to take action to prevent costly loss of livestock from occurring, reducing substantially the financial and human impact of droughts. To increase the speed and access of KLIP, insurance pay-outs have been linked, where available, with mobile money account – namely 'MPesa' – which is widely used across Kenya.

Figure 0: Visualization of NDVI for East Africa

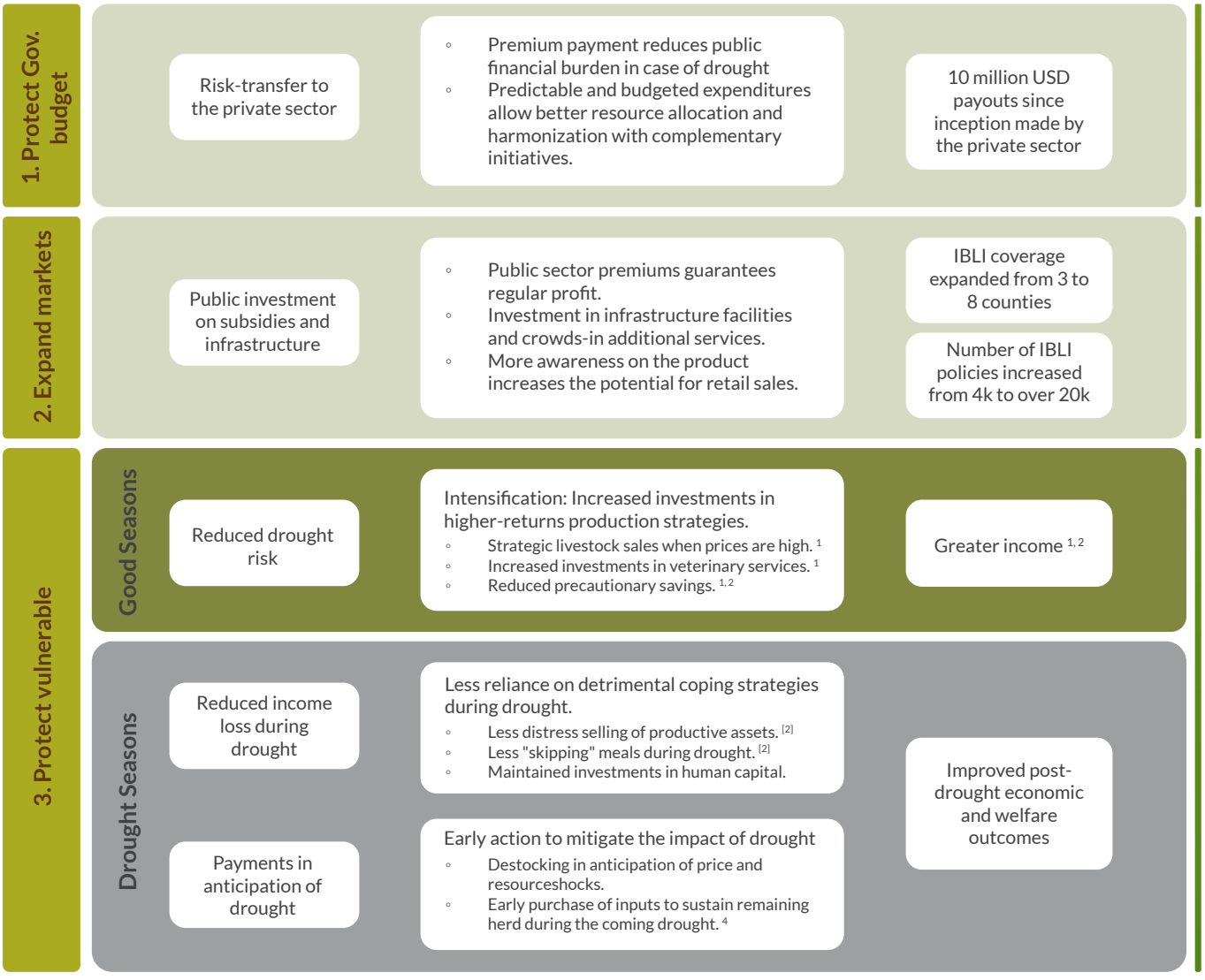


Source: https://earlywarning.usgs.gov

[1] This approach mirrors that used under commercial alternatives such as Index-Based Livestock Insurance (IBLI) which also operates in Kenya.

As a public-private-partnership, KLIP is a collaboration between GoK and domestic and international insurers and reinsurers, with technical support from the International Livestock Research Institute (ILRI) and the World Bank. Since its inception in October 2015, KLIP has insured slightly over 18,000 vulnerable households annually with total premiums of US$8.8 million and triggered claims amounting to US$10 million. An overview of the objectives and benefits targeted through KLIP are summarized below in Figure 1.

Figure 1: Objectives and benefits of KLIP



Source: adapted from various ILRI reports[2]

Considerable research investments have been made in understanding the impact and nature of KLIP activities as well as those associated with the Index-Based Livestock Insurance (IBLI) programme – a initiative linked with KLIP. In particular, widescale assessments of ongoing schemes in Northern Kenya and Southern Ethiopia have taken place in conjunction with a range of international research institutes (Jensen et al. 2017; Jensen et al. 2016; Jensen et al, 2015; Matsuda et al. 2019; Amare et al. 2019; Takahashi et al. 2019).

[2] Sources include: Jensen et al., 2017; Matsuda et al., 2019; Janzen and Carter, 2019

In seeking to assess the effectiveness of KLIP and add to our understanding of index-based insurance this study explores perceptions related to the delivery and value of KLIP amongst beneficiaries. In particular, it analyses strengths and weaknesses of KLIP's registration, administration and roll-out from the perspective of those in targeted areas of Northern Kenya. Insights are gathered across four ASAL counties using a combination of quantitative and qualitative sources, including a large household survey, focus group discussions and key informant interviews.

Results from the study are designed to provide descriptive and exploratory insights relating to KLIP as a programme[3]. While this report does not lend itself to statements about the impact or causal effect of KLIP on welfare or related proxies of poverty or vulnerability, breakdowns of user perceptions and analysis of correlations with key traits related to service delivery serve as a useful starting point in understanding the perceived value of KLIP and other related index-based insurance products, which are a pre-condition for KLIP to achieve any impact on welfare and wellbeing.

PRINCIPAL FINDINGS

Insights from the study can be broadly categorised into four main findings.

i. Core aspects of service delivery are generally well received amongst targeted communities

For the most part, KLIP is associated with positive sentiments regarding key service delivery traits such as the reliability of payouts, and comprehension of amounts distributed. Similarly, KLIP is perceived favourably when compared with alternative safety net programmes and forms of humanitarian assistance, due to its perceived impact, timing and reliability. On average, respondents also note that they feel that KLIP has allowed them to buy livestock feed and prevent animal loss during drought episodes – though the responses do vary substantially within and between groups.

ii. A key factor in understanding KLIP's positive reception is trust

Insights from a range of focus group discussions show that levels of trust in KLIP's administration are higher when compared to other related initiatives – including the well-established Hunger Safety Net Programme (HSNP)[4]. Much of this is reflected in the notion that payouts are linked to a transparent index, with general consensus amongst beneficiaries that the process is dependable. A slight majority of surveyed respondents agree that the index is a reliable tool in determining payouts and a good representation of the actual quality of pasture – though trust in the indexing procedure is far from universal. The fact that KLIP has issued pay-outs to 96% of beneficiaries during the period of operation is likely to have contributed to KLIP's favourability.

[3] Findings should not be interpreted as causal, given that the study was not designed to account for potential unobserved confounders.

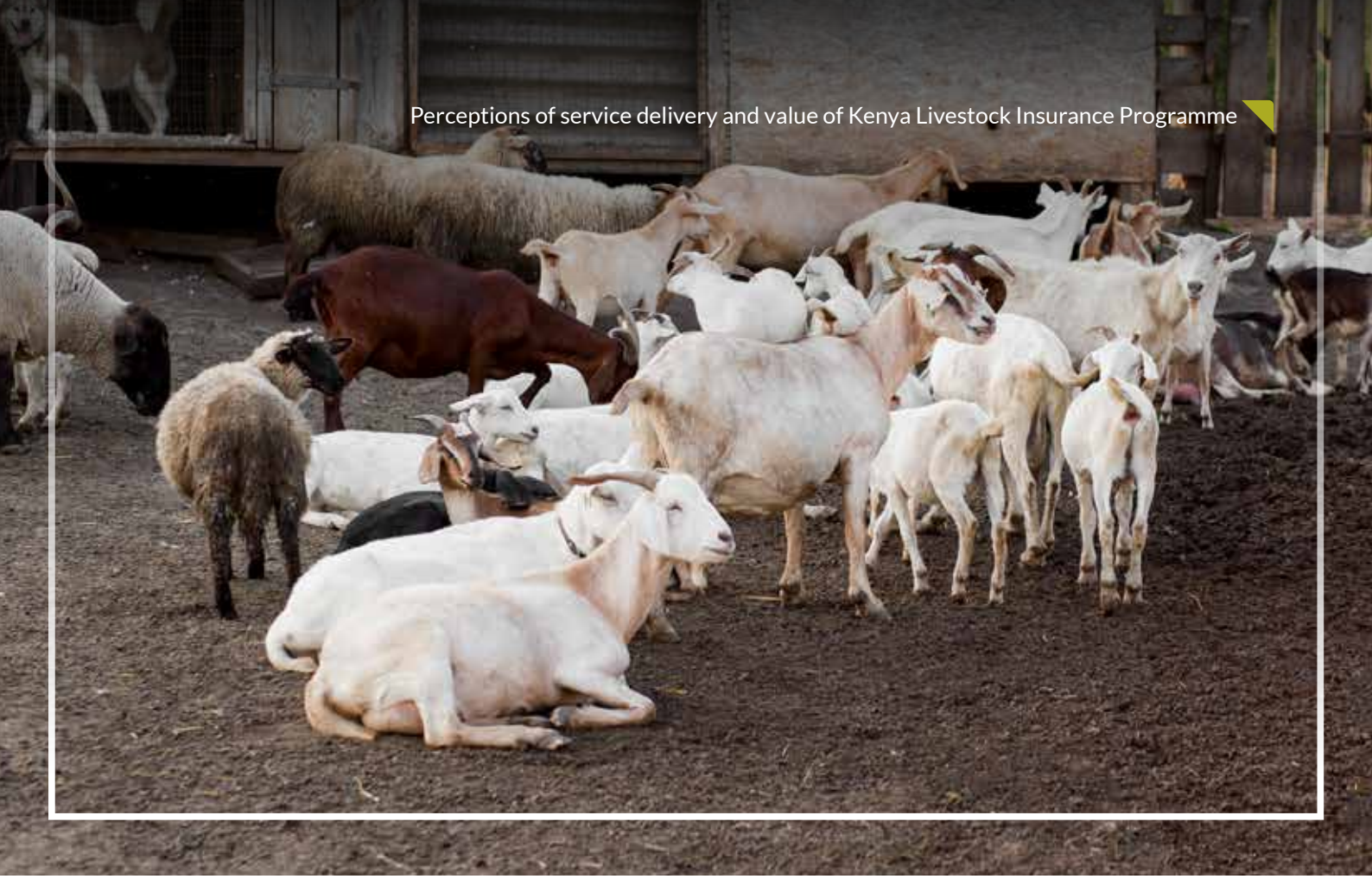
[4] The Hunger Safety Net Programme (HSNP) is an unconditional Government cash transfer programme implemented by the National Drought Management Authority (NDMA) in eight poorest and arid counties. HSNP expands coverage during times of drought or any other emergency like flooding by disbursing emergency cash transfers to additional vulnerable households beyond the regular cash transfer beneficiaries. The scale up is determined by the NDMA drought status triggered by the Vegetation Condition Index (VCI).

iii. Confusion and dissatisfaction exist with regards to registration and aspects of KLIP's management

While KLIP appears to be trusted and well-liked, there is clear room for improvement in terms of service delivery. Surveys and interviews point to widespread misunderstanding of KLIP's registration procedures as well as the terms associated with the insurance product. The majority of respondents indicate that they do not completely understand the registration criteria, and many indicate that they are unsure whether they are registered at all. A lack of regular communication between KLIP-related representatives and beneficiaries was frequently reported (both in survey responses and focus group discussions).

iv. Despite positive sentiments, perceptions of whether KLIP is able to support households in the face of drought are mixed

Respondents generally perceive KLIP as providing value in terms of supporting households' coping capacity. In particular, a large majority of beneficiaries agree that payouts are sufficient in size to help manage and maintain livestock during periods of hardship. A high proportion of survey respondents mention that they feel that KLIP claim payments have allowed them to keep children in school. This opinion should, however, be interpreted with caution as potential confounders cannot be accounted for in the absence of further experimental or quasi-experimental evidence (see Section 3.7). Findings from the survey also challenge a number of KLIP's key attributes. For example, a majority of respondents agree that pay-outs received to date have arrived too late to be of use in adequately managing livestock assets. Respondents are similarly split in their perception of whether KLIP recipients are better off than those not registered to the programme.



RECOMMENDATIONS

Findings from the study point to several recommendations aimed at informing design and implementation of index-based drought protection programs and other disaster risk financing in the region – such as the DRIVE project - and globally.

Priority 1: Emphasise clarity and transparency in the registration process

A key result of this study is that there is a need for greater clarity and support in the registration process. A large proportion of KLIP beneficiaries reported dissatisfaction with the sign-up procedure – with many claiming to be unaware of whether they were formally registered or not. This suggests that improvements in the recruitment process may go a long way. For example, KLIP relies heavily on local chiefs as entry points for signup of beneficiaries. Dedicated training of local chiefs may help to improve communication channels, especially given high levels of trust in clan networks. An additional option could be to issue a certificate or card to beneficiaries at registration as an affirmation of coverage. More broadly, greater efforts are needed in providing clear communication of the basis for (terms of) index-based insurance products.

Future programs could be implemented at a micro or meso level, with a more active transaction process between the insured and insurer. This may serve to reduce the prevalence of the issues identified above which may result at least in part from the passive nature of involvement in the macro social protection program. However, policies sold through groups (meso), or those bundled with other services may still suffer from lack of awareness and clarity if not communicated carefully and explicitly. Further, even under a commercial microinsurance program, understanding of the presence and nature of coverage, including expectations of payouts, should not be assumed and require well-designed investments in process and communication. Incentives for greater engagement from insurers, such as introducing consumer choice by reducing premium subsidies to below 100%, could help improve processes.

Priority 2: Continue to build trust in the indexing procedure

Trust is key to the success of any index insurance scheme. In particular, beneficiaries need to feel that the index (a forage scarcity index in KLIP's case) is strongly correlated with the likelihood of livestock losses. While overall trust in KLIP and its indexing procedure are generally high, a number of recipients express scepticism of satellite-derived pasture estimates. Education to pastoralists and other stakeholders should be continued and scaled up to ensure that the nature of KLIP's index is well understood. Significant investment has been made into sensitization, but index insurance literacy remains a challenge. A variety of communication channels and techniques, tailored specifically to non-technical audiences (ones that may not be familiar with satellite derived products) should be pursued.

Significant investment in awareness and education on insurance products are required. Insurers are incentivised to ensure pastoralists understand the value of the product in order to maximize sales of policies. However, public investment in and oversight of communication and education around index insurance is critical to ensure that policyholders understand the risks and limitations of insurance, its role alongside other risk management tools, and that insurance is not mis- or oversold. Such communication and education could be supported by the Government or the Regulator through formal, independent quality assurance schemes such as QUIIC[5].

Priority 3: Invest in outreach and communication beyond registration

One of the main areas that beneficiaries suggest for improvement is communication from agencies responsible for KLIP's local administration. Respondents repeatedly mention that there is little-to-no further effort after enrolment. Future KLIP-related activities should ensure continued communication well beyond the registration processes. This includes notification of responsible local focal points and regular updates, including notification of triggering events. Many of these services can be carried out cheaply and remotely through use of mobile phones, in areas where availability and network coverage are sufficiently high.

Drought insurance programmes require careful coordination and management to ensure that insurers, and other public and private actors in the delivery of insurance, together provide clear, sufficient communication. The roles of pastoralist groups, financial services providers, and national and local government should be clearly laid out.

Priority 4: Provide greater flexibility in choosing modes of payout

Differences in KLIP's mode of payout are highly correlated with user satisfaction and beneficiaries' perceptions of KLIP effectiveness. Future KLIP activities, as well as similar insurance initiatives targeting ASAL counties, would benefit from greater freedom in terms of claim payment modality. While some recipients prefer to bank cheques, allowing users to choose may help in averting criticisms of late pay-out notification and difficulties in accessing physical bank accounts. This is particularly relevant in areas with low bank penetration or where the local administrative office (namely Takaful in the case of KLIP) is difficult to access.

Programs should be designed such that insurance delivery takes into account these key beneficiary and policyholder needs and constraints, which are not uniform across all pastoralists in all areas. An understanding of the availability and uptake of mobile payments and other payments systems by different groups and in different geographic areas should be sought to inform scheme design.

[5] https://quiic.ucdavis.edu/

Priority 5: Focus on the provision of timely pay-outs

Many of KLIP's recipients report that claim payments are received late. While dissatisfaction with the timing of pay-outs is especially pronounced in Marsabit and Isiolo (the two countries where pay-outs were received through bank transfers), significant concerns over delayed payment are similarly expressed in Tana River and Marsabit (where pay-outs were administered via mobile phone). Since insurance is a risk management tool, which should pay when shocks are experienced, delayed claim payments can eliminate the value of insurance, irrespective of being covered.

The importance of timely claim payments for KLIP as a risk management tool imply that improvements in payout distribution timing and modality should be seen as a top priority. Issues are likely to relate either to timing of the index being triggered or administrative delays in distributing payouts to beneficiaries – anecdotally we understand that there have not been issues with index calculation but rather delays have resulted from administrative issues around registration and payout modalities. Further research into the implications of disbursement at different time periods during periods of drought may be of considerable use.

Investments in processes around registration, triggers, and payments should be prioritized to ensure that index insurance payouts are timely in order to achieve the intended impact on asset protection and household welfare. This could include introducing explicit incentives for timely payout from insurers, development of clearly laid out processes and responsibilities, and adopting transparent digital information systems.

1. INTRODUCTION

Livestock production in arid and semi-arid regions of Sub-Saharan Africa is fraught with risk. Pastoral systems, and the livelihoods they support, are frequently described as 'boom or bust' (Scoones 1993). Herd sizes can drop significantly in the face of adverse conditions, with drought often seen as the principal threat to the wellbeing of pastoral livelihoods. Severe drought can have considerable knock-on implications for the quality and availability of pasture and water. Its occurrence often forces pastoralists to adopt harmful coping mechanisms, such as livestock sales when there is oversupply in the market, or dependence on school-age children for labour (McPeak et al. 2010).

Index-based insurance products can play a considerable role in reducing the impacts of drought risk in livestock-dependent regions. Interest in index-based insurance has risen rapidly in recent years – touted as an effective means of promoting financial resilience. Its popularity is largely built on the promise of significant reductions in adverse selection, moral hazard, and operational costs, allowing for index-based initiatives to expand in markets seldom covered by conventional insurance (Gretreaux et al. 2015). As a result, index insurance has been promoted as a way of increasing coverage in low-income regions, including South Asia and Sub-Saharan Africa (Miranda and Farrin 2012). An increasing number of index-based programmes has emerged, typically drawing on the support of government and donor subsidies.

Whilst index-based insurance may solve problems with traditional indemnity insurance, its benefits should be weighed against the risk that pay-outs do not match the losses experienced by the insured party, known as basis risk. Basis risk can manifest in two ways, both of which reduce the effectiveness of index-insurance. Positive basis risk occurs when the index triggers a payment while the insured experiences no or are less severe losses than those targeted under the insurance product. Positive basis risk may appear to be a boon to the insured party. However such events increase the premiums charged for insurance, whilst providing pay-outs when they are least useful. Negative basis risk, meanwhile, occurs when the insured party experiences a loss for which a payout is expected, but the payout does not materialize or the value does not reflect the severity of the loss. Negative basis risk is of most obvious concern to beneficiaries and other stakeholders, especially when dealing with low-income and vulnerable households.

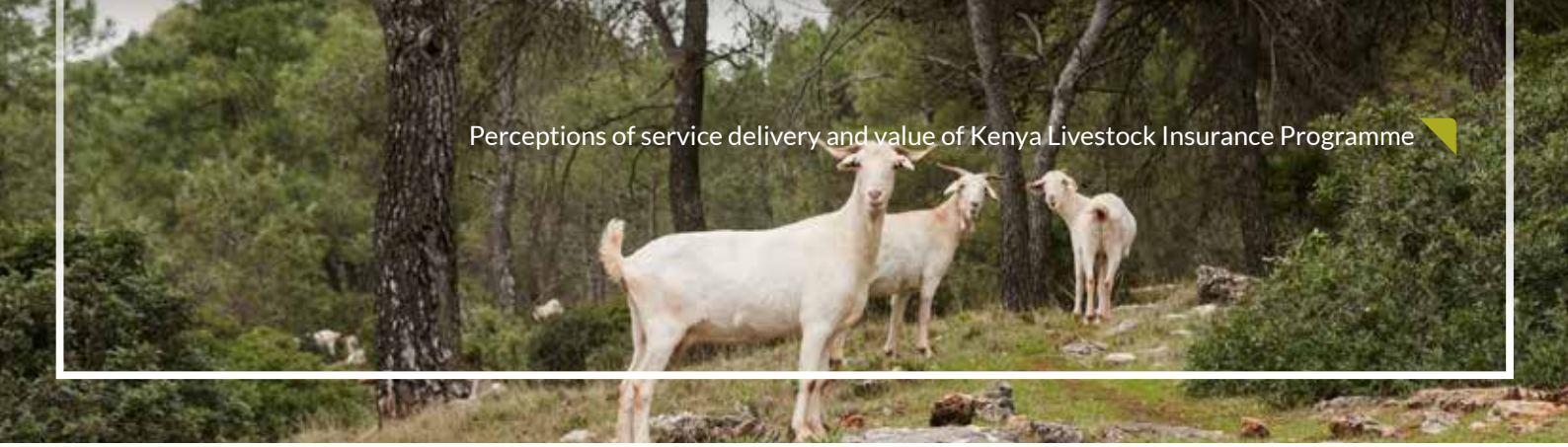
Considerable potential exists in the deployment of index-based insurance to support pastoralists in arid and semi-arid regions. Early initiatives such as the Index Based Livestock Insurance (IBLI) programme in Kenya and Ethiopia (launched in 2009) have demonstrated the feasibility of index-based products in targeting pastoralist communities (Jensen et al. 2015). IBLI takes advantage of the strong correlation between vegetation quality (measured remotely via satellites) and livestock losses to create a robust index used in triggering insurance pay-outs when forage quality drops below a historically determined threshold.

While IBLI is sold as a commercial product to pastoralist, Kenya Livestock Insurance Programme (KLIP) is a social protection extension whereby the Government of Kenya (GoK) purchases IBLI policies, providing subsidised coverage to targeted groups of vulnerable pastoralists. It is a collaboration between Government of Kenya (GoK), World Bank (WB), International Livestock Research Institute (ILRI) and Swiss Re – specifically developed as a public-private partnership: government activities are focused on creating suitable enabling conditions (including premium subsidies), while private sector collaborators focus on service delivery. To date, KLIP has insured over 18,000 vulnerable households with total premiums of US$8.8 million. KLIP has paid out claims amounting to US$9.3 million.

In seeking to add to understanding of the administration and uptake of index-based insurance, this study documents perceptions on the service delivery and value of KLIP amongst beneficiaries in four Kenyan ASAL counties. Insights are gathered from combination of quantitative and qualitative sources, including a household survey (comprising both beneficiaries and non-beneficiaries), Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs).

The study serves as an exploratory analysis of beneficiary perceptions relating to KLIP. While non-beneficiaries were also involved in the survey, they should not be seen as a control group given that selection was non-random. Findings and effects should therefore be interpreted as correlational rather than causal. Despite this, insights across the various data sources provide an important step in understanding KLIP's perceived value and the impressions of beneficiaries of the initiative's roll-out and uptake amongst targeted communities. Findings may also be of considerable relevance to design and implementation of other related index-based initiatives.

The study is broken down into four main sections. Below we provide background information on the nature of index-based insurance as well as design elements of the KLIP initiative. In Section 2 we outline the methodology used in collecting qualitative and quantitative data as part of this study, including details of survey design, implementation and sampling. We then present key findings and results in Section 3, focusing on KLIP product experience; perceived quality of the index; registration and claim settlement; timing of pay-outs; and perceived value, both stand-alone as well as compared to other related programmes. Finally, Section 4 synthesises key results and provides recommendations for future KLIP-related activities as well as other index-based insurance initiatives.



1.1. Livelihoods in Kenya's ASAL counties

Before delving into the details of KLIP's rollout it is important to understand the context within which it operates. Kenya's ASAL counties constitute a series of 23 counties that make up 80% of Kenya's land coverage. They are primarily characterised by climatology: namely, low amounts of annual rainfall. Areas typically receive between 150 – 850mm of rainfall per year with high levels of weather variability. Soils are typically shallow and infertile, making large-scale agricultural production difficult across much of the region (GoK 2015). As a result, the majority of households in ASAL counties make a living principally through a mix of pastoralism and small-scale agriculture. As such, while ASAL counties comprise just 38% of Kenya's population, it hosts more than 60% of the country's livestock and is responsible for more than 50% of meat production (KNBS 2010).

Kenya's ASAL counties are also marked by low levels of socio-economic development. Poverty persists across much of the region. Indeed, in the Northeast of the country, including Marsabit, Wajir and Mandera, the absolute poverty rate is 70% (World Bank 2018). Moreover, pastoralist communities in Kenya are frequently affected by chronic food insecurity, with high rates of malnutrition (Jenzen et al. 2016). These are further exacerbated by several socio-economic and political challenges, including land fragmentation, low rates of literacy, poor infrastructure and rapid population growth.

Pastoral systems in Kenya are increasingly recognised as economically viable modes of economic production (Fitzgibbon 2012). Efficient-run pastoral systems are well tailored to harsh environmental conditions. In particular, the mobility of pastoralists allows for livestock assets to be moved during dry spells in search of better pasture. Mobile grazing over large distances is considered the most effective coping strategy for pastoralists in the face of drought – an advantage not afforded to farmers and agricultural systems (Ibid.).

Yet, even with options for relocation, poor pasture and drought incidence remain primary threats to the wellbeing of pastoral households, especially when these shocks are aggregate. Droughts occur persistently across the ASAL counties, bringing devastating consequences for the lives and livelihoods of those in affected areas. Indeed, a recent drought episode spanning 2016-8 affected up to 3.5 million people across the 23 ASAL counties, with GoK declaring a national emergency and requiring the provision of food aid to millions (UNICEF 2019). As a result of persistent drought risk efforts to increase the resilience of pastoral communities across Kenya. For example, the GoK established the National Drought Management Authority (NDMA) – seeking to mainstream disaster risk reduction into planning efforts across Kenya's arid and semi-arid regions. Other efforts have targeted household-level risk transfer, including the provision of tailored drought insurance schemes such as IBLI. While index-based initiatives have shown considerable promise in buffering against the impacts of severe drought within pastoral communities, more needs to be done to understand the effectiveness of index insurance as a tool for scaling up of disaster risk reduction in Kenya's ASAL counties.

1.2. What is Index Insurance?

Insurance as a risk management tool aims to help people and communities manage risks that would otherwise be too large to deal with on their own. By transferring partial exposure of risk to insurance providers in exchange for a premium, insurance aims to reduce the negative financial consequences of perils such as drought – with the objective of maintaining wellbeing and livelihoods during times of hardship. Interest is growing in the use of risk transfer, including insurance, to support risk management in low-income countries – particularly in targeting vulnerable groups by providing a buffer against the financial impacts of natural hazards.

Even though indemnity insurance is a core component of financial risk management in many contexts, conventional indemnity insurance markets are lacking in developing country contexts. This is especially the case in Sub-Saharan Africa (SSA), where formal insurance markets are characterised by low rates of uptake, low understanding, liquidity constraints and lack of trust in insurance providers (Wurtenberger 2017). Private insurance companies are faced with a key barrier for investment: the value of insured, and insurable, assets in developing countries are often low when compared to more established markets. For example, in the context of agriculture, small plots or livestock herds represent a relatively small insurable value. This provides a problem for traditional insurance where administrative costs such as loss assessment (which has a high fixed component, regardless of the insured value) becomes prohibitively expensive, in some cases significantly exceeding the total value of both the actuarially-fair and commercially-viable insurance premium. In addition, the loss assessment and claims settlement process can be very time consuming, which can be problematic for individuals or organizations with little spare liquidity to meet costs in the interim. This is particularly problematic for poor, vulnerable households who may have to rely on harmful coping mechanisms. Such delayed response, for example to the impacts of drought, can substantially increase the financial as well as human cost (Hill et al, 2019).

Further to the challenges of demand and scale, indemnity insurance faces additional fundamental challenges: adverse selection and moral hazard. Adverse selection is a phenomenon which reflects the asymmetry of information between the insurer and the (potential) consumer with respect to the level of risk of the consumer. Consumers with a higher risk exposure are more likely to purchase insurance increasing the overall level of risk exposure in the pool of insured. The risk of this phenomenon is particularly high in non-compulsory markets where there is little data or active underwriting, such as agricultural insurance in SSA. Moral hazard, meanwhile, occurs when the behaviour of the insured party changes due to the shift in incentives when they no longer bear the full costs of that behaviour because they are now insured. For example, when a high level of insurance is provided to protect the value of agricultural output against failure, a farmer may no longer take the actions required to maximize output because they will still receive a financial

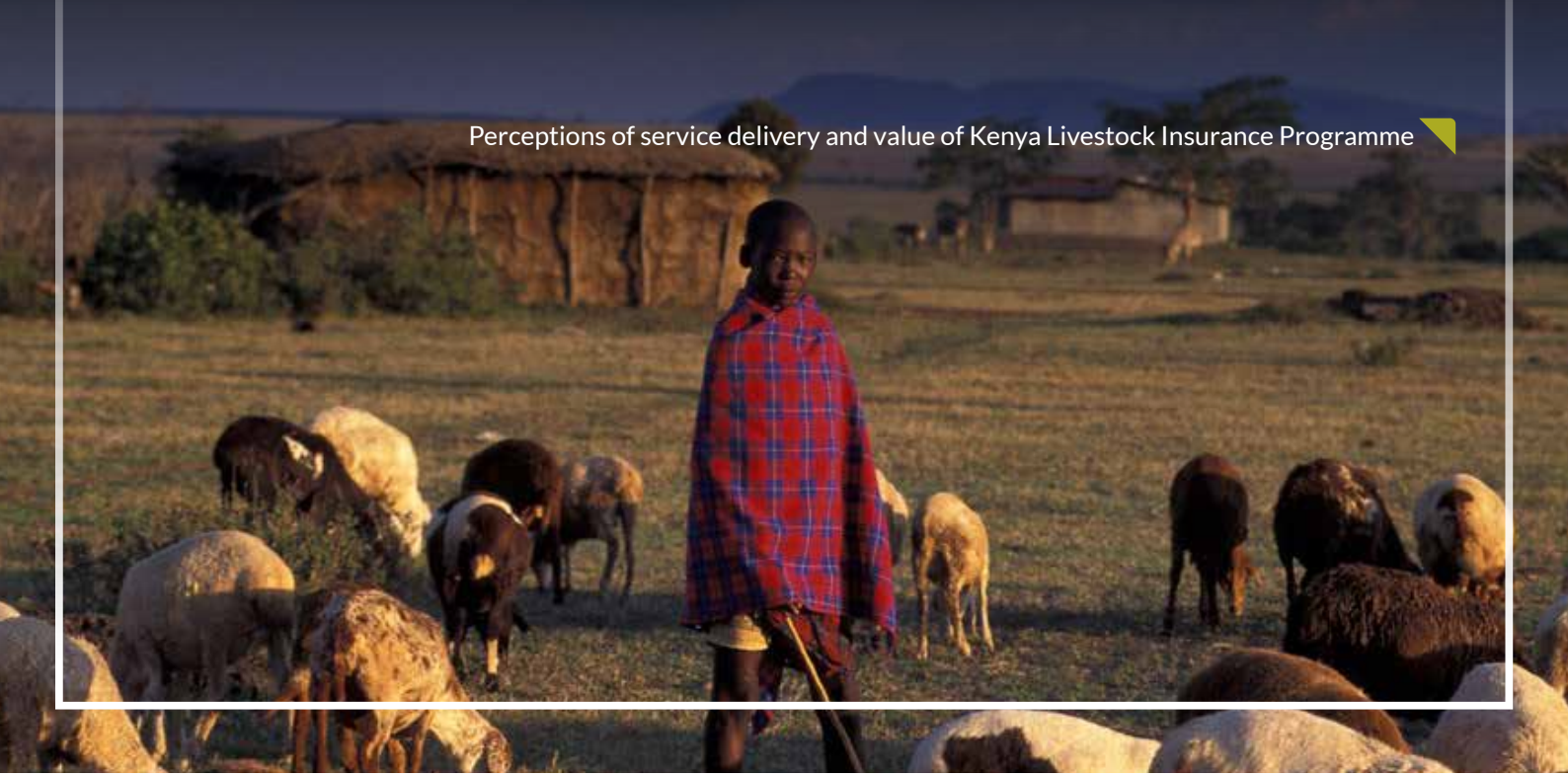
windfall in the event of failure, with reduced cost and effort. This can be mitigated in many markets through clauses to ensure reasonable actions are taken to prevent risk (such as following appropriate crop management processes) but these require further costly administration from insurers to monitor whether these actions are taken which is not feasible for low-cost policies. Some insurance policy design features can be introduced, such as a requirement for the insured party to retain a proportion of losses to ensure that their interests align, although these can impact on the value of the contract to the policyholder and does not entirely remove the threat of moral hazard.

Index insurance differs from conventional indemnity insurance in that pay-outs are based on the value of an index which is correlated with losses. In many cases, indices are specified based on one or more weather variables such as rainfall[6]. Others can be tied to temperature, soil-moisture,[7] or El-Nino Southern Oscillation indices.[8] Indices have been constructed with the aim of closely matching the impacts of weather-related risk including area yields[9] evapotranspiration,[10] flood levels,[11] satellite measured vegetation indices[12] and regional livestock mortality rates[13] (Miranda and Farrin 2012). In each case, pay-outs are made whenever predefined thresholds have been breached, irrespective of the scale of materialised losses.

Index insurance is explicitly designed to avoid the pitfalls of traditional insurance: pay-outs are tied to an independently verifiable index that cannot be easily modified by insured households, which helps to reduce the likelihood of moral hazard; contracts are standardised (i.e., the same arrangements for all insured clients) which removes the risk of adverse selection; contracts have clear and simple protocols used to make it cheaper to administer and renew; and linking payments to an index rather than measurements of individual losses reduces the cost of claims assessment and can increase speed of pay-out (subject to efficient operational processes) substantially.

Index insurance does, however, have its limitations. In particular, given that pay-outs are dependent on an index, there is potential for the index to inadequately reflect experienced losses (i.e., basis risk). Additionally, when insuring against a single index which measures, say, rainfall deficit, other causes of loss, such as a flood, will not be covered. Similarly, pay-outs can be triggered when few materialised losses are experienced by the policyholder. While this may bring short-term benefits to those enrolled, it does have negative long-term implications for the product, as it increases the cost of the product.

[6]Such as drought insurance in Mexico (Agroseguro)
[7]Such as drought insurance in Kazakhstan (AXA climate)
[8]Such as flood index insurance in Peru (La Positiva)
[9]Such as the Pradhan Mantri Fasa Bima Yojana (PMFBY) crop insurance program in India
[10]Such as is the basis for the WRSI index used by the African Risk Capacity for its sovereign drought product
[11]Such as flood index crop insurance in Vietnam
[12]Such as IBLI and KLIP in Kenya
[13]Such as Index-Based Livestock Insurance in Mongolia



1.3. The Kenya Livestock Insurance Program (KLIP)

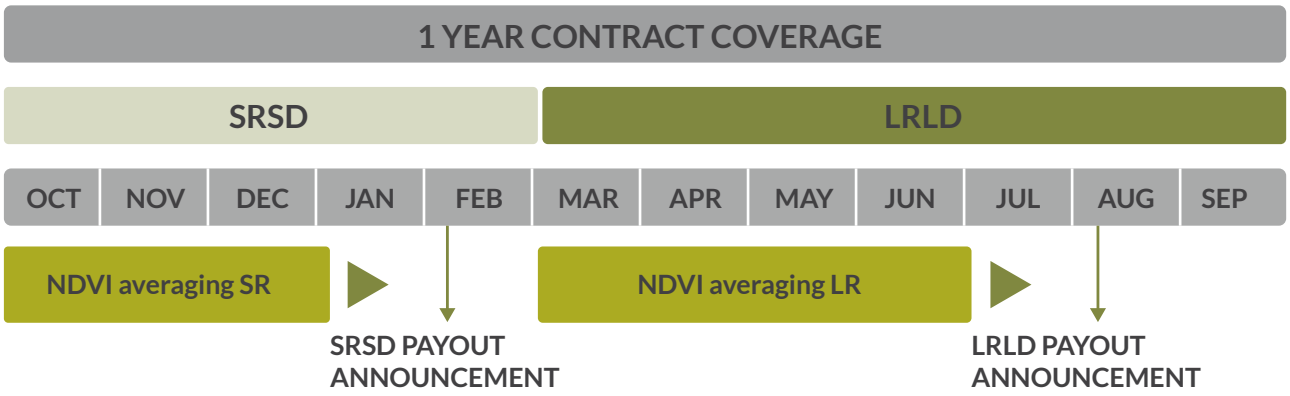
KLIP uses index-based insurance to enhance pastoralists' ability to manage the covariate risk of livestock losses due to drought. Through this social livelihoods protection scheme, the government pays premiums to insurance companies on behalf of selected pastoralist households in target areas (Turkana; Wajir; Marsabit; Isiolo; Tana River; Mandera; Garissa; Samburu) in return for pay-outs made directly to the pastoralists, linked to satellite-observed indication of forage quality conditions. Since the inception of the program, GoK has provided fully subsided insurance coverage for 5 tropical livestock units (TLUs) for each targeted beneficiary[14]. Beneficiaries are targeted according to three main criteria, under which a household should: (i) own at least five TLUs; (ii) have financial access, e.g., through a bank account or through another provider (i.e. mobile money account) to receive KLIP pay-outs; and (iii) is not a beneficiary of another safety-net program. Each county is responsible for identifying, selecting and registering beneficiaries through public participation forums convened by the elders and local leaders in communities.

KLIP relies on a low cost, accessible and well-established satellite indicator of drought (i.e., Normalized Difference Vegetation Index – NDVI), which is a decent proxy for vegetation condition. High NDVI values indicate healthier vegetation and vice versa. A time series of NDVI values is constructed to obtain an area-aggregated index of relative seasonal forage availability. When the index falls below a pre-defined threshold, pay-outs are triggered and increase proportionally to the severity of estimated forage scarcity. This assumes that, when forage is scarce, grazing resources are depleted quickly, leading to deteriorating livestock conditions and increased livestock mortality. KLIP thus aims to provide pastoralists with pay-outs that can be used to make production decisions, such as purchasing fodder and water, that reduce herd losses during a drought.

KLIP provides an annual insurance policy covering two seasons, the short rains short dry (SRSD) season, from October to February and the long rains long dry (LRLD) season, from March to September.

[14]Five TLUs were considered the least viable herd threshold size that if lost from drought shock could lead to irreversible livelihood damage, hence the choice of the government to provide 100 percent subsidy for five TLUs to cushion vulnerable households. A TLU is a standardized measure for livestock, where 1 cattle = 1 TLU, 1 goats or sheep = 0.1 TLU, 1 camel = 1.4 TLU (Fava et al. 2021).

Figure 2: KLIP timeline



Source: adapted from various ILRI reports[2]

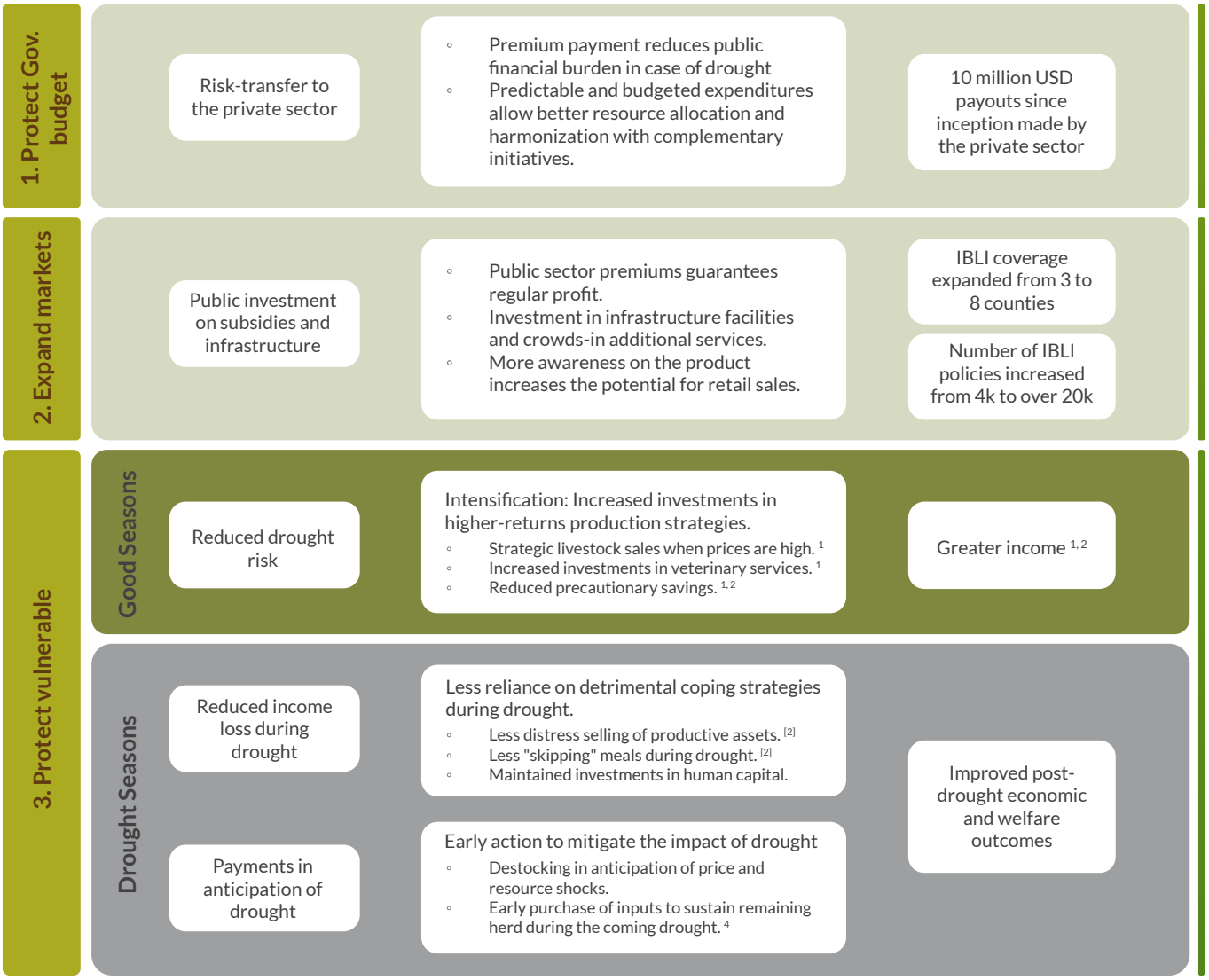
A key component of KLIP's value proposition is that it is designed to provide pastoralists with pay-outs before livestock health deteriorates, with the aim of facilitating action to prevent substantial losses due to livestock mortality. After rainfall cessation, vegetation deteriorates in a predictable manner allowing the index calculation period to cease at the end of the rainy season while still accurately predicting end-of-dry-season outcomes (Jensen and Fava 2017). The resulting asset-protection forage scarcity contract makes payments 1-3 months earlier than an asset-replacement equivalent. Such a contract would pay out when final impacts on forage availability can be observed (Vrieling et. al 2016) and herd losses may be realized. The product used by KLIP is therefore often referred to as an asset protection policy, rather than an asset replacement policy.

GoK coordinates awareness creation and capacity building efforts for pastoralists and institutional stakeholders through targeted campaigns in pastoral areas and county level awareness creation events. Up to 20% of GoK annual budget for KLIP is allocated to this effort.

A major emphasis of KLIP has been digital financial inclusion and speed of processing of payouts by electronic payments by linking insurance pay-outs with mobile money account – namely the MPesa scheme used widely across Kenya. When pay-outs are triggered, insurance companies make payments directly to the beneficiaries using either mobile money or bank transfers. A savings account can be opened using a mobile phone and the premium payment can be completed through the phone. To access the money in the savings account, a national identification number (PIN) is needed. A worry is that individuals are not aware of the implications of registering for a PIN, and that the PIN-acquiring process may be challenging. When beneficiaries do not have mobile money accounts or bank accounts, a bank's cheque is issued and distributed using county and provincial administration infrastructures. Where mobile money payments are used, they have helped to speed up the time taken for beneficiaries to access pay-outs considerably – weeks and months earlier than what could be achieved with traditional banks (Jensen and Fava 2017). However, despite this, significant operational delays have been experienced by the scheme, substantially delaying receipt of pay-outs (GAD, 2020). Further, although the majority of beneficiaries have a mobile money account registered through MPesa, a sizeable proportion are still reliant on physical bank infrastructure especially in Marsabit and Tana River counties.

Research on the impact of KLIP and its commercial equivalent, IBLI, demonstrates important impacts on consumption smoothing, productive investment, and reduced use of harmful coping strategies (Jensen et al., 2017, Carter and Janzen, 2019, Matsuda, 2019). However, a recent overview by Jensen et al. (2015) highlights four key conclusions related to IBLI's overall impact, namely: i) IBLI coverage has strong positive impacts on subjective, economic and health-related indicators of well-being; ii) the marginal benefit/cost ratio of IBLI substantially exceeds that of unconditional cash transfers; and iii) gains emerge despite IBLI's imperfect coverage of purchaser's risk exposure.

Figure 3: Objectives and benefits of KLIP



Source: adapted from various ILRI reports[2]

[2] Sources include: Jensen et al., 2017; Matsuda et al., 2019; Janzen and Carter, 2019

While much has been learned from the various research activities, considerable knowledge gaps remain, particularly in relation to the perceived value of the product and its accompanying services. Specifically, even though take-up of the IBLI commercial product is gradually increasing in terms of numbers, renewal is still considerably low. Indeed, little is known about users' perception on whether the product and its operating procedures are appropriately aligned with the characteristics of losses of these pastoralists as well as the nature of their production activities. These insights are likely to be invaluable in helping guide future KLIP activities, as well as wider index-based products seeking to expand coverage across Sub-Saharan Africa. It is here that this study aims to shed light, documenting user perceptions and experiences as part of KLIP outreach in four ASAL counties in Kenya.

2. METHODOLOGY

The primary aim of this study is to assess the effectiveness of KLIP by analysing perceptions related to service delivery and value amongst beneficiary counties in Northern Kenya. To shed light on the study's core research questions a combination of qualitative and quantitative methods are employed. This includes inputs from: i) a document analysis and review of background literature, ii) key information interviews, iii) focus group discussions and iv) a household survey of 786 individuals across four KLIP counties.

Below we describe core steps and methodological details used in gathering data, as well as merits and limitations of the study design.

2.1. Document analysis

To begin with, a thorough review of relevant KLIP project documentation was carried out. This includes all progress reports and prior evaluation materials related to KLIP up until the study period. In addition, relevant documents on linked index-based livestock insurance schemes such as IBLI Northern Kenya (outlined in Chantarat et al. 2013 and Jensen et al. 2017) and IBLI Borena in Ethiopia (Matsuda et al. 2019) were analysed in depth. Insights from the above were used to guide design of the survey modules and themes covered during key information interviews and focus group discussions that ensued shortly thereafter.

2.2. Household survey design

The primary source of data featured in this analysis comes from a household survey of 768 respondents conducted between November and December 2019. Survey questions were designed to elicit perceptions of the value of the product and its service delivery amongst both beneficiaries and non-beneficiaries. The survey population consisted of households across the eight counties in Northern Kenya receiving KLIP support. Amongst these, four counties were sampled – Garissa, Isilolo, Marsabit and Tana River – constituting the study's sample frame. Within the four counties, a combination of random, stratified and purposive sampling was employed to identify targeted sub-groups for the study.

In total, 768 respondents were randomly selected from sub-regions within the four counties. This included 384 KLIP beneficiaries and 384 non-beneficiaries drawn from 22 of 94 designated KLIP units as mapped on the ILRI-NDVI database. Face-to-face interviews were administered by trained

enumerators and typically lasted 90 minutes in duration, covering between 85 – 100 individual questions. Survey questions were grouped into six modules covering: i) household status and assets; ii) general perceptions of KLIP; iii) distribution and value of KLIP pay-outs in response to shocks; iv) views on product engagement; v) perceptions of KLIP effectiveness; and vi) effects of pay-outs on local markets.

A number of steps were taken to ensure data quality. For a start, survey enumerators underwent a thorough training exercise to familiarise themselves with the survey and nature of the questions used. Design of the main survey was guided by a pilot exercise, allowing for wording to be tested and providing further experience for enumerators. All responses were gathered via mobile phones and tablets using Open Data Kit (ODK), with data uploaded directly to a remote server. Lastly, supervisors were each assigned to one of the sampled counties to address any on-the-ground quality assurance issues.

2.3. Interviews and Focus Group Discussions

Alongside the quantitative insights gathered from the household survey, a series of Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs) were carried out. These provide a detailed qualitative complement, helping to understand some of the underlying mechanisms behind observed trends in users' perceptions. KII and FGD participants were identified in consultation with country livestock development officers, local chiefs, and ward administrators. In particular, enrolment was based on partial balance of gender, village of origin, language and enrolment within KLIP.

Four FGD meetings were conducted with KLIP beneficiaries, alongside a similar number for non-beneficiaries. Each featured approximately 14 participants moderated by two facilitators. Discussions were guided by semi-structure questions about themes matching the six modules used in the household survey.

3. FINDINGS AND INSIGHTS

Information gathered from across the surveys, interviews and FGDs provide valuable insights into the perceived value of the KLIP product and its service delivery. To structure findings from the study we break this section down into three segments: comparing profiles of beneficiaries and non-beneficiaries; providing a breakdown of KLIP disbursement and perceptions of its basic functioning. Each segment is further analysed to explore differences and associations across socio-economic groups as well as any geographic variation across counties.

3.1. Characteristics of beneficiaries and non-beneficiaries

Table 1 presents comparative profiles of key socio-economic characteristics and experience of recent drought events amongst KLIP beneficiaries and non-beneficiaries. It is important to stress that beneficiaries, because of the nature of the targeting of the KLIP programme, are different from non-beneficiaries.

Table 1: Breakdown of key socio-economic traits amongst KLIP beneficiaries in the survey

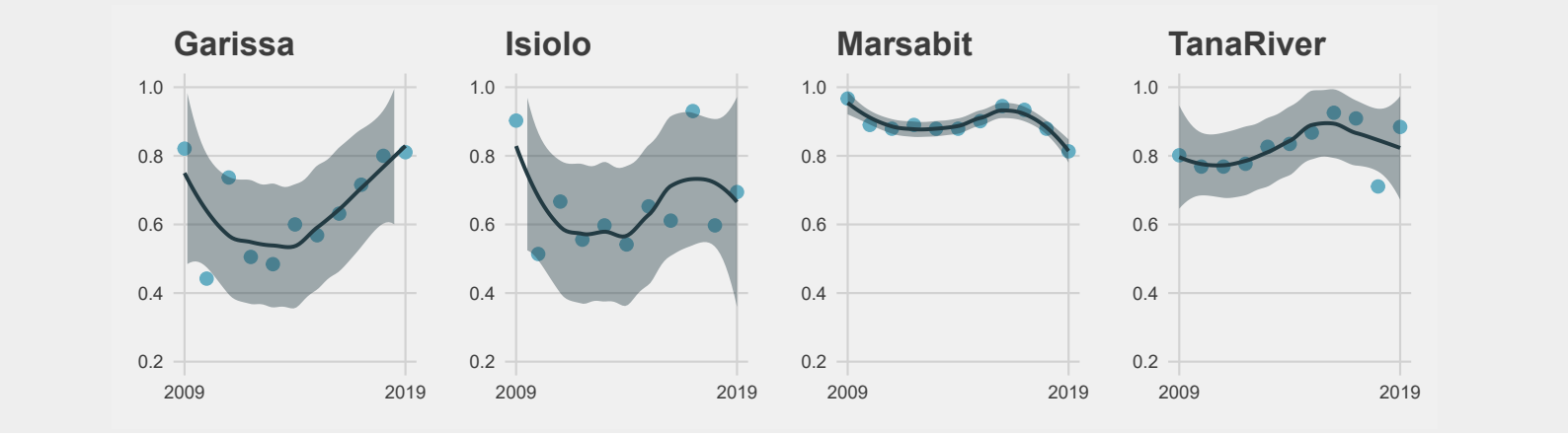
Variable	Beneficiaries	Non-Beneficiaries
Gender, *n (%)*		
Male	273 (72.0)	247 (64.8)
Female	106 (28.0)	134 (35.2)
Age in years, *M (SD)*	48.1 (14.3)	42.1 (13.4)
Household size, *M (SD)*	8.16 (3.99)	6.29 (3.11)
Marital Status, *n (%)*		
Married	314 (88.0)	329 (89.4)
Living with a partner	1 (0.3)	1 (0.3)
Divorced/separated	10 (2.8)	13 (3.4)
Widow/widower	22 (6.2)	22 (5.8)
Never Married	10 (2.8)	16 (4.2)
Number of Cattle owned (prior to KLIP enrolment), *M (SD)*	12.2 (20.2)	10.7 (21.9)
"Are you covered by any other insurance product?" *n (%)*		
Yes	115 (34.0)	89 (24.5)
No	200 (59.2)	247 (68.0)
Don't know	23 (6.8)	27 (7.4)
Number of cattle lost during 2019 as a result of natural hazards, *M (SD)*	5,43 (10.64)	4.25 (13.81)

Table presents descriptive statistics for beneficiaries and non-beneficiaries in the KLIP survey across a range of socio-economic traits. Primary values represent counts for categorical variables and means for numeric variables (as indicated in the Variable column). Values in parentheses represent percentages for categorical variables and standard deviations for numeric variables.

The first thing to note from the Table breakdown is that men make up a larger proportion of surveyed respondents than women overall. This is largely due to the fact that enumerators were tasked with speaking with self-designated heads of household. The skew is important for the interpretation of results, as subjective and perception-based questions can elicit differences in responses across genders (Bertrand and Mullainathan 2001).

Other household traits broadly reflect the nature of pastoral livelihoods in Northern Kenya. Most household heads are married and the average age of beneficiaries is 48 years. Given the predominance of pastoralism in the survey counties, many households own cattle. However, most respondents were not covered via any form of insurance prior to the roll-out of KLIP. Household sizes are also relatively large when compared with Kenya's country-wide mean of 3.9[15] (KNBS 2019).

Figure 4: Comparing the proportion of respondents reporting drought conditions over time



Note: Dots show the proportion of respondents reporting drought conditions (y-axis) across years (between 2009 and 2019). Given that data was collected during 2019, all prior years relate to respondent's recollections of whether a drought occurred during a given year. Lines are smoothed using a lowess function with standard errors based on a t-statistic approximation.

In addition to socio-economic traits, Figure 4 reveals that drought is a common occurrence in the surveyed areas with respondents reporting high perceived exposure over time. Considerable county-level variation exists, however, with Garissa showcasing a trend of increasing drought conditions perceived in recent years in particular.

3.2. Characteristics KLIP and perceptions of its functioning

With a better understanding of the profile of KLIP beneficiaries we now turn to describing the characteristics of the underlying insurance product, the nature of settlement of claims and pay-outs, as well as beneficiaries' understanding of key features of the product.

3.2.1. KLIP pay-outs

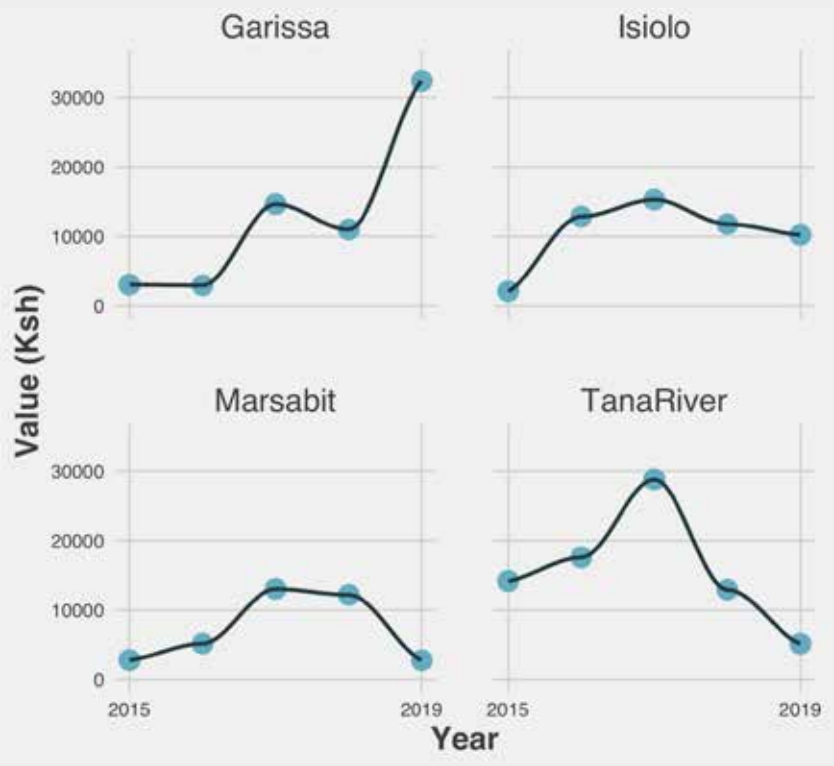
Seasonal KLIP pay-outs occur with a probability of 20% hence the probability of any household receiving a claim in any year is approximately 1 in 2.5 (GAD, 2020). Over the period from 2015-2019, covering in total 7 seasons, we should therefore expect that a large proportion of

[15]Means for the four counties covered in the survey include: 4.6 in Isiolo, 5.8 in Marsabit, 6.1 in Wajir and 4.6 in Tana River (KNBS 2019)

covering in total 7 seasons, we should therefore expect that a large proportion of beneficiaries have received a pay-out during this period. Consistent with this expectation, 96% of surveyed beneficiaries received some form of pay-out in any of the seven seasons between 2015 and 2019. Through to the end of 2019 the loss ratio for insurers writing KLIP was greater than 100%, meaning that pay-outs were higher or more frequent than expected.

On average, KLIP paid cumulative sums of KSh 11,600 (~104 USD[16]) to each beneficiary between 2015 and 2019. Yet, while pay-out occurrence was relatively consistent, considerable variation in timing and amount is notable across counties – as shown in Figure 5. In particular, 2019 and 2017 saw large pay-outs to KLIP beneficiaries (roughly 30,000 KSh) in Garissa and Tana River counties. Overall, respondents in Marsabit received the lowest average collective payment across the study period (KSh 7,196 per person), while those in Tana River received the highest (KSh 15,728).

Figure 5: Average self-assessed KLIP pay-outs per year

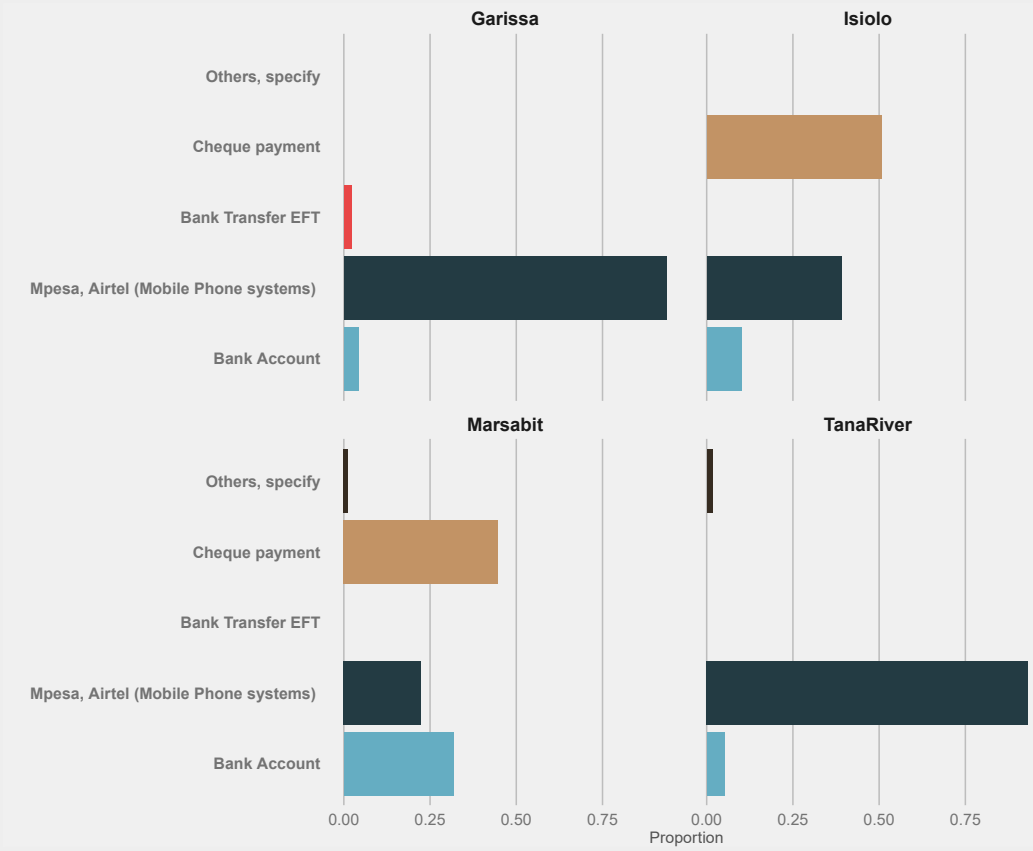


Note: Points show reported total mean KLIP pay-outs for each given year across the four counties. Lines are smoothed using a lowess function.

Modes of payment also varied considerably across counties. In Tana River and Garissa – counties with the highest proportion (and amount) of pay-out – the vast majority of transfers were distributed via mobile phone. This contrasts markedly with Isiolo and Marsabit, where cheques were the primary means of pay-out. The stark differences between disbursement mechanisms and therefore also the moment that herders were able to access the payment for smoothing consumption, had knock on implications for KLIP user satisfaction – with those receiving cheques raising a number of concerns with the pay-out collection process (see Section 3.5 for more) and the perceived value in terms of using the insurance for livestock related productive investments.

[16]Exchange rates calculated on 7th December 2020

Figure 6: Means of KLIP disbursement across counties



Survey responses related to 'Bank Transfer ETF' and 'Bank Account' both refer to methods for transferring KLIP pay-outs directly into a recipient's bank account

3.2.2. Perception of the Quality of KLIP's index

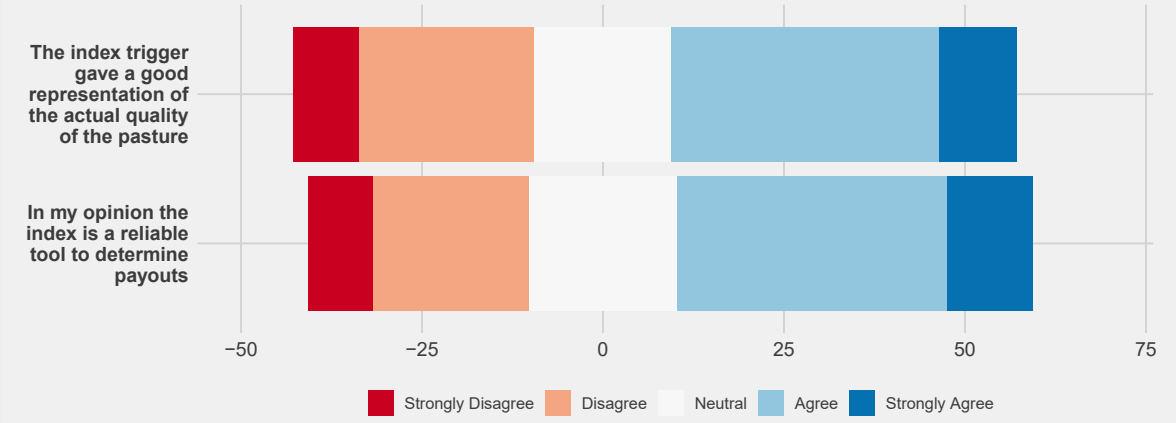
Insights from the survey of beneficiaries reveal mixed opinions about the quality of KLIP's index – as shown in Figure 7. While 48% of respondents agreed (or strongly agree) that the index was a good representation of the quality of local pasture, 33% expressed negative sentiments (with a further 19% remaining neutral). Findings were consistent across counties suggesting that sentiments were similar across KLIP's target areas. Further insights into reservations regarding KLIP's indexing procedure are revealed by the FDG discussions, with many interviewees contrasting local interpretations of pasture quality with satellite-derived estimates used in determining KLIP handouts:

> *"We are opposed to satellite data used to estimate pasture amounts in our area, which in our view estimates very low insurance pay-outs. In our assessment, the satellite collects images of the Mathenge [largely associated with evergreen vegetation such as Acacia], yet the very pasture which livestock feeds may not even be available. We thus distrusted satellite data" (Male pastoralist)*

> *"We believe that the satellite takes images of Mathenge to show green vegetation even when we don't have grass" (FGD beneficiaries Tana River)*

A similar breakdown in responses can be seen in sentiments of the index's reliability in determining insurance pay-outs. In this case 49% of respondents reflected positively, with 30% expressing negative opinions towards the index (with answers relatively similar across Counties).

Figure 7: Response to questions on index quality and reliability



Note: Figure shows stacked bar charts for questions included in the KLIP household survey. Proportions of answers for each Likert response are shown, with the bar chart centered around the median neutral response. Only responses from KLIP beneficiaries are included in the figure.

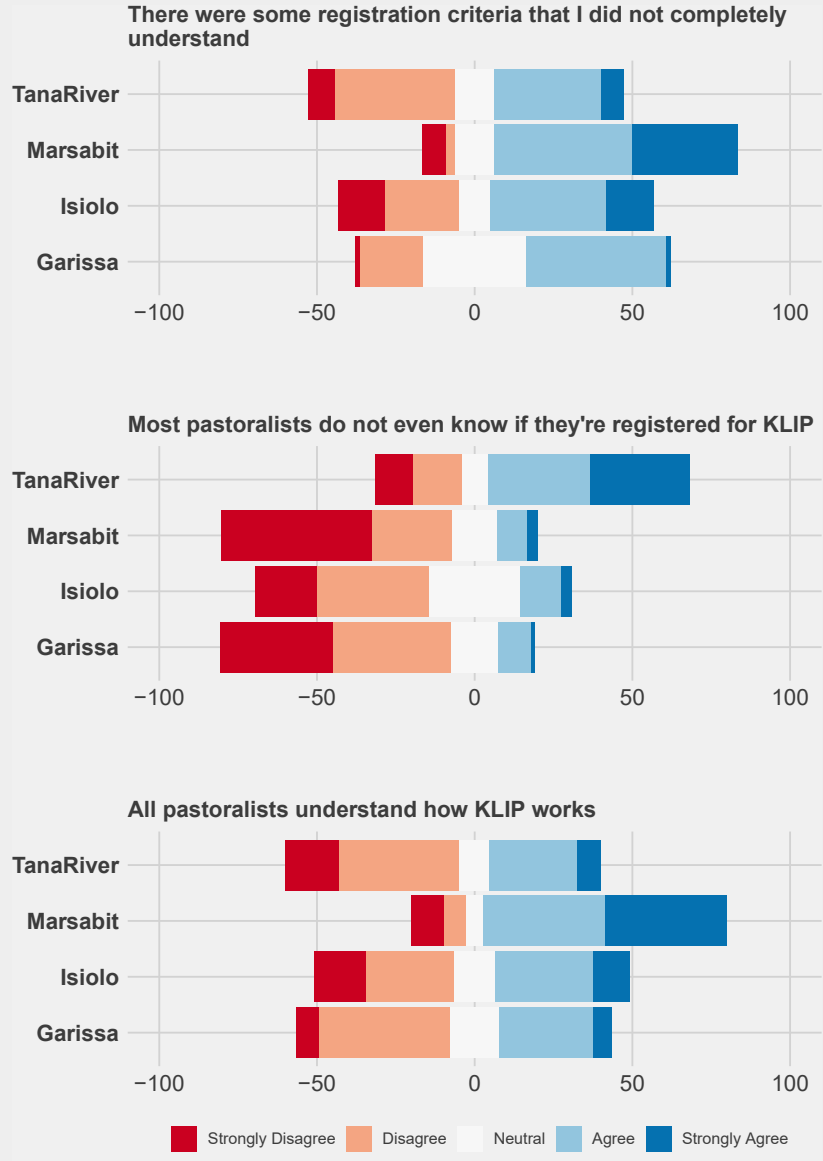
Taken together, insights from the two survey questions suggest that many KLIP beneficiaries are dissatisfied with the triggering mechanism. This may relate to aspects of both the index's quantitative representation of expected losses as well as communication and qualitative understanding of KLIP's trigger. Findings also suggest that further elaboration and sensitisation of KLIP's index methodology may be warranted in future KLIP-related activities.

3.3. Perceptions of KLIP understanding, registration and claim settlement procedures

KLIP recipients report high levels of dissatisfaction and lack of awareness of the registration process. Patterns are, however, different across counties. In particular, Figure 8 shows that close to half of all respondents admit to not fully understanding some of the registration criteria. Such sentiments are especially pronounced in Marsabit with most beneficiaries expressing a lack of understanding. This is further underscored by a high proportion of beneficiaries believing that many pastoralists are unaware of the fact that they're registered to KLIP itself. Interestingly, Tana River county fares considerably worse compared to other counties. Finally, Figure 8 reveals that a large proportion of beneficiaries disagree with the statement that 'all pastoralists understand how

KLIP works'. Again, Marsabit fares better compared to other counties – somewhat at odds with the first statement in the series (while noting that the former relates to registration while the latter relates to how KLIP works overall). Such patterns may point to issues related to comprehension and wording of the survey questions, highlighted by the differing county-level responses to the first two questions in Figure 8.

Figure 8: Response to survey questions on KLIP registration and awareness of pay-out



Note: Figure shows stacked bar charts for questions included in the KLIP household survey. Proportions of answers for each Likert response are shown, with the bar chart centered around the median neutral response.

Despite geographic differences in the survey responses, issues relating to a lack of awareness of KLIP's design and pay-out procedures are well reflected in FGDs across the four counties:

> *"We are registered with KLIP but we do not understand the process of registration and we just received pay-outs and different amounts. There should be adequate information sensitization to all community members to enable proper understanding of KLIP" (FGD beneficiaries Isiolo)*

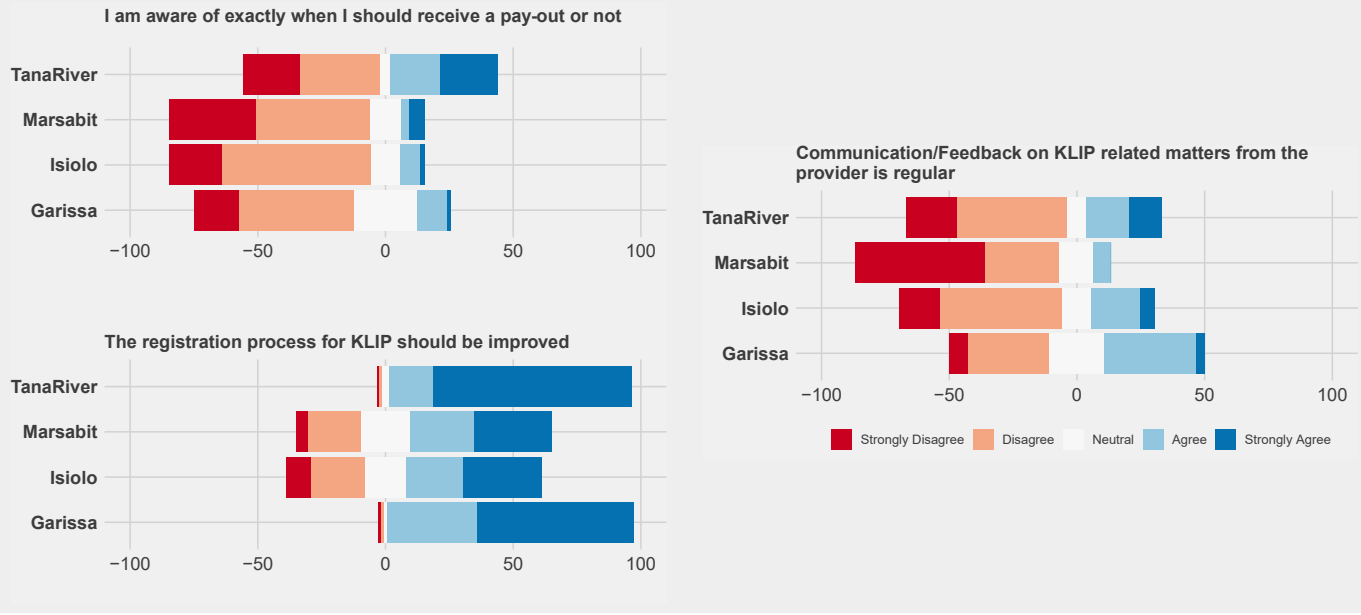
This is also reflected by a large majority (64%) of surveyed respondents disagreeing with the statement 'I am aware of exactly when I should receive a pay-out or not' (see Figure 9). Indeed, more than a fifth of respondents express strong sentiments to this effect, with similar county-level breakdowns except for the case of Tana River where perceived awareness is highest. These findings further underline the challenge of simple and transparent communication about KLIP procedures. It also echoes concerns with similar index-based insurance initiatives in balancing the complexity of top-down satellite derived pasture estimates with bottom-up perceptions of local conditions.

KLIP's sign-up procedure is a clear area which could be improved from the perspective of KLIP beneficiaries. Figure 9 shows that more than three quarters of all respondents feel that the registration process can be better designed – though such sentiments are especially pronounced in Tana River and Garissa. Qualitative insights from FGDs suggests an emphasis on clearer communication of index triggers, ease of sign-up procedures and follow-up guidance. Related to the latter, a common sentiment of dissatisfaction was expressed by FGD interviewees in Marsabit:

> *"[Since the initial registration meeting] we have never had another meeting with the chief to get to understand KLIP very well. Most pastoralists do not understand it because there is no one who communicated to them about KLIP. TAKAFUL insurance does not have an office in Marsabit so we don't have contact person to ask anything about KLIP" (FGD beneficiaries Marsabit)*

This is further supported by responses to the household survey, where a majority expressed dissatisfaction with the frequency of communication and feedback from the insurance providers.

Figure 9: Perceptions of user understanding



Note: Figure shows stacked bar charts for questions included in the KLIP household survey. Proportions of answers for each Likert response are shown, with the bar chart centered around the median neutral response.

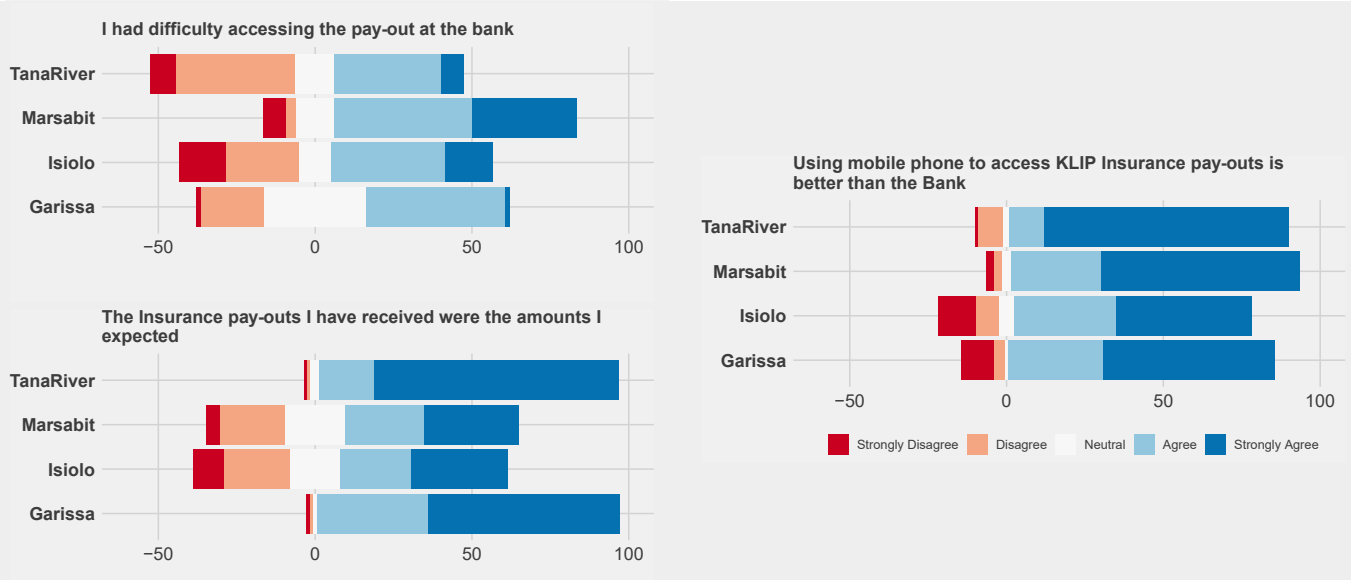
A second important dimension of the KLIP product experience relates to claim settlement. Reassuringly, an overwhelming majority of users report that pay-outs correspond with the amounts expected from the initiative (see Figure 10). Such broad-ranging satisfaction (roughly 80% across all beneficiaries) points towards effective prior communication of pay-out sums amongst beneficiaries. It may also suggest that received pay-outs are considered fair and adequate by many users.

While expectations over payout sums received high sentiment, KLIP beneficiaries expressed mixed views related to payment methods. Recall from Figure 6 that modes of disbursement differ considerably across the four surveyed counties: Garissa and Tana River rely largely on mobile money payments, which Isiolo and Marsabit issue payments in the form of cheques. The stark difference is clearly reflected in user perceptions of claim procedures. Figure 10 reveals how a large proportion of recipients prefer mobile money payments to bank claim (with 86% agreeing with the sentiment). These sentiments are clearly reflected across the various FGDs, that note the speed, simplicity and transparency underlying Mpesa payments:

> *"Pay-outs made through Mpesa are easily accessible and dependable" (FGD Garissa)*

Contrastingly, large numbers of respondents report dissatisfaction and difficulty in accessing bank-based pay-outs – largely seen in the form of cheque disbursements. These typically require sign-off from county-level livestock officers as well as formal processing procedures from the user's designated bank. Difficulties related to bank account accessibility and notification of cheque issuance go a long way in explaining the differences between the two modes. Insights from the FDGs detail further frustration with cheque payouts:

Figure 10: Response to survey questions on KLIP payment receipt.



Note: Figure shows stacked bar charts for questions included in the KLIP household survey. Proportions of answers for each Likert response are shown, with the bar chart centered around the median neutral response.

> *"[KLIP] does not ask for a preferred mode of payment, hence it just sends the pay-outs like cheques which sometimes people end up not receiving." (Isiolo FGD)*

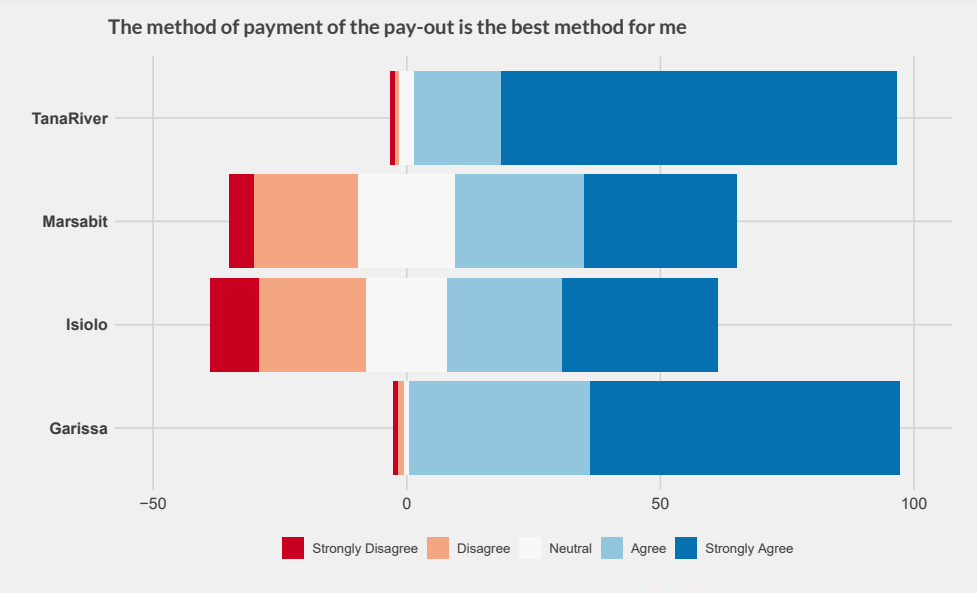
> *"I am not sure where to receive the pay-outs from, Mpesa or cheques? I am not aware of the office to go and pick my cheque" (Marsabit beneficiaries FGD)*

> *"The TAKAFUL office in Isiolo does not provide service to the people and this makes us not like KLIP. The TAKAFUL office decides by themselves which means to use in giving out pay-outs. Some of which we are not sure about and don't prefer. For example, they insist on the use of cheques. We prefer MPESA" (Isiolo beneficiaries FGD)*

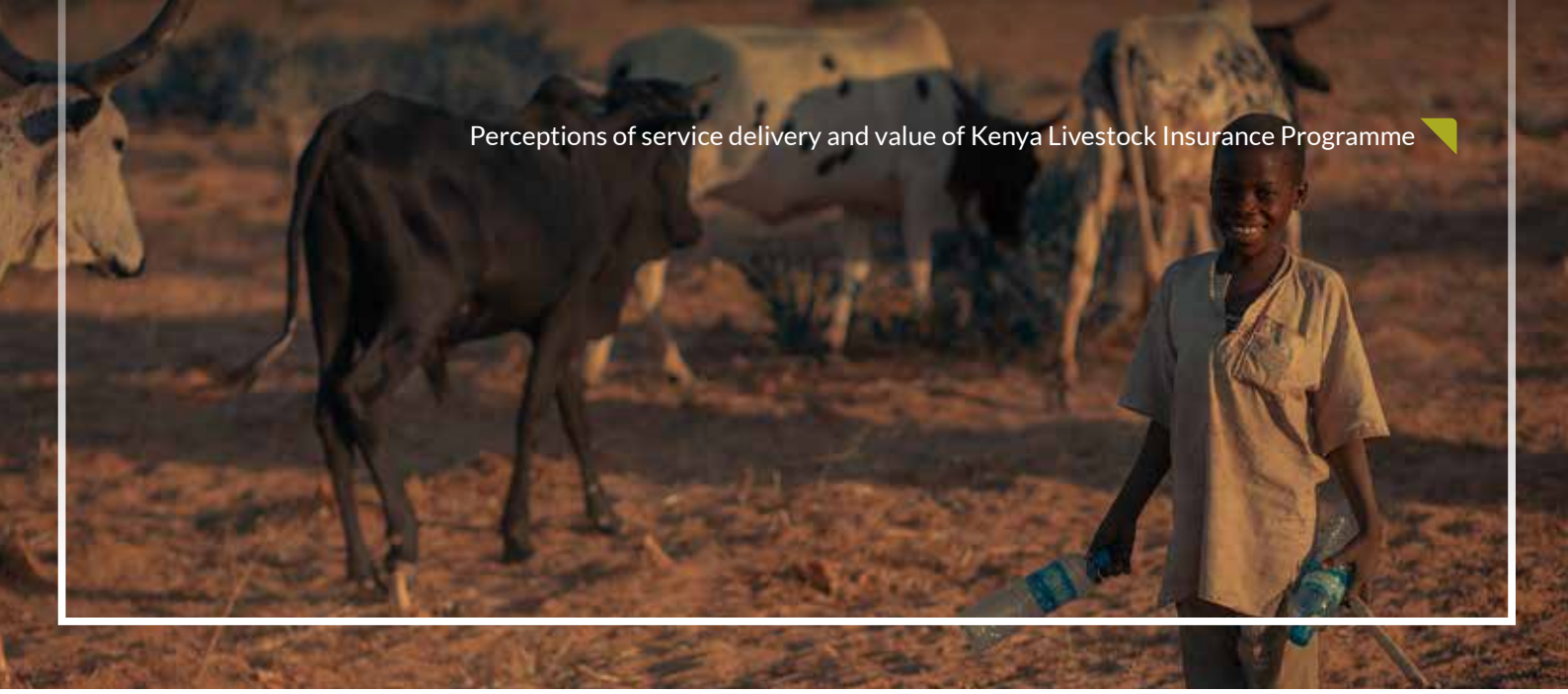
Most of the complaints relate to uncertainty and delays, including multiple references to a lack of received pay-out. In addition, several FGDs mentioned instances where the threshold was triggered but no formal notification was issued to beneficiaries.

Further evidence of recipient dissatisfaction over bank payments can be seen in the break-down of user sentiments across counties. Figure 11 reveals extremely high levels of user satisfaction with payment methods in Garissa and Tana River (the two counties with the highest use of mobile money payments). This contrasts with lower levels in Marsabit and Isiolo (where cheques were predominant, largely owing to challenges regarding verification of mobile registration and use). It is worth noting, however, that most respondents across all four counties expressed some degree of positive sentiment with regards to the allocated mode of payment.

Figure 11: Response to survey questions on KLIP pay-out



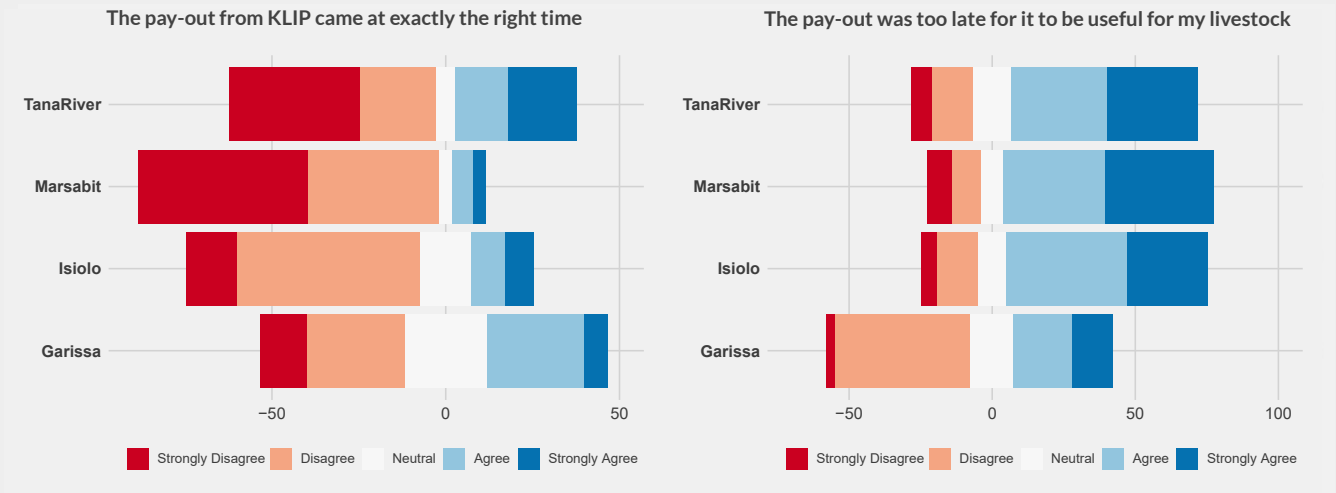
Note: Figure shows stacked bar charts for questions included in the KLIP household survey. Proportions of answers for each Likert response are shown, with the bar chart centered around the median neutral response.



3.4. Perceptions of timing and disbursement of pay-outs

A core selling point of index-based insurance is the simplicity and speed with which pay-outs can be administered once a trigger has been reached. Yet, many of KLIP's recipients express negative opinions related to the timing of pay-outs. Figure 12 reveals that close to two thirds of surveyed respondents disagree that KLIP pay-outs were administered at exactly the right time. Interestingly, some degree of geographic variation can be seen across responses, with Marsabit exhibiting the highest proportion of negative responses and Garissa the lowest (again, likely tied to the form of administered pay-out).

Figure 12: Perceptions related to timing of KLIP pay-outs



Note: Figure shows stacked bar charts for questions included in the KLIP household survey. Proportions of answers for each Likert response are shown, with the bar chart centered around the median neutral response.

Unsurprisingly, much of the negative sentiment appears to be associated with late payments. Figure 12 reveals that the vast majority of KLIP recipients agree that pay-outs arrived too late to be of use in protecting their livestock assets. The sole exception is Garissa where opinions were mixed. Qualitative insights from the FGDs reveal similar sentiments regarding delayed issuance:

> *"The complaints of delayed pay-outs are a common lament here, which makes us fear the livestock insurance program. An example is our neighbours, who have been complaining that the 2019 pay-out of Ksh 21,000 was released way too late, when most of their livestock had already died." (Isiolo FDG respondent)*

> *"These insurance pay-outs really delay in reaching us during the seasons we actually require the cash for managing our livestock. For my case, we have not been paid the second 2019 pay-out until today [5th December 2019]. I have so far received only one pay-out since enrolment in 2017 but missed out on every other subsequent pay-out season." (Tana River FDG respondent)*

> *"KLIP (Pesa Ola) has been very useful to us as pastoralists in Isiolo county when it comes on time it helps our livestock and when it delays it does not help us much" (Isiolo beneficiary FGD)*

The negative consequences of delayed claim payments for livestock management and health are particularly important, because it prevents KLIP from acting as a reliable risk management tool, which is its core objective.

3.5. How are KLIP pay-outs used?

Insights from the survey help to shed light on how beneficiaries report to have used KLIP payments. Table 2 provides a break-down of expenditures made by KLIP beneficiaries with KLIP pay-outs.

The most commonly reported KLIP claim payments expenditures are restocking of livestock, inputs for livestock production, household needs, school fees, and medical expenses. Two thirds of surveyed individuals report spending on livestock inputs, which is somewhat reassuring given the fact that KLIP is a risk management product that aims to provide funds for livestock inputs when shocks occur. Similarly large proportions (i.e., roughly half of KLIP beneficiaries) spent money on restocking of livestock[17], school fees, purchase of equipment for livestock production and medical expenses. Many of these items relate to core household and livelihood expenses and buffers used in averting negative coping strategies (such as pulling children out of school to support with household chores and responsibilities). While it is not possible to deduce additional expenditures on these items from non-KLIP-related payments and traditional sources of livelihood income, findings from the survey point to the use of KLIP pay-outs in supporting critical household and livelihood investments.

[17]For comparison, the price of cattle in Northern Kenya was roughly Ksh. 125 per kilo for cattle expected to grow between 280-299 kgs at full maturity (as of September 2018).

Table 2: Breakdown of KLIP-related expenditure

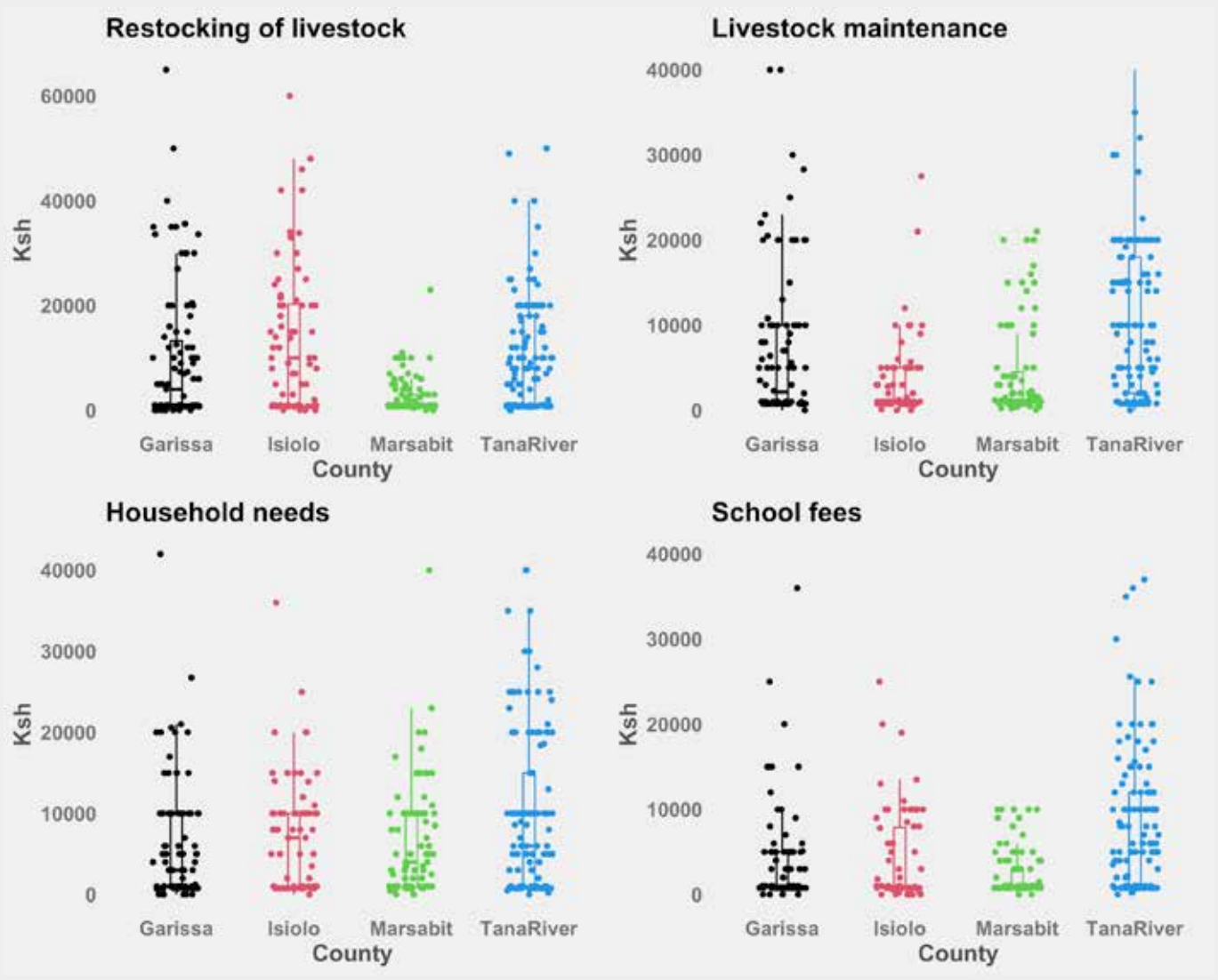
Item	Percent*	Average money spent (Ksh)
Restocked livestock	56	8,583 (11,717)
Livestock caring/maintenance	67	7,722 (21,791)
Household needs	66	7,285 (8,317)
School fees	49	4,632 (7,638)
Medical expenses	42	1,477 (3,205)
Savings/ investments	19	1,442 (4,440)
Buying equipment for livestock production	41	1,335 (2,600)
Non-livestock-based economic activities	14	732 (2,631)
Loan repayment	8	358 (1,441)
Social obligations	18	301 (1,171)

Table consists of answers to the following question: 'How much did you spend of the cash pay-out you received on [Item]?'. Sample is restricted only to KLIP beneficiaries. Items are ranked according to the highest average value for respondents spending on the item. Percent refers to the percentage of responses amongst survey respondents that expressed spending related to the Items listed. Average spending amongst those that spent on the item is presented alongside standard deviations (in parentheses).

Far lower proportions of respondents reported spending KLIP pay-outs on items such as non-livestock related economic activities, savings, loan repayments and social obligations (taken up by fewer than one in five respondents). Given the nature and timing of KLIP pay-outs, which are often reported to come too late relative to the insured shock, it is unsurprising that KLIP claim payments are used for non-livestock-related expenditures. This raises an important question about the value of KLIP as a risk management tool, which should really aim to provide pay-outs when shocks occur.

With regards to average expenditures, similar patterns can also be seen. Of those that report spending KLIP pay-outs, high sums (between 7-8,000 Ksh on average) are allocated to restocking of livestock, livestock maintenance and household needs. Modest amounts are spent on school fees (roughly 4,600 Ksh on average). While far lower sums are spent on remaining items, ranging from medical expenses and savings to loan repayments and social obligations (each with less than 1500 Ksh spent on average).

Figure 13: KLIP-related expenses across Counties

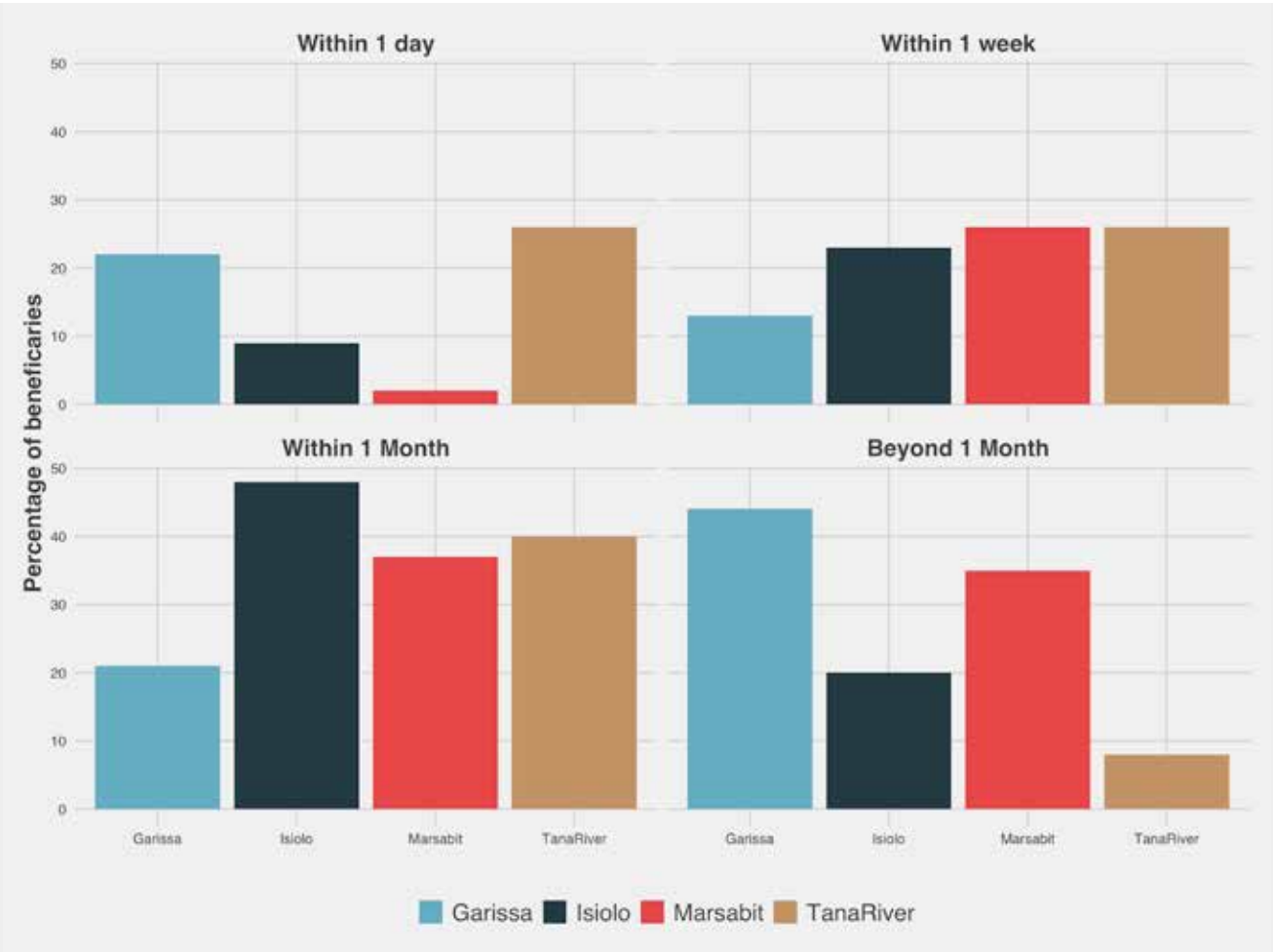


Jitter plot shows the distribution of reported expenses during 2019 related to the four most common items list. Box plots are overlain showing median and inter-quartile ranges. Values are only shown for respondents that spend >1 Ksh on items.

It is also possible to look at expenses by county in 2019 to see how spending differs across the study's main sites. The largest difference appears to be in relation to restocking of livestock – though it's worth noting that countries received differing levels of pay-outs for the year (see Figure 5). Here, respondents in Marsabit have the lowest overall spend compared with Garissa, Isiolo and Tana River. However, the disparity is less obvious with regards to livestock maintenance were expenditures for Garissa, Isiolo and Marsabit are similar, with the highest median spend taking place in Tana River. Similar traits are seen for school fees (with Tana River showcasing the highest values), while spending on household needs is relatedly homogenous across the four counties.

Finally, another important aspect to consider is the length of time taken in spending KLIP pay-outs. Figure 14 reveals considerable variation in spending times across the four counties. In most cases, the majority of recipients make full use of pay-outs within one month or beyond. However, spending patterns indicate more immediate consumption in Tana River (when compared with the other three counties). In particular, by far the most frequent response amongst KLIP recipients in Garissa is that spending lasted beyond a one-month period – suggesting that KLIP pay-outs are used to support household consumption well past the immediate period of receipt.

Figure 14: How long did it take KLIP beneficiaries to spend pay-outs?



Bar chart showing responses to the question 'How long did it take for you to spend the money which you received as a payout, starting from the date the pay-out was made to your account/mobile phone?' Sample is limited to respondents that receive a KLIP payout.

3.6. Perceptions of KLIP compared to other safety net programmes

A final area of comparison relates to how beneficiaries perceive the value of KLIP compared to other safety nets and forms of humanitarian assistance. Of the 378 beneficiaries included in the survey, 95 respondents indicated as having received humanitarian assistance during the drought season in 2019. Of those, 32 received assistance from the HSNP, while 63 received assistance from NGOs and religious agencies. It is worth noting that the survey did not ask recipients whether they had received humanitarian assistance during other periods.

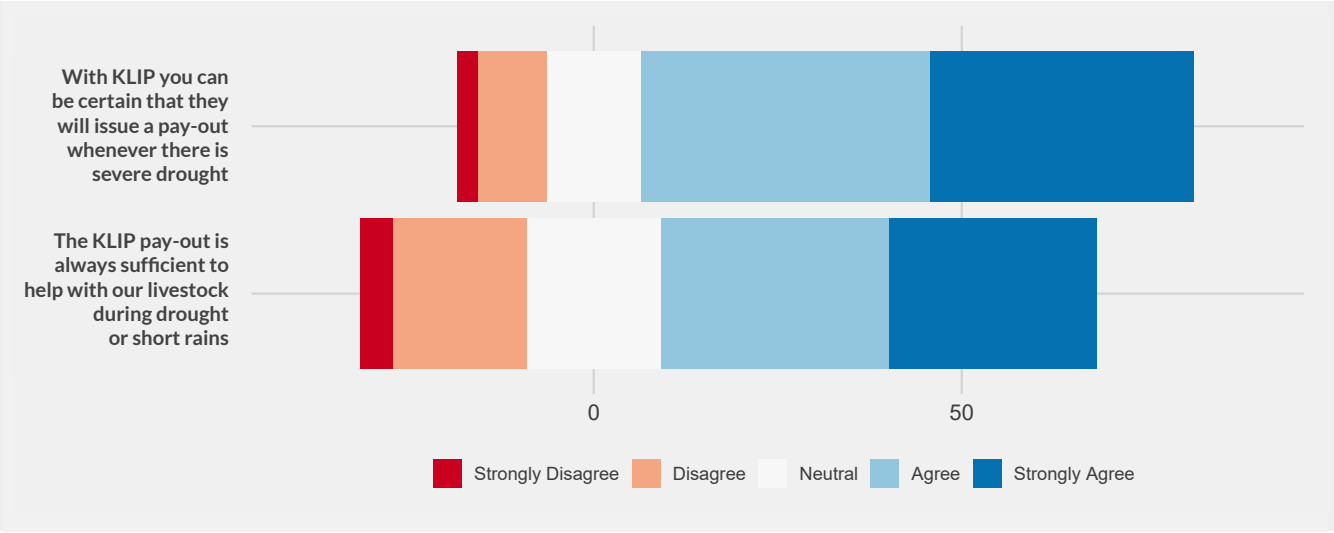
In general, respondents express positive sentiments towards KLIP relative to other comparable initiatives. as having received Figure 15 reveals that a large majority of KLIP beneficiaries agree that insurance pay-outs are more reliable than humanitarian assistance. Similar levels of approval are also expressed when comparing KLIP with forms of aid issued by the Kenyan Government of other agencies. These sentiments match further insights from the FGDs:

> *"Mpesa transfers by KLIP have improved the freeway of buying whatever you want (e.g., rice), compared to [World Food Programme handouts] that used to bring sorghum which is not compatible with the culture"*

As highlighted above, a number of interviewees express satisfaction in the freedom afforded by insurance in not dictating how pay-outs should be spent – as opposed to many humanitarian handouts in the form of food assistance or other conditional goods. Others point to the usefulness of lump sum payments, allowing recipients to budget and plan accordingly. This contrasts with other handouts that are delivered monthly with variable consistency in amounts.

Considered together, these findings provide considerable support for KLIP in comparing it with similar assistance programmes. However, it is worth acknowledging that some degree of social desirability response bias is likely to affect answers. It's also important to bear in mind that the comparison between KLIP and humanitarian aid is not necessarily like-for-like, as the latter is typically administered during crisis events.

Figure 15: Comparisons of KLIP with other related initiatives



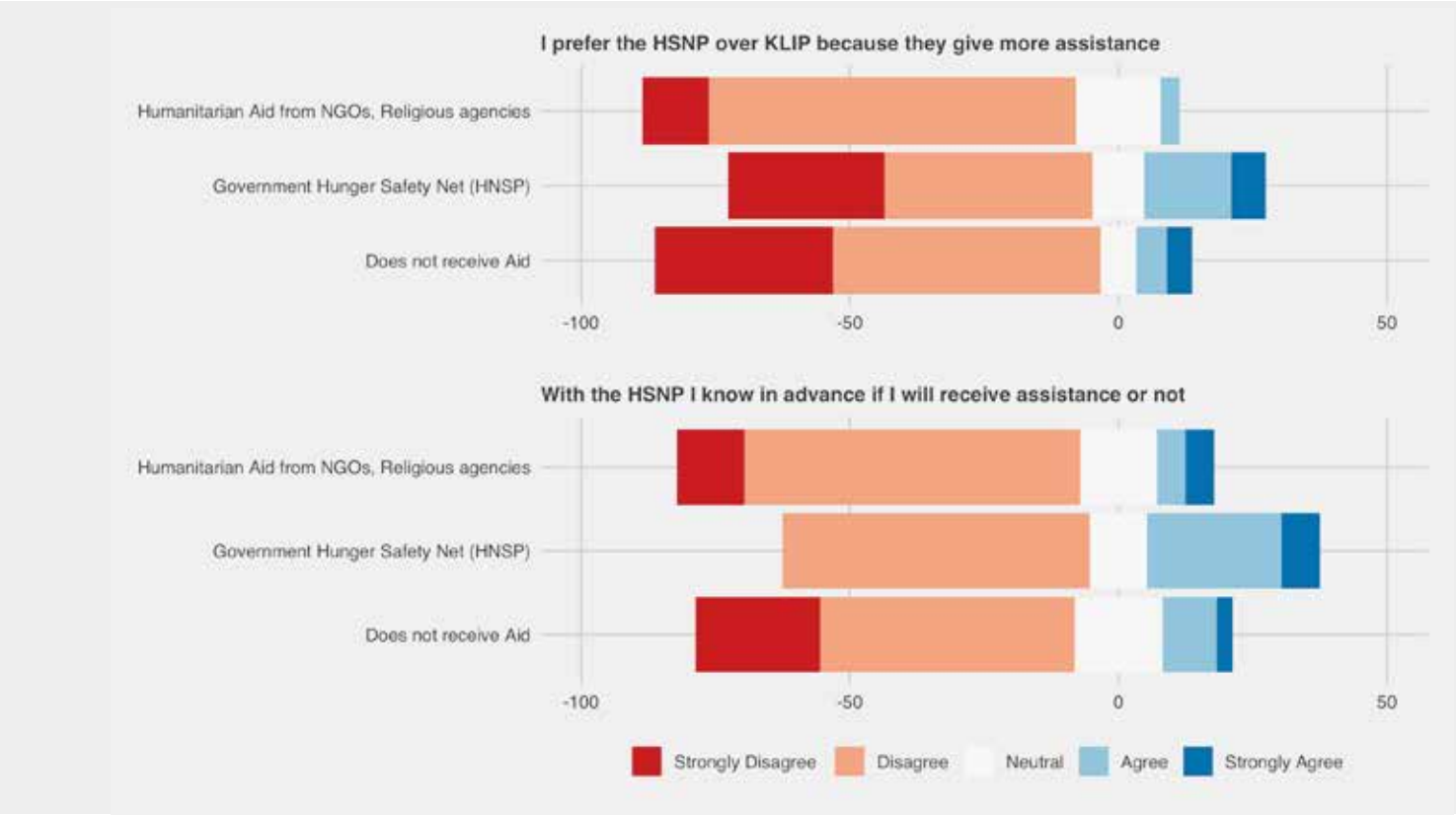
Note: Figure shows stacked bar charts for questions included in the KLIP household survey. Proportions of answers for each Likert response are shown, with the bar chart centered around the median neutral response. Responses are only comprised of KLIP beneficiaries.

A more appropriate comparison is between KLIP and the Hunger Net Safety Programme (HSNP). HSNP is one of Kenya's flagship risk reduction programmes, providing unconditional cash transfers to over 600,000 households across four of Kenya's ASAL counties namely, Marsabit, Mandera, Turkana, and Wajir. The households targeted by KLIP and HSNP are designed not to overlap (the targeting criteria for KLIP include a requirement not to be covered by other safety nets). Here too, beneficiaries express strong sentiments that HSNP transfers are not preferred over KLIP pay-outs. Insights from the FGDs suggest that much of the reason for this relates to issues of impact, timing and dependency of pay-outs:

> *"We trust and prefer KLIP. This is because it really helps and has reduced the death of animals during drought. It is dependable" (Tana-River beneficiary FGD)*

Positive opinions towards KLIP compared with the HSNP are relatively consistent, even amongst those that received support through HSNP in 2019. A similar distribution of responses is seen when considering the timing of HSNP transfers.

Figure 16: Comparisons of KLIP with the HSNP

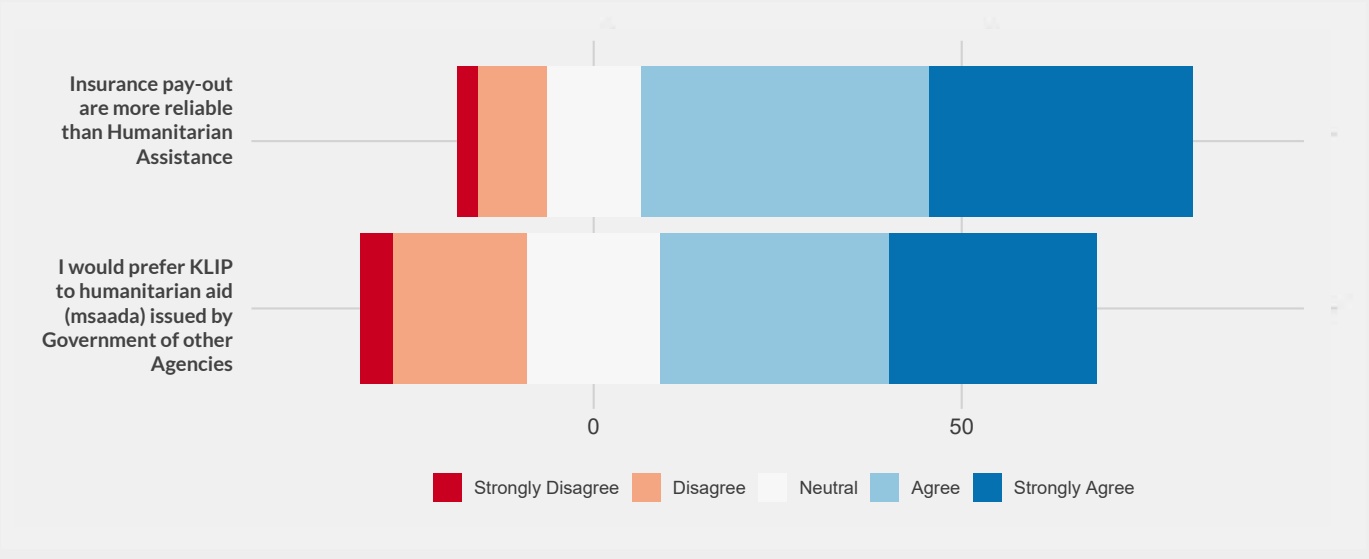


Note: Figure shows stacked bar charts for questions included in the KLIP household survey. Proportions of answers for each Likert response are shown, with the bar chart centered around the median neutral response. Responses are only comprised of KLIP beneficiaries.

3.7. Perceptions of whether KLIP pay-outs supported drought response

Reliability and relevance are two important factors likely to play a role in determining KLIP's value amongst beneficiaries. With that in mind, it is reassuring to see that a large majority express positive opinions regarding the certainty of pay-outs during severe drought, as seen in Figure 17. More importantly, a similarly large proportion of recipients believe that pay-outs are always sufficient in helping to manage and maintain livestock during drought and short rains. Results are similar across all counties for both questions. However, it is also worth noting that a proportion of respondents express some form of disagreement with the two statements (over a quarter in the latter case), suggesting that satisfaction with KLIP's ability to support livestock management is far from universal.

Figure 17: Perceptions on the reliability and relevance of KLIP pay-outs



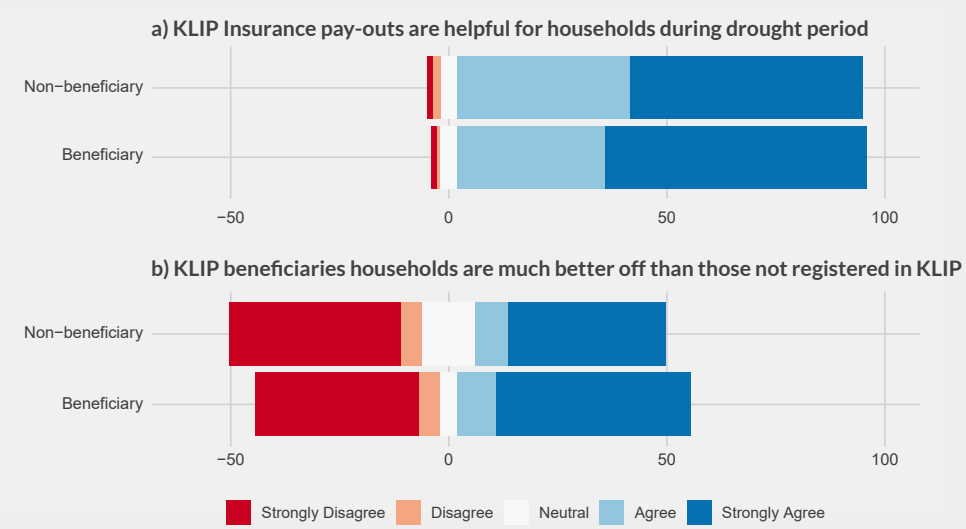
Note: Figure shows stacked bar charts for questions included in the KLIP household survey. Proportions of answers for each Likert response are shown, with the bar chart centered around the median neutral response.

Another important insight from the survey is gauging perceptions of whether KLIP has supported beneficiaries in responding to drought. To help explore this further we also include responses from the cohort of non-beneficiaries – though note that insights should be interpreted cautiously given that the targeting of KLIP implies that beneficiaries and non-beneficiaries are already different in their nature to begin with. Interestingly, when we compare the perceptions about KLIP's ability to support risk management in case of drought, the two groups seem to hold similar perceptions, which paints a mixed picture of KLIP's perceived value (see Figure 18).

A core question in the household survey is whether households agree that KLIP pay-outs were helpful for households during drought periods. Here, sentiments are overwhelmingly positive. Both beneficiaries and non-beneficiaries express strong positive feelings with regards to KLIP's ability to support households in times of need, as shown in Figure 18. Indeed, only 1% of respondents (across both groups) strongly disagree with the statement. The finding is even more impressive as non-beneficiaries have fewer incentives to provide answers perceived to be desirable to enumerators (known as social desirability response bias).

Yet, survey respondents are far less optimistic that KLIP beneficiaries are much better off than non-beneficiaries. Figure 18 shows that any positive sentiments are closely matched with negative sentiments overall. Interestingly, the pattern is similar across the two groups. While the two findings are not inherently contradictory, they do suggest that the perceived value of KLIP is far from straight forward.

Figure 18: Perceptions of KLIP's value amongst beneficiaries and non-beneficiaries



Note: Figure shows stacked bar charts for questions included in the KLIP household survey. Proportions of answers for each Likert response are shown, with the bar chart centered around the median neutral response.

The perceived implications of KLIP coverage and pay-outs are wide-ranging – with respondents reporting effects on household and community wellbeing. One interesting perception among both beneficiaries and non-beneficiaries is that KLIP pay-outs allow households to keep children in school and ensure attendance – see Figure 19. Such sentiments are also shared for KLIP's ability to support the wellbeing of children, with beneficiaries and non-beneficiaries expressing similar views.

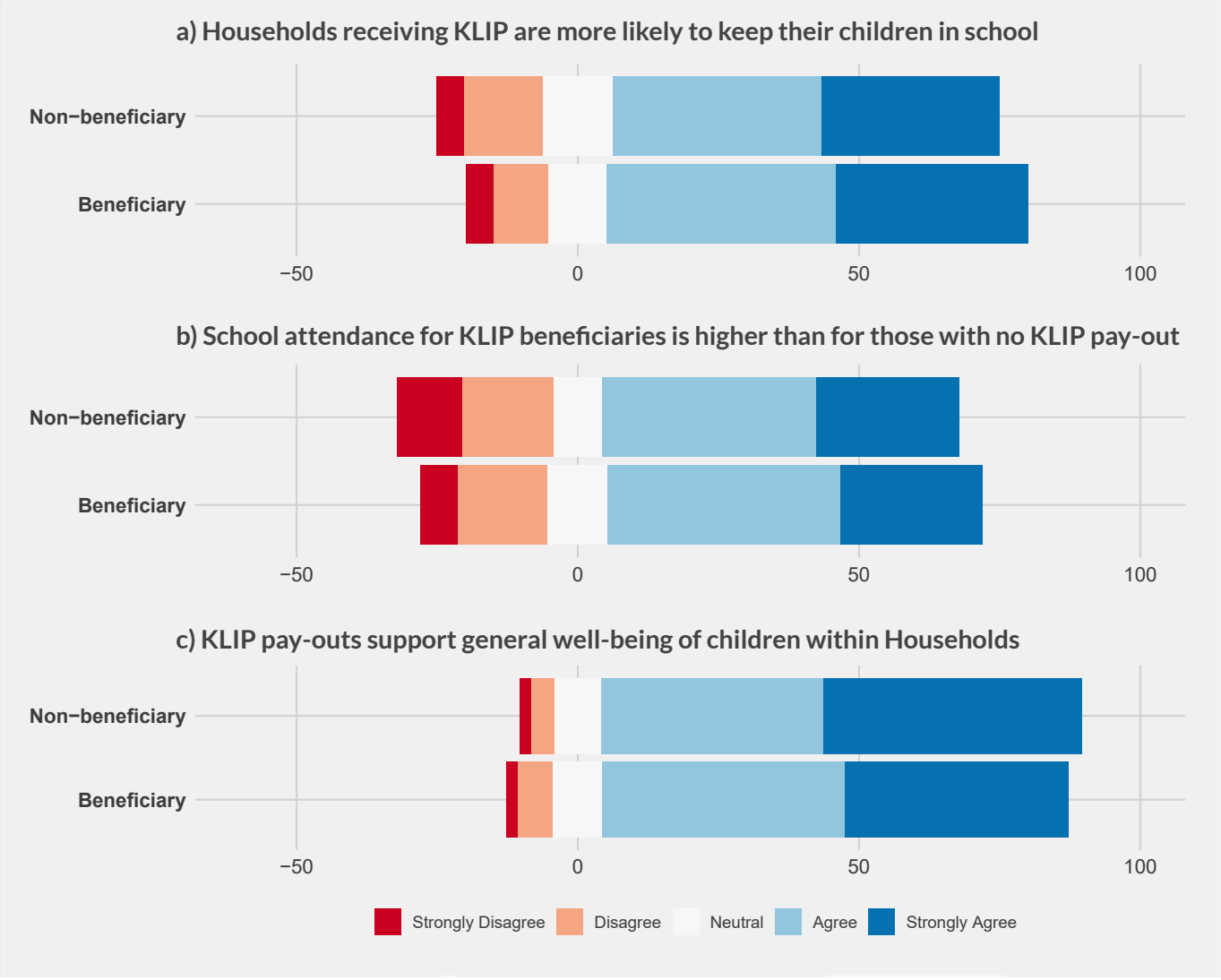
Similar sentiments are also expressed during the FGDs:

> *"[As a result of KLIP] children are able to attend and be retained in school because their school fees are paid" (Tana River non-beneficiary FGD*

> *"My daughter did her KCSE without any fees balance as I used the KLIP pay-outs to clear her school fees" (Marsabit beneficiary FGD)*

Indeed, positive sentiments relating to KLIP's influence on school attendance are reflected in almost all FGDs – beneficiaries and non-beneficiaries alike. Most make reference to the fact that pay-outs are able to support payment of school fees when household would otherwise defer to removing them to aid with household duties. Interviewees similarly report positive knock-on implications on women's workloads (who would otherwise bear the brunt of childcare support). Important to note here is that results should be interpreted with caution in the absence of further experimental or quasi-experimental evidence. For example, trends may partially be the result of the fact that timing of claim payments did not coincide with low pasture quality, but did coincide with school fee payments, potentially resolving a school fee credit constraint.

Figure 19: Perceptions of how KLIP affected school attendance and child wellbeing



Note: Figure shows stacked bar charts for questions included in the KLIP household survey. Proportions of answers for each Likert response are shown, with the bar chart centred around the median neutral response.

4. DISCUSSION AND CONCLUSIONS

Findings from the survey and accompanying interviews provide detailed insights into the perceived effectiveness of KLIP's roll out across the four targeted ASAL counties. By comparing survey responses between different types of users, locations and beneficiary types, the results presented above point to a range of strengths and weaknesses of KLIP's implementation. Below we highlight four main findings synthesising insights from various data sources and present a number of recommendations for future related programmes.

4.1. KLIP is generally well received amongst targeted communities

Overall, the perceived value of KLIP is positive among beneficiaries. This is supported by positive sentiments regarding KLIP's ability to support households during drought periods (the initiative's primary aim) – see Figure 18. Similarly, KLIP appears to be thought of favourably when compared with alternative safety net programmes and forms of humanitarian assistance – including the HSNP. While it is important to recognise the influence of potential response biases, the fact that non-beneficiaries express similar sentiments about KLIP is reassuring.

A key factor in understanding KLIP's positive reception is trust. Several FGDs make reference to the fact that levels of trust in KLIP's administration are higher when compared with other related initiatives. Much of this is reflected in the notion that pay-outs are linked to a transparent index, with general consensus among beneficiaries that the process is dependable (though trust in the indexing procedure is far from universal). The fact that KLIP has issued pay-outs in relatively high frequency during the first few years of operation is likely to have further entrenched this position. In addition, KLIP's lack of perceived association with political groups and politicians is referred to positively in many of the qualitative interviews conducted.

4.2. Despite positive sentiments, KLIP's overall perceived value is mixed

Responses to the household survey paint a positive picture of KLIP's perceived value in supporting households when droughts occur. In particular, an overwhelming majority of respondents (beneficiary and non-beneficiary alike) express that they agree with the statement that KLIP pay-outs are helpful for households during times of drought (as seen in Figure 18). A similarly high proportion of beneficiaries also agrees with the statement that pay-outs are sufficient in helping manage and maintain livestock during periods of hardship (Figure 17). These sentiments are well reflected in the FGDs, as interviewees note KLIP's utility in improving livelihood standards and supporting access to fodder and other basic amenities during times of drought. A majority of survey respondents indicate that households receiving KLIP seem more likely to be able to keep children in school, and that attendance for children of KLIP beneficiary households appears higher.

Yet, findings from the survey challenge a number of KLIP's intended attributes. For example, many respondents agree that pay-outs arrived too late to be of use in adequately managing livestock (see Figure 12). Criticism relates to the timing and nature of KLIP's pay-outs, both in the household survey and qualitative interviews, with many respondents questioning KLIP's ability to support households during critical times of need. This is especially important because KLIP is intended as a risk management tool, which implies that claim payments that do not arrive when the insured shock occurs could minimize its value.

Further research is needed to better understand why many respondents report that KLIP recipients are not better off than those not registered to the programme (see Figure 18). This holds for both beneficiaries and non-beneficiaries. The finding is worth exploring in more detail, as it is juxtaposed by several similar questions expressing positive sentiment towards KLIP's ability to support households during drought periods.

4.3. Confusion and dissatisfaction exist with regards to registration and aspects of KLIP's management

While KLIP appears to be trusted and well-liked compared to other initiatives, there are clear reservations expressed with regards to registration and management. This may be caused or exacerbated by the lack of incentives for strong communication and transparency from insurers given the 100% subsidy. Survey responses and feedback from the FGDs point to misunderstanding of KLIP's sign-up procedures as well as the terms of the product. A majority of surveyed respondents indicate that they did not completely understand registration criteria and that a large proportion of pastoralists are unaware whether they have registered at all (see Figure 8). The sentiment is perhaps best reflected in insights from the Tana River FGD where beneficiaries noted that "those registered understand about 20% [of how index insurance works]". A lack of continued communication with beneficiaries and difficulties in accessing KLIP representatives were repeatedly mentioned in FDGs and may explain negative responses related to user understanding and engagement. Other common reasons expressed for this mismatch include: a lack of general awareness raising on KLIP's procedures during registration; insufficient sensitisation on basic principles of insurance; poor access and communication on the part of KLIP's county-level level providers (namely Takaful); cultural reservations;[18] insufficient information dissemination; and general apathy.

One notable reservation expressed by many recipients relates to the claim payment modality. Strong negative sentiment exists with regards to pay-outs received via cheque – used predominantly in Isiolo and Marsabit. In fact, clear distinctions in disbursement methods seem to go a long way in explaining geographic variation in levels of satisfaction with KLIP pay-outs (see Figures 6 and 10). Reasons for user dissatisfaction are manifold, with numerous negative experiences documented in the FGDs. These largely centre around difficulties in setting up bank accounts, lack of clear communication in pay-out issuance and delays in receiving pay-outs. The inability to choose between pay-out methods (namely cheques and Mpesa) appears to be a further source of frustration, and points towards areas where future KLIP activities may wish to address.

It is nevertheless reassuring to see that recipients generally agree with the sum of pay-outs received. A slight majority also agree that the index is a reliable tool in determining pay-outs and a good representation of the actual quality of pasture. However, such sentiments are far from uniform. Much of the content of FGDs revolves around challenges to the indexing procedure, with

[18]Certain forms of insurance are generally prohibited under Islam

many respondents questioning its accuracy and suitability. It is likely that some of the contention revolves around misunderstandings of the trigger's link to satellite-derived estimates, and a lack of awareness in KLIP's procedures of administration. Improved communication and outreach with targeted beneficiaries as part of future KLIP activities may come a long way in building trust in the product's index.

5. RECOMMENDATIONS FOR FUTURE INITIATIVES

Based on the findings from the study's quantitative and qualitative inputs we highlight several recommendations aimed at improving the value of KLIP. Priority areas may prove similarly relevant to the expansion of future index insurance initiatives – in Kenya and elsewhere.

Priority 1
Emphasise greater clarity and transparency in the registration process

By far the largest feedback item from survey responses and FGDs is the need for greater clarity and support in the registration process. A large proportion of the KLIP beneficiaries reported dissatisfaction with the sign-up procedure – with many claiming to be unaware of whether they were formally registered or not. One option could be to issue a certificate or card to beneficiaries at registration as an affirmation of coverage. Clear improvements can be made in terms of communicating protocols to register, as well as sensitisation on the basic principles of index insurance. The fact that Kenya's ASAL counties have low levels of numerical literacy, combined with most households' lack of experience with insurance products, further underscores the need for more effective awareness raising at the outset.

One opportunity can be seen in targeting key stakeholders involved in recruitment. For example, KLIP relies heavily on local chiefs as entry points for signup of beneficiaries. Dedicated training of local chiefs can help to improve communication channels, especially given high levels of trust in clan networks. More broadly, efforts are needed in providing clear communication of the basis for (terms of) index-based insurance products. Preferably, communication tools should be tailored to the needs and interest of local beneficiaries – including those that have no prior experience or exposure to insurance schemes. In the case of ASAL counties in Kenya there may be considerable cause in seeking more innovative channels of outreach. For example, sensitisation activities could benefit from immersive tools such as 'serious games' previously trialled under IBLI and designed to clarify the merits of disaster risk insurance previously – as well as others like the Red Cross Crescent Climate Centre (Carter 2018)[19]. In addition, role play exercises designed for promoting risk reduction activities across Kenya supported by the UN may hold considerable promise[20].

[19]For a summary of recent initiatives see:
https://www.newsecuritybeat.org/2017/08/gaming-disaster-risk-insurance/

[20]For a collection of recent activities see:
https://www.preventionweb.net/files/26448_26445trainingpackageonnaturalhazard.pdf

Priority 2
Continue to build trust in the indexing procedure

Trust is key to the success of any index insurance scheme. In particular, beneficiaries need to feel that the designated index is an accurate reflection of risk conditions on the ground (in KLIP's case pasture quality). While overall trust in KLIP, and its indexing procedure is generally high, a large proportion of recipients expressed scepticism of satellite-derived estimates of pasture. Greater care can be taken in clarifying the nature of KLIP's index-tailored specifically to non-technical audiences (ones that may not be familiar with satellite derived products). Again, this is an avenue where immersive forms of communication can be of considerable value. In addition, future index-based initiatives may benefit from greater involvement of local communities not only in sensitisation of the index, but assignment of indexing procedures. For example, crowdsourcing of pasture quality using on-the-ground photos taken by pastoralists has already been used in calibrating indices for some IBLI-related products (Naibei et al. 2017). While such efforts may not always be relevant, they can play a large role in helping to build trust and acceptance in an index's trigger.

Priority 3
Invest in outreach and communication beyond registration

One of the main areas of beneficiary criticism relates to a considerable lack of communication on the part of agencies responsible for KLIP local administration. Respondents during the various FGDs repeatedly made reference to the fact that no further efforts at follow up or outreach were made subsequent to enrolment. Similar sentiments were expressed relating to a lack of clarity in local contacts or representatives – with administrative offices not available in some counties. These issues were especially noted in Marsabit and Isiolo – the two counties where pay-outs were primarily administered via bank cheques rather than mobile payments. Indeed, the lack of outreach may go a long way in explaining the lack of understanding in KLIP's core procedures among a large proportion of beneficiaries. Future KLIP-related activities should ensure that heavy investments are made in continued communication well beyond the registration processes. This includes clear notification of responsible local focal points and regular updates (including notification of triggering events). Many of these services can be carried out cheaply and remotely through use of mobile phones (either texts or calls).

Priority 4
Provide greater flexibility in choosing modes of pay-out

Differences in KLIP's mode of pay-out are highly correlated with user satisfaction and beneficiaries' perceptions of KLIP effectiveness. These sentiments are especially reflected in criticisms in the two counties where cheques were used as the mode of payout – Marsabit and Isiolo. This is clearly reflected in negative responses to survey questions around suitability of payment methods (see Figure 11). A clear consideration for future KLIP activities, as well as similar insurance initiatives targeting ASAL counties, is in supporting greater freedom of choice in modes of payment. While some recipients may indeed prefer to receive bank cheques, allowing users to choose may help in averting criticisms of late pay-out notification and difficulties in accessing physical bank accounts. This is particularly relevant in areas with low bank penetration or where the local administrative office (Takaful insurance in the case of KLIP) is difficult to access. Additionally, given the complexity around the requirement and use of an identification number (PIN) to access mobile savings accounts, further monitoring and investigation of this process and associated challenges should be carried out.

Priority 5
Focus on timely pay-outs

Using pay-outs to help protect livestock from the impacts of an ongoing drought requires timely interventions, otherwise the product is not valuable as a risk management tool. If payments are not expected to arrive in time this does not help with creating "peace of mind" with respect to future variability of consumption, the main objective of a risk management tool. Further, delayed payments will also imply that the impact of the insured shock on consumption and harmful coping mechanisms will not be mitigated. Across the board, KLIP beneficiaries highlight that claim payments do not arrive in time to be of use in protecting livestock assets. Indeed, dissatisfaction with the timing of pay-outs is especially pronounced in Marasabit and Isolio, the two counties where pay-outs were received through bank transfers. Significant concerns over delayed payment are also expressed in Tana River and Marsabit (where pay-outs were administered via mobile phone). Issues either relate to the timing of the index being triggered or administrative delays in distributing pay-outs to beneficiaries.

Care should be given to speeding up the process of delivering pay-outs where possible. Given the need for targeted support to be administered during (or in the immediate aftermath) of a drought for pastoralists to be able to safeguard their livestock and livelihoods it is important that KLIP seek avenues to ensure faster-turn and receipt of pay-outs. Importantly, this relates not only to when payments are issued, but the timeliness of uptake. In many instances, beneficiaries report being unaware that a pay-out has been disseminated. The issue is of particular concern to those receiving cheques, as the process of notification and claiming can take considerable time. This contrasts with payments made through Mpesa, where recipients are notified directly with pay-outs made available immediately. As with Priority 4, greater efforts to allow users choice of preferred mode of pay-out and encouraging access to mobile money accounts can come a long way in improving the timelines (and thus impact) of KLIP.

To measure and improve administration of payments and to ensure accountability, formal measurement of pay-out performance should be put in place with Key Performance Indicators to report against.

An external audit could be performed to help better understand any fundamental issues of the scheme's operation such as governance, management, and accountability which could be affecting the timeliness of payouts.

REFERENCES

Amare, A., Simane, B., Nyangaga, J., Defisa, A., Hamza, D., & Gurmessa, B. (2019). Index-based livestock insurance to manage climate risks in Borena Zone of Southern Oromia, Ethiopia. Climate Risk Management, 25, 100191.

Bertrand, M., & Mullainathan, S. (2001). Do people mean what they say? Implications for subjective survey data. American Economic Review, 91(2), 67-72.

Carter, M.R., Barrett, C.B., Boucher, S., Chantarat, S., Galarza, F.B., McPeak, J.G., Mude, A.G. and Trivelli, C., 2008. Insuring the never before insured: explaining index insurance through financial education games.

Dror, I., Maheshwari, S. and Mude, A.G., 2015. Using satellite data to insure camels, cows, sheep and goats: IBLI and the development of the world's first insurance for African pastoralists. ILRI (aka ILCA and ILRAD).

Fava, F. P., Jensen, N. D., Sina, J., Mude, A. G., & Maher, B. (2021). Building financial resilience in pastoral communities in Africa: Lessons learned from implementing the Kenya Livestock Insurance Program (KLIP).

Fitzgibbon, C., 2012. Economics of resilience study–Kenya country report.

GoK (2015b) ASAL Classification. Accessed from: http://www.devolutionasals.go.ke/county-information/

Greatrex H, Hansen JW, Garvin S, Diro R, Blakeley S, Le Guen M, Rao KN, Osgood, DE. 2015. Scaling up index insurance for smallholder farmers: Recent evidence and insights. CCAFS Report No. 14 Copenhagen: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Available online at: www.ccafs.cgiar.org

Hill R, Skoufias E, Maher B. 2019. The Chronology of a Disaster, A review and assessment of the value of acting early on household welfare. World Bank.

Janzen, S. A., & Carter, M. R. (2019). After the drought: The impact of microinsurance on consumption smoothing and asset protection. American Journal of Agricultural Economics, 101(3), 651-671.

Janzen, S. A., Jensen, N. D., & Mude, A. G. (2016). Targeted social protection in a pastoralist economy: case study from Kenya. Revue Scientifique et Technique-Office International des Epizooties, 35(2), 587-596.

Jensen, N & Fava, F. 2017. Time matters – from asset-replacement to asset-protection drought index-insurance for livestock in East AfricA. World Bank.

Jensen, N. D., Barrett, C. B., & Mude, A. G. (2016). Index insurance quality and basis risk: Evidence from northern Kenya. American Journal of Agricultural Economics, 98(5), 1450-1469.

Matsuda, A., Takahashi, K. and Ikegami, M., 2019. Direct and indirect impact of index-based livestock insurance in Southern Ethiopia. The Geneva Papers on Risk and Insurance-Issues and Practice, 44(3), pp.481-502.

McPeak, J., Chantarat, S. and Mude, A., 2010. Explaining index-based livestock insurance to pastoralists. Agricultural Finance Review.

REFERENCES

Miranda, M.J. and Farrin, K., 2012. Index insurance for developing countries. Applied Economic Perspectives and Policy, 34(3), pp.391-427.

Naibei, O., Jensen, N. D., Banerjee, R. R., & Mude, A. G. (2017). Crowdsourcing for rangeland conditions—Process innovation and beyond.

Ndiritu, S. W., & Muricho, G. (2021). Impact of climate change adaptation on food security: evidence from semi-arid lands, Kenya. Climatic Change, 167(1), 1-20.

Nyanjom, O., 2014. Remarginalising Kenyan pastoralists: the hidden curse of national growth and development. African Study Monographs, Suppl. 50: 43–72

Oba, G. (2001). The Importance of Pastoralists' Indigenous Coping Strategies For Planning Drought Management In The Arid Zone Of Kenya. Nomadic Peoples, 5(1), 89–119. http://www.jstor.org/stable/43123620

Scoones, I. (1993). "Why Are There So Many Animals? Cattle Population Dynamics in the Communal Areas of Zimbabwe." in Range Ecology at Disequilibrium: New Models of Natural Variability and Pastoral Adaptation in African Savannas. Behnke, R.H. Jr., I. Scoones, and C. Kerven (eds). Overseas Development Institute: London. 62- 76

Son, H. (2021, August). Effect of Microinsurance on Child Work and Schooling: Evidence from Northern Kenya and Southern Ethiopia. In 2021 Annual Meeting, August 1-3, Austin, Texas (No. 314040). Agricultural and Applied Economics Association.

Takahashi, K., Barrett, C. B., & Ikegami, M. (2019). Does index insurance crowd in or crowd out informal risk sharing? Evidence from rural Ethiopia. American Journal of Agricultural Economics, 101(3), 672-691.

UNICEF. 2017. More than 1 million children affected by drought in Kenya. United Nations Children's Fund. Accessible at: https://www.unicef.org/press-releases/more-1-million-children-affected-drought-kenya

Vrieling, A., Meroni, M., Mude, A.G., Chantarat, S., Ummenhofer, C.C. and de Bie, K.C., 2016. Early assessment of seasonal forage availability for mitigating the impact of drought on East African pastoralists. Remote sensing of environment, 174, pp.44-55.

Vrieling, A., Meroni, M., Shee, A., Mude, A.G., Woodard, J., Bie, C.A.J.M. (Kees) de and Rembold, F. 2014. Historical extension of operational NDVI products for livestock insurance in Kenya. International Journal of Applied Earth Observation and Geoinformation 28: 238-251

Warner, K., Ranger, N., Surminski, S., Arnold, M., Linnerooth-Bayer, J., Michel-Kerjan, E., Kovacs, P. and Herweijer, C., 2009. Adaptation to climate change: Linking disaster risk reduction and insurance. United Nations International Strategy for Disaster Reduction, Geneva.

Würtenberger, D., 2017. Index-Based Insurance in Developing Countries: Rational Neglect?. Available at SSRN 3087944.

World Bank. 2018. Kenya Poverty and Gender Assessment 2015/16 - A Decade of Progress and the Challenges Ahead. © World Bank.