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for Resilience in the Horn of Africa

REPORT 1

**Kenya Ending Drought
Emergencies Policy Review:
Scenarios for Building
Resilience in the ASALs**

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1

Introduction

Kenya's arid and semi-arid lands (ASALs) are a particularly unique and challenging context in which to achieve resilience outcomes. ASALs face multiple stressors that increase the vulnerability of communities. Over the past century, these areas have been undergoing an accelerating process of change. Rapidly shifting land-use is leading to fragmentation of rangelands, driven by socio-economic factors including population growth, globalisation, competition for land, intensification of production and political pressures¹. Ecosystem service flows are also being affected as these systems undergo social and ecological change, with implications for the resilience of those whose livelihoods depend on them².

Increased climate variability and frequency of extreme weather events adds a further layer of complexity. The Intergovernmental Panel on Climate Change³ provides evidence that climate change will interact with non-climate related drivers and stressors to increase the vulnerability of Africa's ASALs, with high confidence³. In Kenya, where less predictable rainfall and environmental stress are already acting on vulnerabilities, the increased extent, duration and frequency of drought are having negative impacts on the resilience of livelihoods and food security⁴. However, there are also significant opportunities to work with Kenya's ASAL communities to build resilience to extreme events and climate variability. There is inherent adaptive capacity held at community level that can be harnessed for improved resilience⁵. Further, the current process of devolution to counties in Kenya offers a timely window of opportunity to strengthen governance for climate resilience and sustainable development at community level.

Policies and programming aimed at building resilience in Kenya's ASALs must recognise the multiple stressors at play and the adaptive capacities that can be harnessed. The challenges are to increase integration of interventions across sectors and to foster strong governance and institutional arrangements for resilience across scales, from community to county to national and regional institutions. A sound policy framework is essential to achieve this, but overcoming these challenges in practice is very difficult. At county level, decentralised planning and implementation is hampered when the mandate for major decisions is retained at national level, when agency or ownership of development is limited, when awareness is low or when incentives are not sufficient to prompt action⁶.

¹ Galvin, K. 2009. *Transitions: pastoralists living with change. Annual Review of Anthropology, 38, 185-198.*

² Kaye-Zwiebel, E. & King, E. 2014. *Kenyan pastoralist societies in transition: varying perceptions of the value of ecosystem services. Ecology and Society, 19(3): 17.*

³ IPCC, 2014. *Climate Change 2014: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel for Climate Change. Cambridge, UK and New York, USA: Cambridge University Press.*

⁴ Thornton, P.K. and Gerber, P.J. 2010. *Climate change and the growth of the livestock sector in developing countries. Mitigation and Adaptation Strategies for Global Change, 15: 169-184.*

⁵ see for example Krätli, S. 2015. *Valuing variability: new perspectives on climate resilient drylands development. London: International Institute of Environment and Development.*

⁶ Jones, H., Jones, N., Shaxson, L. & Walker, D. 2012. *Knowledge, Policy and Power in International Development: a practical guide. Bristol: The Policy Press. Pp.28-30.*

The purpose of this review is to highlight some of the political economy factors that affect the implementation of Kenya's Ending Drought Emergencies (EDE) Common Programme Framework (CPF). First, the six pillars of the CPF are analysed using the Knowledge, Policy and Power (KPP) methodology to identify the ways in which institutions, actors' interests and knowledge management may enable or impede policy outcomes. Second, selected cases that are closely aligned to the investments made under the EDE have been identified through the KPP review and key informant interviews. The extent to which identified political economy factors interact with these investments to impede or enable sustainable economic development⁷ is explored.

While these examples are drawn from the context of the Kenya EDE, this review is intended to inform the implementation of the Inter-governmental Authority on Development (IGAD) Drought Disaster Sustainability Initiative (IDDSI) in other member states. Ultimately, the aim of this work is to begin to provide policy-makers and planners with a convincing evidence base in the form of specific investment cases to illustrate how well-formulated policies can play a significant role in ensuring sustained economic development.

⁷ Smith, L., Frankenberger, T., Langworthy, B., Martin, S., Spangler, T., Nelson, S., & Downen, J. (2015). *Baseline Survey Report - Volume 1: Main Report of the Ethiopia Pastoralist Areas Resilience Improvement and Market Expansion (PRIME) Project Impact Evaluation*. Washington, DC: FEEDBACK: USAID.

Kenya's Resilience Policy Framework

There are two major drivers behind Kenya's current policy framework supporting resilience in the ASALs. The first is the recent devolution of governance to county level under the new Constitution introduced in 2010. This shift in governance began in 2012 and already the impact has been significant for the ASALs, which have been marginalised from power structures and development investments for decades. The second driver was the occurrence of the 2011 drought crisis in the Horn of Africa. This event hit the region after successive failed rains and coincided with rising food prices to impact on approximately 13 million people, around 3.75 million of these in northern Kenya⁸. This humanitarian crisis prompted a step-change in the approach of governments, donors and humanitarian organisations away from emergency response and towards resilience building. It is in this context that IGAD Member States and development partners convened to work together on a long-term approach to reducing drought vulnerability in the region.

IGAD Drought Disaster Resilience and Sustainability Initiative

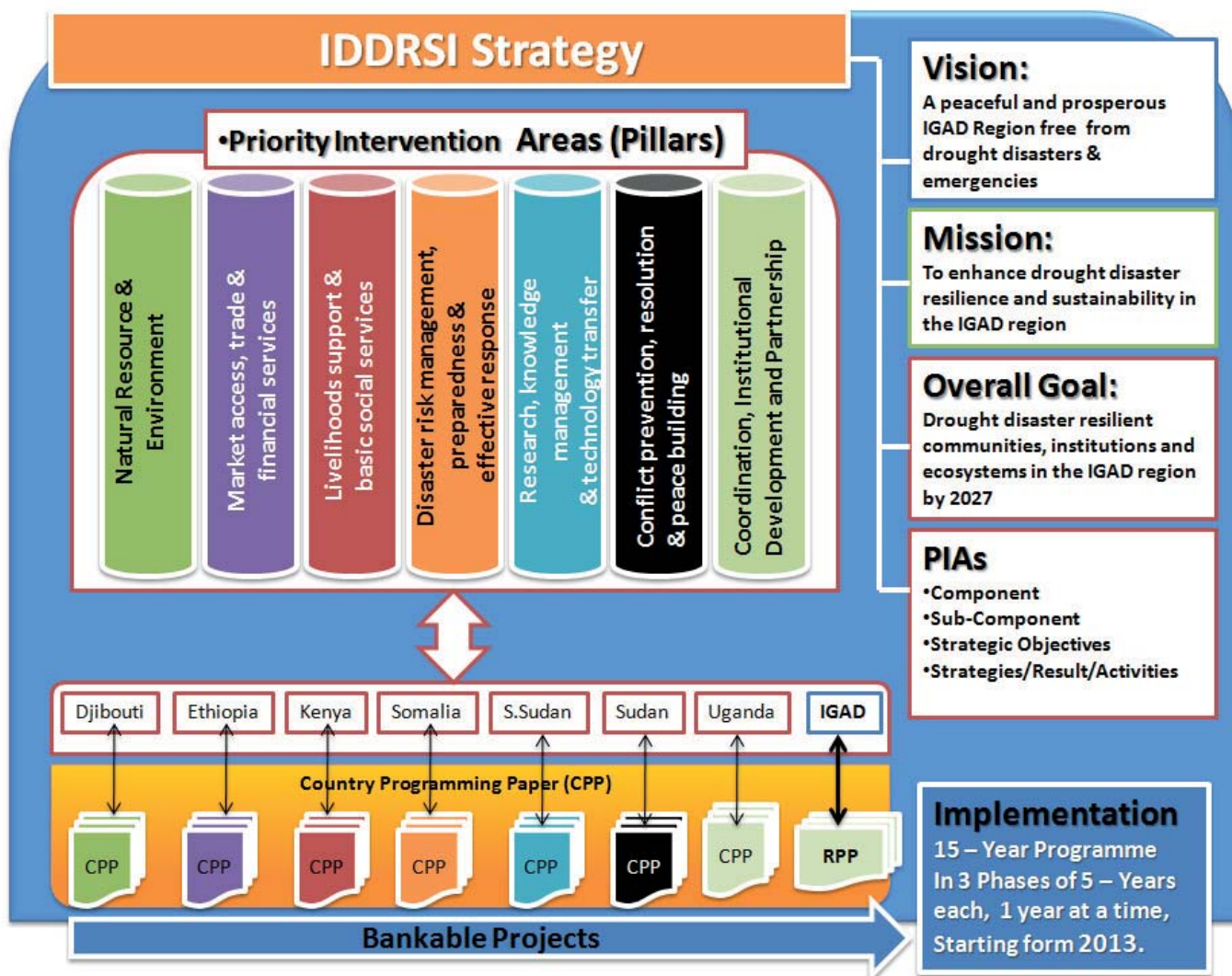
In September 2011, Heads of State and Governments of the Horn and East Africa convened at a Summit hosted by Kenya. At this meeting, the general policy direction in terms of drought vulnerability and resilience was set and IGAD was tasked with acting on the agreements. Thus, in November 2012, IGAD held a summit of Member States including representatives from the governments of Djibouti, Somalia, Eritrea, Sudan, Ethiopia, Uganda and Kenya. The goal was to find ways to shift away from the pattern of reacting to drought and instead to promote a common and coordinated response to address the underlying drivers of drought vulnerability. The Technical Consortium for Building Resilience in the Horn of Africa was a partnership between the Food and Agriculture Organization of the United Nations (FAO) Investment Center and the Consultative Group for International Agricultural Research (CGIAR). The Technical Consortium was charged with developing investment plans for interventions in the ASALs in IGAD member states (originally called the Country Programme Papers) and an investment plan that contained investments with a regional focus, designed to enhance the resilience of populations in the drylands of the Horn of Africa and mitigate the effects of drought. This Regional Programme Framework then became IGAD's Drought Disaster Resilience and Sustainability Initiative (IDDRSI)⁹. See Figure 1 for a schematic representation of the IGAD IDDRSI Strategy.

⁸ IFRC, 2011. *Drought in the Horn of Africa: preventing the next disaster*. Geneva: International Federation of Red Cross and Red Crescent Societies. Available here: <http://www.ifrc.org/PageFiles/90410/1203800-Drought%20in%20the%20Horn%20of%20Africa-Preventing%20the%20next%20disaster-EN-LR.pdf>

⁹ IGAD Regional Programming Paper for the IDDRSI. January 2013. Available here: <http://resilience.igad.int/index.php/programs-projects/rpp>.

The IDDRSI platform serves as a point of convergence for the member state investment programmes, intended to promote coordination and regional

Figure 1. IGAD IDDRSI Strategy



Source: IGAD¹⁰

collaboration aimed at ending persistent drought emergencies in the region and to link them with long-term development objectives. The IDDRSI recognises that the impacts of droughts in ASALs are not contained within administrative boundaries, and emphasises that managing drought risk requires an integrated inter-country and intra-country approach. Each IGAD member state is tasked with implementing the IDDRSI at the national level, aligning and harmonising strategy with the IDDRSI platform guided by the IGAD Secretariat.

To date, the regional initiative is not yet embedded into national processes for all member states. Kenya has been spearheading the shift towards long-term resilience planning, being the IGAD member state with the most progress towards a clear ASAL investment plan. This plan is embedded in the Kenya EDE CPF, finalised in April 2015.

¹⁰ Available here: <http://resilience.igad.int/index.php/about/strategy>

Ending Drought Emergencies Common Programme Framework

In recent years, the Government of Kenya has been committed to developing a more resilience-building policy focus. For example, a series of Sessional Papers consistent with the Vision 2030 strategy have redefined national priorities to promote food security and reform livestock management systems in previously marginalised ASALs, which make up 80% of the country's landmass. Sessional Paper 1¹¹ (2011) has highlighted issues of access to food as key for building food security, particularly in the ASALs that have historically been reliant on emergency food aid. Sessional Paper 2 (2008) on livestock has been revised to include concerns for the resilience of the pastoral economy, which accounts for an estimated 90% of livelihoods in arid lands¹².

The cornerstone of these papers, which signals a watershed change to the Government's approach to managing ASALs and environmental hazards in Northern Kenya, is Sessional Paper 8 (2012). The policy document capitalises on Kenya's recent devolution of power to county structures by articulating a strategy to strengthen the climate resilience of ASAL communities while simultaneously reducing historical underdevelopment inequalities between Kenya's ASALs and the rest of the country. The key output of the document is the establishment of the National Drought Management Authority (NDMA), whose remit is to ensure that drought does not result in disaster and to exercise general supervision over all matters concerning drought management in Kenya's ASALs¹³. Rather than working in a project-based manner, the NDMA is a permanent institution allocated regular funding through the national budget. The NDMA is manned with technical staff at national and county levels and each county is responsible for producing a monthly bulletin monitoring drought indicators.

¹¹ Government of Kenya. 2011. *Sessional Paper No. 1, National Food and Nutrition Security*.

¹² Government of Kenya. 2008. *Sessional Paper No. 2, National Livestock Policy*, p8.

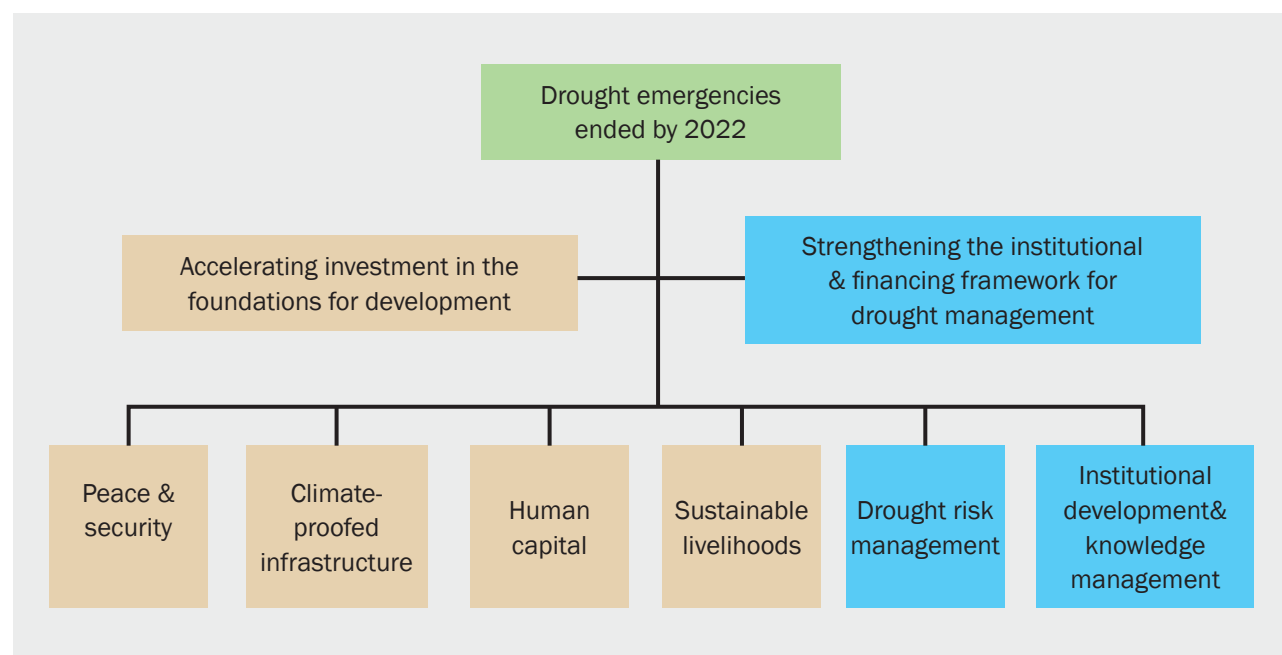
¹³ Government of Kenya. 2012. *Sessional Paper No. 8, National Policy for the Sustainable Development of Northern Kenya and other Arid Lands*.

The NDMA is also responsible for overseeing implementation of the EDE CPF, the national initiative folded into the larger regional efforts to better manage the underlying causes of droughts. The EDE has strong linkages to the Kenya Vision 2030, with pillars streamlined within the EDE Medium Term Plan (MTP) for 2013 – 2017 and acts as an investment framework anchored around six inter-related pillars (see also Figure 2):

1. Peace and security
2. Human capital
3. Climate-proofed infrastructure
4. Sustainable livelihoods
5. Drought risk management
6. Institutional development and knowledge management

The first four pillars prioritise accelerating investment in foundations for development, while the second two aim to strengthen institutional and financing frameworks for drought risk management (DRM). The rationale underpinning the EDE is that investing in the foundations for development can help other interventions achieve their results, and strengthening institutions for DRM creates an enabling environment that lasts beyond the time frames of project-based interventions.

Figure 2. Kenya's EDE CPF



Source: Kenya EDE CPF¹⁴

The EDE CPF serves as a method of committing to holistic drought risk management in a sector where most investments have been made in emergency response or in technical livelihood projects dealing with water, livestock, or agriculture¹⁵. The EDE does not redirect funding, but is designed to add value to existing activities and encourage decision makers and donors to think laterally about investments in Kenya's ASALs. For example, building a road has important consequences for security and access to markets, while investing in education can be maximised if children are healthy and well-nourished and feel safe enough to travel to schools.

Investing in Ending Drought Emergencies

The allocation of budgets aimed towards financing the foundations of resilience, however, remains at magnitudes lower than that for emergency aid and relief. For example, the United Kingdom's (UK) Department for International Development (DFID) spent over £200m on emergency response after the 2011 drought, and the European Union (EU) has spent over £700m on humanitarian aid in the Horn of Africa since 2011^{16, 17}. By comparison, in 2014 donors cumulatively invested US\$30m (approx. £20m) into climate-proofed infrastructure, US\$13m (approx. £8m) into peace and security, and US\$71m (approx. £46m) into the health and nutrition sectors¹⁸. Together, these constituted 11.2% of funds invested into building resilience in all ASAL counties. Over 87% of all EDE-related funding in 2014 went to sustainable livelihood projects and disaster risk management, activities that are more traditionally linked to drought resilience. Of course, the importance of humanitarian relief cannot be discounted, but these figures demonstrate that more funding will need to be dedicated to some of the EDE pillars, in particular, infrastructure and security.

¹⁴ Government of Kenya. April 2015. *Ending Drought Emergencies Common Programme Framework*. Available here: <http://www.dmkenya.or.ke/index.php/resource-centre/send/6-edede/3-ending-drought-emergencies-common-programme-framework-final-draft-april-2015>

¹⁵ NDMA Strategy Meeting, May 2015

¹⁶ European Commission. 2015. *Horn of Africa: Humanitarian Aid and Civil Protection Fact Sheet*. Available at: http://ec.europa.eu/echo/files/aid/countries/factsheets/hoa_en.pdf.

¹⁷ ICAI. 2012. *DFID's Humanitarian Emergency Response in the Horn of Africa*. Available at: <http://icai.independent.gov.uk/wp-content/uploads/2012/09/ICAI-report-FINAL-DFIDs-humanitarian-emergency-response-in-the-Horn-of-Africa1.pdf>.

¹⁸ Kenya Resilience Investment Tracker. Available at: <http://kenya.droughtresilience.info/>. Accessed [05/08/2015]

Government funding at the county level broadly reflects these funding trends. For example, Turkana County in northern Kenya is particularly vulnerable to drought with 94.3% of people living below the national poverty line¹⁹. As a result, Turkana receives the largest proportion of EDE-related donor funding, with over US\$220m worth of projects invested in the region since 2011. The Turkana County 2014/2015 budget allocates the largest share to healthcare and education, in line with EDE commitments. However, less than 2% of Turkana's 2013-14 budget was allocated to the pastoral economy, even though pastoralism accounts for the livelihoods of 70% of the population of the county¹⁹. The interrelated nature of EDE pillars mean that prioritising all six clusters is critical for ensuring each pillar's long-term sustainability. Delivering on EDE commitments will require county governments, donors, and development partners to align investments to every pillar to maximise the impacts of interventions.

¹⁹ Turkana County Integrated Development Plan, 2013/14 - 2017/18.

²⁰ Technical Consortium Theory of Change. Available here: http://www.technicalconsortium.org/wp-content/uploads//2015/06/approach_to_resilience_brochure.pdf

There is an urgent need to build evidence of causal relationships between projects, interventions, investments and resilience outcomes in order to understand how these can be better targeted to have the most impact possible in enhancing resilience. The Technical Consortium defines resilience as the capacity that ensures stressors and shocks do not have long-lasting adverse development consequences and enables support to trajectories enhancing growth and prosperity²⁰. Ideally, decision makers would have evidence of the cost-benefits of investments made under the EDE. To calculate this, they would need good understanding of the external and internal influences affecting an action and a means of assessing the impact of that action after factoring these in.

This policy review aims to take steps towards achieving the first of these conditions, identifying the political economy factors at play in the context of the EDE and the ways in which these may impede or enable implementation. It is understood that barriers to decisions, institutional norms and capacities are some of the most important factors in whether an investment can stimulate actions that lead to sustainable development outcomes. The second step is even more complex. There is currently a recognised 'attribution gap' whereby it is not possible to quantify the impact of an action on resilience outcomes, less still to attribute impacts to an action.

Approach and Methodology

3

The policy review comprises two parts. The first is guided by a desk-based literature review of policies that have influenced resilience in Kenya, using the EDE CPF documents as a starting point. The review included available policy documents and academic and grey literature. This information was then analysed using the Research and Policy in Development (RAPID) Knowledge Policy and Power (KPP) framework²¹. The KPP framework provided a basis for analysing the mechanisms by which impact may be achieved through the EDE. KPP separates the mechanisms of policy change into four areas:

- 1) *Political context*: which focuses on institutions, or other international factors
- 2) *Actors' interests, values and beliefs*: focusing on the politics at the individual and organisational level
- 3) *Knowledge*: concerned with key information and who creates this and has access to it
- 4) *Intermediaries or Links*: the translation of the knowledge and links between research and policy

The second part of the policy analysis involved a series of key informant interviews at national and county level in Kenya to uncover the most pertinent policy stories affecting Kenya's ASAL economies and communities. A selection of these cases is analysed, informed by the findings of the KPP analysis undertaken in the first step. These cases highlight clearly identifiable barriers to resilience from potential investments or clear unexploited opportunities for targeted investment impact. A total of 38 key informants were interviewed, including representatives of the National Drought Management Authority (NDMA), Pastoralist Parliamentary Group (PPG), Government of Kenya, International Livestock Research Institute (ILRI), World Agroforestry Centre (ICRAF), United Nations International Children's Emergency Fund (UNICEF), Kenya Livestock Marketing Council (KLMC), Kenya Markets Trust (KMT) and leading ASAL research institutes worldwide. In addition to one-to-one interviews, attendance at the following events allowed for iterative stakeholder engagement throughout the review process:

- January 2015: Technical Consortium Planning Meeting, Washington D.C., USA.
- February 2015: Meeting of EDE Pillar 6, ILRI, Kenya.
- March 2015: SHARED Resilience Fieldwork, Lodwar, Turkana, Kenya.
- April 2015: Parallel session - Harnessing Climatic Variability to Enhance Adaptation in the Drylands, 9th International Conference on Community-Based Adaptation, Nairobi, Kenya.
- June 2015: Policy Workshop - Developing Policy Innovations for the Pastoralist Rangelands through Cross-Sector Partnerships, ILRI, Kenya.

²¹ Jones, H., Jones, N., Shaxson, L., & Walker, D. 2012. *Knowledge, policy and power in international development: a practical guide*. Bristol: The Policy Press.



4

Political Economy of Decision-Making for Resilience

Taking a political economy perspective, this review focussed first on national level priorities and decision-making processes, then on how these filter vertically down to county level and horizontally across key actors and power structures (e.g. parliamentarians). The national and regional level policies reviewed, including the CPF, were analysed using the KPP approach to determine which policies may be enhancing or impeding resilience and economic development along the six common themes of the CPF (see Table 1 for summary).

The successful implementation of policy depends on the institutions, both formal and informal, that shape the political context. Evidence from developing countries show processes of decentralisation can be hampered by retention of power in the form of centralised resources, decision-making and knowledge²¹. In Kenya, devolution has reshaped the interests of different actors and the power relationships between them. The impacts on the accountability and quality of decision-making are yet to be seen. These will be dependent on the capacity of new institutions and development of networks with civil society and other stakeholders. Despite its parliamentary democracy and active civil society, this has not always resulted in the use of evidence in shaping policy generally in Kenya²². This may, however, be changing with the advent of devolution and engagement of some county governments with non-governmental organisations.

Scoping work and stakeholder engagement indicate that there are a number of policy disconnects at play in Kenya. Patterns have emerged from the KPP analysis over which examples have the greatest probability of impeding resilience and why. For example, under sustainable livelihoods, there is disconnect in looking at issues with multi-sectoral perspectives. Rather, planning is still restricted to ministry areas of control or self-interested political actors. Implementation of DRM, on the other hand, suffers due to insufficient legislative power and a lack of cooperation between the government and private sector. In infrastructure planning, devolution has caused a shift in responsibility away from national/regional bodies through to county governments. Lack of funds where county governments are responsible are a barrier, and governments can lack the will to allow contractors to operate effectively and efficiently. In addition, there are capacity shortfalls between governance levels. As one stakeholder articulated it “when devolution came in, it did not devolve capacity”.

The KPP analysis identifies limited cross-county sharing of policies as an institutional barrier to sustainable development outcomes. The EDE pillars address issues that span administrative boundaries and without regional coordination, these cannot be addressed in an integrated, inclusive manner.

²² Jones, N. and EBPDN partners from East Africa and Southeast Asia. 2011. *Involving legislators in evidence-informed policy processes: a neglected part of the democratic governance agenda*. London: Overseas Development Institute. Available here: <http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/7139.pdf>

Table 1 exemplifies the importance of political economy factors affecting the implementation of policy around CPF themes. Clearly, the interests and priorities of different actors and institutions play out within and between these themes and these must be recognised as potentially significant barriers to resilience even where policy is well designed.

²³ Nkonya, E., Gerber, N., Von Braun, J. and De Pinto, A. (2011) 'Economics of land: Targeting infrastructure development to foster agricultural trade and market integration in developing countries: an analytical review 22 degradation: the costs of action versus inaction'. IFPRI Issue Brief 6. Washington, DC: IFPRI.

Table 1. Key enablers and barriers to resilience

EDE PILLAR	KEY BARRIERS
Peace and Security	<p><i>Political:</i> There are remaining draft and unimplemented policies from the National Steering Committee on Peacebuilding and Conflict Management (NSC) and inadequate funding towards peace and security generally.</p> <p><i>Political:</i> Devolution has added to existing mistrust, reducing the ability for governments, institutions and stakeholders to implement policies, and reducing ground level, bottom-up impact.</p> <p><i>Political/ Actors:</i> There is a lack of inter-country and cross border structures, despite evidence of an increasing drive to address shared risks.</p> <p><i>Political/ Actors:</i> Actors and political entities are focused on response, rather than preparedness.</p> <p><i>Actors/ Intermediaries:</i> Across peace infrastructure, culture and ethnicity form large barriers – mono-ethnic sub divisions are losing capacity to create relationships across ethnic groups, however new county administrators in Kenya can provide structures to enhance this.</p> <p><i>Political:</i> The National Policy on Peace Building and Conflict Management (2011) does not include climate change, which may result in an incomplete response to the relationship between natural resources, the environment and conflict dynamics.</p>
Infrastructure	<p><i>Political:</i> Limited inter county / cross county sharing of policies.</p> <p><i>Political/ Actors:</i> Devolution has caused a shift in responsibility away from national/regional bodies through to county governments. There is a lack of funds where county governments are responsible. Governments largely lack the will to allow contractors to operate effectively and efficiently, stemming from an identification of a lack of political will as seen in the County Integrated Development Plans.</p> <p><i>Political/ Actors:</i> There are wide policy disparities based on capacity (what is needed), and poor resource management and access to funding particularly regarding roads (Kenya Rural Roads Authority).</p> <p><i>Political/ Actors:</i> Resilience, particularly regarding climate change/ environmental factors, is evident in some counties. For example, in Machakos County, increased road access led to increased investments in soil erosion prevention methods²³.</p> <p><i>Political/ Actors:</i> Policies identify the high potential/ positive influence of the private sector, although confidence is lacking, and governments need to collaborate closely with the private sector (particularly Water Service Provision). Examples can be seen with the Lake Turkana Power Project and Grundfos.</p> <p><i>Political/ Actors:</i> Regarding resilience, there is disparity in the promotion of what is needed for ASAL and what is promoted in the EDE CPF. Policy promotes low-maintenance water technologies, but the EDE CPF promotes dams, which brings into question where resilience is aligned, and who is in mind as a beneficiary of the technologies (Water Service Provision).</p> <p><i>Knowledge:</i> Infrastructure requires organisational, managerial, technical skills and knowledge that are not readily available within communities – articles suggests that foreign investment has resulted in a knowledge gap in Kenyan labourers and communities. Barriers present themselves in the form of poor road conditions, resulting from poor legal legislative frameworks, such as along the Northern Corridor that cause transport delays.</p> <p><i>Intermediaries:</i> Minimal involvement of users (National Rural Road Authority) – often not aligned with national/ county investment. Particularly regarding energy, political emphasis is on reducing prices, but they do not consider the poor (The Rural Electrification Authority).</p>

Human Capital	<p><i>Political:</i> The capacity to deliver in policies is questionable, particularly regarding the lack of practical will/ commitment (Community-led total sanitation and Open Defecation Free Rural Kenya, 2013) and consistent technical issues, such as infrastructure constraints which limit the user (Education Policies). Absence of considering negative impacts on community (Free Primary Education, 2003).</p> <p><i>Intermediaries:</i> Progress in partnerships with universities and training through which knowledge and acceptance is being built (E-learning, distance education).</p> <p><i>Knowledge:</i> Significant barrier is education. Formal education contrasts pastoralists/ nomadic beliefs, leading to damaging decisions and trade-offs that have to be made between nomadic parents and children between acquiring formal education through the school system.</p> <p><i>Knowledge:</i> There are significant research/ knowledge gaps across several sectors and various issues e.g. health records & information, sectors linkages such as health and agriculture, or food security and basic education, and information on cost of services for users and households. Regarding Health Policies, attention is not given to vulnerable or marginalised groups, hindering pastoral resilience.</p> <p><i>Intermediaries:</i> Strength is seen in community consultations, and end user integration. For Health Policies (e.g. Kenyan Health Policy, 2012) significant barriers in communication, skills distribution and management of human resources for health, financing etc.</p> <p><i>Actors:</i> There are contrasting actor interests (Free Primary Education, 2003 – failed policy; Health Policy – policy dictated by interest in traditional medicine, nutrition and sanitation practices), and a lack of collaboration, such as with hygiene and sanitation.</p> <p><i>Intermediaries:</i> Lack of collaboration between central government, local staff for CLTS and communities (Environmental Sanitation and Hygiene Policy 2010 – 2015).</p>
Sustainable Livelihoods	<p><i>Political:</i> Insufficient flexibility in policy, planning and resource allocation, including the systems to adapt to the complex nature of the ASALs and their changing needs, such as the widening wealth gap (all issues identified to be fixed in Kenya Vision 2030), and expansion of the private sector engagement.</p> <p><i>Political:</i> Funds largely allocated to early response, shifting time and resources away from resilience investments (Kenya Vision 2030).</p> <p><i>Political:</i> Rudimentary mechanisms across inter-county collaboration.</p> <p><i>Actors:</i> Limited capacity – livelihoods is not central within national and county planning processes.</p> <p><i>Knowledge:</i> Lack of use of livelihood baselines, statistics, and EWS. Need to integrate indigenous knowledge into planning. Regarding climate change, expert knowledge is lacking.</p> <p><i>Knowledge:</i> Issues of education e.g. storing harvests & produce, available infrastructure and related services (Warehouse Receipt System, WRS). With WRS, grains stored in warehouses are used as collateral for loans However, such services are still not well advertised among smallholders and climate change/ drought not factored into this programme. A bill is currently discussed in order to provide a more structured regulatory framework to WRS which would allow scaling up of the initiatives.</p> <p><i>Political/ Actors:</i> Part of livelihoods relates to land use/ control. Whilst there are policies in place, a significant barrier is the rights in land law issues being linked to ethnic politics and historical biasness - there is no guarantee that citizens and legislators will agree on common mechanisms to adopt and deliver services, particularly as this is wrapped in human rights (National Land Policy, 2009).</p> <p><i>Intermediaries:</i> Integration on indigenous communities is difficult, and faced many challenges e.g. lack of capacity, competition, lack of financial resources limiting resilience building (stems from original Kenya Pastoralists Forum). Distrust in government.</p> <p><i>Political/ Actors:</i> There is still disconnect between looking at issues across a multi-sectoral perspective (National Climate Change Response/ National Climate Change Action Plan, 2013), related to ministry control and self-invested interest.</p>
Drought Risk Management	<p><i>Political/ Actors:</i> DRM suffers due to insufficient legislative power and a lack of cooperation between the government and private sector (National Climate Change Response Strategy & National Climate Change Action Plan, 2013). Successful linkages between government and local adaptation are needed, whilst the government needs to strengthen adaptive capacities (National Climate Change Response Strategy & National Climate Change Action Plan, 2013).</p> <p><i>Actors:</i> Measures to strengthen climate change adaptations are promoted by individual actors, and not agreed upon collectively (National Climate Change Response Strategy & National Climate Change Action Plan, 2013).</p> <p><i>Knowledge/ Intermediaries:</i> Linking to infrastructure – barriers are presented in the form of lacking communication, connecting infrastructure, knowledge dissemination. NGOs have taken up the responsibility, improving this, however their capacity is weak.</p> <p><i>Political:</i> There is political indifference in reducing drought risk – particularly across Northern Kenya (National Food and Nutrition Security Policy, 2011).</p> <p><i>Institutions:</i> Locals and end users are often not involved, combined with the issue of information not being easily accepted, accessible, disseminated or updated. There is disconnection between formal planning systems and actions taken by communities as they accommodate and adapt to climate change/ disasters on a day to day basis (National Climate Change Response Strategy & National Climate Change Action Plan, 2013/ National Disaster Management Policy, 2012). For Climate Policies, phones and radios needed.</p> <p><i>Knowledge:</i> Lack of publically available real time and historic rainfall data hampers analysis for use (Disaster Management Policy – also most likely applicable to Climate Change Policy).</p>

Knowledge Management	<p><i>Political/ Actors:</i> Civil service is embedded in bureaucracy, limiting actions</p> <p><i>Knowledge:</i> Lack and absence of sharing knowledge – and the need to formally mainstream climate change information into a national climate change agenda. However, there are some existing initiatives and consultants, but a gap between these.</p> <p><i>Knowledge:</i> There is little central documentation, and where there is available information it is not processed, analysed, or catalogued in consistent manners and formats. Knowledge products do not find their way to the correct beneficiaries.</p> <p><i>Knowledge:</i> The ASAL have wide barriers facing the dispersal of literacy, including the wide geographical focus.</p> <p><i>Intermediaries/ Actors:</i> Institutions/ actors may lack a minimum level of internal capacity to secure needed resources.</p>
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The findings of the first round of key informant interviews carried out in Kenya in February – March 2015 also indicate political economy issues are at play with the potential to create policy bottlenecks that impede resilience. The backdrop to any discussion with key informants has been the devolution process, which clearly offers a huge opportunity for development in the ASALs. However, it also poses significant challenges in terms of capacity development and coherence between national and county level structures and processes.

Several actors or institutions have been identified as key to smoothing this transition and facilitating the implementation of the EDE more generally. These include the Parliamentary Pastoralist Group (PPG), which is regarded as key to effecting change as the parliamentarians can push ministries to take action, rather than this agenda coming through from technical ministry staff only²⁴. The NDMA works closely with PPG (the only parastatal working on ASALs) and there is a good interface with ministries, mostly via technical staff. However, there is less traction at senior level e.g. principal secretaries. The speaker of the national assembly is a member of the PPG, giving it greater ability to push bills through and draw down funds. The PPG have good capacity support from the parliamentary drafters in the National Assembly, although one member recognised there is still a capacity gap in terms of the legal knowledge and ability of the PPG that is required to draft bills²⁵.

The shift in power from Members of Parliament (MPs) to County Governors is currently causing a bottleneck as parliament strives to maintain budgetary and legislative control. This is one reason cited for delays in passing necessary legislation²⁶. Another reason is that the County Assemblies currently lack some technical expertise and therefore require technical assistance in drafting policies and bills. There are reports of tensions at the county level between the County Executive (Governor and Cabinet) and the County Assembly. For example, the assembly has already exercised its power to veto budgets in Turkana County. There is an inter-county Council of Governors, which is essential to integrated planning, and through this the Governors are “cohesive and have found their voice”²⁷. At the same time, this forum need to be pushed to legislate to address key issues, such as those around livestock and the pastoral economy²⁸.

Planning processes in Kenya are generally drawn up before the available sectoral resources have been clarified. This practice has been replicated at county level, such that the first round of County Integrated Development Plans (CIDP) are largely aspirational documents with little indication of an evidence-based rationale for the prioritization of implementation of investments or projects. In reality, implementation of these plans is being driven by available budgets at county level. There are also concerns that the constitutional requirement for consultation is not being met as effectively as it should.

²⁴ interview with NDMA Technical Advisor 20/02/2015

²⁵ Interview with PPG member 17/02/2015

²⁶ interview with EU Roads Programme advisor 20/02/2015

²⁷ interview with Pastoralist Parliamentary Group Representative 25/02/2015

²⁸ interview with Kenya Livestock Marketing Council 27/02/2015

Enablers and Barriers to Building Resilience through the EDE

As well as what is being implemented under the EDE and other policies, there is the key issue of what is not being addressed at all or not being addressed sufficiently. Two examples that have emerged from the analysis are the cases of underinvestment in the pastoral economy and significant investment in road infrastructure. To delve more deeply into the factors that can enable or impede resilience building through the EDE, these two cases will be explored further in this section. The interlinkages between these two cases have been central to the analysis of factors affecting the achievement of EDE objectives. Both the national and county level dynamics have been considered, with Turkana County and its County Integrated Development Plan (CIDP) taken as an example case.

In the key informant interviews livestock production came through strongly as largely overlooked by both national and county policies and actors, with a lack of legislation at both levels. At national level there is no livestock marketing agency, no established cooperatives to organise the market, no information flow to producers and no fiscal infrastructure (e.g. subsidies, except in times of drought). The Kenya Meat Commission used to be part of a larger agency but is now not well resourced²⁹ and there is a conflict of interest in the mandates of the Commission as both a meat regulator and a meat processor³⁰.

Livestock production of cattle, camels, sheep and goats appears to have increased significantly in Kenya since 2007, remaining relatively constant up to 2013. Cattle meat production has increased from approximately 250,000 tonnes in 2002 to approximately 480,000 in 2009. Cow's milk has been the most produced livestock commodity in Kenya since 1993. Prices have been increasing in line with production, with an 80.2 increase in producer price index for livestock in 2012 compared to 2004-2006³¹. According to Kenya national statistics, livestock purchases in licensed abattoirs have increase from 1.9 million head in 2006 to 2.1 million in 2011 for cattle and 4.8 – 5.8 million head 2006-2011. Growth of Gross Domestic Product (GDP) in animal farming has increased in Kenya by between 2.6 and 5.4% each year between 2008 and 2012 (at constant prices), in line with national GDP even in years where growth in the agriculture and forestry sector has declined. For example, in 2008 the sector shrunk by -4.1% while animal farming grew by 4.1%³².

Currently, livestock trade is undervalued by national governments in the Horn of Africa even though livestock trade driven by pastoral production systems in the region is estimated at US\$1 billion for 2010 alone³³. Livestock exports from neighbouring Ethiopia, Somalia and Sudan in 2010 were estimated at more than US\$500 million³⁴. Cattle exports from Somalia to Kenya alone totalled US\$8.8 million in 2000³⁵, rising to 13.6 million by 2007³¹. The trade in live animals and meat from Kenya to Ethiopia has increased by 2.3 times from 2005 to 2013, the equivalent of United States beef exports³⁶. However, in Kenya export of bovine meat has been unstable in the face of shocks (see Figure 3), relative to the Africa region, which is indicative of significant structural inefficiencies. Livestock as capital is underexploited and evidence suggests there is already significant

²⁹ interview with ASAL MP 25/02/2015

³⁰ interview with KMT representative 12/06/2015

³¹ FAOSTAT database, 2015.

³² Kenya National Bureau of Statistics, National Accounts 2008-2012.

³³ Catley, A., Lind, J. & Scoones, I., 2013. *Development at the margins: pastoralism in the Horn of Africa*. In: Catley, A., Lind, J. & Scoones, I. (eds.) *Pastoralism and Development in Africa: dynamic change at the margins*. New York, USA: Routledge.

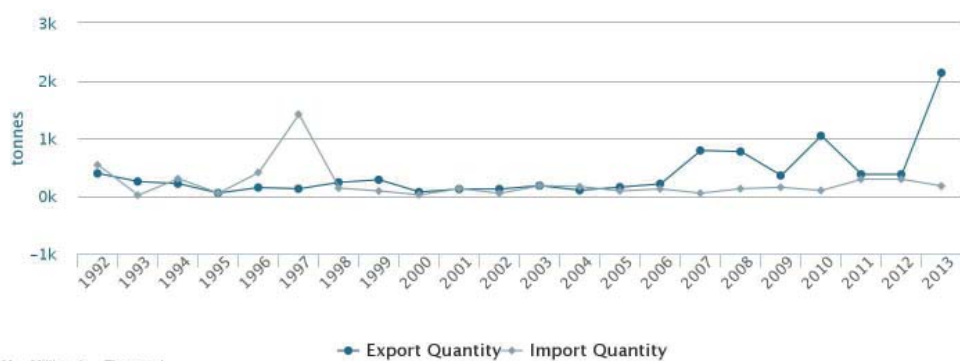
³⁴ Catley, A. & Aklilu, Y. 2013. *Moving up or moving out? Commercialisation, growth and destitution in pastoralist areas*. In: Catley, A., Lind, J. & Scoones, I. (eds.) *Pastoralism and Development in Africa: dynamic change at the margins*. New York, USA: Routledge.

³⁵ Little, P.D. 2003. *Somalia: economy without a state*. Oxford, UK: James Currey and Bloomington, IN: Indiana University Press.

³⁶ Lind, 2014. *Pastoralism and livestock marketing at the margins*. Presentation at ODI, London 24/09/2014.

informal economic activity in this sector that may contribute to Kenya's GDP by as much as 150% more than government estimates³⁷. In fact, beef and dairy are the two most valuable agricultural commodities in Kenya and beef consumption grew by 4% per annum from 2006-2009³⁸, a trend that is expected to continue, with Nairobi and Mombasa the largest markets. Globally, demand for livestock products is predicted to double by 2050³⁹, which will likely facilitate growth in the livestock sector in developing countries⁴⁰.

Figure 3. Import-export trends for bovine meat in Kenya 1992-2013



M = Million, k = Thousand

Source: FAOSTAT, 2015

Clearly, this body of economic evidence points towards significant opportunities for delivering sustainable development in the ASALs. Evidence also suggests that losses to the livestock sector during drought have a significant negative effect on economic growth (measured by growth in GDP). For example, the Post Disaster Needs Assessment Report (2008-2011)⁴¹ estimated total losses and damages to the Kenyan economy of US\$12.1 billion with the livestock sector accounting for 72% of this amount. This amounts to an average growth gap of 2.8% per annum over the four year drought period (3.5% average annual growth rate compared to estimated 6.3% rate without drought)³⁹. Every US\$1 spent on destocking and other forms of early response can yield US\$390 in reduced aid and avoidable livestock loss⁴².

Similarly, even where issues are being addressed in the EDE, there are some critical aspects that are missed. For example, it is a common assumption that provision of basic, critical infrastructure will create enabling conditions for markets²³. The CPF Pillar 4 for Sustainable Livelihoods states that “improved livestock marketing systems are largely dependent on an improved road network and communications system⁴³. Improved management of rural markets and value chain efficiency are also important⁴⁴. Indeed, where county and national roads are poor, road density low and distance to markets high, there is potential for new and improved road networks to address the challenge. However, as recognised in the CPF Pillar 2 for Climate-Proofed Infrastructure, “synergies between road developments and other socio-economic investments are rarely explored in a coordinated manner”. An exception stated in the CPF is the design of the Nginyang-Lokori-Lokichar road in Turkana integrates ICT infrastructure (fibre optic), basic social infrastructure for future settlements (primary school, police post) and associated water points⁴⁵.

Thus, it cannot be assumed that new roads will reduce poverty and / or build resilience without addressing complementary hard infrastructure and the regulatory environments (or soft infrastructure) needed to maximise the benefits

³⁷ Behnke, R. & Muthami, D. 2011. The contribution of livestock to the Kenyan economy, IGAD LPI Working Paper no 3-11. Djibouti: Intergovernmental Authority for Development Livestock Policy Initiative.

³⁸ FAOSTAT Database, cited in Government of Kenya, 2012. Kenya's LAPSET Corridor Livestock Investment Opportunity

³⁹ Herrero, M., Thornton, P.K., Gerber, P. & Reid, R. 2009. Livestock, livelihoods and the environment: understanding the trade-offs. *Current Opinion in Environmental Sustainability*, 1: 111-120.

⁴⁰ Thornton, P.K. 2010. Livestock production: recent trends, future prospects. *Philosophical Transactions of the Royal Society B – Biological Sciences*, 365: 2853-2867.

⁴¹ Government of Kenya. 2011. Kenya Post Disaster Needs Assessment Report 2008-2011 Drought.

⁴² Cabot Venton, C., Fitzgibbon, C., Shiterek, T., Coulter, L. & Dooley, O. 2012. *The Economics of Early Response and Resilience*. London: Department for International Development.

⁴³ CPF Pillar 4, April 2015

⁴⁴ Mercycorp. 2015. More than Markets. Available here: <https://www.mercycorps.org/research-resources/more-markets-building-resilience-northern-uganda>.

⁴⁵ CPF Pillar 2, April 2015

and allow pass-through to all economic actors, in particular those that are poorer⁴⁶. For example, to bring markets closer to livestock production level, improvements in infrastructure are needed including loading ramps, sheds, watering points, and revitalising disused facilities. In the context of Kenya's ASALs, it is important to identify the conditions under which provision of roads can lead to better lives and ultimately to improved peace and security²⁷. Also important are the complementary investments and policies that could support potential losers from better market connection or increase the benefits for the poorest.

The ASALs are currently subject to significant externally driven policy shocks including the construction of the Lamu Port South Sudan and Ethiopia Transport Corridor (LAPSSET) and development of oil reserves in Turkana County. These schemes have the potential to disrupt the effect of rural roads projects, such as those proposed in the Turkana County CIPD, if planning is not integrated sufficiently. The Turkana County CIPD states that "The LAPSSET is very significant to Turkana County as it is anticipated to increase trading activities between Turkana and neighbouring countries and counties... Once completed it is expected to boost the economy of Turkana County." However, projects of this scale also have high potential to reinforce inequalities and undermine opportunities for economic growth if not implemented with sensitivity to the local context. The LAPSSET will open up large areas of pastoral lands to investment, but this has the potential to disrupt the fragile yet burgeoning pastoral economy, further marginalise the poorest and exacerbate existing conflicts⁴⁷. Opportunities for livelihood diversification are cited as benefits of these large-scale investments. However, human capital is low in the ASALs and there is a lack of national policies to create or enforce sustainable supply chains, locally sourced labour and services⁴⁸.

⁴⁶ Jouanjean, MA., Gachassin, M. & Willem te Velde, D. 2015. *Regional infrastructure for trade facilitation – impact on growth and poverty reduction. A literature survey*. London: Overseas Development Institute. Available here: <http://www.odi.org/publications/9658-regional-infrastructure-trade-facilitation-impact-growth-poverty-reduction-literature-survey>

⁴⁷ Goldsmith, P. 2013. *The future of pastoralist conflict in the Horn of Africa*. In: Catley, A., Lind, J. & Scoones, I. (eds.) *Pastoralism and Development in Africa: dynamic change at the margins*. New York, USA: Routledge.

⁴⁸ Enns, C. Forthcoming. *The implications of extractive projects for inclusive, climate change resilient development in Turkana County, Kenya*. PRISE Working Paper. London: Overseas Development Institute.

⁴⁹ CPF Pillar 2, April 2015

Policies for expanding the road network

Throughout the ASALs, road infrastructure is very poor and road density very low. Average distance to water in the five largest arid counties (Turkana, Marsabit, Wajir, Garissa and Mandera) is 23km. In the wider ASALs, the average is lower. Key informants in communities complained that counties are investing large sums of money on roads that are unsustainable (e.g. destroyed at the first rain). The ASAL Policy and the EDE CPF focus primarily on developing trunk roads, with a budget of 208.9 billion Kenya shillings allocated for these⁴⁹. To date, approximately 10% of investments listed in the Kenya Resilience Investments Tracker are for climate-proofed infrastructure. Of these, two projects funded by the EU and totalling \$110 million are dedicated to road building in northern Kenya⁴⁸.

The mandate for expanding and maintaining the county road networks sits with the county governments, although KeRRA (the previous implementing authority) still exists. The capacities of counties to finance and implement new roads projects and maintain existing ones are uncertain. Public-Private Partnerships are one route to achieving security of delivery.

In 2013, the Turkana County Government invested 820,000 Kenya shillings in Public Works, Transport and Roads in one of its first county budget rounds. This accounts for approximately 10% of total county expenditure, second only to Finance and Planning. The public works, transport and roads sector development priorities listed in the Turkana CIDP include:

- To facilitate adequate provision of cost effective infrastructure, government buildings and housing and other public works

- To develop and maintain infrastructural, building and housing facilities and other public works for effective and efficient government operations and general public service
- To develop and maintain technical and quality capacity and audit for infrastructure, housing, buildings and other public works in the public sector

Barriers and enablers to resilience through road building

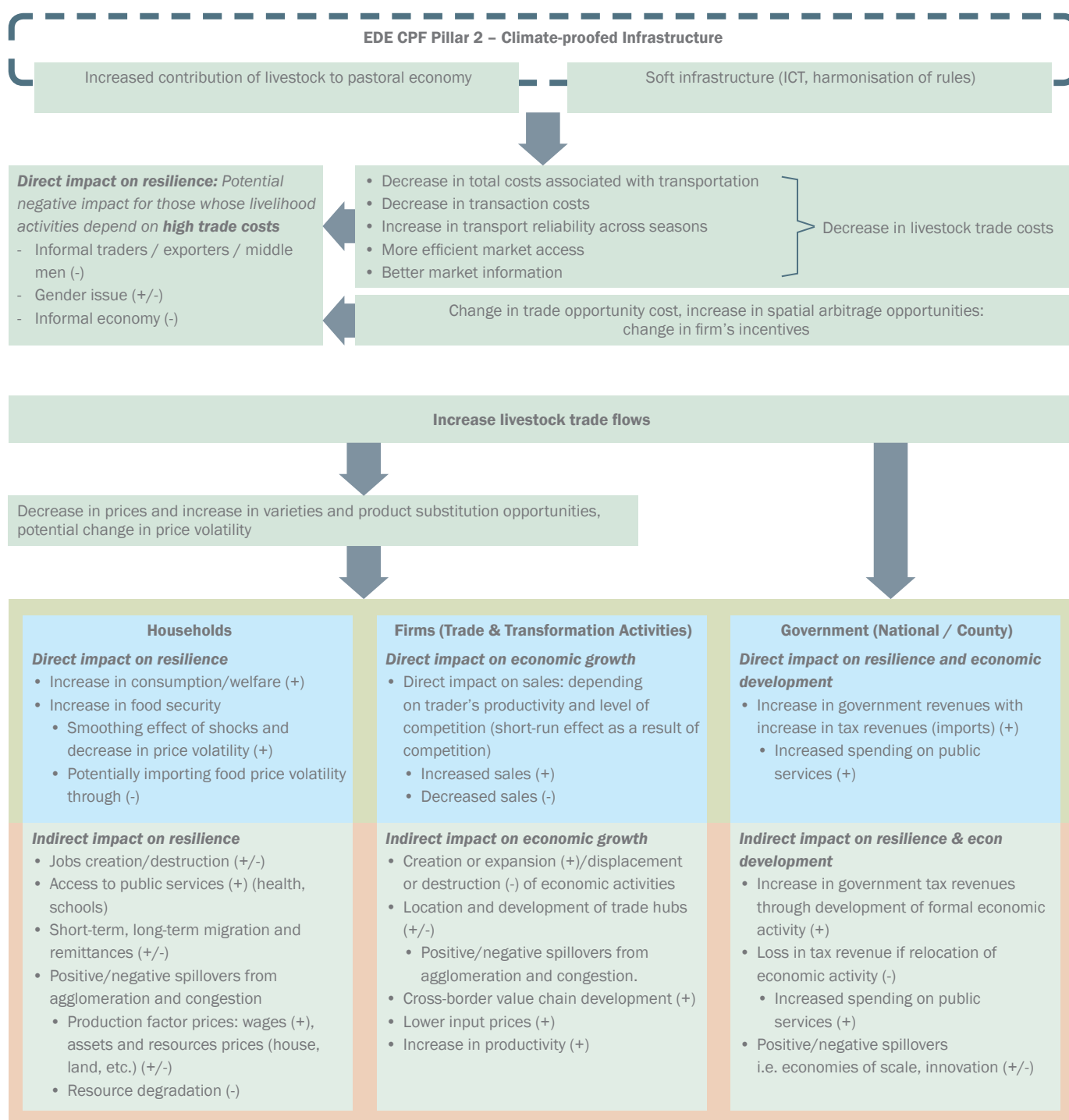
To capture some of the inter-relationships between road building and the pastoral economy, Figure 4 presents the causal chain and transmission channels for direct and indirect positive and negative impacts of climate-proofed infrastructure, both hard and soft, on the pastoral economy and therefore on resilience, growth and economic development. This framework has been developed by the co-author and colleagues⁴⁴, drawing from theory and empirical evidence on the impact of improvement of connectivity infrastructure on growth and poverty reduction. The relationship between infrastructure and the pastoral economy includes a number of elements:

- *The policy measures proposed in the EDE CPF Pillar 2:* The overall measure is a development of climate-proofed infrastructure, and this largely promotes investment in hard infrastructure (e.g. roads). What is not so well articulated in the CPF is the complementary soft infrastructure required to ensure inclusive and resilient outcomes to be realised (e.g. harmonisation of rules). Figure 4 demonstrates the importance of a holistic approach to infrastructure investments if assumptions about market access and trade are to be met.
- *The effects on three main types of actors:* households, firms (i.e. small- and medium-sized enterprise such as traders and processors) and governments. A fourth category depends directly on the efficiency of connectivity infrastructure. This category can encompass a large range of small-scale activities, likely to be informal (e.g. truck repair shops, hotels, restaurants etc.), as well as formal traders. The effects on firms – when considering small scale activities including smallholders – and households, are interdependent and overlapping, for example rural households might be both consumers and producers. Figure 4 presents potential broad effects by type of actor, as the appropriate complementary policies that apply to them are likely to vary by type of actor.

Figure 4 shows ways in which some groups are affected directly by the policy measure (e.g. firms that can trade more). In other cases, the effects are indirect and take time to work through the impact (e.g. productivity and innovation effects). Identifying direct and indirect transmission mechanisms of impact of investments in regional infrastructure for trade facilitation on households, firms and government at county and national level makes it possible to identify potential enablers or barriers that could impact on resilience and economic development.

The overall impact on resilience is through the combined effect on the three main channels (households, firms and governments). While some channels have a more direct resilience link (e.g. improved food security), the effect for others is more indirect, via growth. For example, the impact on resilience could be through the impact on consumption and welfare, job creation or destruction, and assets. The impact on growth can be envisaged through the increase in the scale of firms and formalisation of activities. Finally, an increase in government revenues at both county and national levels affects both resilience and growth as increased revenues can help to provide more and better public services, and thus development.

Figure 4. Causal chain and transmission channels for impacts of road infrastructure on sustainable pastoral economy



It is important to highlight that, while this framework aims to present accurately the main potential causal chains and transmission mechanisms for the impact of investment in climate-proofed infrastructure for resilience, it does not consider a number of further spillovers. For instance, the increase in trade resulting from trade cost reduction is likely to occur only if the relevant trade-related logistics services exist. However, increasing trade flows is also likely to increase incentives for the private sector to invest in such services, thereby further decreasing trade costs. Or, as another example, a beneficial impact on firm activity will also lead to greater tax revenues and better employment opportunities that can increase the resilience of households.

Policies for development of the pastoral economy

Pastoralism has the potential to form part of highly resilient livelihoods, but the capacities within these systems have been eroded by policy disconnects in the past and continue to be overlooked as a vehicle for economic development. Through analysis of the historical and current bottlenecks that have influenced this, inferences can be made about what might happen under future policies, including the EDE. By understanding the enabling environment, ways in which livestock production might be enhanced to promote economic growth can be identified, building on the adaptive capacity already inherent in these systems.

CPF Pillar 4 aims to increase the contribution of livestock to the pastoral economy and improve the sustainable management of rangeland, water and crops (see Table 2). The expected results of achieving these aims are increased income from and consumption of livestock and livestock products. The CPF recognises that the region has a comparative advantage in livestock production with 70% of the ASALs utilised (15 million hectares for sedentary livestock production and 24 million hectares for nomadic pastoralism). Added to this, devolution offers a unique opportunity to reverse historical biases in public policy and investment in these areas.

⁵⁰ CPF, April 2015

Table 2. Sustainable livelihoods framework⁵⁰

OVERALL OUTCOME:	
Enhanced resilience of ASAL livelihoods to the effects of drought and climate change.	
COMPONENT 1: Increased contribution of livestock to the pastoral economy	COMPONENT 2: Sustainable management of rangeland, water and crops for ASAL livelihoods
RESULTS:	
1. Increased income from and consumption of livestock and livestock products: <ol style="list-style-type: none"> Improved animal production and health. Improved market linkages and private sector investment in livestock. Increased efficiency of value chains for emerging livestock (incl fish, poultry & bees). 	1. Improved management of water, crops and rangeland resources: <ol style="list-style-type: none"> Improved governance of land tenure. Improved natural resource management. Increased water use efficiency in agricultural production
IMPLEMENTATION ARRANGEMENTS:	
<p>Decision-making: oversight by the Council of Governors and relevant Cabinet Secretaries.</p> <p>Facilitation: technical county cluster groups, comprising County Executives responsible for matters of crops, livestock and fisheries (or their representatives) review proposals submitted to the Council of Governors and build synergy between counties in a cluster.</p> <p>Implementation: County Ministries of Agriculture.</p> <p>Coordination: existing national and county structures.</p>	
FINANCING MECHANISMS:	
The mandate of the Livestock Offtake Fund, which has already been gazetted, will be widened to encompass this programme. Disbursements from the Fund will be overseen by the Council of Governors and by the Cabinet Secretaries for Agriculture, Livestock and Fisheries and for Devolution and Planning.	
TOTAL BUDGET: KSHS. 40,020 MILLION	
Kshs. 15,660 m	Kshs. 24,360

The CPF thus recognises that development of the pastoral economy offers a clear route to resilience, through increased growth, food security and climate resilience. Some of the complex causalities for an underdeveloped pastoral economy are also articulated. For example, prolonged underinvestment in public goods, including security, infrastructure and health and education.

The CPF also identifies some routes for improvement in livestock production and markets, in extension services and technologies, and in financial services, including insurance and credit. Drought preparedness is also a key aspect for developing the pastoral economy and can be partially achieved through greater access to markets for destocking in times of stress. This ability to sell off assets and buy them back when conditions improve underpins the resilience of these communities. It is therefore important to ensure that the regional market system can function in ways to support rapid changes in production flows.

County planning documents also recognise the need to develop the pastoral economy. For example, the livestock sector development priorities outlined in the Turkana County CIDP include:

- Increase livestock productivity through provision of widely accessible inputs and services
- Enhance investment in the livestock sector
- Increase market access of livestock and livestock produce
- Enhance institutions efficiency and effectiveness in service delivery
- Disease control
- Safeguard human health

However in practice, and as mentioned in the previous section, implementation of these plans have not led to significant investments in the pastoral economy at either national or county levels. This highlights a clear policy disconnect.

As shown in Figure 3, cattle exports in Kenya are unstable. Kenya is currently the largest producer of beef in the East African Community (EAC) and a net exporter of beef, estimated contribution to the economy is 40%⁵¹. This does not account for informal cross-border trading and production in the livestock sector. As exports are shown to be increasing from Kenya, there is clearly a significant gap in the market and an opportunity for investment in the ASALs, for Kenya to reach self-sufficiency in beef production⁵¹. On top of this, global beef exports rose by 6.5% per annum 2007-2010, and FAO anticipates an annual trade deficit of 5.9 million tons of meat protein by 2030¹⁹. Pastoralists in the ASALs produce an estimated 70-80% of Kenya's beef. An additional 10-20% of the remainder are produced by pastoralists elsewhere²⁶. But only 50% of meat to domestic market is from pastoralists, 3% from commercial ranchers and 22% is imported. With current low levels of commercialisation in the livestock sector and limited engagement with the private sector, with very few large meat processing actors for example, there is considerable potential for expansion and upgrading of the meat value chain. Perhaps more importantly, as the largely informal livestock trade constitutes a narrow tax base, there is a significant opportunity to raise revenues through formalisation of livestock markets.

⁵¹ Government of Kenya, 2012. *Kenya's LAPSSET Corridor Livestock Investment Opportunity*. Nairobi, Kenya: Government of Kenya.

For example, the business case has been made for expansion of livestock production and processing through commercial or privately-owned ranches in semi-arid parts of the country, e.g. Ol Pejeta Conservancy, which processes approx. 3,000 head of cattle per year to the benefit of over 1,500 households⁵¹.

This represents less than 1% of the livestock potential of the region. Through vertical integration of along the value chain, there is potential to source up to 16,000 cattle from pastoralists in the region each year, at prices 30% higher than normal market rates⁵¹. This model also offers the opportunity for provision of extension services and DRM through this commercial model.

This section explores barriers and enablers to a sustainable pastoral economy that have emerged through the review process.

Barriers to resilience through the pastoral economy

Access to resources

Grazing and water resources in the ASALs are scarce and highly variable and unpredictable across space and time⁵². As a result, livestock production systems depend on short-term 'boom and bust' cycles⁵³ and are more dynamic relative to other agricultural systems. In terms of markets, this means that there can be unpredictability in supply. The variability in quality of forage has an implication on production and the quality of livestock products, particularly milk. This in turn, can have knock on effects on nutrition and price. Thus, the timing of sales matter to producers and is still driven primarily by household needs to buy food when milk and feed access are at their lowest.

Although there are patterns of buying and selling that have not changed significantly in past 30 years⁵⁴, with the right structures and processes in place, markets can be harnessed to support these production systems. Fixed markets are not well placed for grazing, especially during drought, so trucking becomes only option unless bring feed and water in.

There is greater demand for male animals for markets, especially exports, but most subsistence herds are dairy operations. Bush traders can be found throughout the ASALs in Kajiado and Borana sourcing male animals for agents to sell for export⁵⁴. Therefore there is a conflict in herd management for subsistence and commercial purposes, which can have an impact on household resilience.

Access to credit

Financial institutions are limited in rural Kenya generally and particularly in the ASALs. Where these are present, they are not focussed specifically on the livestock sector due to the high credit risk associated with a relatively unstructured market and high level of perceived risk⁵⁵. Larger traders do have greater access to loans, but often producers do not.

Credit tends to flow up the market chain, from smallest to largest traders, such that default risk is high and smaller traders are hit hardest. More than 30% of traders experience credit default in Borana, Ethiopia⁵⁶. Low rates of saving, low borrowing and slow uptake of investment opportunities, all leading to slow economic growth in the sector as a whole¹⁹.

Insurance

There is growing evidence that high risk loans can be secured through insurance or safety nets and credit can be 'crowded in' in this way⁵⁷. Even with unsubsidised premiums purchasing, index-based livestock insurance (IBLI) in northern Kenya has been shown to increase herd livestock survival rates by considerably reducing the risk of catastrophic loss and the majority of participating households are better off with IBLI⁵⁷. Due to these successes, the Government of Kenya is currently scaling up insurance with the Kenya Livestock Insurance Program. There are few

⁵² Reynolds, J.F., Stafford Smith, D.M., Lambin, E.F., Turner, B.L., Mortimore, M., Batterbury, S.P.J., Downing, T.E., Dowlatabadi, H, Fernandez, R.J., Herrick, J.E., Huber-Sannwald, E., Jiang, H., Leemans, R., Lynam, T., Maestre, F.T., Ayarza, M. & Walker, B. 2007. *Global desertification: building a science for dryland development*. *Science*, 316: 847-851. DOI: 10.1126/science.1131634.

⁵³ Devereux, S. & Tibbo, K. 2013. *Social protection for pastoralists*. In: Catley, A., Lind, J. & Scoones, I. (eds.) *Pastoralism and Development in Africa: dynamic change at the margins*. New York, USA: Routledge.

⁵⁴ Little, P. 2015. *The 'Elephant in the Room' Issues in pastoralism research: An informal conversation* Presentation at *Mobile pastoralism, Index insurance, Computational Sustainability and Policy Innovations for the Arid and Semi-arid Lands of East Africa workshop, 10-11 June 2015, International Livestock Research Institute, Nairobi, Kenya*.

⁵⁵ KMT & ACTED. 2014. *Can markets work for the Turkana Pastoralists? An analysis of livestock market systems in Turkana County*. Nairobi, Kenya: Kenya Markets Trust.

⁵⁶ Peter, P.D., Negassa Debsu, N. & Tiki, W. 2014. *How pastoralists perceive and respond to market opportunities: the case of the Horn of Africa*. *Food Policy*, 49(2): 389-397.

⁵⁷ Jensen, N.D. 2015. *Basis risk, uptake, and impacts of IBLI in Marsabit, Kenya*. Presentation at *Mobile pastoralism, Index insurance, Computational Sustainability and Policy Innovations for the Arid and Semi-arid Lands of East Africa workshop, 10-11 June 2015, International Livestock Research Institute, Nairobi, Kenya*.

documented examples for loan or microfinance schemes in northern Kenya or the Horn, although there are some success stories from Ethiopia⁵⁸.

Access to inputs

In order for livestock markets to be scaled up, there is a need to improve access to good quality feed. This will allow producers to bargain and time their sales better. At local scales, enclosures have been built along the Ethiopia to Somalia trading routes every 5km and in Garissa and Turkana communities grow fodder along the Rivers Tana and Turkana respectively¹⁹.

Commercial fodder production could provide livelihoods and income for ex-pastoralists located in towns and urban centres and women (e.g. the Kiserian women's group), but there is some evidence that government food assistance disrupts commercial feed enterprises⁵⁵. Such a strategy therefore needs to be part of a county or even national level approach. Public-Private Partnerships (PPP) can be used to stimulate this economic activity. The state can act as a guaranteed buyer of surplus and county legislation should support this activity, but ultimately a strong market will be needed to sustain it⁵⁹.

In the ASALs, animal disease surveillance is generally poor, pharmaceutical supply chains are unstable and veterinary services limited⁵⁵. Evidence suggests that current animal health services, subsidised by the government and non-governmental organisations, are causing distortions in the market and involvement of private sector may help to ensure more sustainable supply chain and improved extension services. Between 2010 and 2012, the United Nations Central Emergency Relief Fund allocated approximately US\$5.9 million to emergency livestock programmes, including vaccination and disease treatment⁶⁰. In 2009, non-governmental agencies invested an estimated average input cost of 50 Kenyan shillings (US\$0.58) per animal to an estimated total input value of US\$2.3⁶¹. Evidence suggests that producers are willing to pay for vaccines if they are available and benefits are clear⁵⁸.

Access to market information

Currently it is very difficult to access livestock market information. Pricing is therefore a major challenge to producers, who generally get paid less than half the price at local markets of that at terminal markets⁶². Mobility and timing of sales are such that producers cannot wait for good prices. The price differences are due to distortions in livestock markets, including physical and informational factors. First, lack of integration of prices can be partially explained by transport costs, but there are also qualitative differences in the condition of animals at different markets dependent on the distance travelled and access to feed⁶⁰. Price information is not readily available and efforts are underway to improve communications such that prices can be stabilised²⁸.

Evidence shows that mobile telephone ownership can increase the prices gained at local markets⁶³. As such, expansion and improvement of the telecommunications network in the ASALs should improve the ability of producers to access price information and improve their bargaining power and the timing and location of decisions to sell. Telecommunications infrastructure is referenced in the EDE, and it is assumed that the private sector will continue to invest without public sector intervention.

⁵⁸ See: <http://www.microfinancegateway.org/library/people-move-islamic-finance-pastoralists-horn-africa>

⁵⁹ Ericksen, P. 2015. *New policy directions around feed and fodders. Presentation at Developing Policy Innovations for the Pastoralist Rangelands through Cross-Sector Partnerships workshop, 9 June 2015 at International Livestock Research Institute, Nairobi, Kenya.*

⁶⁰ Wellspring Development Ltd., Mahmoud, H. & Yussuf, M. 2014. *Time for change: the impact of recent livestock emergency interventions on the future of sustainable service delivery in Northern Kenya.*

⁶¹ Cabot Venton, C., Fitzgibbon, C., Shitarek, T., Coulter, L. & Dooley, O. 2012. *The Economics of Early Response and Resilience.* London: Department for International Development.

⁶² McPeak, J.G. 2015. *Feed and fodders as agricultural technology for credit and investment. Presentation at Developing Policy Innovations for the Pastoralist Rangelands through Cross-Sector Partnerships workshop, 9 June 2015 at International Livestock Research Institute, Nairobi, Kenya.*

⁶³ Butt, B. 2015. *Herding by mobile phone: technology, social networks and the 'transformation' of pastoral herding in East Africa.* *Human Ecology*, 43: 1-14.

Acting on early warning information

The IGAD Climate Prediction and Applications Centre (ICPAC) provides relatively innovative and timely information in 10-day and monthly intervals and for particular extreme events and their likely impacts. Food security information is provided by FEWS-NET in the region. The NDMA's EWS gathers information at community level via community-based drought monitors. This information is combined with FEWS-NET and other sources (such as satellite and remote sensing data) to establish drought conditions, which is communicated using a coloured flag system. For EWS to be effective in initiating action at community level, the impacts of hazards need to be well understood and the information, and body issuing it, must be credible and trusted.

Insecurity / cattle rustling

Several key informants and stakeholders confirmed that insecurity is a major challenge throughout the ASALs and a primary concern for producers. Therefore, it is important to consider how the expansion of the road network in northern ASAL counties may contribute to greater insecurity, through easier targeting and movement of cattle rustling operations for example. Pastoralists in Turkana reported particular roads to particular markets as being impassable due to security concerns.

Water supply

Stakeholders in Turkana also identified water as the primary constraint to development and resilience generally. There is strong desire to increase capacity for irrigation to support agricultural activity at household and community levels, but also at county level, in an effort to improve food security. The CPF has recognised the potential trade-offs in investing in dams, versus local water harvesting technologies.

Physical access to markets

Access to markets is one of the biggest barriers to participation in the livestock sector for producers. This is recognised explicitly in the CPF. Lack of market integration is a distortion that leads to increased poverty and vulnerability. Market integration can be improved by improved physical and information integration⁶⁴. Key informant interviews suggest that it is widely accepted in policy circles at donor, national and county levels that if infrastructure, primarily the road network, is expanded and improved, livestock markets will benefit.

However, as discussed in the previous section, there is little provision for the complementary hard and soft infrastructure (e.g. sanitary and phytosanitary regulations) that must accompany road-building if this assumption is to hold. The Arusha-Namanga-Athi River Road Development Project has identified that hard infrastructure policies coupled with intervention in soft infrastructure will improve market access, and additionally improve livestock and land choices (and therefore overall enhanced resilience)⁶⁵. But replicating this integrated planning approach in the context of northern counties remains a significant challenge.

Trucking can account for as much as 75% of marketing costs where roads are poor (e.g. the former Nairobi to Moyale road) but as little as 35% for paved roads (e.g. Nairobi to Garissa road)⁶⁶. Middlemen charge fees per animal and producers may encounter several of these both in the transportation network and in markets. In 2003, it was estimated that more than 20 actors were involved in the Ethiopia/Kenya cattle trade and informal payments to middle men and police accounted for as much as 9.5% of total marketing costs⁶⁶.

⁶⁴ Jouanjean, MA. 2013. *Targeting infrastructure development to foster agricultural trade and market integration in developing countries: an analytical review*. London: Overseas Development Institute. Available here: <http://www.odi.org/publications/7580-infrastructure-development-agricultural-trade-market-integration>

⁶⁵ Matsushita, K. 2013. *Cross-border transport infrastructure (CBTI)*. In: *For Inclusive and Dynamic Development in Sub-Saharan Africa*. Tokyo, Japan: JICA Research Institute.

⁶⁶ Little, P.D. & Mahmoud, H.A. 2005. *Cross-border cattle trade along the Somalia/Kenya and Ethiopia/Kenya borderlands*. Research Brief 05-03-PARIMA. Davis, CA: Global Livestock Collaborative Research Support Program.

Efficient local markets

Several stakeholders reported that current market infrastructure is not suited to the particular needs of livestock production systems, and therefore not used. Structural inefficiencies in these systems include distance to market, transport costs, taxation and insecurity⁵⁵. Growth of the sector is curtailed by poor and inadequate electricity supply and condition of the road network¹⁹. Mobile networks are only available in major towns. To address these inefficiencies, cross-county border structures and policies will be required.

Trade and taxation

The process of devolution has introduced some barriers to livestock markets at producer level. For example, newly established county governments have instituted local taxation systems, which have increased the cost of doing business for producers⁵³. The effect of 'double taxation' at county and national levels is acting to decrease competitiveness.

The significant majority of trade in the ASALs is informal. There is very limited market organisation at local level. The Kenya Livestock Marketing Council is working to overcome barriers to trade by providing support for marketing at county levels. There is an identified need for investment to strengthen the institutional framework and market information system at local level.

In terms of international trade, foreign exchange losses are made on imports from Ethiopia, while there is gain on exports⁶². Reduced import tariffs, export duties and simplified business licenses are needed to improve investment climate and reduce barriers to trade. For these reasons, livestock trade in the ASALs is largely informal.

Human capital

As recognised under the CPF Pillar 3 on Human Capital, education and employment is low in the ASALs, and contributes to the economic and political marginalisation of ASAL communities. Standard approaches to education can be detrimental to social capital and skills required for pastoral livestock production. Indeed, one senior government official recognised that if traditional education services are rolled out across the counties, "then the ASALs are dead"⁶⁷. However, the informal employment sector is highly active in the ASALs. For example, Harobake Market in Borana, Ethiopia hosts more than 300 businesses, including brokers, phone charging, food and hotel businesses⁵⁴. But the employment multipliers of livestock trade, pastoralism, and wildlife tourism are not well understood.

Enabling resilience through the pastoral economy

Upgrading the value chain

Fattening operations have been growing in the region in the past decade e.g. Adama markets in Ethiopia^{68, 69} and Coast Province Kenya⁷⁰ and elsewhere in Kenya⁷¹. Animals are sourced in the ASALs, held in finishing lots or ranches to improve condition and sold at a higher price. The key now is to retain some of the value added revenue in the semi-arid areas e.g. through alternative income generation, employment. Also other livestock products including leather, hides and cold-dressed carcasses. The government can support the development of these niche markets. For example, the Kenyan military have recently stipulated that all boots must be from domestic leather⁷². In upgrading the livestock product value chains, there is a clear role for the private sector.

⁶⁷ Interview with PPG member 17/02/2015.

⁶⁸ Aklilu, Y. & Catley, A. 2009. *Livestock exports from the Horn of Africa: an analysis of benefits by pastoralist wealth group and policy implications*. Medford, MA: Feinstein International Center, Tufts University.

⁶⁹ Farmer, E. 2010. *End market analysis of Ethiopian livestock and meat: a desk study*. Micro Report 164. Washington, DC: USAID.

⁷⁰ Mahmoud, H.A. 2006. *Innovations in pastoral livestock marketing: the emergence and the role of 'Somali cattle-traders-cum-ranchers' in Kenya*. In: McPeak, J.G. & Little, P.D. (eds.) *Pastoral Livestock Marketing in Eastern Africa: Research and Policy Changes*. Warwickshire, UK: IT Publication. Pp129-144.

⁷¹ Farmer, E. & Mbikwa, J. 2012. *End market analysis of Kenyan livestock and meat: a desk study*. Micro Report 184. Washington, DC: USAID.

⁷² Interview with TradeMark East Africa 27/02/2015

Developing the market needs new investment in hard infrastructure, e.g. holding grounds with integrated services as a minimum water provision and extension and veterinary services, as well as including abattoir, cold-storage, processing where appropriate⁷³. But capital expenditure is needed, including leasing cost for land parcels, construction of abattoirs with processing capacity and fodder storage, water, electricity and sewerage infrastructure and equipment and machinery costs⁵⁵. One estimate to support upscaling of the OI Pejeta Conservancy business model is for \$1.5 million capital expenditure⁵¹.

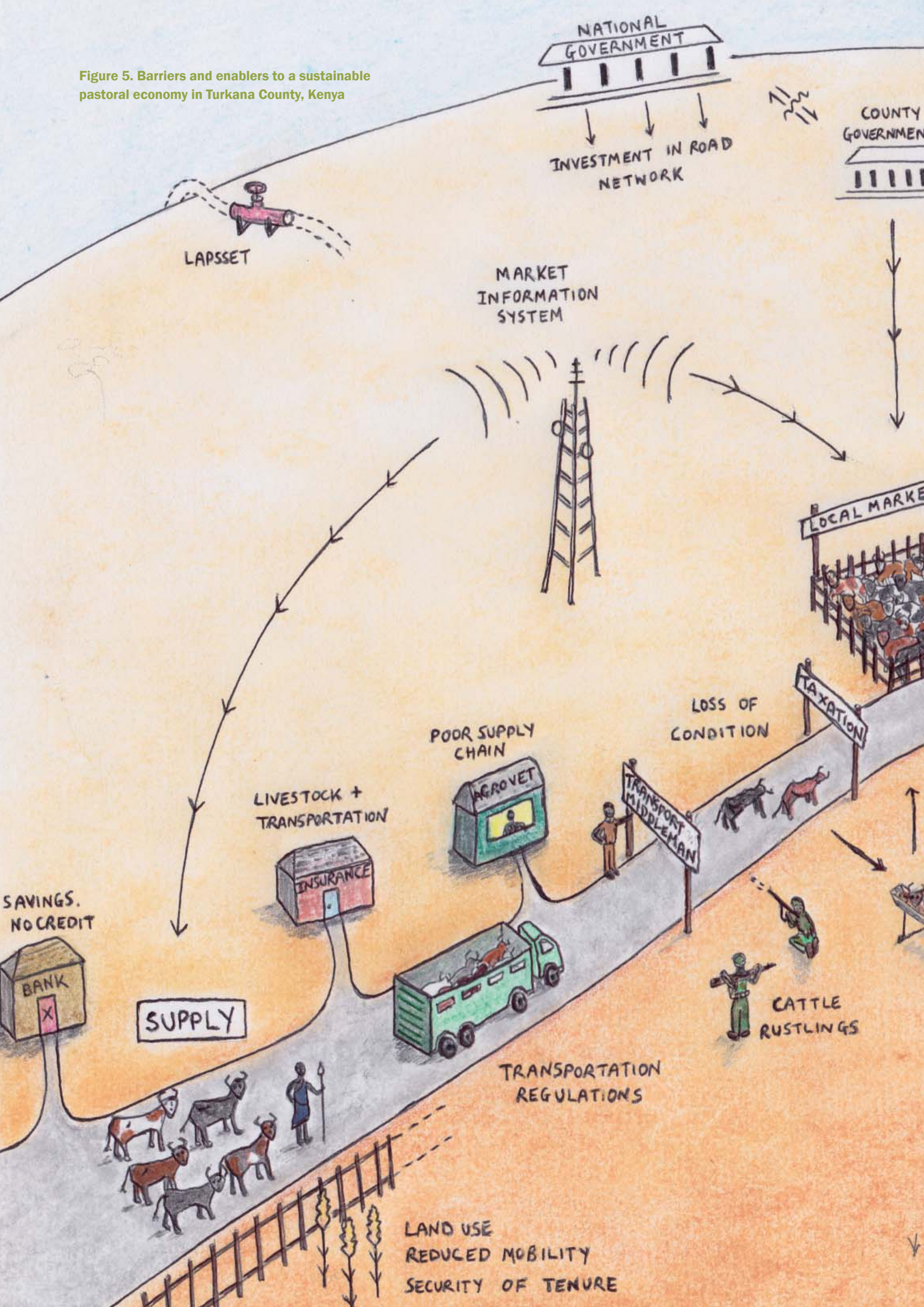
Complementary soft infrastructure

The enabling environment around licensing, taxation, animal health regulations and grading and standards is currently not sufficient⁵⁵. In the example of double taxation, devolution has created a barrier to the pastoral economy. Greater clarity is needed on which bodies are responsible for governance and regulation.

As identified in the KPP analysis, there is inadequate funding for peace and security at national level, although the new Constitution has aimed to address some of these issues and the structure of the CPF offers routes to improvement. Political stability, security, land acquisition, community buy-in, infrastructure, skilled labour and the general business enabling environment need to be improved for the potential of the pastoral economy to be realised⁵¹. Critically, the lack of legislation around livestock, in terms of a fit-for-purpose Livestock Bill, means that the governance arrangements around the pastoral economy remain uncoordinated.

Figure 5 is an illustration of the barriers faced by livestock producers in the ASALs and is based on the case of Turkana County where key informant interviews were carried out. The figure aims to highlight the challenges of linking supply and identified demand, charting the route for a pastoralist herd from production area to local, national and international terminal markets. The potential enabling and impeding effects of investment in hard and soft infrastructure are labelled and relate to the analysis presented in this section.

Figure 5. Barriers and enablers to a sustainable pastoral economy in Turkana County, Kenya



CLIMATE VARIABILITY



MIDDLE EAST MARKET

DEMAND

ETHIOPIA INTERNATIONAL MARKET



CARGO

INFORMAL

BORDER POST

SPS REGULATIONS

FORMAL

TAXATION

NAIROBI TERMINAL MARKET

TRADERS MIDDLEMAN



KSh ↑↓
PRICE



BUTCHERY

FATTENING LOTS



KSh ⇌
PRICE

DEMAND

DISTANCE TO WATER AND GRAZING



IT
NDMA

Reflections and Recommendations

The EDE CPF is articulated as a shift away from emergency response towards prevention through investment in the building blocks for resilience⁷⁴. As identified in the KPP analysis, there are many actors and institutions with active roles and interests in the EDE. Political economy factors will be the main enablers or barriers to achieving the objectives of the EDE CPF and drought resilience in Kenya's ASALs. Presented below are some key reflections and recommendations for five key actors in the implementation of the EDE – the NDMA, the county governments, the ASAL donor community, the private sector and research community.

National Drought Management Authority

NDMA is a relatively new institution with a clear mandate supported by the regional and international community and couched within a strengthened resilience policy framework in Kenya. Operating at both national and county levels, NDMA is an institutional bridge between ASAL communities, governments and donors. A key aim of the EDE is to achieve more balanced development and humanitarian action in the ASALs, and NDMA holds a unique position to convene partnerships for more integrated approaches to drought risk management. Added to this, NDMA is a pioneer in the region in implementing policy responses to the 2011 drought emergency.

Implementation of the EDE CPF will be led by NDMA, with the coordination support of groups of organisations at national and local levels with expertise in the respective pillars. These coordination functions currently sit with:

- **Peace and Security Pillar:** Peacebuilding and Conflict Management Directorate in the Ministry of Interior and Coordination of National Government, working closely with county governments and other state and non-state partners
- **Climate-Proofed Infrastructure Pillar:** County ASAL Infrastructure Support Programme, led by county governments and supported by a County ASAL Infrastructure Support Unit.
- **Human Capital Pillar:** National Council on Nomadic Education in Kenya (NACONEK), which will have coordination, resource mobilisation and implementation functions. The ASAL Health and Nutrition Council, chaired by the Director of Health and bringing together health, nutrition and sanitation actors at the national level. Technical working groups (for example on nutrition) at the county level, with intersectoral group sessions at regular intervals. Water and Environmental Sanitation Coordination (WESCOORD) meetings at national and county levels.
- **Sustainable Livelihoods Pillar:** Ministry of Agriculture, Livestock and Fisheries, Inter-Governmental Agriculture Forum, technical county cluster groups and County Ministries of Agriculture.

⁷⁴ Key informant interview referring to EDE launch 04/11/2015 and see here: <http://www.ndma.go.ke/index.php/ending-drought-emergencies>

- Drought Risk Management Pillar: NDMA.
- Institutional Development and Knowledge Management Pillar: Inter-Governmental Forum, Inter-Governmental Committee and National EDE Steering Committee.

Clearly, institutional arrangements for implementation are complex. Responsibility sits with a range of actors and arrangements vary by pillar. Given the scale of the implementation challenge, sufficient authority should sit with EDE CPF pillar coordinators to oversee effective implementation and achieve impact in each policy area. The NDMA's role in coordinating these will be vital.

County governments

Devolution has provided significant, unprecedented opportunities for the ASAL counties to correct decades of underinvestment and underdevelopment in the region. At the same time, this shift in decision-making and budgetary power has already introduced several barriers to achieving sustainable economic development e.g. double taxation of livestock. Currently, there is a lack of capacity to make the necessary changes in strategic spending. In some cases, it is not clear where the mandate lays for important development issues e.g. security and large infrastructure projects. This creates uncertainty and incoherence in decision-making and planning processes.

County governments need to achieve financial independence to enable implementation of decisions made at this level. The primary means of achieving this is by raising revenue locally through appropriate taxation arrangements. Given the evidence on their potential value, livestock markets offer one significant means of raising the tax base in the longer term, provided fiscal policies do not introduce or exacerbate inefficiencies.

Implementation of the EDE CPF at county level will depend on inter-sectoral collaboration between ministries. Knowledge management is often a cross-institutional capacity, where one ministry cannot operate without the statistics or information from other ministries. Improvements need to be made in increasing capacity to collect adequate statistical data to inform planning.

The critical importance of cross-county cooperation has been recognised by Governors and County Governments with respect to security and natural resource management, for examples. Institutions are emerging to foster cross-county decision-making e.g. the Council of Governors. However, these efforts are largely ad-hoc and context-specific, with no real mechanism in place to ensure coordination across the ASALs as a whole. Nonetheless, for the first time in

decades, pastoralist communities have means of upward representation, fiscal decentralisation and a voice in national discourse. Urgent priority should be given to improving security, reducing conflict and investing in arrangements for resource sharing. The Pastoralist Parliamentary Group offers county governments a vehicle for influence in policy making and this body has the potential catalyse transformation in ASAL development from the top down.

Sufficient coordination is not only needed across counties but also between the public and private sectors. For example, implementation of the EDE infrastructure pillar relies on a combination of public and private investment.

Arid and Semi-Arid Lands donor group

The EDE offers a nationally-owned, coherent structure through which to align resilience building and development objectives and activities. As a response to the challenge of recurring drought and humanitarian crisis in the region, this step forward is to be commended. Generally, the major donors active in Kenya and Horn of Africa are committed to more closely integrated development and humanitarian assistance and climate-resilient and inclusive economic development to reduce poverty and build resilience in the region.

The ASAL donor group can play a key role in strengthening Kenya's capacity to address its development challenges through supporting the implementation of the EDE with equitable investment in the six pillars of the CPF and recognising the interlinkages between the pillars, and thus between interventions on the ground. At a regional scale, the mandate of IGAD can be strengthened through channelling foreign direct investment and overseas development assistance through the IDDRSI platform for a more coordinated approach.

Private sector

As outlined in this report, the ASALs offer significant opportunities for economic growth and private sector investment in key sectors and supporting services, not only in the pastoral economy and infrastructure, but in other sectors including energy and water. Effective implementation of the EDE CPF should provide the enabling environment to facilitate private sector investment.

The CPF Pillar 2 document recognises that information and communications technology (ICT) and mobile telephone network infrastructure can be best delivered by private sector actors. It also recognises that the potential for Public-Private-Partnerships (PPP) in delivering the scale and ambition of capital infrastructure development in the ASALs is largely untapped. Given the potential for growth in the pastoral economy, in both domestic and international markets, private sector actors can play a significant role in upgrading and diversification of the meat and milk value chains.

In both the cases explored in this policy review, the role for the private sector is clear in providing supporting services (e.g. veterinary, transportation and financial services). However, there are recognised structural inefficiencies and barriers in terms of the enabling business environment for investment in the pastoral economy. The disconnect in timing of supply and demand needs to be addressed. Producers must be incentivised to change their selling pattern from time of greatest need to time of optimum animal condition. The private sector can play a role here in investing in feed and fattening lots.

An improved regulatory framework and better targeted government subsidies can accelerate investment. Ways need to be found to incentivise the private sector to supply appropriate products that lead to appropriate distribution of risk along the chain (e.g. index-based livestock insurance). In this way, financial services providers can be incentivised to enter livestock markets. Financial institutions can play a key role in crowding in investment in the seemingly high risk, high return livestock sector, as exemplified by the market leadership of Takaful of Africa and APA Insurance, among others, in offering Index-Based Livestock Insurance to pastoralists in northern Kenya.

In order for results to be achieved across the pillars, national and county governments must play an active role in investing in the enabling environment required for private sector investment. This includes in the areas of infrastructure, basic services and security.

Research community

There are a number of priority research needs to strengthen the evidence base reviewed here and to inform implementation of the EDE CPF. In order to ensure investments promote sustainable economic development in the ASALs, two priorities need to be addressed.

First, the causal relationships between interventions and outcomes need to be better understood. The Technical Consortium has played a key role in advancing efforts to identify and measure the impact of project actions and resilience outputs in the context of the Horn of Africa. Much more needs to be done to understand the impact of projects on development and the resilience of ASAL systems.

Second, the evidence presented in this report supports the case for targeted improvements in the livestock value chain, road infrastructure investments and regulatory environment. The systematic quantification of these improvements are urgently required so that co-benefits and spillover of combined hard /soft infrastructure investments can be measured, beyond simplified cost-benefit analyses. This report presents only two cases to illustrate the gaps in knowledge and possible routes to resilience. The same quantification is necessary for each plausible policy scenario. With elucidation of the 'business' case, it will be possible to advocate for specific combinations of investments and policy decisions to achieve sustainable development outcomes.

There are a number of specific research priorities that relate to the cases presented in this report. Particularly, trends in several areas need to be identified from the wealth of research carried out in the ASALs over past decades. These include demographic and rural-urban migration trends. The assumptions around provision of basic services like education, water and health need to be tested in participation with intended beneficiaries.

Governance arrangements in Kenya's ASALs have undergone a significant shift with devolution. The role and interactions between informal and formal institutions must be understood in the context of increasing shocks. In terms of the pastoral economy, more research is needed to understand employment patterns, market systems and the factors that make them resilient. Related to this is the need for updated knowledge on herd management and livestock production in the ASALs. With a more comprehensive understanding of the structural factors that contribute to resilient governance and economic systems, as well as how these respond to shocks, it will be possible to inform policy to build more flexible, inclusive and resilient systems in the ASALs of Kenya and elsewhere.

Finally, climate change and increasing climate variability are the context in which these complex dynamics will play out in the medium- to long-term. There are a number of research priorities in this area, including improved modelling of climate risks and impacts and identification of appropriate adaptation options. For example, investments in infrastructure must be guided by understandings of climate risk, as has been the intention of the climate-proofed infrastructure pillar of the EDE CPF. Identification of climate risk and adaptation options at each step of the livestock value chain will inform public and private investments in the kinds of improvements outlined in this report. In the context of drought risk, the nature and role of climate/weather information and EWS need to be clarified. In Kenya since 2013, early response has improved nationally and in some counties,, particularly in 2014 with European Union support of NDMA contingency funds. More generally across the Horn of Africa and beyond, early warning seldom translates into early action and preparedness. The factors affecting the use of early warning information need to be explored further and lessons can be learned from the Kenya context.



The International Livestock Research Institute (ILRI) works to improve food security and reduce poverty in developing countries through research for better and more sustainable use of livestock. ILRI is a member of the CGIAR Consortium, a global research partnership of 15 centres working with many partners for a food-secure future. ILRI has two main campuses in East Africa and other hubs in East, West and Southern Africa and South, Southeast and East Asia. www.ilri.org



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The Technical Consortium for Building Resilience in the Horn of Africa provides technical support to IGAD and member states in the Horn of Africa on evidence-based planning and regional and national investment programs, for the long-term resilience of communities living in arid and semi-arid lands. It harnesses CGIAR research and other knowledge on interventions in order to inform sustainable development in the Horn of Africa. www.technicalconsortium.org

