



**Responsible Land Governance:  
Towards an Evidence Based Approach**  
ANNUAL WORLD BANK CONFERENCE ON LAND AND POVERTY  
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**Building Pastoralists' Resilience: Strengthening Participation in Markets and Local  
Governance Institutions in West Pokot, Kenya**

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# Responsible Land Governance: Towards an Evidence Based Approach

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## Abstract

Pastoralist societies derive a considerable share of their food and income from livestock and the livestock is mainly reared on natural forage rather than cultivated fodders or pastures. In Kenya, pastoralism supports nearly a quarter of the national population that resides in arid and semi-arid lands (ASALs), which cover about two-thirds of the land area. It is widely recognized that besides being a cultural aspect among indigenous inhabitants, pastoralism is an adaptive mechanism to harsh ecological systems which can hardly support crop-based agriculture. Indeed, previous studies have shown evidence that pastoralists are astute land managers whose mobility enables them to make productive use of drought-prone rangelands; up to 10 times more than commercial ranching alternatives. However, a major challenge to pastoralism is frequent droughts which reduce the supply of forage resulting in death of livestock and deteriorating quality of existing herds. This makes pastoralists poor and vulnerable. Measures that improve the resilience of pastoralism especially through enhanced participation in markets and local governance institutions are critical towards equitable livelihoods and sustainable development. Targeted diversification into off-farm investments and more hardy livestock such as sheep and goats would also enhance pastoralists' resilience.

**Key words:** Pastoralists, livelihoods, Resilience, Participation-Markets-Governance, Kenya.

### 1. Introduction and the Research Issue

Pastoralist societies derive a considerable share of their food and income from livestock and the livestock is mainly reared on natural forage rather than cultivated fodders or pastures. In Africa, pastoralism accounts for over 70% of the total livestock production and supports the livelihoods of over 200 million people (WISP, 2010). In Kenya, it supports nearly a quarter of the national population that resides in arid and semi-arid lands (ASALs), which cover about two-thirds of the land area (KIPPRA, 2015). It is widely recognized that besides being a cultural aspect among indigenous inhabitants, pastoralism is an adaptive mechanism to harsh ecological systems which can hardly support crop-based agriculture. Indeed, previous studies have shown evidence that pastoralists are astute land managers whose mobility enables them to make productive use of drought-prone rangelands; up to 10 times more than commercial ranching alternatives (Fitzgibbon, 2012). However, a major challenge to pastoralism is frequent droughts (*Figure 1*) which reduce the supply of forage resulting in death of livestock and deteriorating quality of existing herds. This makes pastoralists very vulnerable and perpetually trapped in poverty.



*Figure 1: Degraded landscape with depleted vegetative cover due drought in West Pokot in November 2016*

Source: Survey Data (2016).

Another emerging challenge is the loss of key pastoral resources of natural pastures as population pressure pushes people to encroach into grazing lands for settlement and institutional changes such as land fragmentation due to rapid urbanization and commercial farming, occasioned by imbalance in the allocation of property rights. Consequently, pastoralist communities are trapped in chronic food insecurity with a consistently high malnutrition rate beyond the international emergency thresholds. Despite this, pastoralism has been perceived by successive governments in Kenya as a ‘backward’, economically inefficient and environmentally destructive livelihood activity (Fitzgibbon, 2012). The consequence of this has been gross neglect, marginalization and chronic under-investment in the pastoralists’ livestock systems, resulting in limited market integration and lower off-take rates.

Over the years, pastoralists have lived in a relatively predictable state of climate vagaries; for instance, the Kenyan pastoralists have always had four to five years’ drought cycle. The point here is that though significant losses were often experienced whenever the droughts occurred in the past, the timing and frequency were relatively predictable and thus, some form of planning for mitigation was realistically possible, even if non-sustainable interventions were designed and implemented due to institutional lapses and policy failures. In recent years however, the climate change phenomenon has caused considerable unpredictability in pastoralists’ environments and livelihood strategies. And the impacts of climate

change have been found to be more severe in systems that have higher vulnerability and lower adaptive capacity, especially in sub-Saharan Africa (SSA).

Building resilience has considerable potential for sustainable development. Resilience is the ability to bounce back from adversity and stress (Wilson et al., 2014). More specifically, the United State Agency for International Development (USAID, 2014) considers resilience as ‘the ability to anticipate, absorb, adapt to, and/or recover from the effects of shocks – natural disasters, economic instability, conflict – in a manner which protects livelihoods, accelerates and sustains recovery and supports economic and social development and transformation’. Thus, pastoralists need to be supported in order to realize the sense of inclusivity espoused in critical development pledges such as the African continent-wide Malabo Declaration, national strategic development goals and local-level county development plans. The rationale for building livelihood resilience is anchored on the seminal work of Chambers and Conway (1992, p.6) who describe a sustainable livelihood as one that can cope with and recover from stresses and shocks, maintain or enhance its capabilities, assets and entitlements while not undermining the natural resource base. Taking a case study of countries that have experienced persistent natural disasters, especially droughts and floods, the International Food Policy Research Institute (IFPRI, 2016) shows how substantial investments in resilience-building through weather-based insurance programs have contributed to food systems transformation in Brazil, Rwanda and Vietnam. Pain and Levine (2012) also noted that resilience-building is more cost-effective and stabilizes livelihoods than humanitarian emergency response to recurrent shocks that often affect millions of vulnerable households.

Various interventions are being implemented by different stakeholders to address the resilience question in the ASALs of Kenya. These include: the USAID’s focus on increasing adaptability, reducing risk, and improving social and economic conditions to target causes of vulnerability; building local governance capacities for community-level development; and establishment of livestock service centres including access to reasonably priced veterinary drugs and training in animal health husbandry practices. However, the above interventions focus on only five counties in the ASALs in Kenya, excluding West Pokot, which has diverse agro-climatic conditions and over three decades of evidence of a transition of livelihoods from pure pastoralism to semi-pastoralism; but with a worrying decline in resilience levels over time. In response to the aforementioned livelihood dilemma, this paper examined how the pastoralists in West Pokot have adjusted to land use changes, opportunities presented by the devolved government structure and emerging markets, and how the pastoralists’ livelihood resilience has been affected.

West Pokot County in Kenya is an ASAL region with a population of slightly over half a million people, mostly pastoralists. Over time, there has been a livelihood transition from pure nomadic to agro-pastoralism, but still more focused on livestock rearing. Available literature shows that the key drivers of this transition are land use changes and the rapidly evolving socio-cultural and economic structure of

property rights in Kenya; more so towards modern individualistic and capitalist living styles and resource ownership regimes. The county has a high food poverty index of 60% and low formal literacy levels falling below 45% (KNBS & SID, 2013). Thus, more sustainable measures such as building livelihood resilience should be undertaken to halt and reverse this trend. Land use changes, emerging markets and devolved government structures present considerable opportunities to build the resilience of pastoralists' livelihoods. In this dimension, promoting secure land tenure and diversified livelihoods are crucial to sustainable pastoralism. A diversified livelihood portfolio cushions a household in times of shock and thus improves their resilience. Received literature offers vast insights on livelihood sustenance and resilience. However, there are limited empirical insights on resilience-building strategies and their outcomes, especially in the ASALs of SSA. Existing studies on resilience analysis have focused more on initiatives outside Africa (Berkes et al., 2003; Marschke and Berkes et al., 2006). Little and McPeak (2014) observed that recent studies on resilience and pastoralism have explored the response mechanisms to climate change and humanitarian disasters such as conflicts. Ngigi et al. (2015) documented various livestock group-based approaches for building resilience. However, none of the previous studies has delved into the opportunities created by emerging markets and local-level governance institutions and how they can enhance pastoralists' resilience. Our study contributes insights on emerging trends regarding key changes and drivers to pastoralists' livelihoods, shocks and coping strategies, and participation in emerging markets and devolved governance institutions as means of resilience-building in West Pokot County.

## **2. Methodology**

The study utilized a triangulation of participatory research methods comprising: community-level reflection meetings on historical, current and perceived future role of livestock in socio-cultural and economic livelihood space; expert consultations and focused key informant group discussions (*Figure 2*) on the cultural, institutional and legislative implications of pastoralists' resilience building through enhanced participation in markets and governance and; individual household survey of 60 pastoralists on forms and extent of participation in the evolving commodity and service markets and the extent of collective decision making as well as willingness to participate in mainstreaming sustainable pastoralism agenda in the devolved county government structures.



*Figure 2: A Focused Group Discussion Session in Kapenguria*

Source: Survey Data (2016).

The survey respondents were selected through a two-stage sampling procedure. In the first stage, Alale, Sigor, Masol, Chepareria, Ortum and Kapenguria wards were purposively selected to cover diverse agro-ecological conditions. In the second stage, 10 respondents were selected from each ward. Both qualitative and quantitative approaches were applied in data analysis. Household survey data was collected by use of semi-structured questionnaires.

### **3. Results and Discussions**

#### ***3.1 Livelihood changes and drivers***

A synthesis of insights obtained from the focus group discussions and key informant consultations revealed that in the last three and a half decades, the major change in livelihood activities in West Pokot is a transition from pure nomadic to a less transhumant pastoral system (*Table 1*). Recent studies (for instance, Nyberg et al. 2015; Verdoot et al. 2010) made similar observations. However, this transition is more prevalent in highland regions of West Pokot; Kapenguria, Lelan, Chepareria and Sigor as opposed to the extremely dry areas of Alale and Masol. A change in herd composition too has been noted over the

years where the pastoralists incorporate improved Sahiwal cattle, Gala goats and Dopper sheep in their herds. These breeds offer double advantage; they are well adapted to the harsh ecological zone of West Pokot and yield better than the traditional Zebu cattle and local goats and sheep (WISP, 2010). However, incidences of livestock diseases have been on the increase. This is largely attributed to climate variability as some diseases are more prevalent during extremely dry periods and others during heavy rains. Similarly, the IPCC (2014) noted that as a result of global climate change, plant and animal diseases are expected to prevail more than it was before.

As expected from the induced innovation theory (Hayami and Ruttan, 1971), expansion of business centres in West Pokot has created demand for residential units since rental returns are higher than farm proceeds. Elsewhere in Weiwei, farmers under the Lord Aggrey irrigation scheme benefit from being Kenya Seed Company's maize seed out-growers. Farmers in Sigor and Lomut are also benefiting from a project by the Food and Agriculture Organization of the United Nations (FAO) that is promoting pawpaw, mangoes and water melon fruits production by offering seeds and extension services at a low cost.

A major culture change observed in the area is the reduction of incidences of female genital mutilation (FGM). This is due to the enforcement of anti-FGM regulations, and awareness campaigns to stop the practice. The compulsory free primary education program has also played a role in stopping FGM and promoting a more sedentary lifestyle as children have to attend school. Other drivers of change are the devolved county government that has brought services closer to the people and emerging markets for livestock and its products.

**Table 1: A Historical perspective of pastoral livelihoods changes from 1980 to 2016**

	Livestock	Migration	Markets	Governance Institutions	Land use	Culture
Main changes from 1980 – 2016	<ul style="list-style-type: none"> <li>• Adoption of improved breeds such as Sahiwal dual purpose cow, gala goats and doper sheep</li> <li>• More prevalence of cattle diseases than before</li> <li>• Rise in conflicts among pastoral communities</li> </ul>	<ul style="list-style-type: none"> <li>• In Kapenguria, Sigor and Ortum, there has been an influx of people.</li> <li>• Reduced transhumant movements</li> </ul>	<ul style="list-style-type: none"> <li>• Expansion of the Chepareria Livestock market.</li> <li>• New buyers from distant markets e.g. Nairobi</li> <li>• New markets for maize, onions and fruits</li> </ul>	<ul style="list-style-type: none"> <li>• Increased number of both government and non government organizations – FAO, Peace and Conflict Resolution organizations and Community-based Organizations</li> <li>• Devolved governance</li> <li>• Increased number of community based organizations supporting women</li> </ul>	<ul style="list-style-type: none"> <li>• Increased number of settlers around Kapenguria, Ortum and Sigor necessitates the construction of rental houses</li> <li>• Crop production at Weiwei and Kongelai.</li> </ul>	<ul style="list-style-type: none"> <li>• Gradual shift from nomadic to agro-pastoralism</li> <li>• Reduction of female genital mutilation (FGM) practice</li> </ul>
Key drivers of change	<ul style="list-style-type: none"> <li>• Increased demand for milk necessitates improved breeds.</li> <li>• Poor maintenance of existing cattle dips</li> <li>• Increased incidences of drought reducing pasture availability</li> </ul>	<ul style="list-style-type: none"> <li>• New businesses opening up such as banks.</li> <li>• Boundary demarcation and settlement of people in communally accessed pasture grounds</li> </ul>	<ul style="list-style-type: none"> <li>• Increased number of livestock buyers</li> <li>• Advocacy/promotion of fruit production by FAO, VI-Agro forestry and West Pokot County government</li> </ul>	<ul style="list-style-type: none"> <li>• New Country constitution that gave rise to devolved governance –</li> <li>• Ease of service provision such as extension in community groups</li> </ul>	<ul style="list-style-type: none"> <li>• Population increase across business centres</li> <li>• Investment in irrigation by the national government, National Cereals &amp; Produce Board and Kerio Valley Development Authority</li> </ul>	<ul style="list-style-type: none"> <li>• Migration and settlement in former transhumant paths</li> <li>• Free Primary Education</li> <li>• Enforcement of anti FGM legislation</li> </ul>

Source: Survey Data (2016).





### 3.2 Household characteristics and livelihood options

Table 2 below shows some important statistics from the preliminary household survey. There are wide variations in herd sizes for all livestock kept; standard deviations are much higher than the means in all cases. Two-thirds of the households have access to communal grazing lands. Further, slightly over half and nearly two-thirds have access to extension and credit services, respectively. These would be expected to enhance the ability to undertake investments that possibly build resilience. Only 40% of the households have title deeds as proof of security of tenure on their land. This is an encouraging observation given that a few years ago, pastoralists hardly possessed any documentary evidence on land ownership and this greatly affected individual decision-making on land use and acted as a disincentive to sustainable investments on such lands.

**Table 2: Sample characteristics**

Variable	Statistic (n = 60)
Average age of household head in years	46 (10.35)
Average number cattle owned by households	11 (14)
Average number of sheep owned by households	6 (11)
Average number of goats owned by households	18 (15)
Access to communal pasture ground (% of households)	67.0
Possession of title deed on occupied land (% of households)	40.0
Membership in governance institutions (% of respondents)	90.0
Access to credit in the last 12 months (% of households)	63.3
Received extension services in the last 12 months (% of households)	53.3

*Note: standard deviations are in parentheses*

Source: Survey Data (2016).

As shown in *Figure 3* slightly over 40% of the respondents derive more than three-quarters of their livelihoods from livestock and its products. This is consistent with the definition of pastoralism; most pastoral communities derive at least 50% of their income and basic needs from livestock DFID (2010).



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The rest depend on crop-livestock enterprises and other ventures including businesses and remittances especially in form of relief support from the County government.

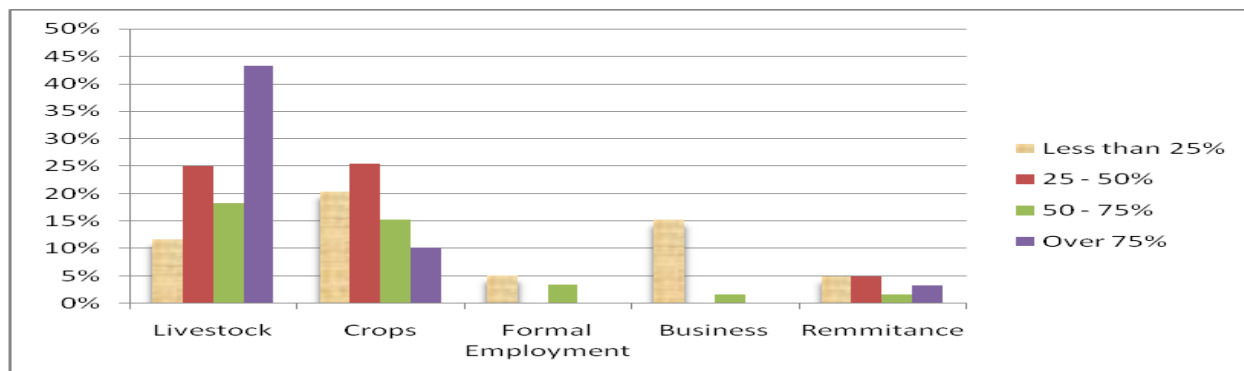


Figure 3: Proportion of income derived by pastoralists from various livelihood activities

Source: Survey Data (2016).

### 3.3 Pastoralists' exposure to livelihood shocks and coping strategies

The survey results show that nearly all households were affected by droughts during the last five years (Figure 4). Livestock diseases are also a major shock to the pastoralist community of West Pokot. The households indicated that these shocks may occur concurrently for example during dry spells, there are increased incidences of conflicts with neighboring pastoral communities over common water and pasture grounds. Participants in the focus group discussions noted that these conflicts heighten during drought spells as both communities claim ownership of the open access pasture and water points.

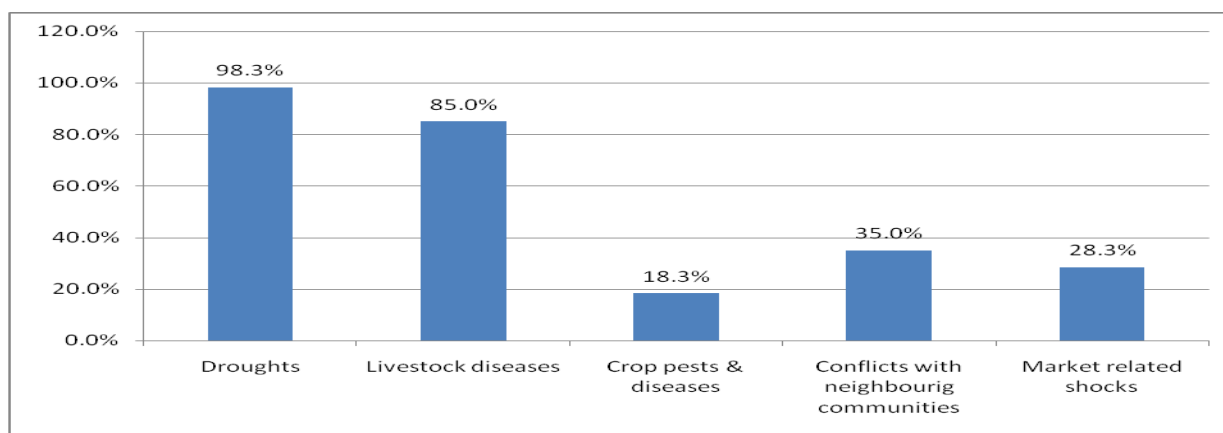
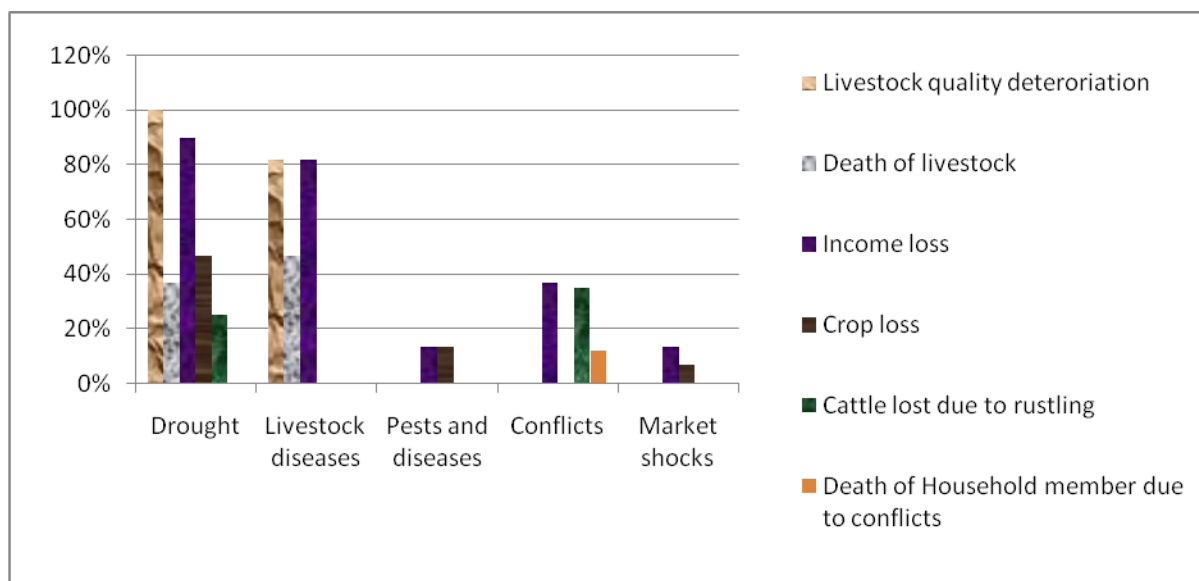


Figure 4: Exposure to shocks



Source: Survey Data (2016).

These shocks have different effects on households' livelihood. As shown in *Figure 5*, droughts and livestock diseases mainly lead to deterioration of livestock quality. However, it is important to note conflicts could have multiple and severe effects including loss of lives and property of considerable magnitude.



*Figure 5: Effects of shocks*

Source: Survey Data (2016).

Ngigi et al. (2015) noted that different shocks affect households differently. In this study, more livestock deaths are caused due to livestock diseases than in drought periods. Due to livestock quality deterioration during drought and when affected by livestock diseases, their market value drops significantly and thus households experience a loss of income from the value that would have been realized otherwise. During drought, crop harvests are meager and income from crops is also reduced. Various coping strategies are employed by pastoralists. Over 50% of respondents use their savings, sell assets or move livestock to a new area in the event of droughts (*Figure 6*). In addition, social groups play an important role in helping households to cope up with livestock diseases. Households share treatment and veterinary information and contacts among social group members. About 20% of households affected by conflicts have joined peace promoting groups that help in coordinating access and use of communal pastures and watering points in an effort to restore harmony. Only 10% of households affected by market shocks have



alternative markets for their produce. These markets are the National Cereals and Produce Board, outgrowing maize for the Kenya Seed Company, selling livestock directly to slaughter houses and supplying crop produce and milk to schools.

Of particular importance is how households recover after a shock (Carter et al 2005). If shocks cause a household's assets and income level to fall below the minimum threshold, the household falls into the deprivation trap where they may not come out even for a long time. Coping strategies can either help a household escape the poverty trap or fall lower below. Other studies have shown that herd mobility is one way that pastoralists cope up with shocks (Turner et al 2014, FAO 2012). In our study, over 40% of the respondents moved with their livestock to search new pasture and watering grounds. Of concern is the increased number of conflicts with neighboring pastoral communities as a result of this movement.

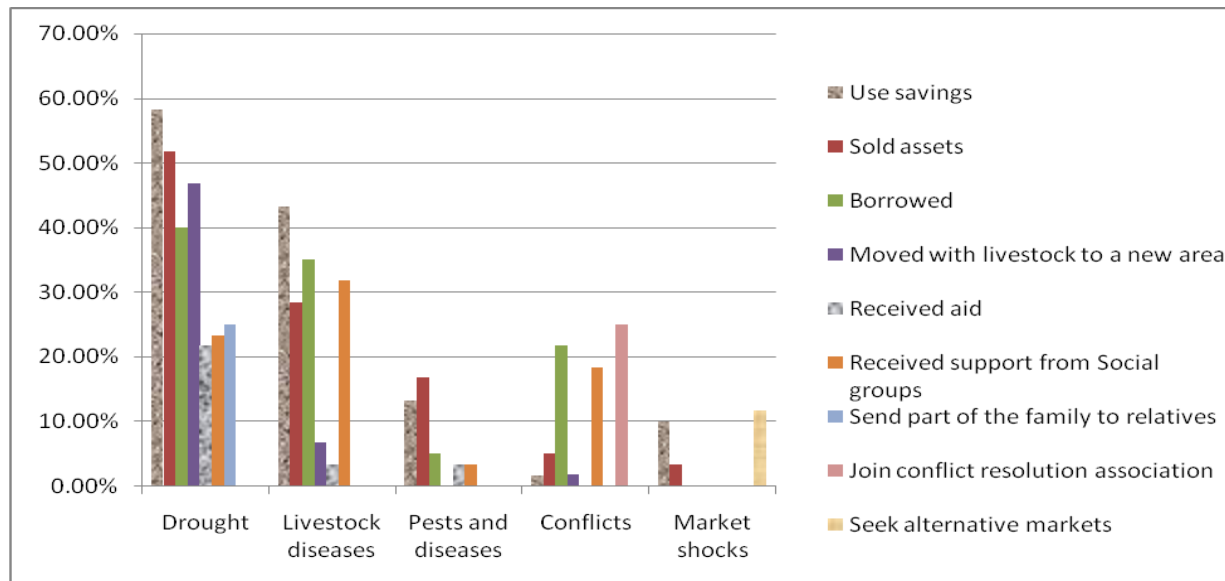
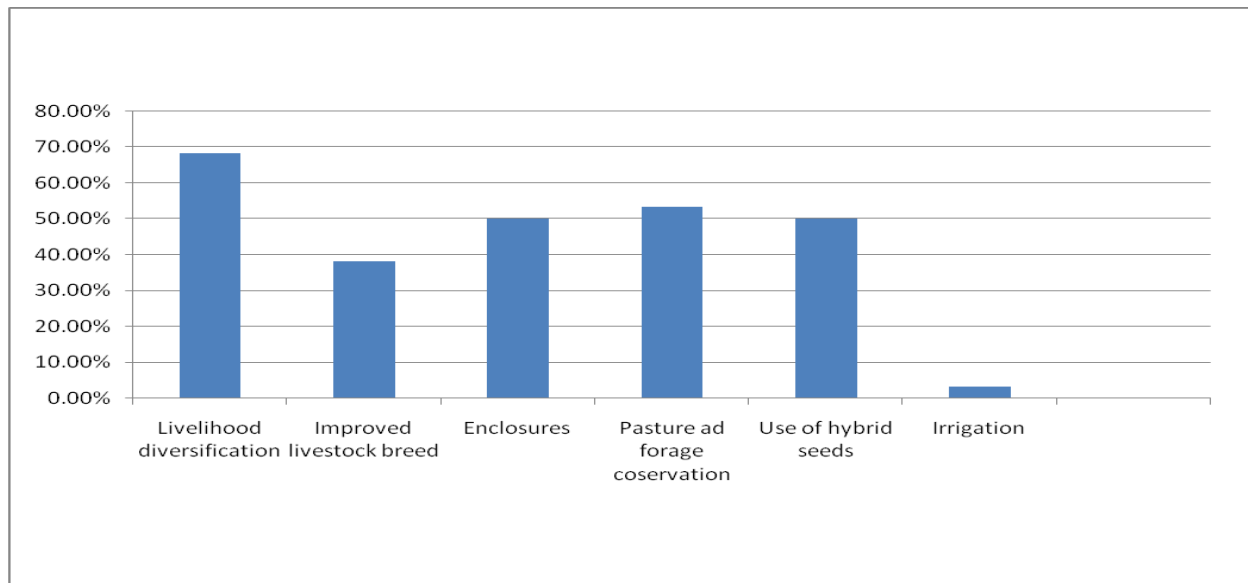


Figure 6: Coping strategies

Source: Survey Data (2016).

Figure 7 below shows the long-term mitigating strategies that the households have employed to build their ex-ante coping capacity to shocks.



*Figure 7: Long-term strategies for resilience-building*

Source: Survey Data (2016).

As shown in *Figure 7* above, two-thirds of the households have diversified their livelihoods through herd and enterprise diversification. The most common practice was incorporating goats and sheep in the herd as they are more tolerant to diseases, take a shorter time to mature for marketing and being browsers, they are able to survive on shrubs in drought times when pastures dry up. The WISP (2010) show that herd diversity and enclosing grazing land helps pastoralists adapt themselves to climate related shocks. In our study, we found that about 50% of the households in West Pokot have enclosed some part of their land for natural grass to grow and they preserve excess grass and crop residues for use during dry periods (*Figure 8 & 9*). Enclosures enable rotational grazing and help to reduce soil erosion.



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*Figure 8: An enclosed land with natural grass*

Source: Survey Data (2016).



*Figure 9: Pasture grass and crop residues conservation in an enclosure*

Source: Survey Data (2016).

### **3.4 Participation in emerging markets and devolved governance institutions**

*Figure 10* below shows the major types of markets in which the pastoral community of West Pokot participates. Over 70% of the respondents participate by selling sheep and goats (shoats). Most households with *Sahiwal* breeds were able to sell in the milk market while those with local breeds reported that the milk obtained was only enough or sometimes less for the household's own consumption.



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Most participants in the crop produce markets were net buyers since most of them don't grow crops. Sellers in the crop markets constitute major buyers in the farm input markets as they buy seeds and fertilizers.

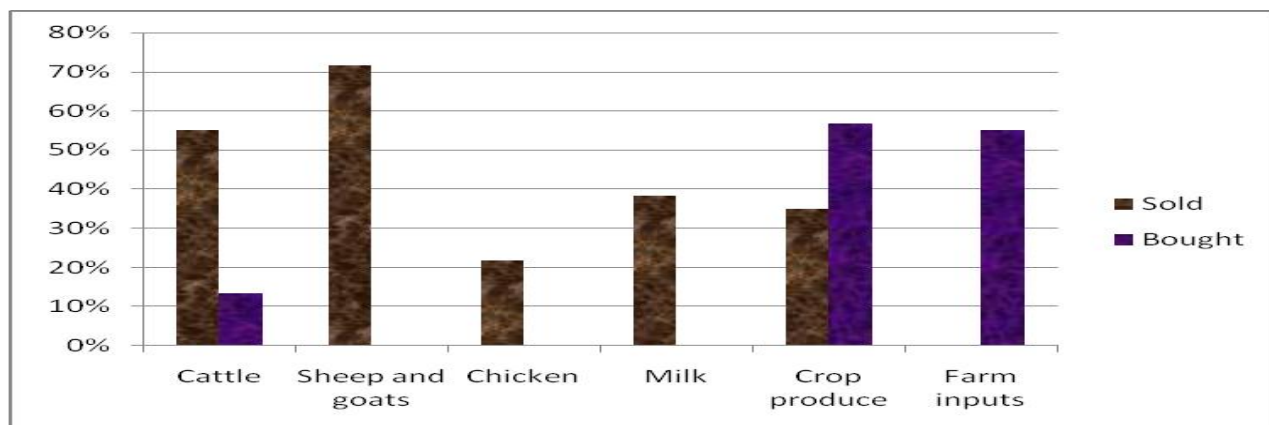


Figure 10: Pastoralists' participation in existing markets

Source: Survey Data (2016).

Distance, poor market infrastructure and exploitation by middlemen were cited as the major challenges encountered in participating in cattle and shoats markets (Figure 11).

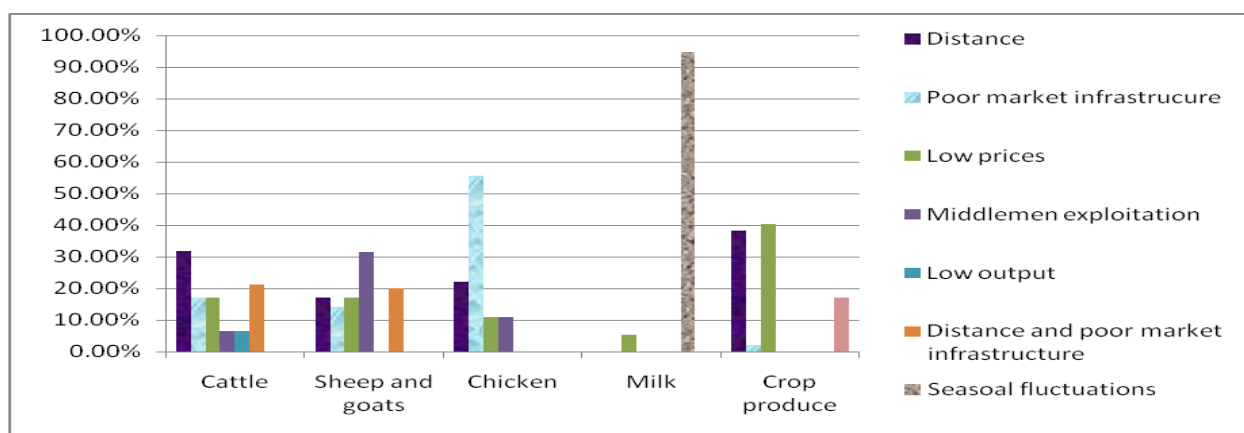


Figure 11: Challenges in market participation

Source: Survey Data (2016).



The major livestock market is in Chepareria and sellers from distant areas who are unable to bring their livestock to that market get lower prices from middlemen. The holding ground at Chepareria livestock market is small and in most cases the animal especially goats are kept in a nearby church compound as a temporary holding ground (*Figure 12*). However, such a ‘holding ground’ lacks requisite facilities such as water and other services necessary for effective livestock health management, feeding and transportation before they are sold.



*Figure 12: Goats under a tree in a church compound as a temporary holding ground*

Source: Survey Data (2016).

The survey results showed that households with access to credit had a significantly higher value of marketed livestock output (Kshs 559,375)<sup>1</sup>, while those without access to credit received less than 12% of this market value. Also, households with access to extension services had a higher marketed value of livestock (Kshs 489,000) than those without; who earned less than 10% of this value.

About 80% of households participate in community-level development groups including: self-help groups, water and pasture resource users associations, women groups and church groups (*Figure 13*).

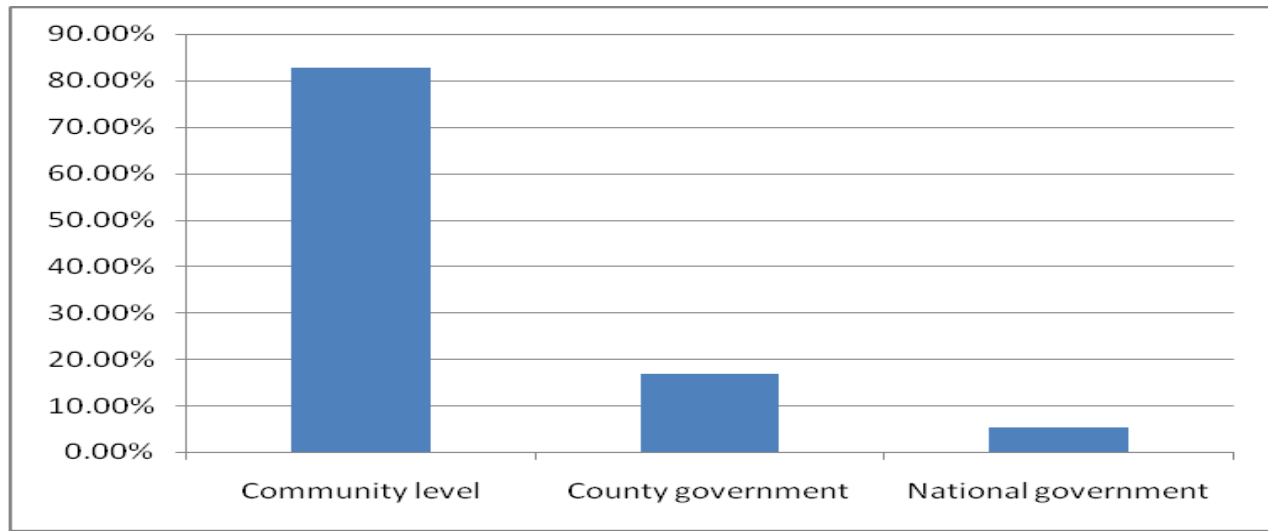
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<sup>1</sup> Statistical significance was measured at  $p < 0.05$ ; 1USD\$ was equivalent to Kshs 100 at the time of survey.





These groups play an important role in knowledge dissemination and co-supporting one another. Only 20% of the participants held some leadership roles in both community and county institutions, while none had any leadership role at the national government committees.



*Figure 13: Involvement in governance institutions*

Source: Survey Data (2016).

The main challenged cited in the existing governance institutions are non-involvement by other members of the community and low participation of existing members (*Figure 14*). Inconsistent and infrequent communications were reported as the major challenges in county- and national- level institutions. It is surprising that some people in the same village were not aware of existence of some county and national-level development committees and meeting dates.



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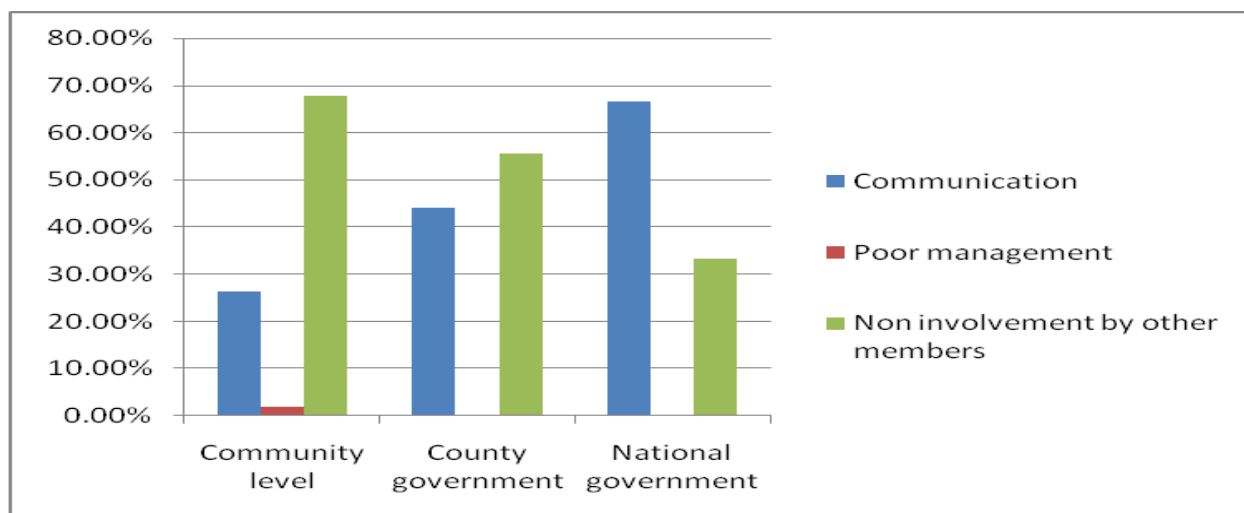


Figure 14: Challenges in participating in governance institutions

Source: Survey Data (2016).

#### 4. Conclusions and Policy Implications

This study assessed the types of shocks that pastoralists are exposed to and the extent to which they participate in emerging markets and devolved governance opportunities to enhance the resilience of their livelihoods. Results show an emerging transition from pure pastoralism to semi agro-pastoralism; but with higher livestock component than crop farming. After every drought cycle, there is a strong desire to re-stock compared to complete shift to crop production; signifying the central role of livestock in such systems. Concurrent incidences of certain shocks such as droughts and livestock diseases escalate the vulnerability of households to poverty traps by triggering inter-clan and local cross-border conflicts over water and pasture. The culture of market economy is gradually picking up but what is surprising is the choice of what is marketed; even in the wake of an imminent drought, households seem reluctant to sell good quality animals – thus, markets are somehow used as ‘dumping’ grounds for desperate, sick and old animals that can no longer fit in reproductive and cultural uses. Village open-air markets are the popular outlets. Contrary to sedentary communities, pastoralists’ participation in more formally organized markets such as hotels, schools, hospitals is low. It was also noted that pastoralists who participate in leadership roles within local governance institutions such as the county assembly and village administrative groups had access to more lucrative livestock market opportunities and diverse sources of income. These findings point to the need for concomitant dedication to transformation of the pastoralists’ cultural and institutional environments through stakeholder-inclusive processes. Improving pastoralists’ access to credit and extension services would also improve the quality of their livestock and thereby guarantee them higher



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market value for their livestock. Well-timed and targeted pursuit of current response mechanisms to shocks through prudent use of household savings, judicious sale of assets, focused migration to safer areas and enhanced adoption of collective action together with diversification of herds and investment in enclosures are potential strategies for livelihood resilience-building.

There is need for awareness creation and capacity building for pastoralists on quality livestock production methods and their off-take in high-value markets. Additionally, formal market contracts are essential in order to safeguard pastoralists from exploitation. Also, diversifying on- and off-farm income sources would help cushion them against drought-related shocks. Goats and sheep are more resilient to droughts and seem to fetch higher market prices (as well as being easier to sell at short notice) hence need to be integrated as key livestock in pastoralists' economies. Development programs aimed at building pastoralists resilience should have a bottom-up approach so as to allow broader participation in the design and ownership of livelihood-enhancing interventions. Finally, it is important to strengthen membership and participation of pastoralists; men and women alike, in county-level governance institutions and ensure fair allocation of income earning opportunities.

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