

Community Resilience





TRADITIONAL KNOWLEDGE SYSTEM FOR AGRO PASTORALISTS RESILIENCE

Summary Report

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Introduction

This is a summary report of community survey in five villages namely Irkujit, Lormorijoi, Narosoito, Endonyoengijape and Orkirung'urung'u of Simanjiro District, Manyara Region, Tanzania.

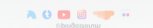
TRADITIONAL KNOWLEDGE SYSTEM FOR AGRO-PASTORALISTS RESILIENCY

This is a report of community survey in five villages namely Irkujit, Lormorijoi, Narosoito, Endonyoengijape and Orkirung'urung'u. Arid and semi-arid systems are undergoing an accelerating process of change. There is an increase in fragmentation of rangelands, driven by socio-economic factors including population growth, globalisation, competition for land, tourism, intensification of production and political pressures.

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The survey explored pastoralists and small-scale farmers' resilience strategies to natural disasters. Key informant interviews and focused group discussions were conducted with communities in mentioned villages to establish the understanding, attitude and practice of resiliency.

In order to identify, document best practices and resilience used as a springboard for learning and sharing as interventions PINGO's Forum engaged a consultant to undertake an eight-day community resiliency survey of which three days were for field work. The survey was conducted between February 26, 2021 and March 4, 2021. The survey focused on resilience mechanisms and techniques and community initiatives on unlikely events such as disasters (droughts, floods, diseases).

The findings of the dialogue meeting demonstrated the exceptional social and ecological values of the traditional knowledge systems exemplified in the remarks made by the Ilaigwanak that "the loss of these traditional knowledge systems would cause a social, economic and ecological disaster."

The survey results targets at appreciating traditional knowledge systems role in disasters prevention.

The main objective of this study is to generate resilience socio-economic information for the pilot villages, documentation of traditional knowledge that would be used for policy advocacy purposes.

In carrying out field research that is objective, thorough and representative, it is important to keep in mind a range of factors which will influence results and limit the accuracy of the data gathered.

Careful consideration was therefore taken in assuring that the viewpoints gathered were representative of different groups and age-sets within the study area, particularly given the likelihood that certain groups and age-sets and individuals may be less influential than others, such as women and younger men with potentially diverse and conflicting priorities, values and beliefs.

This, apart from the key informants, was based on focused group discussion taking into account:

- Time constraints (under one day and a half available per village).
- The need to gather specific information and traditional practices relating to community livelihoods, hazards/ disasters, resiliency and the management of disasters.
- The need to have stakeholder consultations.
- The discussion utilised some Rapid Rural Appraisal (RRA) techniques, and all meetings were carried out in Maa language and limited Swahili.

Semi-structured interviews (SSIs) were carried out for the survey. These were aimed at giving more specific and individual experiences of the issues surrounding the research. The interviews were to ascertain personal opinions and specific experience, usually on a deeper level

than in discussions, and reduce the likelihood of responses being coloured by other people's views. SSIs tended to be focused at experienced individuals or representatives interested in expressing personal views.

Key informant interviews in villages did concentrate on traditional leaders who are mainly the knowledge holders in the Maasai culture, apart from commanding respect from the rest of community members in their localities. Further to that the writer had used own *observations* and consultations.



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Key Findings

Quantitative research was gathered through questionnaires (n=40) to individual respondents selected randomly in 5 villages. Qualitative research took the form of a participatory focused group discussion.

The stratified random sample of the agro-pastoralists (n=40) was selected to quantify responses in disasters in a participatory fashion. The findings show that the villages are monocultures with livestock keeping amounting to 60% and small farming (settlement inclusive) 40% with experience of surviving disasters ranging from drought to livestock diseases and floods that are cyclic in nature.

Simanjiro District has an area of 19,928.1 km² and a population of 275,990. The population distribution is skewed and very uneven and most of it is concentrated in northern part of the district.

The district has diverse land uses where; cultivatable land is 600km², hunting blocks for hunting safaris 12,682km², water bodies 75 km² and the rest of the land is covered by hills/ridges and human settlements. Land fit for grazing is 1,357,000 Ha out of which only 1,017,750 Ha are utilized.

Out of the potential area for grazing, about 203,550 Ha are Tsetse fly infected.

The distinct is semi-arid climate with an average annual rainfall of 500mm. It has dual period of unreliable rainfall comprising of short rains in November to December. Rain season is March to April. The cold months are May to July. Hot months include August to February.

Nearly all of the respondents, 39 people, assert that the disasters intensity range from medium to high, seriously impacting on children, followed by women and then the elderly.

Livestock deaths begin with cattle followed by shoats and donkeys come last in that order; donkey is an animal of burden. Over 60% of respondents' livelihood rely on pastoralism. Some respondents also supplement on agriculture as a source of food for about 40%; farming is increasing important.

Open livestock markets, small businesses and artisanal work are also income generation activities. The most difficult time of the year for respondents is January to April. During this time, people have difficulty meeting their household needs. Common disasters in the areas count in recurring droughts, livestock diseases and occasionally floods. The surveyed villages employ their traditional knowledge systems in the prevention, mitigation and management of the disasters for resiliency.

Traditional management of drought for livestock involves pastoralists' mobility for water and pasture, fetching water

for livestock mainly using tractors, avoiding heat of the day, zoning of pasture areas for young and weak animals and practicing grazing rotation. Ethno-veterinary/ Ethnomedicine caters for disease outbreaks. Drought management for agriculture farmers select seeds that tolerate drought, do timing of planting, undertake early weeding, and selectivity in soil types.

Conclusively therefore, communities and stakeholders need for understanding of vulnerability to such risks of climate extremes among agro-pastoralists is important. Intrinsically, that will inform policy makers on how to devise appropriate strategies and instruments to enhance communities' resilience.

Lastly, but in no way least, a special study to comprehensively understand what vulnerability factors are leading to weak adaptive capacities is necessary. Low community capacity to cope means starving and threatening their very existence. Family heads struggle to do away with hunger and starvation.

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Drought & Diseases

Drought is the consequence of a natural reduction in the amount of precipitation received over an extended period of time, usually a season or more in length, although other climatic factors (such as high temperatures, high winds, and low relative humidity) are often associated with it in many localities and can significantly aggravate the severity of the event.

Vulnerability to drought concerns are centered on issues of food security, pasture and meeting the nutritional needs, environmental degradation, and a retardation of the growth process.

All the survey respondents (n=40) were aware and concerned about the drought events, following their negative effects. However, of all the respondents, no one knew that these events came again and again in a cycle of every 3 or 5 years or a decade. Again they were not aware that drought being in stages of a cycle has to be managed in order to reduce its negative effects.

Survey results show that 60% of the respondents (24) were aware of the bad driest years citing 1963/64; 1973/74; 1979, 1983/84; 1995; 1997; 2009; 2017 as not passing memories.

However, according to key informants' interviews it seems of the recent past the cycle happens more frequently that makes them difficult to predict and act accordingly. Respondents associate severe drought years with starvation/famine, massive livestock deaths and family disintegration.

This then tells us that there is no single “magic arrow” or technology for enhancing resilience in drylands. Rather, there are multiple, incremental options, including livelihood diversification, that, when adapted to local contexts and circumstances, can increase probabilities for reduced vulnerability ensuring improved livelihoods and community resilience.



All villages that were involved in this survey have no reliable water sources. Water for their livestock and domestic use is fetched from Orkesumet town ship where a jerry can is bought at TZS 100.

There are two major categories of livestock diseases that are notorious in Simanjiro District. These are *zoonotics* (those that can be transmitted from livestock to human beings and vice versa) and those that are *specific to livestock per se*. While some of the zoonotic diseases are rare, their potential for devastating outcomes make it necessary to take precautions for these diseases seriously.

Luckily, precautions taken to prevent these diseases are the same.

- Washing hands with soap after handling animals is the most important precaution. Unpasteurized milk and milk products should be avoided.

- All meat should be cooked to appropriate internal temperatures.

- Raw meat and eggs should be handled as if they contain infectious organisms.

- Surfaces and utensils used to prepare raw foods should be thoroughly washed with hot water and soap. Utensils used on raw foods should not be used later in the cooking.

The team learnt other diseases that are livestock per se. These diseases included among others Anaplasmosis (ndigana baridi); East Coast fever (ndigana kali); Trypanosomiasis (nagana) caused by tsetse flies; Contagious Bovine Pleuropneumonia (homa ya mapafu); Contagious Calpine Pleuropneumonia for goats; Ormilo (kizunguzungu) caused by cyst formed in the brain; and

Lumpy Skin disease; a viral disease transmitted by mosquitoes.

Others were Ephemeral Fever (popularly known as a 3-days, a viral sickness caused by mosquitoes; Mange caused by mange sarcopes and affects pigs, dogs, goats; Haemorrhagic Septoemia; Foot and Mouth Disease (FMD) and *Lepcephalus appendiculatus*.

There are times when biological poisoning happen - foraging armyworms with saliva left in grass leave formed cyanide compounds, a very toxic substance that kills cows upon feeding onto those grass feeds. Maasai have learnt to identify and abandon those armyworm infested fodder areas.

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Potential Issues of Policy Analysis & Advocacy

Over 80% of the respondents (36 people) pointed to the Ward Development Committee (WDC) as a necessary entry point for ITKS and resiliency advocacy process.

That being the bench-mark will climb the ladder to the district council as formal steps of the policy process during district council committees and full council seating accordingly. They confidently argued that here (at the WDC) is the appropriate entry point to policy making platforms.

On the other hand, fragmented climate policy frameworks act as a barrier to adaptation where context-specific cultural factors are ignored. The need to strengthen climate resilience and ensure sustainable livelihoods through land and natural resource management, integration of climate adaptation and drought risk reduction into planning and institutionalisation and delivery of a drought management. Furthermore, promotion of pastoral mobility and institutional arrangements, including cultural rights, through delivery of services in ways appropriate for nomadic communities.

Access to resources and authority is important for sustaining livestock-based livelihoods, and those who cannot access both will suffer during shocks and times of stress.

Institutionalisation in customary norms and traditional knowledge should be promoted, preserved and integrated alongside more modern policy and political structures.

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Conclusion & Recommendations

Pastoralism as a livelihood strategy is part and parcel of the Maasai traditions and culture. Practices such as herd splitting, setting aside areas of grazing lands for different seasons of the year and for young and weak animals, *Ilaliliak*, water resources *Ilchorroi*, being managed traditionally, co-existence of livestock and wildlife in the rangelands, pre-determine and plan transhumance. This is the essence of TEK in Maasai. *Ronjo*, and conservation of wildlife and forest resources are the TEK practices identified to play key role in management of dry land ecosystems in Simanjiro.

Interviewed pastoralists perceived that their Traditional Ecological Knowledge (TEK) was useful in managing dry land ecosystems in the study area. Usefulness is based on the reasons that TEK practices provide guidelines on utilizing and managing land and natural resources available. Pastoralists expressed that transhumance was important and that it was a kind of coping strategy at adverse climate extremities like scarce vegetation during the dry season.

Most research findings demonstrate that pastoral mobility is a drought coping strategy which historically helped many pastoralists to manage uncertainty and risk in arid lands.

Medicinal plants, through their TEK have played important roles in the treatment of diseases and ailments (human and livestock) instead of conventional medication in Simanjiro. It was further noted that the Maasai used the decoction from pieces of bark, roots, or leaves as medicine, *olchani*, taken without being processed or added to foods such as milk, soup or fresh blood from cattle and goats.

At the centre of resilience lies **information** and its accessibility. Vulnerability and adaptive capacity can be manifested in and influenced by a number of factors including: (i) human assets, (ii) availability of, and access to technological alternatives, (iii) levels and sources of income, (iv) income and other forms of inequality, and (v) aspects of social assets such as trust, transparency, accountability, security of entitlements, and the quality of informal and formal institutions.

Maasai major economic activity is livestock keeping; however, some supplement their sustenance by crop cultivation. Nomadic life practiced by the Maasai require information to enable them to make informed decisions concerning livestock keeping, their health, education as well as political issues. As livestock keeping and crop cultivation systems become more complex, Maasai access to reliable, timely, and relevant information sources is becoming more critical to their survival.

Having right information at the right time through appropriate and right channels prepares Maasai to deploy their experienced, home grown Indigenous Technical Knowledge Systems (ITKS) to timely prevent, mitigate and manage disasters through disaster risks reduction mechanisms.

Community resiliency calls for people-centred early warning systems. This encompasses among others, the information and delivery, drought cycle management, vulnerabilities, and communication channels. People-centered early warning systems empower individuals and communities threatened by hazards to act in sufficient time and in an appropriate manner to reduce the possibility of personal injury, loss of life and damage to property and the environment for sustainable resilience.

Right and timely information predetermines preparedness strategies, resilience plans, and vulnerability awareness that farmers and pastoralists (or rather agro-pastoralists) need most.

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