



Climate Change Migrants

& Indigenous Peoples Adaptation Strategies

Indigenous Peoples in Tanzania

Dependency on land resources and reverberation of climate change

Key Messages:

1. Indigenous peoples are dependent on the environment and natural resources. Their close relationship with mother earth means that they are often among the first groups to suffer the consequences of climate change.
2. Indigenous communities face particular geographic, demographic and political obstacles in responding to and preparing for climate change risks. In particular, physical isolation, limited economic diversity, poor political representation and higher poverty rates, combined with an aging population, increase the vulnerability to native communities.
3. Declining land area among hunter-gatherers is causing significant impacts, including increasingly risky travel and hunting conditions, damage and loss to settlements, food insecurity, and socio-economic and health impacts from loss of cultures, traditional knowledge, and homelands.
4. Indigenous peoples should have their place in global climate change initiatives and international bodies must listen and respond to their concerns on environmental related issues.

"Indigenous pastoralists and hunter-gatherer communities in Northern Tanzania have been living off the land for 40,000 years, sustainably, coexisting with local wildlife and protecting the ecosystems". Edward Loure

"For generations, we have protected all of the animals in our territories. We are pastoralists [and] our way of life depends on the land".... "This is where our sacred sites are found and where we hold our cultural camps. It's where we conduct our youth training about Maasai culture. We don't keep livestock just for food. There is a strong connection between our animals and culture. If you don't have cattle you must find a way to acquire them. In our lives, three things are inseparable: land, animals and people"

Kooya Timan

Key message 1: Dependency to nature and climate change repercussion

Indigenous peoples are dependent on environment and natural resources. Their close relationship with mother earth means they are often among the groups to suffer the consequences of climate change.

Indigenous communities in Tanzania

Indigenous peoples distinguish themselves by entirely depending on nature for their survival (Photo 1). In Tanzania, two community groups – hunter-gatherers (Akiye and Hadzabe) and pastoralists – (Barabaig and Maasai), have had their indigenous status endorsed by the African Commission on Human and Peoples' Rights (ACHPR).

The peoples, lands, and resources of indigenous communities in Tanzania face an array of climate change impacts and vulnerabilities that threaten livelihoods. The consequences of observed and projected climate change have and will undermine indigenous ways of life that have persisted for thousands of years. Key vulnerabilities include the loss of traditional knowledge in the face of rapidly changing ecological conditions, increased food insecurity due to reduced availability of traditional foods, changing water availability, and relocation from historic homelands.

Indigenous peoples in Tanzania represent only about one percent of the country's population, yet many of the country's biodiversity hotspots coincide with areas owned, occupied or managed by them. Several studies highlight that indigenous peoples' effective stewardship over biodiversity has kept significant amounts of carbon in the trees and underground including carbon-neutral practices or even carbon-negative lifestyles



Photo 1: Hadzabe men celebrating a hunt
(<http://www.lbah.com/RwandaTanzania2011/Hadzabe2011mainpage.html>)

It is generally recognized that poor, natural-resource dependent communities including indigenous peoples, particularly in the developing world, are especially vulnerable to the effects of climate change and suffer disproportionate impacts. Indigenous peoples are often highly dependent on their lands and natural resources for their livelihoods. Their intricate relationship with their environment, lands, territories and resources is the very basis of their economic, social and cultural systems, their ecological knowledge and their identities as distinct peoples.

They often live in diverse but fragile ecosystems, and at the same time in economically and politically marginal areas. The environments they choose or are forced to live in are often physically isolated and harsh – often as a consequence of historical, social, political and economic exclusion. This places them among the world's most marginalized, impoverished and vulnerable peoples, having minimal access to resources to cope with the changes.

To pastoralists, survival is highly dictated by availability of pasture and water



Photo 2: Dusted pasture-land as a result of prolonged drought
(<http://www.maasai-association.org/drought009.html>)

"significant impacts of climate change [are] already being experienced by indigenous peoples and local communities' including 'increased weather extremes and variability, prolonged drought, increased floods, strong winds, and delays in the onset of regular weather events including monsoons and dry seasons. Changing weather and climate patterns have impacted both domestic and wild plants and animals, resulting in decreased agricultural yields and loss of hunting opportunities, as well as exacerbated health and disease threats to people and animals, including expanded habitats of vector-borne diseases. This disruption of ecological calendars and traditional planting seasons has led in many cases to increased food insecurity" (UNU-IAS et al. 2008, p. 16).

Many semi-arid areas of northern Tanzania are frequently affected by prolonged droughts resulting in more dust storms, and sometimes to excessive rainfall with floods. These changes result in dramatic damage to vegetation and hence the livestock of nomadic indigenous peoples (Figure 2), leading to food security problems and malnutrition. The area becomes less viable even for indigenous peoples with still vast adaptive capacities, and much more for those whose adaptive capacities have already been eroded, often leading to migration, further marginalization or conflicts.

Key message 2: marginalization and vulnerability risks

Indigenous communities face particular geographic, demographic and political obstacles in responding to and preparing for climate change risks. In particular, physical isolation, limited economic diversity, poor political representation and higher poverty rates, combined with an aging population, increase the vulnerability of native communities.

Exclusion from mainstream national development programmes

Hunter-gatherers and pastoralist communities lack appropriate opportunities such as education, communication infrastructures, health services and market networks which are essential to join the general growth agenda. Illiteracy/poverty rates are the highest in the country, with up to 95% of the population excluded from formal education and live on less than two, low standard, meals per day. Road network, telecommunications and social services comprising water, power and health facilities are extremely in short supply. Pastoral women are particularly vulnerable during shocks such as drought. They are the 'hidden hands' of production, responsible for many resource management tasks.

Political engagement is challenging too, due to government policies in which only majority rules. For the hunter-gatherers for instance, there has never been an individual who succeeded to seat as member of parliament, minister or any prominent political figure. Their voices or interests, as a result, are easily disregarded. It is no wonder, therefore, that the country's constitution makes no mention of their exclusive rights as minority groups.

Minorities considered invaders in their own land

Since colonial times, indigenous groups in Tanzania have been subjected to compulsory evacuation without proper compensation. Responsibility for the current livelihood crisis and increasing pastoral vulnerability is mainly directed at the state. Pastoralists construct an image of governments that misuse their power, ignore pastoral rights, disturb pastoral livelihoods and lack any form of legitimacy.

There has been cases where the government actively involved in forcibly displacing pastoralists from their settlements to pave way for large agricultural investment and hunting projects. For example, three cases of such involuntary relocation include Ihefu basin, Loliondo landscapes, and Hanang' plains. Other conspicuous circumstances in which pastoralists are caged comprise Ngorongoro conservation area where livestock movements for water, pasture and salt licks are restricted to unproductive parts of the area.



Photo 3: When situations worsen, hunting water in dry-river bed becomes the only option: Maasai women collecting muddy-water, one cup at a time! (Aid Tanzania)

“Land is the foundation of life. It holds everything together animals, people and culture. Losing the land would mean losing everything. We would rather die than have our land taken”

Key message 3:

damaged settlements, restricted travel and hunting

Declining land area among hunter-gatherers is causing significant impacts, including increasingly risky travel and hunting conditions, damage and loss to settlements, food insecurity, and socioeconomic and health impacts from loss of cultures, traditional knowledge, and homelands.

Hadza community under threat as their land is diminishing

Numbering between 1300 – 1500, many of the Hadza live in a remote stretch of Tanzania, where most of their daily life style is spend on foraging and hunting (Figure 4). The techniques used for finding sustenance are passed down generation to generation through practice storytelling. The men favour handmade bows and arrows, while women dig up roots and gather berries.

Unfortunately, the Hadza way of life is under threat. In the last 50 years, they have lost 90% of their land to conservation, farmers and cattle herders. Much of the local forest and bush, for example, has been burned to make way for crops, or has been razed to produce water holes for irrigation. As a result, a lot of the big game animals and local plants that traditionally have made up the bulk of the Hadza diet are disappearing.

Hope restore as land titles issued.

Though the threat is real for the Hadza, hope for sustainable livelihood is underway following successful efforts to restore some of the lost land. In 2011, with Ujamaa Resource Team (UCRT) led initiative; the Tanzanian government issued land titles to a community of Hadza living in Yaeda Chini.

UCRT pioneered an approach that gives land titles to indigenous peoples as a collective unit instead of individuals using a provision called Certificate of Customary Rights of Occupancy (CCRO) provided in the Tanzania Village Land Act. Edward Loure, former Director of UCRT and Environmental Gold Prize Winner, said when interviewed during Prize reception: “ I had what it takes to fight for the marginalized community’s land rights to ensure that their territory is protected from land grabbers,” [in so doing] “ we identified specific areas for hunting, gathering and grazing. Then, we prepared all documents and through lobbying and advocacy, we finally achieved ownership of our land”.

But even with land titles, responding to additional challenges from climate change impacts will require significant adaptation within land use transportation and infrastructure systems, as well as health and emergency response systems.

Local community empowerment is essential especially due to limited community institutional capacity to respond to, plan for, and anticipate climate change impacts.

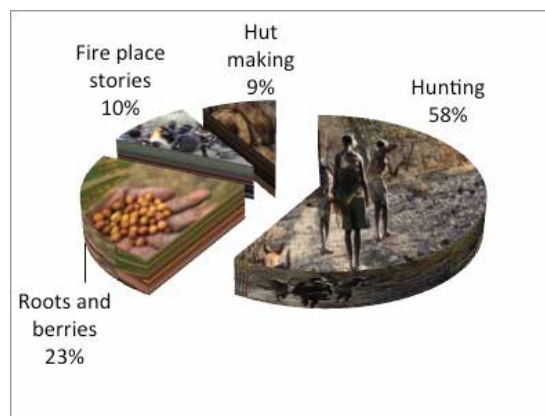


Figure 4: Daily life style of Hadza

Key message 4:

Global climate change negotiations and indigenous peoples concerns

Indigenous peoples should have their place in global climate change initiatives and international bodies must listen and respond to their concerns on environmental related issues.

Indigenous peoples and global climate change negotiations

The central international policy framework for addressing global warming is the United Nations Framework Convention on Climate Change (UNFCCC 1992, entered into force in 1994) and its Kyoto Protocol with legally binding measures (adopted in 1997 and entered into force 2005).

The UNFCCC enjoys near universal membership, with 192 countries having ratified it. An important article from a rights perspective is Article 3.1 which calls upon parties to adhere to the principle of ‘common but differentiated responsibilities’, pointing to the special vulnerability of developing countries to the adverse effects of climate change and the greater responsibility of developed country parties.

In contrast to its sister Convention, the Convention on Biological Diversity (CBD), the text of the UNFCCC contains no explicit consideration of indigenous peoples, local communities or similar, although the issue is vitally important to them. The same applies to the Kyoto Protocol.

Indigenous peoples’ organizations and their spokespeople have complained about a lack of space for participation in the process of the UNFCCC. They state that they have been largely excluded from the climate change negotiations and were not consulted in the creation of the UNFCCC or in the negotiations on the Kyoto Protocol (E/C.19/2008/10).

However, in the last decade opportunities began to emerge for greater engagement of indigenous peoples in the UNFCCC process. Indigenous and traditional peoples' representatives have been participating at UNFCCC Conferences of the Parties (COPs) since 1998 (Macchi et al. 2008). Since 2001 indigenous peoples' organizations have been acknowledged by the Secretariat as an observer constituency within climate negotiations of the UNFCCC and have been provided with special support such as a direct line of communication with the secretariat, invitation to workshops which are open to observers and provision of an opportunity to make statements to the Plenary under the agenda item for NGOs (UNFCCC 2004a and 2004b).

This provides indigenous peoples with some opportunities for articulating their concerns, but they state that it is often difficult to get their perspectives integrated in final recommendations (E/C.19/2007/CRP.6, p.8). Indigenous peoples' organizations have released a number of declarations and statements in which they have expressed their concerns and discontent related to climate change implications on their cultures and livelihoods.

In pursuing their global campaign, they called upon the COPs of the UNFCCC and the Kyoto Protocol to recognize their role, rights and positions and to include them in decision making processes.

The United Nations Permanent Forum on Indigenous Issues UNPFII has called for the establishment of an ad hoc Working Group on Indigenous Peoples and Climate Change by the UNFCCC. Other references showing some emerging recognition of indigenous peoples and their traditional knowledge within the UNFCCC process are found within the COP 12 through the Paris Agreement - COP 21.

The COP 12, in particular, recognizes the importance of local and indigenous knowledge and recommends to collect, analyse and disseminate information on adaptation actions and measures including local and indigenous knowledge, while Paris Agreement speaks of indigenous peoples' territories and climate change impacts mitigation.

Indigenous peoples' and the Paris Agreement on Climate Change 2015

The recommendations of Indigenous Peoples (IP) to the zero draft of Paris Agreement admit that IP's territories are in the front line of climate change and indigenous peoples already feel the consequences of changing weather patterns. The proposed 2°C goal will increase hunger and poverty of millions of indigenous peoples.

Indigenous peoples thus demand States to take urgent action to tackle global warming and climate change and commit to keeping global temperature increase below 1.5° C both in the Paris Agreement and in their Intended Nationally Determined Contributions.

Indigenous peoples also demand that Parties should ensure an overarching human rights approach to all climate change interventions, procedures, mitigation strategies and adaptation.



Biodiversity conservation and indigenous knowledge in Tanzania

Introduction:

Many indigenous communities depend directly on natural ecosystems for their livelihoods — wild plants and animals for food, for clothing, for fuel, medicine, and shelter. The economy, identity, and cultural and spiritual values, as well as the social organization of indigenous peoples, are closely linked to biological diversity and natural ecosystems. The majority of the landscapes where indigenous people live are of extraordinary value not only for their beauty and the regional ecosystem services they sustain, but also for their biodiversity. As such, indigenous peoples and their land holdings are a vital strategic component in regional and national conservation strategies.

However, indigenous territories are facing threats from both encroachment and climate change. Land degradation and impoverishment is decreasing the availability of natural resources for indigenous communities. Fortunately, indigenous communities have responded to these threats and raised their voices to demand their traditional rights and greater protection for the renewable resources of the forests, wetlands, lakes, rivers, and streams upon which they depend. They have initiated successful (and ongoing) campaigns to maintain their rights to natural resources and legally-define territories where they can establish adaptive management schemes that are based on their traditional knowledge.

*What a coincidence?
Biodiversity hotspots and
indigenous peoples overlap*



Figure 1: A sacred *Ficus religiosa* tree believed to harbor fortunes. Myriads of such sacred trees still dot the Maasai countryside.

Indigenous peoples occupy a substantial share of the country's least-disturbed forests, mountains, and grasslands including wetlands. The best example of notable overlaps between indigenous peoples and biological rich areas are the case of Ngorongoro-Serengeti Ecosystem, Simanjiro-Kiteto grasslands, Ifetu-Kilosa wetlands and the surrounding of mount Meru, Kilimanjaro and Eastern Arc Highlands. In fact, there is a clear correspondence between areas of remaining wildlife hotspots and the presence of indigenous peoples in Tanzania. The strong presence of indigenous peoples in northern part of the country, alone, which accounts for the 60 per cent of all popular national parks, is remarkable.

There is ample evidence of indigenous knowledge and practices involved in enhancing biodiversity at the landscape level. The Hunter-gatherers communities are known to possess detailed technical knowledge of fire, and used it effectively to improve feeding habitat for game and to assist in the hunt itself.

Lewis and Ferguson theorized that cross-cultural comparisons of hunting communities at global level from Amerindians of North America, through Australian aborigines to Hadza of African origin indicate functionally parallel strategies in the ways that hunter-gatherers used fire. Another widely used traditional practice, that of rotation of harvesting pressure, would similarly contribute to landscape heterogeneity.

The principle of rotation in agriculture is well known: land is periodically fallowed or "rested", and often planted with species that help restore soil fertility. Less well known is the use of rotation for grazing lands and for hunting and fishing grounds. In semiarid regions such as the Maasai plains, plant productivity is seasonal and follows the rains.

Many of the larger herbivores have adapted to this pattern by migrating seasonally, and the migrations of traditional herding peoples also follow the same adaptation. Much of the problem of the Maasai plains is traceable to the disruption of this adaptation by the settlement of herding peoples.

The yearly cycle of nomads and their cattle is a rotation, providing a chance for the recovery of heavily grazed rangelands. Throughout arid and semiarid East Africa, traditional herders followed migratory cycles, rotating grazing land seasonally and, in some cases, also rotating adjacent grazing areas in the same season. In this case, the function of the rotation was to reduce ecological disturbance from grazing and to allow harvest for subsistence needs with a minimum disruption of the large landscape.

With their interest in the availability of a wide diversity of resources within their resource catchments one expects indigenous people to contribute to restoration of biodiversity in the depleted landscapes as well. Where a stake in local resources has been created for them, indeed they do so, their detailed knowledge of succession and habitat preferences of the different species greatly contributing to such a process. Such knowledge is explicit and socially transmitted from one individual to another within and across generations in the same manner as scientific knowledge.

Compliance is often facilitated through religious belief, ritual, and social conventions. Four kinds of indigenous conservation practices are of particular relevance. They include:

- All individuals of certain species of plants and animals may be afforded total protection. Trees of all species of genus *Ficus* (iretet) are protected across Maasailand. Local people seem to be aware of the importance of *Ficus* as affording food and shelter for a wide range of birds, bats and primates, and it is not difficult to imagine that such understanding was converted into widespread protection of the *Ficus* tree at some point in the distant past. It is more difficult to visualize the ecological significance of protection on a local scale, a large number of different plants and animals as being symbolic.
- Certain particularly vulnerable stages in the life history of an organism may be given special protection. Thus, among Hadza community, for example, animals may be hunted but not during breeding season, or at heronaries. The danger of overharvest and depletion of population is clearly far greater if these vulnerable stages are hunted and the protection afforded to them seems a clear case of ecological prudence.
- Major events of resource harvest are often carried out as a group effort. Indigenous groups have a tendency of engaging once a year in a large-scale communal hunt. Such a group exercise may have served the purpose of group-level assessment of the status of prey populations, and their habitats. This in turn may have helped in continually adjusting resource harvest practices so as to sustain yields and conserve diversity.

Early warning systems: Reading nature's imprints to envisage climate uncertainties

Indigenous people comprehend nature by reading prevailing codes of their surroundings. Paying attention to wild voices, observing migratory behaviours, and intuiting environmental rhythms including phenological performances, all contribute to the outstandingly body of knowledge of indigenous communities have about nature.

To the Maasai, appearance and positioning on the sky of some celestial bodies like stars and the moon, would signal particular weather events. For instance, the delayed rise of a certain group of stars called *ingakwa* accompanied by inclination of the moon to the left, would mean extreme weak long rains season in that specific annual calendar.



Figure 2: Maasai description of annual calendar

Plants and insects do play precise roles in understanding nature among ecosystem communities. Greening of acacia species and appearance of arts would indicate affluent rain season ahead, especially short rains - *irkisirat*. This is every important period because, given bad condition of livestock following dry term, rich short rains means quick recovery of the head and elevated house food security. The month of December, which is usually mid-short rains bears the name *irr-irpala* to purport rejuvenation for both livestock and people.

Demeanours of certain mammals and birds species can be translated by ecosystem communities to foretell weather patterns.

Particular cries made by male ostriches (*esidai*) and early immigration of wildebeests, would mean, to the Ngorongoro Maasai, opulence wet periods. Moreover, domestic animals by raising their heads towards certain directions or resisting to cooperate in particular instances do guide shepherds in understanding their environments.

'archaic conservation limited extraction according to local rules that prevented destruction of nature because nature was the pre-eminent resource base'

There is little doubt that traditional conservation with social restraints is real; there is little doubt also that traditional conservation has (or bad) survival value. As stated by Oldfield and Alcorn, 'archaic conservation limited extraction according to local rules that prevented destruction of nature because nature was the pre-eminent resource base'.

However, as traditional peoples are integrated into the global economy, they lose their attachment to their own restricted resource catchments. This could lead to a loss of motivation to observe social restraints towards the sustainable use of a diversity of local resources, along with the pertinent indigenous knowledge that goes with it.

Indigenous peoples' perceptions in contemporary biodiversity conservation enterprises

Indigenous people believe that biodiversity conservation is not always compatible with economic development (Western-guided philosophy ecological preservation) and that protected areas under this thinking deprive native communities of access to lands and resources without offering them compensation or alternative livelihoods. To them, it is no longer a question as to whether protected areas contribute to poverty alleviation or make local social and economic conditions more difficult by limiting access to natural resources.

Moreover, contemporary “conservationists” and indigenous peoples are perceived to have very different agendas since the priority of the former is to protect and legalize their territories for their own use, while for the conservationists, the priority is to establish protected areas with no human presence, if possible. Indigenous people perceive that if “conservationists” go so far as to include local communities in their management plans, they only take them into account as a means to an end and not an end in themselves. What is certain is that conservation organizations have been increasing their work with indigenous peoples around the world in recent years, recognizing that effective conservation is not possible without effective participation of the people who live in the place.



Aware of this reality, the Program of Work on Protected Areas, developed in 2004 during the Seventh Conference of the Parties (CoP7) to the Convention on Biological Diversity, established as one of its goals (Goal 2.2) the achievement, by 2008, of a full and effective participation of indigenous and local communities in the management of existing protected areas and the establishment of new areas in full compliance with their rights and recognition of their responsibilities, and consistent with applicable national law and international obligations, as well as with the participation of other relevant stakeholders.



Climate change, squeezed land-resources and local adaptation strategies in Tanzania.

Introduction:

Climate change and climate variability are creating increasingly vulnerable conditions in fragile ecosystems where indigenous peoples live indigenous peoples. Changes in land tenure and agriculture, and sedentarization are fracturing large-scale pastoral ecosystems into isolated systems.

With respect to climate change adaptation, strategies to support indigenous communities should be geared towards building adaptive capacity and resilience through developing policies that provide opportunities to practice mobile livelihoods, enhance and secure access to strategic resources, promote pastoralists' resilience to droughts by developing livestock markets, defending communal land tenure, good governance and respect for pastoral rights. Furthermore, scale-up and fully implement disaster insurance schemes for indigenous peoples are important in order to prevent impoverishment of vulnerable populations due to climate threats.

Land tenure, resources utilization and survival mechanisms vis-a-vis climate change

• Pastoralist communities

In what sense are pastoralists uniquely vulnerable to climate change vis-a-vis shifting property rights? As a system of land use and management, pastoralism in Tanzania, like in most of Africa, is characterized by several unique features, which are particularly challenging from a land policy perspective. The first is mobility. Seasonal movements are essential for pastoralists to tackle marked spatial and temporal variations in livestock grazing resources while enabling pasture restoration at certain times of the year. Mobility allows herders to exploit multiple land resources distributed across vast regions and used at different times to depress fluctuations in production; it enables herders to engage in opportunistic grazing strategies that both increase average herd productivity and reduce the risk of production resulting from climatic variability.

Mobility gives rise to a second characteristic of pastoral land use: fluid boundaries and different degrees of access rights. For example, pastoral communities grant each other access to their territories in order to overcome food shortages resulting from drought or seasonal variations, and to confirm their claims and strengthen their traditional social relations and networks with other communities.

Fuzzy access rights are also evident in the pastoralist customary rights to pasture in outlying areas used in the rainy season to be undifferentiated among group members, while rights to pasture in home areas during the dry season are much more strict. In most pastoral areas, differing categories of rights over resources coexist, ranging from those that are more private (such as dry season wells), to those that are more communal in nature, such as access to dry season forests or grazing around a water point. Wet season pastures and water tend to be managed under controlled open access systems.

A third central feature of traditional pastoralist systems is the collective use of land as opposed to individualized grazing areas. Various forms of collective and open access tenure regimes are well suited to support the system of mobility, by reducing the transactions costs of negotiating access through geographically defined boundaries of ownership.

However, as is well-known for common pool resources of all types, a lack of clearly defined individual property rights can lead to overuse of the resource – overgrazing and lack of range management in the case of pastoral systems. This tension between the need for flexible spatial and social boundaries in highly variable environments and the requirement for social and spatial exclusion that is usually necessary for sustainable resource management lies at the heart of pastoralist land tenure policy debates.



Picture 1: Pastoralist and crop farmers conflict as result of diminishing grazing land vis-a-vis climate change (PAICODEO)

It is widely recognized that traditional pastoral land use systems are under threat from population pressure and the expansion of sedentary agriculture in areas bordering on rangelands. Pastoralism is particularly sensitive to population growth since the technical possibilities of increasing the productivity of the rangeland on a sustainable basis are limited.

Larger populations of both pastoralists and agriculturalists also disrupt the reciprocal arrangements that had existed between the two groups, whereby herders gained access to crop residues and farmers obtained milk and meat. Conflicts between nomadic and settled communities are more and more common in the country, particular, in Morogoro, Coastal, and Manyara regions.

• Hunter-gatherers

The Hunter-gatherers community's property administration are traceable to customary land tenure which has lasted for millennia. Land belonged to the community and each person had rights of access to land based on his/her needs. Access rights were guaranteed by a political authority which did not own land, but merely exercised political authority over land.

The political authority facilitated the structural framework within which rights of access were to be enjoyed equitably. Access rights were determined by virtue of membership in the community or a unit of the community. This meant that the social and cultural life of each community was important in influencing tenure systems and property relations in general. For example, the economic and cultural activities, such as hunting and gathering, significantly influenced the prevailing land relations.

The Hunter-gatherers set up their community with an equal division of labour between men and women. Women controlled the use of the land and inheritance passed through the maternal side while men managed hunting activities and the distribution of goods from the land. Goods were considered community property with the whole tribe sharing in equal parts.

**The future of indigenous peoples:
Strengthening local adaptations through formal land titling**

Most indigenous peoples, tribal people and ethnic minorities have culturally distinct land tenure systems based on collective rights as the examples of pastoralists and hunter gatherers in Tanzania show. However, in Tanzania, these systems are only partially recognized, leading to social and political marginalization, impoverishment and conflict of indigenous peoples who are not able to use their traditional systems adequately. If indigenous peoples are to survive and prosper, culturally and economically, they must have secure rights to their land.

Mongo wa Mono village (now split into Mongo wa Mono and Domanga villages) in northern Tanzania contains the last significant area of land for East Africa's – and in many respects the world's – last remaining 'first people', the Hadzabe hunter-gatherers. The village was formed specifically to give the Hadzabe control over village land, enabling them to use and manage the land in a way that supports their livelihood and culture. But over the years outsiders moved in, encroaching upon this Hadzabe-dominated village, and in 2009 the majority of representatives on the Village Council were non-Hadzabe. This shift presented a very real threat that lands originally secured for the Hadzabe in village land use plans and by-laws could instead be allocated to individuals for other purposes, such as farming. Without being able to maintain majority representation on the Village Council, the Hadzabe were faced with the reality of having limited say or authority to make those critical decisions about land use. To find a solution to this significant potential threat, UCRT worked with the Hadzabe and the Ministry of Lands to secure the first-ever group CCRO. The CCRO, which dedicates approximately 20,000 hectares of village land as a Hadzabe conservation zone, secures Hadzabe communal rights to live on, manage and use their ancestral lands in perpetuity.

Box 1: Securing the Traditional Lands of the Hadzabe (UCRT, CCRO policy brief, 2014)

In Tanzania legal regulations offer individuals and groups the opportunity to exercise land rights. The law provides for two options to acquire land rights in the country: (a) Granted Right of Occupancy, expressed in the Land Act No 4 of 1999 as *General Lands* and (b) the *Customary Rights of Occupancy* (Land Act No 5 of 1999), which can be acquired through local government authorities comprising District Councils, Village Councils and Village Assemblies.

The Land Act defines Customary lands as Village Lands and provides the legal basis for management and governance of the village land. Village lands held through customary rights of occupancy may be apportioned to individuals or groups through Certificates of Customary Rights of Occupancy (CCROs), which effectively formalizes their rights to that land.

Such CCROs have been issued to individuals in Tanzania, as the CCRO is basically the legal framework for individuals living in a village to document and formalize their land holdings. Ujamaa Community Resource Trust (UCRT), a local NGO, has been working on a pilot project for strengthening land tenure of pastoralists and hunter-gatherers, through the CCRO, because the procedure for obtaining a CCRO is a relatively fast and straightforward way to secure group rights to land, and particularly, because a CCRO can be issued to minority groups, who are often vulnerable to land grabs and competing interests.

The law provides for two different categories of 'groups,' which are eligible for a group-CCRO – a registered group such as formalized trust, society or community based organization and a traditional institution s like Maasai traditional elders (*Ilaigwanak*).

Morover, the law makes room in recognizing exceptional groups for example hunter-gatherers, whose life style – hunting – may be confused with poaching in the legal system.



Picture 2: Sample CCRO acquired by Hadzabe for their 20,000 hectares of land (UCRT, 2012)

Challenges still persist!

Despite the fast and straight forward way of applying for a CCRO, there are a number of challenges that Indigenous peoples that want to make a land claim face. Not only are the CCROs processing expensive and require a lot of time, but they also require a great deal of solidarity of indigenous peoples and informed consent which is difficult to obtain because of high levels of ignorance and politics played on them.

Due to prejudice from the state and surrounding communities, Indigenous people are forced to provide a lot of prove about claimed lands. They must be able to prove that ancestral customs and traditions are still being maintained, that a link to the land has been retained over the years and that the land has cultural significance to the Indigenous group making the claim. These are very difficult things to prove because Indigenous people do not have written records.

A land claim by the Barbaig people has demonstrated how difficult it can be to prove links to the land. Their court case lasted for 15 years (from 1984 to 1999) because at first there was not enough evidence found to show the people's link to the land. Although the Barbaig people had lived in the area for thousands of years, they had to fight very hard to show the country was theirs. Luckily their fight paid off and they won their native title claim in 1999.

Climate change induced poverty and social adjustments among indigenous peoples in Tanzania

Introduction

Climate change is involved in most of the shocks that keep or bring indigenous peoples into poverty – notably, natural disasters (such as droughts and floods that cause asset loss; health shocks (such as malaria that results in health expenditures and lost labour income); and animal losses and food price shocks (due to drought or animal diseases).

Indigenous peoples are disproportionately affected – not only because they are often more exposed and invariably more vulnerable to climate-related shocks but also because they have fewer resources and receive less support from government financial system to prevent, cope, and adapt. Climate change will worsen these shocks and stresses, contributing to a decoupling of economic growth and poverty reduction, thereby making it even harder to eradicate poverty in a sustainable manner.

Climate change ignites impoverishment on indigenous peoples

In Tanzania, like the rest of the world, indigenous communities have long faced challenges from a range of social, economic, political and environmental factors and the threat from these factors has only intensified due to the current climate change. Their regions, most of which are savannah ecosystems, are extremely sensitive to climate change. Savannah grasslands constitute hotspots of threatened, rare and endemic species.

They are also the areas where the poorest people live, who are highly dependent on natural resources for their survival. Societies in those areas are characterized by the closed interconnection that they maintain with nature and its natural resources. They have been conserving the biodiversity of the region over countless generations through their strong informal rural institutions and community knowledge systems. The traditional institutions as well as the indigenous knowledge in the past have played a significant role by making the local inhabitants less vulnerable to uncertainties arising from global change.

However, in recent times, due to various anthropogenic factors along with cultural changes among the pastoralist and hunter-gatherer communities, these traditional social institutions as well as the indigenous community knowledge systems have started to erode mainly among the younger generation. This has also led to rapid degradation of natural resources which poses serious threats to the lives and the livelihoods of the natural resource-dependent communities. Traditional practices, such as subsistence pastoralism and hunter-gathering, and the related local knowledge systems provide the much needed coping capacity to offset climate risks. However, limited livelihood options, lack of mainstream information, poor access to modern services and inequitable access to productive resources reduce their capacity to cope with future climate events.

While poverty tends to be conceptualized as linear and uni-dimensional, rather than as dynamic, multidimensional and differentiated across societies, among pastoralists/hunter-gatherers poverty can be defined as deprivation of well-being related to a lack of material income or consumption (the conventional measures of poverty), low levels of education and health, poor nutrition and low food security, high levels of vulnerability and exposure to risk, and a profound lack of opportunity to be heard.

This multidimensional and dynamic nature of poverty weakens their resilience to change and places severe limits on their ability to withstand climatic shocks.

Resilience is determined by sustainability of livelihoods, infrastructure, financial system, resource management and technology, at the local level. The determinants of resilience include the capacity of the community to be able to meet the basic needs (food, water, shelter, health) and to build assets (physical, natural, financial, social, political and human) as assets are seen as critical 'buffers' to withstand shocks and stresses. Hence, strengthening resilience of pastoralist/hunter-gatherer communities is critical to adapt to the environmental changes.

Resilience includes both an element of recovery and of change. Resilience in climate change context has two facets – social and ecological dimensions. Social Resilience (the ability of groups or communities to cope with external stresses and disturbances as a result of social, political and environmental change) and Ecological Resilience (characteristic of ecosystems to maintain them in the face of disturbance). These two aspects are paramount in eradicating poverty and building climate change resilience among pastoralist/hunter-gatherer communities.

Climate-informed development needs to be complemented with targeted adaptation interventions and a more robust safety net system

Rapid and inclusive development can prevent most of the impact of climate change on poverty, but only if new investments and developments are climate informed—that is, designed to perform well under changing climate conditions so that they do not create new vulnerabilities to climate impacts. For example, legal protection of indigenous land and including indigenous economy into national development programmes can make a big difference for livelihood improvement, but only if it can absorb the more extreme climate change impacts such as resource conflicts that are expected in many regions.

However, even a rapid, inclusive, and climate-informed development will not cancel out the need for targeted actions that are aimed at lowering people's vulnerability to climate change impacts. Although some of them are pure climate change adaptation measures (like livestock mobility and hunting cycles), others (like increasing financial inclusion) can be seen as "good development" and would make sense even in the absence of climate change.

Today's actions determine the magnitude of future climate change impacts on indigenous peoples

Indigenous peoples, local government, private sector and the international community, together, have a key role to play to reduce the impacts of future climate change. As way forward, the following issues need to be considered through a team spirit:

Climate-smart pastoralism and protected ecosystems

Climate-smart pastoralist practices can increase productivity and resilience. More productive and more resilient practices, however, require legal recognition of traditional knowledge in the way land, water, soil nutrients, and genetic resources are managed to ensure that these resources are used more efficiently. Livestock improvement, smarter use of veterinary services, approaches to strengthen animal resistance to pests and diseases, and reduction of animal losses can contribute to the sustainable intensification of pastoralism thereby leading to greater food production. For this to happen, innovation is needed to keep increasing profits through market links, and the new techniques that result from innovation must actually be broadly adopted, including by poor livestock keepers.

Land use regulations and better and more infrastructure for natural hazards

Land use regulations can ensure that new development occurs in places that are safe, or easy and cheap to protect using hard or soft infrastructure. Land use planning can realistically function only if accompanied by investments in all means of production to make it possible for people to settle in their territories while maintaining access to the same (or comparable) jobs and services.

New infrastructure also needs to be designed to remain efficient in spite of changes in climate and environmental conditions. Innovative methods for managing the uncertain risks of climate change and multiple (and sometimes conflicting) policy objectives can be applied to meet these challenges.

Better health infrastructure and universal health care

Poor people, majority of whom are indigenous, have limited access to health care, and face out-of-pocket expenditure exceeding their production capacity. Although health centres exist in the country, benefits from better access to care depend on the quality of care, and hence, parallel efforts are required to develop and improve health infrastructure. Climate change makes this need even more important.

Local authorities should invest in strong monitoring and surveillance systems able to detect new health issues that will periodically arise in response to changing climate conditions. They also need research and development by the government on the diseases that affect marginalized people and that are expected to increase with climate change.



Social safety nets and financial tools

Insurance and social safety nets are efficient tools to support marginalized poor people when they are affected by natural disasters or environmental and economic shocks. To ensure that the financial sector and social safety nets provide instruments relevant to climate change, governments need to design a holistic risk management and climate change strategy, giving a voice to indigenous people and making their protection a priority. Such a strategy will necessarily include a range of instruments, targeted to specific disasters such as droughts and floods.

Basic social protection and revenue diversification can help households at all income levels cope with small and frequent shocks. But for larger shocks, additional tools are needed. Social protection schemes also need to maintain incentives to invest in long-term adaptation to economic and environmental changes. Poorly designed social safety nets can reduce the incentive for people to quickly adapt and change occupation or activity when the first effects of climate change appear. This problem is not new and specific to climate change: indigenous peoples understand that social protection is a facilitator of and not an obstacle to long-term change and adaptation, for instance by facilitating mobility to capture better opportunities.

Maintaining traditional knowledge for sustainable safety nets

Traditional knowledge is applicable in early warning systems that calculate risks or detect extreme weather events, droughts or floods. Indigenous peoples use it in adapting subsistence strategies for agriculture, fishing, forestry and foraging; improving water and resource management; enhancing ecosystems; selecting which resources to use to mitigate or adapt to climate change effects.

Traditional knowledge need to be legally affirmed at local level and be used to observe, monitor and report weather-related changes in food and pastoralists and hunter-gatherers production systems and to adjust to these climate-related impacts. The loss of such knowledge and resilience results in increased food insecurity, poverty and conflicts, while livelihoods decline and biodiversity disappears. The traditional knowledge and networks of communities and households can be mobilized to prepare for, mitigate and manage disasters related to climate change before, while and after they occur.

Sectoral options to reduce vulnerability

Intervention actors

	Local private sector	Governments	International community
Agriculture, ecosystems, and food security			
Adopt climate smart technologies and agricultural practices, with support from agricultural extension	x	x	
Develop higher yielding and more climate-resistant crop varieties and livestock breeds, adapted to developing country contexts and climate conditions	x	x	x
Develop transport infrastructure and facilitate market access (domestic and international)		x	x
Reduce non-climate stresses on ecosystems, including through conservation and ecosystem-based adaptation		x	x
Natural disasters and risk management			
Increase financial inclusion and participation in banking to reduce the vulnerability of poor households' assets	x	x	
Improve households' and firms' preparedness and ability to act upon warnings (contingency plans, regular drills)	x	x	
Improve access to risk information, invest in hydro-meteorological services—for observation and forecasting—and link with early warning and evacuation systems, and collect more data on disaster consequences		x	x
Enact risk-sensitive and enforceable land use regulation and building norms		x	
Improve tenure to incentivize investments in housing quality and resilience, and enforceability of building norms		x	
Invest more and better in infrastructure by leveraging private resources and using designs that account for future climate change and the related uncertainty	x	x	x
Health			
Increase R&D and eradication/control efforts toward health issues that affect poor people and are expected to increase with climate change	x	x	x
Invest in health infrastructure and access; train health workers		x	
Implement or strengthen effective surveillance and monitoring systems to detect emerging health risks		x	x
Increase health coverage to lower the share of expenses that are out of pocket		x	
Support systems: financial sector, social protection, remittances, and governance. Develop market insurance for the middle class to concentrate public resources on poor people	x	x	
Enact well-targeted and easily scalable social safety nets designed to maintain incentives for long-term adaptation investments and grant portable benefits		x	
Manage the government's formal liability using reserve funds, contingent finance (such as Cat-DDOs), and insurance products, along with developing and scaling-up tools to share risks internationally		x	x
Facilitate flow of remittances and reduce cost burden on remitters	x	x	
Improve governance and give a role to poor people in the decision-making process		x	



Pastoralist Indigenous Non-Governmental Organizations Forum (PINGO's Forum) is formed in 1994 and formally registered in 1996 as a membership Organization of more than 50 CSOs members working Country-wide. PINGO's Forum is a National human rights organization that advocates and promotes the rights of indigenous peoples (Mainly pastoralists and hunters-gatherer communities, the marginalized and minority groups) and amplifies their voices in Tanzania.

The vision of PINGO's Forum organization is *'a just community of pastoralists and hunter-gatherers with sustainable, recognized, and respected rights in Tanzania'* while its mission is *"to create a lasting solution for injustices and poverty to pastoralists and hunter-gatherers"*. The strategic goal of this five years strategic plan is to see a just society and sustainable livelihoods for Pastoralist and Hunter-Gatherer communities while the purpose is to consolidate and amplify the voices of pastoralist and hunter-gatherers for promotion and protection of their rights.

In order to contribute to the overall goal, the organisation is set to engage in different interventions through Research and fact-findings missions, Advocacy, Capacity building and awareness raising and Networking with like-minded organizations and partners.

And thus, has rolled out a new plan for 2016-2021. The plan has three expected results namely, **Result 1:** The rights of pastoralists and hunter-gatherers as reflected in governance principles, policies, laws and strategies; **Result 2:** The socio-economic and political rights of women and youth as promoted and protected by P&HG communities; **Result 3:** Pastoralists and Hunter-gatherers are engaged in climate change policy processes, adaptation, mitigation and are less affected by the impact of climate change; and **Result 4:** Adequately available, accessible and credible information for decision making by stakeholders on issues of human rights, women and youth empowerment, and climate change. In order to monitor, report and ensure that the programme achieve its results, the strategic plan has in place result monitoring frameworks with indicators and targets for the period to monitor if the desired change is taking place in the community.

Get to know more of us by visiting our [website](#)





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