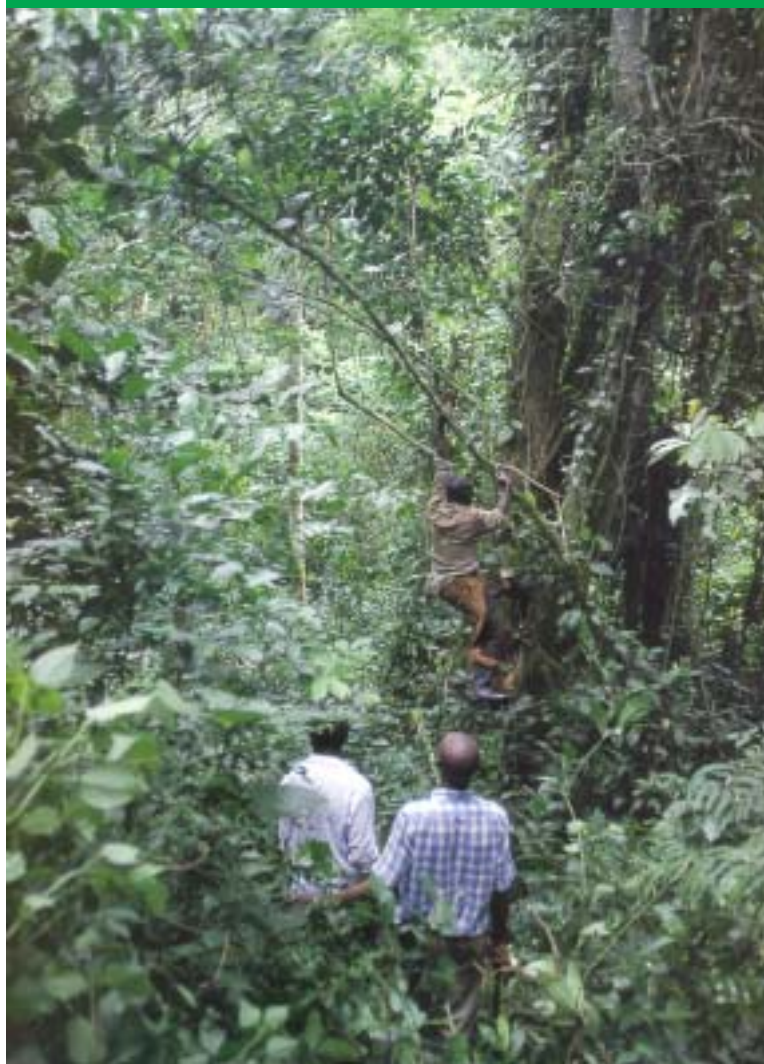


INDIGENOUS BRIEFS

16th Session of Commission on Sustainable Development Africa



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The Hardships of Drought

Introduction

Drought is generally defined as a temporary reduction in moisture availability significantly below the normal for a specified period. (FAO, 2007) Culturally - drought definition depends on local perception. It is essential to understand local perception of drought. Causes of drought in Africa are related to climate variability and non-availability of surface water resources. Droughts are frequent and severe in many countries of Sub-Saharan Africa and have a devastating impact on their peoples and economies. The extreme vulnerability to rainfall in the arid and semiarid areas of the continent and the poor capacity of most African soils to retain moisture result in almost 60 percent of Sub-Saharan Africa being vulnerable to drought and 30 percent being extremely vulnerable.

The Horn of Africa region which includes countries like (Djibouti, Ethiopia, Somalia and Kenya) is predominantly made up of arid and semi arid lands with a vast population comprised of pastoralists indigenous peoples scattered all around the region. Effects of the droughts are mostly evident in the Nomadic Pastoral indigenous communities' areas in other many countries of Africa like Mali, Niger, Chad, Sudan and parts of Cameroon where due to the destruction of forests and heavy logging have increased the number of people affected. Nomadic Pastoralists and their livestock which is their economy and livelihoods become very vulnerable and desperate. The frequent drought impacts the social, environmental, and economical standard of living of the indigenous peoples.

Economic Impacts

Many economic impacts occur in agriculture and related sectors, because of the reliance of these sectors on surface and groundwater supplies. In addition to losses in yields in crop and livestock production, drought is associated with insect infestation, plant disease and wind erosion. The incidence of forest and range fires increases substantially during extended periods of droughts, which in turn places both human and wildlife populations at higher levels of risk.

Environmental Impacts

Environmental losses are the result of damages to plant and animal species, wildlife habitat, and air and water quality, forest and range fires, degradation of landscape quality, loss of biodiversity, and soil erosion. Some of these effects are short-term, conditions returning to normal following the end of the drought. Other environmental effects last for some time and may even become permanent. Wildlife habitat, for example, may be degraded through the loss of wetlands, lakes, and vegetation. However, many species eventually recover from this temporary aberration. The degradation of landscape quality, including increased soil erosion, may lead to a more permanent loss of biological productivity especially in the ASAL areas which is more vulnerable.



Even livestock sometimes cannot move, when droughts hit hard they need help from their shepherds.

Social Impacts

Social impacts involve public safety, health, conflicts between water users, reduced quality of life, and inequities in the distribution of impacts and disaster relief. Many of the impacts identified as economic and environmental have social components as well. Population migration is a significant problem in many countries, often stimulated by a greater supply of food and water elsewhere. Rural to urban migration has increased, causing stress and poverty for the women, elders, sick and children left in the rural areas. Migration could be to other areas within the stressed area, or to regions outside the drought area - it is traditional practice for pastoralists to migrate with their animals in search of water and pasture. Lack of water and pasture for

their livestock may cause conflict among nomadic pastoralist tribes as they compete for resources. When drought has abated, the migrants seldom return home, depriving rural areas of valuable human resources. The drought migrants place increasing pressure on the social infrastructure of the other areas, leading to increased poverty and social unrest.

Drought Early Warning System

In most countries of the region, meteorological networks are adequate, being well equipped and well sited, representative for major agro ecologies and agricultural production areas. Notwithstanding these advantages, the meteorological departments of the region are at the moment poorly prepared to function effectively in drought early warning systems because of inadequate analytical tools for drought monitoring, unsuitable information products, and insufficient data sharing. The region has an overwhelming need for modern and effective drought early warning systems.

Major shortcomings are related to:

- Inadequate analytical tools for drought monitoring;
- Unsuitable information products;
- Insufficient data sharing.
- Non-recognition of traditional knowledge
- Non-involvement of local communities

The region has an overwhelming need for modern and effective drought early warning systems. All countries of the region have experienced, and continue to experience, very high population increases and increasing pressure on land and water resources, which threatens the sustainability of current land uses and exacerbates the impact of drought on rural populations. Increasing awareness that droughts have mounting economic, social, and environmental costs, and may particularly hit vulnerable population segments is changing government's perception about the need for drought early warning systems. As a matter of fact, some countries have opted for a *comprehensive* approach, working toward integrated systems for drought management, rather than drought monitoring.

The main strategies for effective short-term and long-term drought mitigation that Pastoralists can utilise are herd management which is an important strategy for drought mitigation and it includes reduction in herd numbers, strategic weaning of calves, herd segregation, parasite control, optimizing use of drought-affected paddock and attention to contaminated water supplies. Factors to be considered include the expected drought duration, the current water and feed supplies, the composition and body

condition of the herd, and the financial resources available.

Drought and Water supply

More than one billion people lack access to safe and affordable water, as highlighted in the human development report 2006, the global water crisis is not first and foremost about absolute shortages of physical supply. The report argues that the roots of the water crisis can be traced to poverty; inequality and unequal power relationships, as well as mistaken water management policies that exacerbate scarcity (UNDP 2006). Drought often only highlights a general marginalisation of drylands undermining local indigenous people's capacity to adapt, through a lack of government or aid investment in water infrastructure, lack of local incomes sufficient to drill private boreholes, as well as lack of local influence over development decisions. Inequality of access to water during drought also leads to vulnerability.

Barriers hindering Indigenous Peoples adaptation strategies

- Lack of attention to the income sources of poor people income generating activities during drought such as charcoal limited by the ambiguous legal framework, which siphons profits away from the poor producers, discourages investment and encourages unsustainable practices
- Discourses labelling adaptation strategies of the poor as unsustainable or primitive
- Little value adding to natural products and poor market position of products
- Lack of infrastructure for transportation and information exchange adapted to the needs of the indigenous peoples
- Marginalisation of nomadic pastoralism and barriers to migration
- Poor health limiting household labour and engaging in adaptation strategies
- Conflicts and insecurity leading to loss of lives and productive assets and making access to key resources for adaptation, such as drought grazing, unsafe

Removing barriers to Indigenous People's adaptation strategies

People's responses in the face of shocks and longer term changes can be both facilitated and hindered by

government policies and measures, as well as development projects. Many of the coping and adaptation strategies used by poor people are currently undermined by political, economic and legal structures. Such structures need to be targeted in efforts to reduce vulnerability. Economic structures that increase vulnerability include those creating increasing marginality of on- and off-farm livelihoods and natural resource based activities, growing local inequality, environmental degradation, spread of HIV/AIDS, conflict and insecurity, and decreasing employment opportunities.

Measures to strengthen Indigenous People's livelihood and adaptation strategies

- Support and develop local technologies, including shallow wells, sub-surface dams, and water harvesting techniques, local seed varieties and planting of indigenous tree species. support marketing of local products
- Document past and present adaptation strategies and supplement them with relevant strategies and technologies, support local knowledge systems
- Facilitate improvements of production systems adapted to normal climate stress, like pastoralism and indigenous tree products, through strengthening marketing infrastructure, veterinary services, research and development, processing and value adding.
- Evaluate how infrastructure provision may affect the climate change vulnerability of the indigenous peoples' needs, for example water access for adaptation strategies
- Improve drainage systems and flooding protection in low-income areas, avoid relocation if possible and ensure continued access to livelihoods. Cooperate with the inhabitants on infrastructure and house improvements or if necessary, on relocation.
- Encourage and recognize the drought circle management practiced and used by indigenous Peoples to cope with drought.

Policy Implications

There is need for differential policies and mechanisms, both in mitigating the impact of drought and dealing with its consequences. For example, financial aid for balance-of-payments and budgetary support for economies affected by drought shock should have the highest priority in relatively developed economies in

Sub-saharan Africa. On the other hand, targeted food interventions are likely to be the more appropriate form of response in simple economies, where the impact of drought is largely felt through its direct effects on self-provisioning households in the agricultural sector.

Drought risks also need to be taken into account in the design and implementation of economic reform and more general development policies and programs. By ignoring the possibility of drought, over-optimistic growth rates and budgetary and investment goals may not be subsequently met, with droughts both disrupting careful economic management and potentially threatening conditional external assistance.

Conclusion

Adaptation to drought should be addressed more broadly, through three types of measures. First, the efforts should reduce the direct risks of drought to indigenous Peoples strategies to secure their material and non-material needs. Second, the ways that Indigenous Peoples cope with climate stresses in the short term and adapt their livelihood systems in the long term should be understood, facilitated and the opportunities broadened. Finally, the specific social and environmental factors and changes leading to inability to cope or adapt should be understood and addressed. In this way "sustainable adaptation measures" can be achieved, by reducing both poverty and vulnerability to drought. The climate challenge (drought) highlights social problems that are currently insufficiently addressed - the social and environmental conditions that make people vulnerable to a changing climate. To put it simply, fundamental societal changes are required to adapt in a way that makes the poor more able to secure a decent life in the face of climate change. Therefore, governments and development organisations also need to refocus their activities as a response to the drought and climate challenge.

Agriculture and Food Security: A Hope for Africa

Africa is a continent blessed with abundant natural and human resources, which has experienced positive development despite the enormous challenges the continent is facing. The majority of Africans live in rural areas. In 2001, just over 1 billion people survived on less than \$1 a day, with roughly 70% living in rural areas where they are highly dependent on agriculture, grazing and hunting for subsistence. Food production

per person has also declined; from 1990, the number of undernourished people increased by 37 million. This is due to factors such as conflicts, desertification and bad governance. Poverty and environmental degradation can feed into each other, creating a downward spiral – poor communities are often left with few options to conserve their natural resources, leading to further deterioration of the land and even greater poverty. The problem of degradation of drylands, a process known as desertification, is acknowledged as a cause as well as a consequence of poverty. Poor farming practices can lead to serious soil erosion and lack of moisture, making survival from the land even more difficult. The negative impacts of climate change will fall disproportionately on the poorest parts of the world, for instance by exacerbating drought and reducing food production in the drier regions. However, the build-up of greenhouse gases has come overwhelmingly from richer populations as they consume more energy to fuel their higher living standards. Because indigenous peoples live close to their natural systems, they will be directly affected by the adverse impacts of climate change.

Very little attention is paid to agriculture and rural development in relation to the population living in rural areas and working in the agricultural sector. Most of the time in Africa, livestock-rearing and pastoralism are not considered to be part of agriculture; it is seen as a separate way that is only meant for the dry lands. This needs to change; livestock production and herding should be recognized as part of agriculture that brings development, and its practitioners recognized as contributing to the economy. It is also important for all development activities to take the role of women into account and pay special attention to supporting women and youth, who are the leaders of the future. The agricultural sector plays a major role in the economy of most African countries. It is crucial for fulfillment of the right to food, which is a human right. It is absolutely necessary for long term food security and for the health of the general population.

For a continent to be food secure the people of the region must have enough food and the food must be of such quantities and variety that people's nutritional needs are adequately met. The definition of food security agreed during the World Food Summit in 1996 is as follows: ***“food security exists when all people, at all times, have physical and economic access to safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life”.***

Sustainable agriculture on the other hand is multi-dimensional, but at its most basic this speaks of agricultural practices that ensure productivity in a manner that lends itself to continual reproduction. Food security and sustainable agriculture are interlinked. Sustainable agriculture contributes to food security, thus reinforcing the importance of having a sustainable national agricultural sector. Sustainable agriculture can be achieved if innovative systems approaches are promoted. A productivity increase in the agricultural sector will result in increased food security. Hence achieving sustainable food production and self-sufficiency levels, as well as each nation's right to produce food for its own population, are concerns. On the other hand, sufficient income is a crucial factor to guarantee food security.

Climate change and food security

Recent trends in climate change in Africa have caused severe alterations of climatic conditions. Climatic conditions are still the predominant factor affecting agricultural productivity, and changes in these conditions may have different severe effects. Impacts are expected on all the factors relevant within agricultural systems. Agricultural systems are part of human society and economy and how reactions to climatic changes are being developed on different levels is of high relevance. The negative impact of climate change on food production will have a significant impact on food prices. Climate change is characterized as an important threat, where Africa and its poor populations are often characterized as ‘most vulnerable’.



Drought has intensified food and livelihood insecurity affecting approximately 1.7 million people in the pastoral areas of north eastern and eastern Kenya,

where an estimated 3.5million people are affected- both food insecure and drought affected. Of the 2.6 million people requiring emergency food assistance in Ethiopia, 1.7million (69%) are in the critically affected pastoral and agro-pastoral areas of Somali and Oromiya regions. In Tanzania, 3.7 million people are facing food shortages while in Uganda an estimated 1.45 million Internally Displaced Persons (IDP's) in the northern part of the country and approximately 500,000 drought-affected populations in the Karamoja region in north eastern Uganda continue to rely on food assistance.

Coping with the unavoidable consequences of climate change should be apriority for developing countries and especially Africa in the context of climate change. Given the climatic conditions influencing food security adaptation - managing the unavoidable through both proactive and reactive actions - options must be taken into consideration. Mitigation, avoiding the unmanageable if possible, must also take place. If successful, adaptation can reduce the vulnerability of the agricultural sector to climatic changes. Climate change compromises the ability of many African countries to achieve the different Millennium Development Goals. Given the close relation between climate change and MDGs, it must be noted that sustainable poverty reduction is a key adaptation strategy with regard to food security. The national adaptation programmes of action (NAPAs), supported by UNFCC also mentions food security as one of the concerns of African countries regarding the impacts of climate change in the NAPAs.

Food security, sustainable agriculture and the MDG's

The UN Millennium Development Goal (MDG) number 1 is to abolish extreme poverty and hunger. Two partial goals have been further established; to reduce the share of starving and undernourished people by half by the year 2015. The rural poor are further away from a minimum level of income, and have less access to public services. Productivity increases in the agricultural sector will most probably result in increased food security. However, such productivity will not necessarily reduce the poverty in rural areas. Therefore a strategy for agricultural development where poverty reduction is a major

priority must be developed. Sufficient income is also a crucial factor to guaranteeing food security. Although the proportion of people living on one dollar a day or less has declined from 45.9% to 41.1% since 1999, this is still far from halving the proportion by 2015. The proportion of people living with insufficient food in Sub-Saharan Africa shows a slight decline from 36% to 33% during the 1990s.

Right to Food from the Indigenous Peoples Perspective

“IN AGREEMENT that the content of the Right to Food of Indigenous Peoples is a collective right based on our special relationship with Mother Earth, our lands and territories, environment, and natural resources that provides our traditional nutrition; underscoring that the means of subsistence of Indigenous Peoples nourishes our cultures, languages, social life, worldview and especially our relationship with Mother Earth; emphasizing that the denial of the Right to Food for Indigenous Peoples not only denies us our physical survival, but also denies us our social organization, our cultures, traditions, languages, spirituality, sovereignty and total identity; it is a denial of our collective indigenous existence” Declaration of Atitlan.



It should be noted that for Indigenous Peoples, the rights to land, water and territory, as well as the right to self determination are for essential for the full realization of our Food Security and Food Sovereignty. The Right to Food as a Human Right in International Standards is recognized in The Universal Declaration of Human Rights **“everyone has the right to a**

standard of living adequate for the health and well being of himself of himself and of his family... including food." The Right to Food is also affirmed for Indigenous Peoples in International Standards. The Committee calls in particular upon state parties to:

- Provide indigenous peoples with conditions allowing for a sustainable economic and social development compatible with cultural characteristics;
- Ensure that members of indigenous peoples have equal rights in respect of effective participation in public life and that no decisions directly relating to their rights and interests are taken without their informed consent.

"Profit for non-Natives means money. Profit to Natives means a good life derived from land and sea, that's what we're all about. The land we hold in trust is our wealth. It is the only wealth we could possibly pass on our children. Good old Mother Earth with all her bounty and rich culture we have developed from treasures is our wealth. Without our homelands, we become true paupers." Antoinette Helmer, Alaska Native

Strengthening the Role of Indigenous Women

Indigenous women in this era are involved in community management roles in addition to the traditional roles they used to play. The emerging roles are in competition with women's time and energy for producing food, searching for water etc., thus threatening food security. The Beijing Platform for Action (1995) recognized women's poverty, insufficient food security and lack of economic empowerment as one of the priority areas of concern. Making food security and sustainable agriculture priority concerns for both women and men and involving them in food security and sustainable agricultural activities will be



Empowered indigenous women: Margaret Lomonyang and her colleague of the Karamajong Pastoralists from Uganda, outside their food store.

a step toward eradicating the poverty, food insecurity and unsustainable agricultural systems that plague Africa. Translating policy intentions of African governments into action in order to have the benefits reflected at the individual women's level is crucial.

Obstacles to Indigenous Peoples Food Security and Food Sovereignty

- The Implementation and domination of globalization and free trade, which act without limits nor morality in the theft of Indigenous Peoples land, territories and other resources necessary for food security and food sovereignty
- The extension of intellectual property rights in favour of multinational corporations that has increased bio-piracy and the illicit appropriation of Indigenous Peoples (IP's) biological diversity and traditional knowledge; and the introduction of genetically altered food, which is causing the loss of IP's traditional foods.
- Most Sub-Saharan African countries lack political and economic freedom. Governments pay little attention to agricultural development and much of the investment is channeled to the urban development. The level of resources allocated to the agricultural sector vs. urban development has been consistently low.
- Lack of supporting infrastructure: African leadership overlooks agriculture and rural infrastructure as a top priority. This means that it is difficult to attract investments for increasing the productivity of the agricultural sector.
- Land tenure is another important factor that has impact on the enhancement of agricultural productivity. When people own their land, they are more likely to be invested in agricultural activities and the health of the land.
- Absence of good governance and presence of conflicts in some African countries have directly impacted on food security.
- Women are generally responsible for feeding the family, but in many Sub-Saharan African countries they do not have the rights to land and property.
- Poor governance in Africa has accelerated poverty in the region by failing to recognize

the role that community can play in the agricultural sector and livestock production.

Conclusion

Efforts should be made to regularly inform Indigenous Peoples organizations and traditional authorities involved in the issue of food in all countries, utilizing the media that are most accessible to all the communities in appropriate languages and improve resource poor farming systems in marginal areas, while increasing the use of genetic resources to promote sustainable agriculture in such areas. African governments and the international community should also give a high priority to agriculture through resource allocation and adoption of development policies that are both locally relevant and globally consistent for responding to food security and climate change in Africa and throughout the world. The United Nations Commission on Sustainable Development and Food and Agriculture Organization (FAO) should support the campaigns carried out by Indigenous Peoples to inform their communities regarding their Right to Food, their Right to development and socio-cultural and economic rights.

Africa should also work to bring unity to the continent, to build momentum for development and food security. Through community participation and sensitization to issues surrounding land and agriculture, Africa's right and capability to feed its people and preserve the environment can be restored.

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Desertification: Depleting Our Lands

Desertification is the degradation of land in arid, semi-arid and dryland areas. This is caused primarily by human activities and climatic variations, and occurs because dryland ecosystems are extremely vulnerable to over-exploitation and unsustainable resource use.

Desertification affects over 250 million people directly, and approximately 1 billion are also at risk of being affected, including indigenous and minority peoples worldwide (UNCCD 2005). In dryland areas, there is but a low level of fertile soil covering the ground, just enough for dryland vegetation. However, when the land is subject to the harsh effects of climate change or inappropriate land management practices such as overgrazing, logging charcoal burning and deforestation, that soil is swept away and the land is no longer productive. Desertification results in drastic reductions in the capacity of the land to provide food, water and other resources. As a consequence, the standard of living of dryland occupants, the majority of whom are indigenous pastoralists and nomads, is severely damaged (Adeel et al. 2006: 2). Those living in dryland areas may suffer from loss of income and livelihood, famine, forced migration, and conflicts or war over scarce or nonexistent resources.

Causes of Desertification in Africa

Globally, desertification has the greatest impact in Africa. This is because of the large presence of dry ecosystems – two-thirds of the continent is desert or drylands. Of the extensive agricultural drylands, almost three quarters are degraded to some degree (UNCCD 2005). Many African countries, particularly their indigenous residents who live off the land, are heavily dependent on natural resources for subsistence. Degradation of this land plunges populations which are already economically disadvantaged further into poverty.

The process of desertification occurs primarily as a result of human activities. One of the major causes of desertification is climate change – when dryland areas are subject to extensive drought or flooding, this damages the ecosystem and makes the land less productive. Climate change is worsening as a result of human consumption of fuels, production carbon emissions and deforestation. This phenomenon disrupts normal weather patterns and has been causing extreme weather events globally. These meteorological problems result in economic and environmental devastation. If desertification is widespread, the loss of trees and plant life can contribute further to climate change, creating a cycle of land degradation that cannot be stopped without the rehabilitation of damaged ecosystems.

The other major cause of desertification is unsustainable or inappropriate land use. The vulnerable soil in drylands can easily be damaged if the land is overexploited. This can occur due to overgrazing, the clearing of local flora to make way for agriculture, logging and clear-cutting done to sell the wood for profit or burn it for charcoal, and simply overexploiting the

natural resources of the area without allowing the ecosystem time to recover from constant human use. In Africa, desertification is strongly linked to poverty. When people live in poverty and their only resource is the land, it becomes very difficult for them not to over-exploit it. Therefore combating desertification and promoting economic and social development are very closely linked.

Loss of Indigenous Lifestyles

Many policy makers and development agencies have held the belief that pastoralist lifestyles lead to the irrational collection of animals and overgrazing, putting undue stress on dryland areas and exacerbating desertification. This is a myth, and belies a lack of understanding of nomadic pastoralism. Among ecologists, it is acknowledged that "mobile livestock production is the most sustainable way of food production in low rainfall areas" (Pastoral Peoples 2006: 1). Pastoralism is sustainable because it is a comprehensive system of land management which compensates for the overuse of land through use of appropriate migration. Pastoralists are able to interpret environmental signals to determine when the use of a certain area is no longer sustainable, and will take their livestock out of the area in order to let the land recover for a certain period of time. Migration can be seasonal, or can simply be based on changeable circumstances such as rainfall patterns. Nomadic grazing has been shown to benefit the land in the following ways (Theobaud 2004, in Hesse and MacGregor 2006: 26):

- Reduces quantity of dead material accumulating on soil surface;
- Opens up pasture (thus making the land more pest resistant);
- Stimulates the growth of vegetation, particularly grasses;
- Distributes dung, which is an excellent fertilizer;
- Helps in seed dispersal;
- Enhances the cycling of nutrients through the ecosystem.

However, government and development organizations in the past did not believe that pastoralism was a

sustainable form of land management. Therefore, land was divided in order to discourage nomadism. The ranching system of land tenure was established, which meant that land was no longer held communally; one family owned a small plot of land on which to keep their own animals, and the community no longer shared their resources. This meant that the practice of nomadic pastoralism was now nearly impossible, since the use of a neighbour's land and resources would constitute trespassing. When the land on one family's plot of land needed time to recover, or when rains were concentrated elsewhere, the former nomads were forced to stay on that same piece of land and continue to graze their animals there, though this practice degraded the soil.



Pastoralism is much less damaging to the environment than ranching because of the possibility of livestock mobility under different conditions. Research has shown that pastures found in ranches become dominated by graze-sensitive grasses that are at greater risk of degradation in drought years (Hesse and MacGregor 2006: 27). Thus the loss of indigenous pastoralist lifestyles contributes to overgrazing and the kind of short-sighted land use which results in the spread of desertification in African dryland ecosystems.

Effects of Desertification

Economic and Social Impacts

The global loss of income due to desertification is estimated at an annual US\$65 billion (Adeel et al. 2006: 5). The income loss may take several forms:

- Loss of land and property if a family is forced to abandon their land for a more fertile area;
- Depreciation of land value;
- Loss of livestock, if the animals are suffering from malnutrition;
- Loss of income if a family member dies or is unable to work due to famine;
- Loss of livelihood due to war or conflict over scarce resources.

Desertification means that communities are no longer able to access the natural resources they depend on for survival. Poverty, famine and further degradation of the land are the results.

Environmental Refugees

When dryland areas have been depreciated to the extent that they can no longer support their occupants, their primarily indigenous inhabitants are forced to choose between abandoning their traditional lands and dying. Though they have little choice, the option of leaving their lands is a difficult one to accept because indigenous peoples have such a strong connection to their territories. Not only do they have a deep knowledge of the ecosystem passed down through generations of living off the land, but land is also connected to group and spiritual identity. However, the loss of resources constitutes a strong 'push' factor that is impossible to ignore. Indigenous peoples and other environmental migrants typically attempt to relocate to a region with better climactic conditions, which has a strong economy and stable socio-political situation. As desertification spreads, the number of refugees grows; it is estimated that the number of people migrating because of environmental problems is now larger than the number of people migrating for socio-political reasons. That said, it is difficult to quantify the number and routes taken since the concept of environmental migration itself is still debated. This is because people typically move for a combination of reasons, including environmental degradation, economic purposes, quality of life and political strife. There is rarely one single factor behind the decision to move (Adeel et al. 2006: 8).

In addition to the loss of traditional lands and livelihoods, environmental migration often leads to conflict over land and resources. Migration may be within the transnational or within the country itself. Refugee populations are often an unwelcome presence in the areas to which they migrate, as the population increase means that there is less land, water and food available for everyone. When a group feels that their territorial rights are being infringed upon, conflicts

and violence frequently erupt. There may also be conflict between groups over resources that were previously shared but are now dwindling, for example a river situated between territories that is drying up. Transnational migration complicates issues further; not only are migrants forced to occupy someone else's territory, but there is very little legal structure to deal with environmental refugees.

Mitigation Efforts

Top-down Solutions

Early solutions to desertification were imposed by governments and by foreign development agencies. As discussed earlier, the decisions taken early on were characterized by a lack of understanding of and respect for indigenous and local populations. The solutions proposed involved a radical restructuring of land use that did not take into account the sustainability of indigenous lifestyles and ended up damaging both environment and communities. Efforts to introduce 'genetically superior' animals and plants to drylands failed spectacularly, as did the attempts to impose land management systems that were successful on the American plains.

In recent years, there has been more acknowledgement of the central role that local and indigenous peoples should be playing in bringing about solutions to the crisis of desertification. There has been more consultation and cooperation with local civil society and NGOs, however, further efforts are needed to empower people at a grassroots level.

African Policy Efforts

Recently there has been more recognition by African governments that desertification is one of the primary causes of poverty and underdevelopment on the continent. This acknowledgement has manifested itself in the form of continent-wide policies which have been adopted by the African Union (AU). These include the Comprehensive Africa Agricultural Development Programme (CAADP) and the Sirte Declaration on Agriculture and Water. Policy instruments for the deployment of resources have also been developed, including the Special Emergency Assistance Fund for Drought and Famine in Africa, the revised African Convention on Conservation of Nature and Natural Resources, and the African Monitoring of Environment for Sustainable Development (AMESD). All of the AU member states have also ratified the United Nations Convention on Combating Desertification (UNCCD) (Adeel et al. 2006: 16).

On a national level, 37 of the 53 member states have prepared national action plans to combat desertification. Many countries are also in the process

of integrating desertification mitigation efforts into the larger framework of their national poverty reduction policies (Ibid.).

Way Forward

Reworking Land Tenure

As unsustainable land use is one of the main causes of desertification in Africa, land tenure policies must be reworked in order to let pastoralist communities return to sustainable practices. Land should be returned to the hands of the communities. If all decisions regarding land use are made by the state and/or land is owned by the state, communities are not willing or able to make long-term decisions and will continue to favor short-term gains that will eventually lead to environmental degradation. Through government collaboration, the land tenure system could be reworked in such a way that acknowledges pastoralists' role in restoring degraded land.



Empowering Local and Indigenous Communities

According to the policy brief based on the joint international conference Desertification and the International Policy Imperative, "engagement and enabling of communities leading to effective stewardship should be the aim of policy formulation" (Adeel et al. 2006: 6). At the moment, there is inadequate cooperation between governments and local and indigenous populations, meaning that policies and decisions that directly affect communities are formed without any research or consultation. Inadequate governance, policy disincentives, political repression and corruption are all standing in the way of honest and open collaboration. As we have seen, decisions

that are taken on behalf of communities without any understanding of indigenous lifestyles have caused desertification to spread in the long term. Pastoralists in particular should be consulted, since they are the ones who have the knowledge and connection to the lands in question.

In areas where the land has been degraded to the extent that even pastoralism is no longer sustainable, job alternatives and government support should be offered in order to diminish pressure on natural resources. Governments and development agencies should work with local and indigenous peoples to create appropriate employment opportunities in both agricultural and non-agricultural sectors, and to formulate appropriate development plans.

Coping with Environmental Migration

Because of the lack of awareness of environmental migration, there is very little in terms of policy or legal framework to deal with these refugees. The first step is to raise awareness of the large-scale impact of desertification and environmental degradation on population movements. This would help in the formation of assistance organizations that could then address the issue from a sustainable development and human rights angle. A framework for legal recognition should be developed, both on national and international levels. This is particularly crucial in the case of transnational migration, when migrants are forced to flee to another country and the host government is unable or unwilling to address their needs.

Raising awareness of environmental migration would also help governments and agencies address conflicts which arise when migrants move into an already occupied area and conflicts over natural resources. Addressing environmental issues at the heart of some of these disputes can help bring greater understanding to clashes which are sometimes mistakenly understood only as ethnic conflicts or grabs for territory.

Comprehensive Policy Making

Comprehensive policy making means creating policy with the input of all groups involved, while also addressing the needs of all groups involved. It is the opposite of unilateral decision-making by governments who are attempting to take action without consultation with those who have extensive knowledge of the issues,

and those who the decisions are directly affecting. There should be greater information sharing among policy makers, environmental scientists and indigenous and local peoples in order to create policy that will be effective at the grassroots level. Creating policy that sounds good but fails ultimately contributes to degradation and desertification.

Environmental scientists must be more active in promoting their findings and becoming involved in policy making. Often scientific knowledge exists, but is not adequately disseminated or used to shape policy. In developing countries, lack of financial autonomy coupled with 'brain drain' - scientists leaving to work in more prosperous countries - means that local scientists are not as engaged as desired (Ibid.). This should be rectified in order to provide policy makers with more concrete knowledge of the issues they are attempted to address.

Policy decisions must also be done through collaboration with indigenous peoples and other groups who inhabit drylands. Indigenous peoples have passed down knowledge of the land for centuries, and as people who have long lived off the land, they are truly the experts on these regions. In order to ensure that policies regarding land use are sustainable and will help rectify environmental degradation, policy makers should always seek out the counsel of those who live in the area in question.

Conclusion

Desertification shows no signs of slowing down yet. The loss of drylands ecosystems affects everyone, but Africa is most affected and those living in the areas in question are primarily indigenous peoples. These groups are already economically, politically and socially marginalized, and environmental degradation is yet another blow that threatens indigenous livelihoods. Desertification does not only impact the environment, but also worsens social issues such as famine, poverty, conflicts and migration. However, through the empowerment of local and indigenous communities, the restitution of sustainable land tenure systems, the recognition of environmental migration and comprehensive policy making to deal with all of these issues, desertification may be slowed or even stopped worldwide. Only then can the rehabilitation of the earth begin.

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Water is Life and Key to Development

Indigenous Peoples consider themselves to have been placed on the earth in order to act as the caretakers of all creation, including water. Of all the resources on indigenous territories, water is frequently considered the most sacred, as it is necessary to sustain all life. Through traditional knowledge, laws and ways of life, indigenous peoples have been taught through generations how to be responsible for the water resources available. However, the threats of climate change, the building of dams and other unsustainable development, pollution and commodification are depleting water sources and making them unsafe for use. In order to ensure the health of the environment and of people, water must be treated as the valuable resource that it is.

Access to Water

In Africa, only about 4% of rainwater from 54 trans-boundary basins is used - 96% of Africa's water proceeds to wetlands and the sea without being productive (Norwegian Church Aid Eastern Africa 2006). Despite this, the use of water from shared sources easily leads to conflict. Africa's share of global freshwater resources is about 9%. Access to water is distributed unevenly across Africa, with western and central Africa having significantly greater precipitation than other areas. Because of the lack of significant rainfall in some countries, many people depend on groundwater as a primary source of water. For example, Algeria's water usage is 60% groundwater, while Libya's is 95% (UNESCO 2003).

Climate change, pollution and other destructive uses of water severely curtail African's already limited access to water. Water is increasingly treated as a commodity - trade agreements and commercial practices disconnect us from the ecosystem. Unsustainable development through damming, diversion, mining, and so on ensures that indigenous and local populations either lose their access to water entirely, or must use water that is no longer safe for human or productive use. Deforestation results in soil erosion and thermal contamination. Finally, climate change leads to storms, floods, drought and water shortages in increasing frequency and severity. 75% of African countries fall at least partly into a rainfall band where changes in precipitation have a large impact on surface drainage. Thus, in regions receiving 500mm of rain per year, a 10% fall in precipitation would cut surface water by 50% (Njuguna 2006). In the past 30 years, droughts and floods worldwide have both increased in frequency and severity. Over the past 10 years, Africa has experienced nearly one-third of all water-related disaster events worldwide. Nearly 135 million people have been affected by these disasters, 80% by droughts. As climate change continues to ravage the continent, runoff and water availability is expected to decline sharply in northern and southern regions. As such, 25 countries are expected to experience water scarcity in the next 20 to 30 years (UNESCO 2003).

These water shortages will have the harshest affects on women and on people living in rural areas, such as indigenous peoples. People in rural areas have even less access to water than those in urban areas. In an area where people already walk long distances to get water, they may move to another village altogether, prompting a sort of mass migration. This can cause conflicts when people are moving into an area that is already occupied, and more stress is placed on already strained water resources. The issue becomes more complicated if migration is transnational, and another country's government must attend to issues of immigration.

Water Scarcity

A major study, the Comprehensive Assessment of Water Management in Agriculture, reveals that one in three people today face water shortages (CA, 2007). Around 1.2 billion people, or almost one-fifth of the world's population, live in areas of physical scarcity, and 500 million people are approaching this situation. Another 1.6 billion people, or almost one quarter of the world's population, face economic water shortage (where countries lack the necessary infrastructure to take water from rivers and aquifers). Several factors drive the

progression towards water scarcity and over allocation of water, in many cases caused by a supply-driven approach to development that does not take sufficient account of the limits of the water systems. As water becomes scarce, logics based on increased supply or a lack of understanding of the interrelations between the different sectors depending on water resources lead to increased shortages and conflicts between users. In most cases, the overriding political nature of water decisions takes precedence over the hydrological feasibility of projects, while their social consequences, in terms of deprivation of specific user groups are not well evaluated. In many places, the institutional and legal tools needed to adapt and manage water scarcity are not available, leaving the way open to abuse and inequitable access to the resource.



A pastoralist woman from Moroto, Uganda, watering her livestock.

Water for life, water for livelihood

While access to safe water and sanitation have been recognized as priority targets through the Millennium Development Goals (MDGs) and the Johannesburg plan of action of the World Summit on Sustainable Development (WSSD), there is increasing recognition that this is not enough. Millions of people rely in one way or another on water for their daily income or food production. Farmers, small rural enterprises, herders and fishing people - all need water to secure their livelihood. However, as the resources become scarce, an increasing number of them see their sources of income disappear. Silently, progressively, the number of water losers increases - at the tail end of the irrigation canal, downstream of a new dam, or as a result of excessive groundwater drawdown.

Gender Aspects

For indigenous and local women, a lack of access to water is particularly difficult, as they are the ones who are traditionally tasked with searching for water. It is estimated that women and girls use more than 8 hours a day traveling from 10 to 15 km to transport between 20 and 15 liters of water in each trip. The average distance that women in Africa and Asia walk to collect water is 6 km a day, and the weight that they carry on their heads is equivalent to the baggage weight allowed by many airlines – 20 kg (Obando 2003). When women and young girls are forced to walk long distances to get water, this seriously hinders their capacity for development, as young girls who spend their mornings walking are not able to attend school, and women are not able to take part in other economic activities. Carrying heavy jerry cans or jugs of water over long distances by foot is also detrimental to the health of women and young girls, who may sustain long-term back and leg injuries from repeated strain. This can be a problem particularly for young girls who have not yet fully developed, and may not have had enough nutritional intakes to sustain that kind of activity.



They should be in school: young girls and women spend many hours of their lives looking for water.

Sharing water – a cause of conflict or an opportunity to cooperate?

Water scarcity induces competition for water between users, between sectors of the economy, and between countries and regions sharing a common resource, as is the case for international rivers. Many different

interests are at stake, and equitable solutions must be found between: cities and rural areas; rich and poor; arid lands and wetlands; public and private; infrastructure and natural environments; mainstream and marginal groups; and local stakeholders and centralized authorities. Water conflicts can arise in water stressed areas among local communities and between countries because sharing a very limited and essential resource is extremely difficult. The lack of adequate legal instruments exacerbates already difficult conditions. In the absence of clear and well-established rules, chaos tends to dominate, and power plays an excessive role, leading to inequitable allocation of water. A greater focus is needed on the peaceful sharing and management of water at both international and local levels.

Clean Water and Health

However, at the same time, poor communities have tended to suffer the greatest health burden from inadequate water supplies and, as a result of poor health, have been unable to escape from the cycle of poverty and disease. Thus, growing scarcity and competition for water stand as major threats to future

advances in poverty alleviation, especially in rural areas. In semi-arid regions, increasing numbers of the rural poor are coming to see entitlement and access to water for food production, livestock and domestic purposes as more critical than access to primary health care and education.

Safe drinking water is scarce in rural Africa due to poor infrastructure. In Africa, the total access to improved drinking water is 56%. When we compare urban to rural, the access to improved water in rural areas is 80%, while access in rural areas is only 43% (World Bank 2007: 125). Across Africa, 300 million people have no

access to safe drinking water. According to the UN, with the exception of Uganda and South Africa, sub-Saharan Africa is failing to meet the Millennium Development Goals targets which were set in 2000 to halve the number of people without access to clean water and sanitation by 2015 (Njuguna 2006). This means that for African indigenous populations and others living in rural areas, the incidence of water-borne diseases which are completely preventable is unacceptably high.

There are many health problems that occur as a result of the consumption of unsafe water, or unsafe water management practices. These include:

Diarrhea

- 1.8 million people die each year from diarrheal diseases, including cholera
- 90% of these are children under 5, primarily from developing countries
- 88% of diarrheal disease is related to unsafe water supply and sanitation
- Improvements in drinking water quality through household water treatment can lead to the reduction of diarrheal episodes between 35 and 39%

Malaria

- 1.3 million people die of malaria each year
- 90% of these are children under 5
- 396 million episodes of malaria occur a year, mostly in sub-Saharan Africa
- Intensified irrigation, dams and other water projects contribute to high rates of malaria transmission
- Better management of water resources reduces transmission

Schistosomiasis

- An estimated 160 million people are infected with schistosomiasis
- The disease causes tens of thousands of deaths each year, mostly in sub-Saharan Africa
- Infection is related to unsanitary excreta disposal and an absence of nearby sources of safe water
- Man-made reservoirs and poorly designed irrigation systems are the main causes of expansion and intensification

Water-borne disease affects the most vulnerable populations disproportionately. This means that children, women, indigenous peoples and people living in poverty are those who bear the brunt of pollution, the degradation of water sources through human activity and the lack of access to clean water. When one is severely ill, all of one's energy is concentrated on treating the illness and staying alive. There is very little room for education, income generation or other activities which are crucial to development. In this way, unsafe drinking water contributes to the lack of mobilization and development in vulnerable communities.

Conclusion

Access to water is an inalienable human right. Like air and food, water is absolutely necessary for human survival, and for the survival of all life on earth. We

must always strive to be aware of the vital importance of water and ensure that usable water is accessible to all. As such, it is crucial to examine our own activities and see how we have been contributing to the problem. Climate change, caused by carbon emissions and the unsustainable over consumption of fuel, is a major cause of drought and desertification in Africa. When lakes and rivers dry up, people have no choice but to leave their homes or turn to unsafe sources of water that will make them sick. If we are to ensure access to water for all, climate change is one of the biggest issues that must be addressed.

Pollution and water degradation through human activities are also major contributors to water crises. Developers must be conscious of the environmental impacts of dams, reservoirs and other projects that may be potentially devastating for indigenous and local residents when it comes to water access. Companies and individuals must be conscious of the need to keep lakes and rivers clean, and refrain from dumping waste or building toilets near water sources. Means of sanitizing unsafe water, which can range from boiling to filtration to chlorination, should be promoted and made available.

Finally, traditional indigenous means of water management should be re-examined and applied where possible. Through reverence to the environment, an awareness of the interconnectedness of all elements of the ecosystem, and traditional scientific methods, indigenous peoples had maintained healthy water systems for decades. It is only through unsustainable development, pollution and drought that these sources have been threatened and depleted. Through awareness raising about water issues, promoting sane and sustainable development initiatives and implementing traditional methods where applicable, it may be possible to slow, halt or even reverse the damage done to Africa's water sources and ensure access to water for all.

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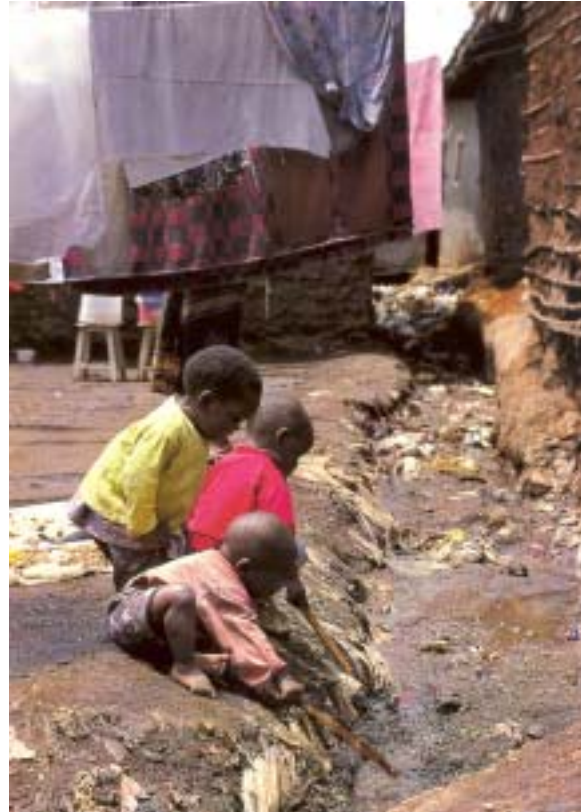
Sanitation for Health and Empowerment

"We shall not finally defeat AIDS, tuberculosis, malaria, or any of the other infectious diseases that plague the developing world until we have also won the battle for safe drinking water, sanitation and basic health care."

-Kofi Annan, former UN Secretary-General

Sanitation involves intervention to reduce peoples' exposure to diseases by ensuring a clean environment in which to live. It involves both behaviors and facilities which work together to form a hygienic environment. Sanitation usually involves the hygienic disposing or management of human and animal waste, wastewater and refuse, the management of disease vectors and the establishment of washing facilities for personal and domestic use. In sub-Saharan Africa, sanitation coverage is only 37%. The situation is worse for those like indigenous peoples who live in rural areas, than for those in urban areas. In rural Africa, a scant 28% of people have access to improved sanitation. That number rises to 53% in urban areas which, while improved, is still unacceptably low (World Bank 2007). At least 300 million Africans have no access to basic sanitation and hygiene, a number that has risen by 70 million since 1990. Lives can easily be saved through better access to sanitation and improved basic hygiene. For example, even the simple act of washing hands thoroughly with soap can reduce diarrhea deaths by

one-third (Communication Initiative Network 2002). Poor sanitation and hygiene weaken Africans through disease, exacerbate poverty, lower productivity, and rob poor and vulnerable groups such as indigenous peoples of their dignity, independence and the potential for development.



Health Risks

Sanitation is so crucial because without it, populations are vulnerable to a number of common yet easily preventable diseases. The following are some of the most prevalent sanitation-related diseases:

Diarrhea

- Caused by a variety of micro-organisms including viruses, bacteria and protozoans
- Causes a person to lose both water and electrolytes, which leads to dehydration and sometimes death
- About 4 billion cases of diarrhea each year cause 1.8 million deaths, 90% of which are among children under 5
- Repeated episodes makes children more vulnerable to other diseases and malnutrition
- Most important health problem directly related to sanitation

Cholera

- Acute bacterial infection of the intestinal tract

- Causes severe attacks of diarrhea that, without treatment, can quickly lead to dehydration and death
- Most outbreaks occur in sub-Saharan Africa
- Can be prevented by access to safe drinking water, sanitation and good hygiene behavior (including food hygiene)

Guinea Worm Disease

- Also known as Dracunculiasis, Guinea Worm disease is contracted by drinking water contaminated with *Dracunculus* larvae
- Larvae mature into worms which can be up to a metre long
- Worms leave the body after about a year, causing debilitating ulcers
- In 2002, 50, 000 cases were reported in 13 countries in Africa

HIV/AIDS

- Hygienic environment, clean water and adequate sanitation are key to prevent opportunistic infections associated with HIV/AIDS
- AIDS-affected people more likely to be susceptible to sanitation-related diseases, and become sicker from infections than those with healthy immune systems
- Maintaining sanitary environment essential to safeguarding health and quality of life of people living with HIV/AIDS

Intestinal Worms

- Also known as helminthes, infection with intestinal parasitic worms occurs through contact with soil that has been contaminated with human feces from an infected person, or eating contaminated food
- Affect 10% of the population of the developing world
- Can lead to malnutrition, anemia and delayed growth
- Children are particularly susceptible and have largest number of worms
- About 400 million school-age children are infected by roundworm, hookworm and/or whipworm
- Roundworm and whipworm are estimated to affect one-quarter of world's population

Schistosomiasis

- Also known as bilharzia, schistosomiasis is caused by parasitic worms which penetrate the skin of people swimming, bathing or washing in contaminated water
- They cause infection and can eventually damage the liver, intestines, lungs and bladder

- About 200 million people are infected with schistosomiasis, 20 million of whom suffer severe consequences
- Adequate sanitation and water supply could reduce infection rates by 77%

Trachoma

- Eye infection spread mainly through poor hygiene, caused by lack of adequate water supplies and unsanitary conditions
- About 6 million people are blind today as result of trachoma infection
- Affects women 2 to 3 times more than men, and children are also particularly susceptible

Typhoid

- Bacterial infection caused by ingesting contaminated food or water
- Symptoms characterized by headache, nausea and loss of appetite
- About 12 million people are affected every year (UNICEF)

Impact on Indigenous Peoples

African indigenous peoples live primarily in rural areas, which means that many of them fall within the 72% without access to improved sanitation. Traditionally, indigenous peoples live off the land and many communities are mobile. These communities have developed ways of maintaining hygienic environments through good land and water management, and use of natural resources. However, through forced relocation, sedentarization and loss of traditional lifestyles, sanitation and health in general have suffered greatly. For Twa families in Uganda, for example, the importance of land for survival was indicated by a drop in mortality in children under 5 years from 59% to 18% when Twa families were given land. Those who were able to live largely forest-based lives have better health in many respects than those who have been separated from their land (Pazos 2007). Communities which are forced to become sedentary after having been nomadic throughout the years are no longer able to practice traditional means of waste disposal or environmental management. Malaria increases and parasites accumulate because of increased population, density and poor sanitation.

For those living traditional lifestyles, when health problems do arise due to poor sanitation, they can be addressed through the use of traditional medicines. Twa communities with access to their traditional forest resources are able to treat conditions such as guinea worm and diarrhea, which can arise due to sanitation issues. Those without access to traditional resources, who are living in unsanitary conditions, frequently have few treatment options, as primary health care is often

absent in most of rural Africa. Even health facilities are present, many indigenous peoples cannot or do not use them because they are unable to pay for consultations and medicines, do not have the documents and identity cards needed for travel or to obtain treatment, or are subjected to discriminatory treatment by health care workers (Ibid.).

Unsustainable development can also be a contributing factor to declining health of indigenous peoples. For those living in unsanitary conditions, maintaining health through good dietary habits is very important. However, environmental degradation through logging, commercial poaching, the building of dams and so forth can lead to decreased nutritional status. This means that the population is more at risk of infection and disease transmission. Children and pregnant women are particularly vulnerable, and the problem is exacerbated by the breakdown of traditional food-sharing systems. Previously usable water sources can also become contaminated through development activity, leading to health problems among the local population.

Women's Health and Sanitation

Inadequate potable water, sanitation and waste disposal in rural areas in Africa leave populations vulnerable to water-borne and other environmental diseases. Malaria, lung and other respiratory diseases are still major killers in Africa. These conditions are compounded for women by unhelpful or even dangerous norms and practices centred on their reproductive and productive functions, their heavy workloads, high birth rates and socio-cultural factors that limit their dietary intake. Scarcity of the health facilities in the areas inhabited by indigenous peoples makes accessibility to medical attention very difficult, especially for women and children.

For instance, in Kenya there are about 20,000 residents for every doctor in Central Province, whereas in North Eastern Province, which has a higher concentration of indigenous peoples, there is one doctor for every 120,000 people. The reproductive health of indigenous women is compromised as the maternal and child health, which is supposed to reach women at reproductive age (14-49 years) and children under five

years, is only sought after if it is culturally acceptable and if the father or husband approves of it. This relates specifically to family planning and value of children in the particular community. Many women from indigenous communities lose their lives at prime age due to complications during child births, and child mortality remains very high.

Reports from demographic and health surveys in Kenya, Uganda, Malawi, Tanzania and Zimbabwe according to African Population and Health Research centre indicate that the median number of antenatal care visits is between 4 and 6. It is also argued that the factors which influence the use of maternal health services include socio-economic, cultural, and demographic factors in addition to service availability and accessibility.



A desperate Twa woman from Burundi watching closely over her two goats which are her only property.

As those who are responsible for collecting water in rural areas, women are frequently those who are most exposed to contaminated water, and are therefore more susceptible to picking up parasites and infections.

Most women who are married either in monogamous or polygamous arrangements in the developing countries are vulnerable and susceptible to HIV/AIDS infection. This is as a result of unprotected sex since culturally a woman's sexual rights are controlled by the man. Women die earlier than men due to stress and lack of social power to protect themselves by using condoms. Research in West and Central Africa has shown that because of cultural and economic reasons, many women feel unable to refuse the sexual advances

of partners even when they know they risk infection. HIV/AIDS infection is on the rise among women of childbearing age who also are vulnerable to sexually transmitted diseases. The average life expectancy of both women and men has already declined because of the disease, and countries are beginning to see similar effects. Women and girls bear the burden of caring for infected family members and for orphans and abandoned children, at the same time as governments have reduced expenditure for the health sector. The high percentage of women with HIV compared to men nearly all age groups suggest that women are still at higher risk of contracting the virus. HIV/AIDS infection is related to sanitation in that a sanitary environment is very important in preventing the opportunistic infections that are the killers of people living with HIV/AIDS.

The health of women and girl-children is also jeopardized by female genital mutilation (FGM). It is estimated that about 2 million girls are subjected to the practice each year, with over 50 per cent of women in Sudan, Somalia, Djibouti, Ethiopia, Kenya and Sierra Leone undergoing it in different forms. Besides the immediate pain and trauma FGM inflicts on its victims, it can result in infertility, incontinence, painful sexual intercourse and obstructed labour, in addition to severe psychological trauma. This is particularly the case when FGM is performed under unsanitary circumstances, which takes place especially in countries where the practice is illegal but still performed at high rates, meaning that the practice has gone underground. Girls may be cut with razors that are used multiple times, or in the absence of razors, broken glass or sharp metal shards.

Way Forward

In order for sanitation to be improved across Africa, a number of actions must take place. These actions include:

- Raising awareness of basic sanitation methods such as hand-washing, appropriate disposal of human waste, etc., particularly in rural areas;
- Raising the profile of sanitation in political and developmental arenas;
- Developing realistic local, national and global goals for improving hygiene, building on the UN resolution to halve those without access to sanitation and hygiene by 2015;
- Acknowledge the role that women can play as people who are frequently the family care-givers - this means that women must be respected and supported, and their rights upheld;

- Acknowledge the importance of indigenous peoples' lifestyles in maintaining health and sanitary environments - land rights issues must be taken into account when examining impacts on indigenous health;
- Involve all elements of society in improving sanitation: children, teachers, parents, indigenous peoples, CBOs, NGOs and the state must all be involved in this campaign for it to succeed.

Conclusion

Improving sanitation is a very simple but incredibly powerful tool for saving lives and improving the health of millions of people across Africa. Through awareness raising, political and grassroots mobilization and funding, and working directly with communities who are most affected, instances of disease and mortality rates can be reduced enormously. The approach must be two-pronged, addressing not only behaviors such as hand-washing and proper waste disposal, but also making sure that adequate sanitation facilities are available and functioning.

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Land: Key to the Survival of Indigenous Peoples

In most African countries, land is recognized as the single most important resource in the society. It is a key asset for development and economic growth; this is due to the fact that most African countries tend to depend on agriculture and other natural resources for their main revenue sources. Despite that fact, land happens to be one of the most misused and abused

natural resources in Africa. Though once in the recent past, land may have seemed as an inexhaustible resource in Africa, population growth and other forms of “development” are creating a growing pressure on the available land. In rural areas, Kenya’s population density is 561 people per square feet, compared to an average of 373 in sub-Saharan Africa as a whole (World Bank 2007: 125). With over 80% of Kenyans dependent on agriculture, access to land is an important dimension of inequality.

Indigenous peoples tend to see land as part of something greater, called territory. Territory includes the productive function of land, but also encompasses the concepts of homeland, culture, religion, spiritual sites, ancestors, the natural environment, and other resources like water, forests, and below-ground minerals. Historically linked to the land as the source of their main livelihood, indigenous peoples worldwide have long struggled to gain and keep access to this precious resource, which is at the same time the essential element of their identity as distinct cultures and societies. Access to land is political, and has historically been linked to incidence of discrimination against indigenous peoples. As the Kenya Land Alliance reports, “the people and institutions that control land and natural resources are also the ones who control political decisions”, and these decisions are made to benefit the dominant culture, not minority groups (Kenya Land Alliance 2007: 2).

Land tenure and subdivision

Land rights are the major issue faced by indigenous peoples around the world, and they are at the center of numerous conflicts involving indigenous communities, particularly as a result of globalization. The impact of new economic processes can be dramatic, as seen in agricultural modernization, for example. The widespread introduction of commercial crops for export, based on the intensive use of modern inputs (mechanization, improved grains, fertilizers, insecticides, and more recently, genetically modified seeds) tends to displace traditional subsistence farming and pastoralism, on which most indigenous communities depend for their survival. Indigenous peoples are the most recent victims of globalized development, and if these tendencies continue unabated, their chances of survival are becoming weaker; their very existence as distinct societies and cultures is seriously endangered.

Traditionally, tribes and clans owned most of the land in Africa. Customary lands were generally considered “common”, that is rather than being free-for-all land, its use was closely and adequately regulated through communal rules and practices. The management of such domains was entrusted to indigenous leaders, while the right of use was maintained for the whole community. In pastoral communities, collectively grazed pastures were not open access; they were maintained by a collective group of users. This style of land



*“This land was given to us by God. It is our treasure and not a wasteland. It belongs to us.”
- John S. Parsitau, Oloshoibor*

management was first disrupted by the colonial introduced practice of land adjudication, and continued with the rejection of community land tenure after independence. The land tenure systems created by the colonialists have caused major tensions between ethnic



groups due to unequal distribution in the former white settler areas in Africa. For example, in South Africa, 5% of the population controls almost 87% of the whole country in terms of land ownership. In countries such as Rwanda and Burundi, the scarcity of productive lands has been a major factor in the development of wars and civil unrest. Refugee issues compounded by years of civil unrest have compounded these land issues, contributing to the scarcity of available land and the difficulty of claiming tenure. In Northern Africa, the issue of land subdivision is due to a multiplicity of causes, some of which are religious factors, traditional issues and government land policies that have failed to set a minimum below which land can no longer be subdivided.

After independence, early attempts by development and government agencies to Westernize and “modernize” by encouraging or forcing pastoralist communities to become sedentary failed spectacularly and led to land degradation (UNDP 2003: 1). Although the introduction of land adjudication by colonial governments in the early 60s and 70s was well intentioned, it has led to the subdivision of land into small holdings through fragmentation and sales. This subdivision was both economically and environmentally unsound. The original relationship between pastoralism, agriculture and hunting was dynamic, allowing individuals to alternate between farming, hunting, and pastoralism according to the environmental pressure at a given time. Mobile pastoralism techniques made use of the great ecological variability of the land. Pastoralists tended to animals adapted to particular environmental and ecological conditions. Agricultural settlements were often abandoned and resettled as often as the climatic

changes varied. This method of survival ensured sustainability of the environment through rotation of use between grazing farming and lying fallow of the land.

Following forced land subdivision, this method of land management is no longer possible. Government insistence that all land belongs to the state and no group can make rules has undermined traditional collective action and led to overgrazing, as it is not impossible for farmers to take their livestock to graze where the land is healthy enough to support sustained use. Private owners are fencing off their holdings and pastoralists no longer have access to the watering holes or grazing areas they used to frequent. They are also not allowed into land that has been gazette for parks or wildlife reserves. Even when compensation is given to those losing their land to the creation of conservation areas, compensation is often given to farmers, but not pastoralists. The killing or hunting of animals that indigenous peoples used to depend on for food has been criminalised by country laws. Pastoralists whose only real resource is land now have little choice but to sell it in order to meet rising demands of today’s society such as providing an education for their children. As the wide tracts of land previously used for grazing their livestock are diminishing from being subdivided for sale, livestock returns are diminishing and communal lands are further subdivided. It is a drastic cycle that if left unchecked will lead to a people’s lifestyle being completely wiped out. Hunter gatherers and forest dweller peoples have suffered similar fates. Having been thrown out of forests that were the basis of their identity, economic activities, health system and spiritual lives, they are now being forced to adapt to completely alien lifestyles.

Many communally managed rangelands have now degenerated into de facto open-access areas where the interest of the users is concentrated in individual benefits. As infrastructure changed rapidly and common-property decisions were taken out of the hands of traditional leaders, some of them turned to large-scale commercial production, doing business with wealthy merchants and government officials. The majority of livestock holders became poorer, and many lost their livestock and became share-producers or hired labourers (for example, herders for absentee livestock owners). This has led to the loss of the traditional methods of resource management and to the disappearance of communal responsibility, which is being replaced by opportunistic short-term strategies that lead to overgrazing and reductions in the quality of the natural vegetation. As a result, misconceptions and stereotypes about communal land management have become commonly accepted, and the experience, knowledge and needs of the pastoralists are ignored in

project design. This has led to the failure of most, if not all, attempts to introduce external interventions.

Though now there is more recognition of the pastoralist lifestyle as an ecologically and economically viable method of land management, traditional land-use patterns in Africa are still changing rapidly due to external factors (such as population pressure, the development of roads, human and animal health care, government policies) and recurrent droughts. These changes are reflected in the encroachment of cultivation in the low-rainfall areas of North and sub-Saharan Africa and in the movement - and gradual settlement - of herders and others in the thinly populated or uninhabited wetter semi-arid and sub-humid areas. More than 20% of Africa's vegetated lands are classified as degraded and of this, 66% is severely degraded. Over 40% of land in Africa is devoted to pastoral use, which produces the major part of milk and meat requirements for the region. Pastoralists have to contend with living in some of the most degraded areas in the whole of Africa. Because of their nomadic lifestyle where mobility and flexibility are key to the sustainability of their productivity, pastoral peoples need to be assured to rights of access to grazing lands and water over extensive areas. Scarcity of resources and land subdivision for other uses have led to restrictions on pastoral mobility and thus leads to conflicts between groups of pastoralists and their sedentary neighbours over land. Due to this scarcity of land, pastoralists are resorting to farming and subsistence agriculture to be able to sustain themselves and their families.

Convention 169 of the International Labor Organization, adopted in 1989, calls upon states to respect indigenous lands and territories, and proclaims the right of indigenous peoples to control their natural resources. This is a most important right, because many of the current conflicts over land and territory relate to the possession, control, exploitation and use of natural resources. In a number of countries it is the state which keeps for itself the right to control such resources, and in numerous instances multinational corporations are asserting their own economic interests over them, unleashing complicated conflicts over ownership and use-rights with indigenous communities. At the local level, conflicts over land and resources sometimes turn violent, deepening the trauma of land loss.

While access to land for productive purposes (agriculture, forestry, herding, foraging) by individual members of indigenous communities is certainly of the greatest importance for indigenous people, there are other factors involved as well. Indigenous communities maintain historical and spiritual links with their homelands. Geographical territories in which society

and culture thrive constitute the social space in which a culture can reproduce itself from generation to generation. Too often this necessary spiritual link between indigenous communities and their homelands is misunderstood by non-indigenous persons and is frequently ignored in existing land-related legislation.

Women's Access to Land and Decision-making

In Africa generally, women have less access to land than men; when women do own land, the land holding tends to be smaller and located in marginal areas. Rural women's access to land continues to pose problems for this group. In addition to the socio-cultural factors which limit women's participation and decision making in political and social structures, other constraints include women's limited time and energy, limited formal land ownership and rights to land resources. In some African countries, gender-focused NGOs have played an increasingly important role in ensuring that rural women's needs are addressed.

The lack of access to land remains a major constraint for indigenous women in Africa, and land reform programmes, as well as the tendency towards the break up and privatization of communal land holdings especially in areas of tribal and customary tenures, have led almost exclusively to the transfer of land rights to male heads of households (FAO, 1990a: 12). Even in countries where ownership and inheritance laws have been reformed in favour of women, in practice women do not necessarily have more rights to land, as local customs and lack of information act as barriers. Customary land use practices can and often do determine indigenous women's access to land in terms of land use rights or ownership. Under customary law in Mauritania, for example, black African women do not have any land property rights. In Namibia, rural women continue to gain access to land through men, and in Zimbabwe, women have no direct access to primary land use rights in the communal areas.

In Africa, indigenous women tend to be unpaid laborers on their husbands' land and cultivate separate plots in their own right at the same time. However, while women may work their own plots, they may not necessarily have ownership and thus their tenure may not survive the death of their spouse. In the case of male migration and women heads of households, conflicts may arise as prevailing land rights rarely endow women with stable property or user rights (IFAD, 1993:25).

Land reform schemes have rarely worked to women's benefit. In fact, the reform schemes may replace a complex system of land use and tenure where women have certain rights in common law and local practice, if not in legislation. The new land titles are almost

always assigned to male heads of households, regardless of women's economic contribution to the household, their customary rights, or the increasing number of women heads of households. In some countries, women's formal access to land is increasing, while in those areas where customary law prevails and male traditional authorities allocate the land or where land is passed from father to son, women continue to receive smaller and less fertile plots.



Because of lack of access to their natural lands, some of the indigenous communities such as these Twa women in Burundi still live in pathetic conditions.

Way forward

In terms of land tenure and use, the subdivision of communal land, gazetting of land by the state and decades of unsustainable land use are difficult processes to reverse. Though it may not be possible to recover land that has been encroached upon by the state, agriculturalists and conservationists, it is necessary to protect that land which remains in indigenous hands and recover land where it is possible. In areas where the land has been used by non-indigenous peoples for decades, co-operative land use schemes may be created to the benefit of both parties. In the instance of government-owned conservation areas, arrangements must be made in order to allow indigenous peoples to benefit in some way from the current use of the land. Though some parks already employ indigenous peoples, their roles are usually those of tourist attractions or guides, and they are not paid

well. If parks are employing indigenous peoples, they should be in a consultative role and done in the spirit of cooperation and respect, not of cheap exploitation. Indigenous knowledge and culture must be acknowledged and respected. Pastoralists could also be given access to park lands in order to graze their livestock over areas that they would have used had they not been evicted from the area. This would not only allow indigenous peoples access to their traditional lands, but would also be an acknowledgement of the fact that indigenous ways of life are environmentally sound and sustainable.

While international measures such as Convention 169 from the ILO already exist, they are often ignored by governments worldwide. Indigenous land rights must be recognized at regional, national and international levels in order to ensure indigenous peoples' survival. The existing tenure system does not allow indigenous peoples to practice traditional lifestyles, which forces them to live in an unsustainable way and pushes communities into poverty. These tenure systems must be revisited, and community land ownership should be re-established. If indigenous peoples continue to be

marginalized by the government and development agencies, it will not only negatively impact indigenous peoples themselves, but also the environment and the land. A denial of indigenous lifestyles is a denial of sustainable land use. As land is also the basis of indigenous identity and spirituality, a reconnection with traditional lands can lead to a cultural renaissance.

In terms of indigenous women's rights, the shortage of statistics on women's access to land, credit and agricultural extension services limits the efficacy of rural development policies and programmes, both with respect to analysis and to representation, identification and targeting of beneficiaries. It has been demonstrated worldwide that agriculture and rural development policies, programmes and projects have often not fully succeeded because rural women's social, economic, legal, technological and other short-term strategic needs and constraints were not addressed adequately. The inter-relationships between women's productive, reproductive and community roles have often not been perceived due in part to the lack of adequate data,

leading rural development experts and planners to underestimate the importance of these relationships. There is increasing recognition that resource allocation within the household is rarely equal, and that research needs to go beyond the household as the unit of analysis in order to examine the power relations within the household which govern men's and women's access to and control over resources. Research is also needed on the gender division of labour, as well as the socio-economic contexts that determine such divisions, in order to develop appropriate policies, programmes and projects that meet rural women's specific development needs.

There is a need for the establishment or strengthening of gender units in ministries of agriculture and other rural development line ministries, as well as the need for coordination among NGOs, national women's machineries and international organizations. Women's groups and organizations also have an important role to play in increasing rural women's visibility at local and international levels, in representing and safeguarding women's traditional and legal rights, increasing women's ability to control their earned income, increasing women's access to land, agricultural services and resources, and in influencing policy-making and legislation at the national level (FAO, 1990b). However, the existence of legislation alone does not necessarily guarantee equality of opportunity if women and men continue to be unaware of such rights. Therefore, efforts must be made to ensure that indigenous women and men, particularly in rural areas, have access to information regarding women's legal rights to land and resources, decision making and the appropriate means to enforce them. Women's empowerment in policy and decision making would promote social and economic development.

Conclusion

Land rights are crucial in ensuring the survival of indigenous peoples, but this is not only a concern to indigenous communities. Non-indigenous peoples and states can also benefit and learn from indigenous land use, as it is environmentally sustainable. In the discussion of potential policies concerning indigenous peoples, land tenure and territory, issues of land as cultural and spiritual home, sustainable management, autonomy and women's rights must take priority. Above all, recognition of indigenous lifestyles and rights are key to maintaining or reclaiming indigenous territories.

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