The Environmental News

Indigenous Peoples' Perspectives

INDIGENOUS Information Network

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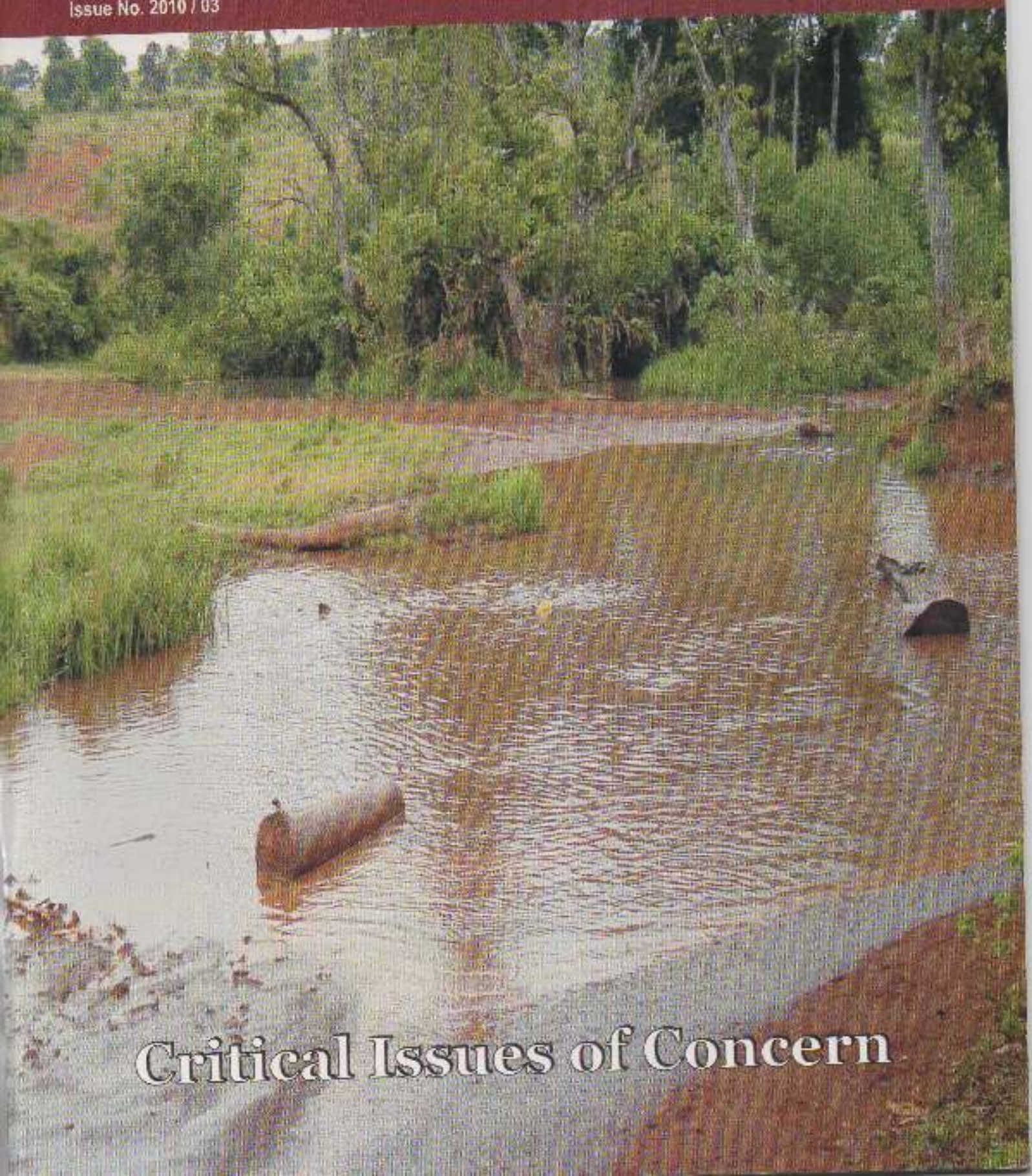
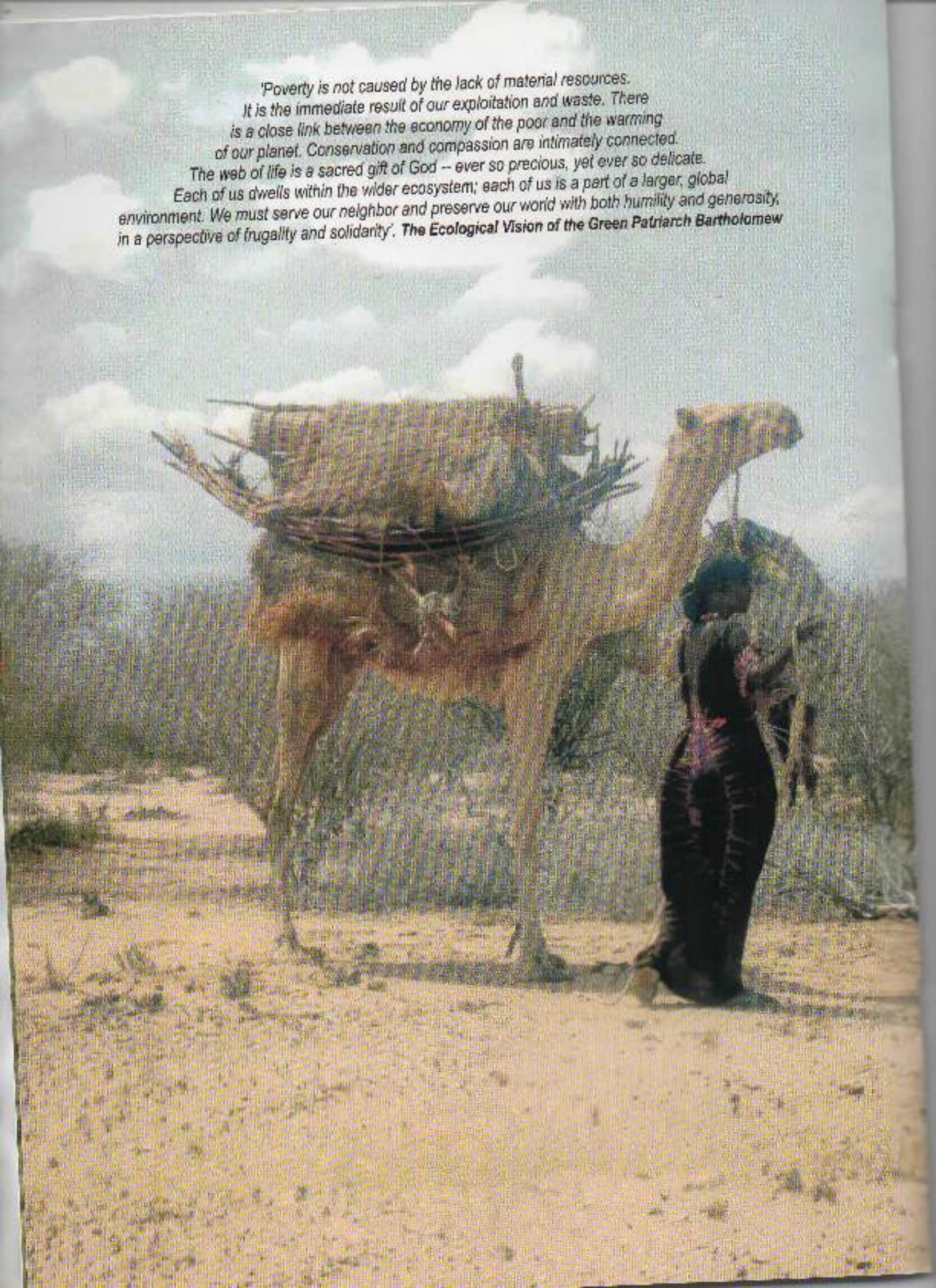


Critical Issues of Concern

'Poverty is not caused by the lack of material resources.
It is the immediate result of our exploitation and waste. There
is a close link between the economy of the poor and the warming
of our planet. Conservation and compassion are intimately connected.
The web of life is a sacred gift of God -- ever so precious, yet ever so delicate.
Each of us dwells within the wider ecosystem; each of us is a part of a larger, global
environment. We must serve our neighbor and preserve our world with both humility and generosity,
in a perspective of frugality and solidarity'. ***The Ecological Vision of the Green Patriarch Bartholomew***



CRITICAL ISSUES OF CONCERN

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Promote, Protect, Empower and Build Capacity of Indigenous Peoples

Contents

Editorial

Welcome to you all in this edition of Environmental News. It has taken us sometimes to get it on board but we are extremely happy that it is here now and ready to inform you on critical issues Indigenous Peoples encounter every now and then, in the quest to improve their livelihoods, it is great news to know that the United Nations has declared 2010-2020 as the Decade for Deserts and the Fight against Desertification. This will certainly create awareness on these critical issues facing many Indigenous Peoples especially those from Africa. As you read through this publication you will notice that it brings you discussions with a bias on climate change initiatives, advocacy, impacts of climate change on indigenous peoples, the topic on Reduce Emission from Deforestation and Forest Degradation (REDD), food security and the right to food among others. Climate change is now widely recognized as the major environmental problem facing the globe. The past few years saw a heightened debate and focus on climate change and the negative impacts to humanity and the planet at large. However, human activity is changing the world's climate, and altering the natural environment to which Indigenous Peoples are so closely attached and on which they so heavily rely. They observe climate and environmental changes first-hand and use traditional knowledge and survival skills to adapt to these changes as they occur. Indigenous Peoples from all regions of the world depend upon the natural environment. Their rich and detailed traditional knowledge reflects and embodies a cultural and spiritual relationship with the land, ocean and wildlife. The Intergovernmental Panel on Climate Change (IPCC) projects an acceleration and deepening of the impacts and effects of climate change globally with potentially serious implications for the cultures, subsistence economies, health and futures of Indigenous Peoples.

Through the International Indigenous Peoples Forum on Climate Change, Indigenous people called for need to participate in the decision making process to ensure the protection of their rights as stipulated in the United Nations Declaration on the Rights of Indigenous peoples (UNDRIP). The UN Framework Convention on Climate Change (UNFCCC) 15th Conference of the Parties (COP15) meeting in Copenhagen in December 2009 was the culmination of months of negotiations complemented by community, industry and private sector-led events aimed at promoting urgent decision-making and action to combat climate change. It resulted in the Copenhagen Accord under which several developing and developed countries outlined intentions and commitments on carbon emissions, pledged support for technology transfer and acknowledged the importance of forest systems in combating climate change especially through Reducing Emissions from Deforestation and Forest degradation (REDD) programmes. More so, some of the mitigation measures suggested by the international community may have adverse impacts on Indigenous Peoples that range from displacement, eviction from ancestral lands leading to serious human rights violations.

The edition adds its value by bringing voices from different community leaders from East Africa giving views on what they understand by climate change. ◄

Lucy Mulenkei

Joint action on climate change in Africa:

Networking and building on ongoing advocacy, initiatives and strategies.

by Edna Kaptoyo, Indigenous Information Network

During the twelfth session of the African Ministerial Conference on the Environment (AMCEN), held in Johannesburg whose focused attention was on climate change. It was agreed among states that Africa's priorities were, among others, to implement climate change programmes in such a way as to achieve sustainable development, in particular to alleviate poverty and attain the Millennium Development Goals given that Africa is the most vulnerable region with the least adaptive capacity adaptation is the most immediate priority. The Ministerial Conference also agreed that effective implementation of mitigation measures would offer opportunities for Africa to increase its economic competitiveness along a sustainable path of low-carbon development. The ministerial policy dialogue underscored the importance of the decision and outcomes of the United Nations Climate Change Conference held in Bali, Indonesia, in December 2007, in particular the agreement on the Bali Action Plan, which set 2009 as the end date for negotiations on strengthening the climate regime beyond 2012. Representatives also noted that Africa had a shared vision on adaptation and mitigation, using sustainable development policies and measures approach, supported and enabled by finance, technology and capacity building.It was then agreed that Africa must speak with one voice in advancing the continent's interests in negotiations for the climate regime beyond 2012 and the preparation of a comprehensive framework of African climate change programmes. The recommendations of the 12th session of AMCEN were endorsed by the twelfth African Union Summit(AUS) held in Addis Ababa, Ethiopia in February 2009.

Initiatives and outputs were submitted to the ministerial session of the 3rd Special Session of AMCEN which was held in Nairobi, Kenya on 29 May 2009 with the expert's level segment (meeting of African High Level Expert Panel on Climate Change) meeting being held from 25 to 26 May 2009. The outcomes of the 3rd Special Session of AMCEN were to be submitted to the thirteenth Summit of the African Union (13th Ordinary Assembly of the African Union) for consideration and endorsement.In view of the above, Civil Society Organizations from Africa among them Indigenous peoples met for a Pre-AMCEN workshop to deliberate and strategize on how they are going to collaborate and contribute meaningful to the African position on climate change. The meeting was built on three main objectives, building on the 4th Intergovernmental Panel on Climate Change Assessment Report that mentioned Africa, Asia, Small Island states, polar regions as the most vulnerable countries to impacts of climate change a problem they least contributed to, there is need to act first, secondly that engaging with African governments will yield the necessary political will to have a joint collaboration and lastly the need for a vibrant civil society organizations able to influence the climate policy should be in place.

Noting the three broader objectives, the three day workshop began with presentations from IPCC lead author, Coordinator of the Pan African Parliamentarian Network on Climate Change (PAPNCC), Common Markets for East and Southern Africa (COMESA) representative, Christian Aid, OXFAM GB, CLACC, AACC, FANFARN, Indigenous Information Network(IIN) and PACJA. Topics covered were on principles and elements of a fair and equitable post 2012 climate regime, critical issues to be considered in thee ongoing dialogue for a suitable post 2012 climate change, count down to Copenhagen, role of different stakeholders in raising the African voice in the UNFCCC, perspectives from African Policy makers, Capacity Strengthening of least Developed Countries for Adaptation to Climate Change and Indigenous Peoples in responding to climate change(IIN) among others.

The presenters noted that out of the 192 countries that are parties to UNFCCC, 100 countries-mostly African states- are the most vulnerable and only account for 3.7% of greenhouse gase emissions. That the devastating effects on Africa have impacted on livelihoods and agriculture (food security) which is the backbone of African societies and the

region is now experiencing a development crisis. Africa has seen incidence of new diseases outbreak and increase in disease zones, scarcity of freshwater resources, challenge of transitioning to clean energies and heightened food insecurity amongst others. The participants also noted that the efforts to engage with Governments on environmental issues have not been harnessed and that government negotiators continuity was lacking.

Kenyan government delegation to UNFCCC Copenhagen

It's against this backdrop of issues that the participants agreed to take advantage of the opportunities that AMCEN presents to raise awareness on the presence of civil society organizations, key elements that should be part of key message to Copenhagen especially on finance, mobilize themselves and governments to look beyond COP 15 and finally to network in initiating actions and raising awareness on climate change, building capacity (for negotiators) for adaptation and mitigation which should be more vocal. The civil society organizations representatives from Africa made a commitment to reconstitute themselves into a vibrant, legitimate and representative group to influence government and PACJA was given the mandate. The need to build confidence and good working relationship with government through constructive and continual dialogue was also reiterated. This was also supported by Hon. Cyprian Mbaya the Coordinator of PAPNCC who said he will support civil society organizations work on climate change by facilitating engagement with the governments since he is Member of Parliament. This was in the fact that Africa will not survive on one set of ideas. The civil society organizations representatives made a commitment to facilitate the flow of information on climate change issues and build synergies. It was mentioned that, African states cannot operate in the mode of business as usual manner anymore, the effects are already here with us and Africa must act for it to be able to meet the MDG's as well as its own sustainable development

Noting that African countries are the most vulnerable to the impacts of climate change yet they contribute least-3.7% - to the GHG emissions. The African civil society organizations after the deliberations made the following noteworthy recommendations that was presented during the last day of AMCENS' special session on climate change.

Demands to African Governments:

- Put its people first especially communities
- Africa governments should ensure consistence of negotiators
- Build the negotiating capacity and institutional settings and increase the number to constitute non state actors like the youth, civil society organizations, local community people etc
- That there was need for African states to enact good climate change laws
- Africa negotiators to bargain for a post 2012 regime that is equitable, just and fair
- Review and ensure equity in the distribution of CDM projects because Africa accounts for less projects biggest share being taken by South Africa.
- Review National Adaptation Plan of Actions and link it to Poverty Reduction Strategy Papers.

Demands to Developed Countries:

- That the North pays for the full incremental costs of climate transition. They should play a major role in adaptation and mitigation process which is a moral obligation through financing and technology transfer and that the financing should be additional to the ODA's and they should end conditionalities.
- That developed countries should cut their emissions by 40% by 2020 and atleast 80% by 2050
- Finance and technology transfer for poor countries to develop in ways that will limit Carbon emissions should be made available. They should finance renewable energies as one form of restitution. The civil society organizations representatives agreed on a

number of policy moments that they sought to influence, that is, African heads of state meeting, Bonn meetings and COP 15, Copenhagen. The lobby tools that civil society organizations committed to employ before and beyond COP 15 were but not limited to the following, lobbying, media, issue and position papers, resolutions among others.

The Copenhagen Pledge:
I believe in a world free from the poverty and injustice caused by climate change. I want to transform in our world:

I pledge:
- To campaign for a fair and just deal to be agreed in copenhagen
- Lobby the richest to repay thier carbon debts
- Do all I can to reduce my carbon foot print.
- Pass on this pledge to my community family and friends. ◀

UN Launches Decade-Long Efforts to Tackle Desertification

The United Nations has launched the Decade for Deserts and the Fight against Desertification (2010-2020). This is an 11-year long effort designed to heighten public awareness about the threat desertification, land degradation and drought pose to sustainable development and ways leading to their alleviation, and action to improve the protection and management of the world's dry lands, home to a third of the world's population and which face serious economic and environmental threats. The Secretary General has mandated five UN agencies to spearhead activities related to the Decade. These are the United Nations Environment Programme, the United Nations Development Programme, the International Fund for Agricultural Development and other relevant bodies of the United Nations, including the Department of Public Information of the United Nations Secretariat.

"Continued land degradation, whether from climate change, unsustainable agriculture or poor management of water resources is a threat to food security, leading to starvation among the most acutely affected communities and robbing *the world of productive land," said UN Secretary General Ban Ki-moon in a statement announcing the launch. "As we begin the Decade on Deserts and the Fight against Desertification, let us pledge to intensify our efforts to nurture the land we need for achieving the Millennium Development Goals and guaranteeing human well-being," he added.*

On a global scale, desertification - land degradation in drylands - affects 3.6 billion hectares, which accounts for 25 percent of the Earth's terrestrial land mass. It threatens the livelihoods of more than 1 billion people in some 100 countries. Against this backdrop, member states of the United Nations addressed growing desertification and land degradation by adopting a resolution to dedicate the next decade to combating desertification and improving the protection and management of the world's dry lands in 2007.

The global launch took place in Fortaleza, Brazil, in the State of Ceara, Brazil's semi-arid Region, during the Second International Conference: Climate, Sustainability and Development in Semi-arid Regions. The African regional launch was held in Nairobi, Kenya, at the headquarters of the United Nations Environment Programme (UNEP) and in partnership with the United Nations Development Programme (UNDP). Other regional launches were scheduled to take place in New York, in September, for the North American Region, in the Republic of Korea in October, for the Asian Region, and in November for the European region.

While concerns about desertification are growing, it is not all doom and gloom. Efforts have been made to address land degradation and while there have been positive outcomes; more action is needed to arrest and reverse land degradation and creeping desertification worldwide. Luc Gnacadja, Executive Secretary of the UN Convention to Combat Desertification warned that the international community is at a crossroads, and must decide between a business-as-usual approach that will be characterized by severe and prolonged droughts, flooding and water shortages or an alternative path, that "**channels our collective Action towards sustainability**". *He added that the Decade's message stresses that land is life, "so, we must ensure the dry lands, remain productive and working" and that the vision for*

the Decade is to "forge a global partnership to reverse and prevent desertification and land degradation and to mitigate the effects of drought in affected areas in order to support poverty reduction and environmental sustainability".

Efforts to restore drylands with lost biodiversity is a positive step

Value of Deserts and Drylands

2.1 billion people, about 40% of the world's population, live in the world's deserts and dry lands, 90% of this population is in developing countries 50% of the world's livestock is supported by rangelands, 46% of global carbon is stored in dry lands, 44% of all cultivated land is in dry lands, 30% of all cultivated plants come from dry lands, 8 of the 25 global hotspots are in the dry lands. These are areas where 0.5% of the plant species are endemic to the region but habitat loss exceeds 70%

Desertification Threats

Desertification affects 3.6 billion hectares of land worldwide - or 25% of the Earth's terrestrial land mass, 110 countries at risk of land degradation, 12 million hectares of land, an area the size of Benin, are lost every year, Annual land lost could produce 20 million tons of grain, US$42 billion in income is lost every year from desertification and land degradation. *For more information visit www.unddd.unccd.int*

A grain at hand; a new livelihood prospect

In month of July, the United Nations in partnership with the Japanese Government commissioned food security projects in Lokochogio and Kakuma. These projects were part of a 150 million shillings Joint Host Community Project targeted at supporting the Turkana Community bolster their nutritional needs in light of the sporadic malnutrition cases characteristic of arid and semi arid habitats. This was a direct effort to improve food security by offering alternatives to the largely pastoralist culture dominant to the Cushitic heritage.

The introduction of Dryland farming at the Ariwogule and Natiira food security and pasture reseeding plots in Turkana Central and Turkana North Districts has seen over 100 households engage in sustainable agricultural practices. These agricultural plots are utilizing rain water harvesting techniques to overcome the perennial drought seasons.

We only used to hear of such projects but now I am growing my own sorghum. At least I do not have to beg for food all the time," says Lotira Nyadit, a beneficiary of the Natiira agricultural plot. She relishes her self sufficiency and new found ability to place meals on her table to feed her extended family totaling 12 dependants.

The host communities are characterized by widespread poverty, with absolute poverty at 74%; high level of dependency on relief food; scarcity of water supply for both for livestock and human consumption. With an estimated population of 502,000 and a life expectancy of 56.9%, Turkana District has the lowest recorded human development indices according to the 2009 Kenya National Human Development Report.

Additionally, owing to the increased proliferation of small arms across the Kenyan boarder, the Turkana community is subject to frequent violent cross border conflicts, resulting in the loss of life, damage to property and internal displacement. Some of the root causes of the cross-border conflict include: few economic alternatives to livestock keeping; inadequate infrastructure such as roads and markets to enable interaction with neighboring communities; the availability of weapons from Sudan and Somalia; unpredictable weather conditions leading to food insecurity, necessitating migration for water and pasture.

The cyclic famine experienced in arid and semi areas of Kenya is attributed to the climate change phenomenon influenced by global warming. Long term solutions have to be geared towards environmental sustainability and resultant food security to ensure survival of humanity. ◀

These dune would have been happier with vegetation and a better shape

Indigenous Peoples of Africa and Desertification

***By Lucy Mulenkei** - Indigenous Information Network*

Indigenous Peoples are those communities from remote areas still living in their traditional ways of live, practising their customs and cultures, very attached to their land and environment despite the environmental challenges in those lands. These are communities who believe that the land is their heritage and all the resources in it is given by the almighty and should be protected and conserved for all and future generations. In Africa most of the communities live in semi arid lands in the Eastern African regions, in Southern Africa they live both in the isolated dry areas of Southern Africa and majority in the Kalahari that extends from Botswana, South Africa, Namibia and Angola, In the Central Africa they are mainly hunter gathers who live in forest areas even though we know most of them have already been removed form those lands. In West and North Africa they live along the semi arid area and in the Sahara Desert. Most of Majority of these communities are Nomadic pastoralist and a good number of hunters and gatherers, and others practice both activities.

As part of the organization working with these communities, we do appreciate the effort made to declare **2010-2020 the Untied Nations Decade for Deserts and the Fight against Desertification**. This is mainly because we feel that most of the African countries have not committed seriously on issues concerning desertification, and more so in focusing on these isolated communities living in the areas. The communities in these areas are among the poorest in the society, most of them illiterate, as education is not a priority to them considering that education facilities in the dry lands is another challenge. It is in these areas that we are experiencing the serious loose of biodiversity caused by both man and climatical changes faced around the world. Prolonged droughts and floods cause even much more havoc as there is no longer any vegetation to hold the soil. The launch of the decade was held on 16th August in Brazil. In Latin America, drylands cover more than 5 million km², close to one third of the Continent. Brazil's, 30 million people live in these drylands. And according to the latest report from the Brazilian Action Programme, the country has 56% of the Caatinga ecosystem with some level of land degradation

According to fact sheet released by the United Nation Environment Programme UNEP, dry lands take up 41.3% of the land surface. Up to 44% of all the world's cultivated systems are in the dry lands. Plant species endemic to the dry lands make up 30% of the plants under cultivation today. Their ancestors and wild relatives still grow here. Traditionally, dry lands have been largely used for livestock, but they are increasingly being converted into cropland. Rangelands support 50% of the world's livestock and are habitats for wildlife. Livestock production is dominant in the more arid zones. Cropland dominates in the dry sub humid areas. The livelihoods of more than 2 billion people in some 100 countries are threatened by desertification. Nearly 1 billion of the poorest and most marginalized people, who live in the most vulnerable areas, may be the most severely affected by desertification.

The Millennium Assessment found that in general, the human well-being of dry land peoples is lower than that of people in other ecological systems. For example, compared to other ecosystems, infant mortality rates are highest in dry lands and gross national product (GNP) per capita lowest. This implies that dry lands are home to populations with comparatively low levels of well-being. The total dry lands population is 2.1 billion, meaning they are the home to one in three people in the world today. According to UN Habitat, the 18.5% population growth rate in the dry lands was faster than that of any other ecological zone. Population density increases as aridity decreases. It ranges from 10 people per square kilometer in the deserts to 71 people in the dry sub-humid (rangelands) areas.

An estimated 65% of Africa's agricultural land, and one third of its pastureland is degraded due to erosion and/or chemical and physical damage. Erosion and desertification are fundamentally linked: it is estimated that some areas in Africa are losing over 50 metric tonnes of soil per hectare per year. Dry lands that form desert margins such as those found in Sudan, the Sahel and Southern Africa - are most prone to desertification and are home to 22 million

Indigenous Peoples must not be placed in the position of suffering from mitigation strategies which we believe have offered false solutions to the problem at hand and even worse, many of the mitigation and adaptation schemes being discussed in UNFCCC and related processes threaten our rights and our very existence. Mitigation projects, including REDD and clean development mechanisms implemented by Parties and private sectors are carried out without the free prior and informed consent of Indigenous Peoples there by affecting their livelihoods and violating their human rights.

These projects are encroaching on areas of lands sacred to us, and resulting in the forced eviction of many of our brothers and sisters from their ancestral territories. Furthermore, proposed 'scientific' mitigation and adaptation solutions, methodologies and technologies being discussed here and elsewhere do not reflect Indigenous Peoples' Cosmo vision and our ancestral knowledge.

The so-called 'consultations' with us, often only take the form of simply informing idigenous people's communities. Consultations should not be limited to specific communities and organizations but should involve all affected and involved indigenous peoples, including idigenous people's representative organizations.

The Indigenous Peoples demanded full and effective participation in the implementation of all areas of work concerning Climate Change and Forests.

IIPFCC further recommended that the process should:-

• Ensure a rights-based approach in the design and implementation of climate change policies, programmes and projects. In particular, the UN Declaration on the Rights of Indigenous Peoples must be recognized, implemented and mainstreamed in all of the Convention activities.

• Ensuro the right to Free Prior and Informed Consent in line with internationally recognized standards of good governance.

• Develop methodologies and tools for impacts and vulnerability assessments in consultation with indigenous peoples.

• Recognize and use traditional knowledge and integrating it with scientific knowledge in assessing impacts and coming up with adaptations

• Ensure the proper capacity building of indigenous peoples in technologies for adaptation

• To immediately suspend all REDD initiatives in Indigenous territories until Indigenous Peoples' rights are fully recognized and promoted.

• To include indigenous peoples' experts in the implementation of phase II of Nairobi Programme of Work.

Way forward for Indigenous Peoples

Acknowledging the support of some state parties, indigenous peoples recommended that the principles of Free Prior Informed Consent and the United Nations Declaration on the Rights of Indigenous peoples be recognized in the UNFCC as the basis of all the decisions. The indigenous peoples also looked into opportunities that would ensure the full and effective participation in the UNFCCC processes where proposal of indigenous peoples are respected and implemented or reflected on the outcomes of talks, creation of better documentation of indigenous people's best practices in adaptation and mitigation should be done immediately and be shared with other indigenous peoples, communities and organizations. ◀

Indigenous Peoples from East Africa listening to the proceedings of the climate change meeting in Poznan - Poland

Opportunities for Reducing Emmissions From Deforestation and Forest Degradation (REDD) and Indigenous Peoples Global Consultation on REDD

By Edna Kaptoyo *- Indigenous Information Network*

Introduction

Forests provide food, shelter, medicines, cultural, recreational and spiritual benefits and many other products and environmental services that are useful to the daily livelihood of indigenous peoples and forest-dwellers (indigenous forest inhabitants being estimated to be around 50 million; Rainforest Foundation). Forests are also habitat for diverse animal and plant species. However whilst providing such useful services, forests cover has been consistently decreasing over time due to deforestation or conversion of forested land into non-forested land for other uses and due to forest degradation. With high deforestation rates being noted worldwide, Africa has been said to be experiencing the highest rates of forest loss, South America and Asia coming in second and third respectively. This presents a great danger to indigenous peoples who are forest inhabitants. Forest degradation which affects the functioning of forests also is on the rise and this is due to factors such as fire, pests, firewood e.t.c. that are external factors either human or nature induced. Nevertheless indigenous peoples have been affected vastly with increased forest degradation and degradation which have negatively impacted on forest biodiversity and soil degradation which has denied the people access to vital forest services and products that they depend on.There exists many drivers of deforestation which range from clearing of forests for agricultural use, fuelwood (firewood and charcoal), commercial logging, human settlements, infrastructural development etc. All these drivers have contributed greatly to the loss of forest cover in Africa and also worldwide.

What is REDD?

In light of the increasing climate change impacts on humankind, attention has been shifted to the role that forest management can play in contributing to and fighting climate change through reducing greenhouse gas emissions (GHG's) from deforestation and degradation in developing countries.

The UN-REDD

From a UN-REDD representative presentation REDD was said to be a collaborative Programme of Un agencies that was established in response to the Bali Action Plan COP 13 decision 2 as a result of the requests by countries and financial pledge of Norwegian government to support REDD for over 6years.

Funding

Funds have already been made available to pilot REDD projects. Funding available at the moment is through the World Bank Forest Carbon Partnership Facility, Direct funding from Annex 1 countries, private sector and voluntary carbon market.

The Global Consultation on REDD

The UNU-IAS,UN-REDD,David and Lucille Packard Foundation in conjunction with Tebtebba organized a global consultation for indigenous peoples on REDD for indigenous peoples to get a clear understanding of what REDD is, give their concerns and principles that REDD should observe, lessons to inform the process.
Basically the consultation was to help indigenous peoples have information to help them make and participate in REDD related decisions that may affect them.

Africa team at the Global REDD dialogue in Baguio, Philippines

Indigenous peoples and local communities' global strategy on REDD

The Overarching Principles to be observed were mentioned as:

1. The United Nations Declaration on the Rights of Indigenous Peoples (UN-DRIP) and International Labour Organization Convention No. 169 (Indigenous and Tribal Peoples Convention) should guide a human-rights based approach to all activities on REDD and Indigenous peoples.

2. The Free, Prior and Informed Consent (FPIC) of Indigenous Peoples (IPs) must be ensured in REDD initiatives.

3. All actors will work through legitimate indigenous authorities, institutions and organizations, ensuring that there is broad representation of indigenous peoples, including women and youth.

4. Indigenous peoples respect and support the rights of other forest-dependant communities.

5. Distinguish between reducing emissions from deforestation and forest degradation as a goal that interests all climate change stakeholders including IPs (REDD) and the use of term REDD to signify possible future policies and instruments designed to achieve this goal.

Africa participants listening keenly to contributions during discussions

Recommendations, Indigenous Peoples

- Indigenous peoples and forest-dependent communities to engage all UN processes and bodies relevant to tackling climate change.

- Strengthen the existing Indigenous organizations and networks to address REDD issues, including through the establishment of Indigenous Peoples Working Groups on Climate Change at the national and regional levels.

- IPs and local communities to undertake case studies, field research, develop and disseminate information packages to influence the discussions on REDD at the national, regional and international levels in collaboration with the United Nations University (UNU), research bodies and universities and relevant partners.

- Indigenous Peoples to establish an Indigenous Peoples Global Coordinating Body on Climate Change.

- Indigenous Peoples to establish funds for climate change actions that are under their direction, control and management.

National level processes

- Develop a legal framework and consultation mechanisms for Indigenous Peoples based on Free Prior and Informed Consent, including consideration of customary laws, norms and practices.

- Each REDD pilot country be required to report on the legal situation of Indigenous territories, lands and resources and rights of forest-dependent communities.

- Enhance capacities of all actors and structures at the local, national, regional and international levels to act effectively and with responsibility on REDD as a matter of urgency.

- Conduct training on good governance for government officials involved in REDD and establishment of mechanisms to check on corruption.

- Empower Indigenous peoples and forest-dependent communities by raising awareness on REDD issues through learning activities (e.g. training community leaders, train-the trainer initiatives) and other media (e.g. community and national radio) with the involvement of Indigenous experts recognized by the community.

- Improve the exchange of information and experiences, e.g. legal frameworks for implementation based on Free Prior and Informed Consent; underlying causes of

deforestation; and evaluating compliance with government commitments concerning forests (including under CBD and the United Nations Forum on Forests).

- Promote sub-national processes and mechanisms that decentralize REDD, including planning, consultation, benefit sharing, etc.
- Government delegations to hold discussions with indigenous peoples and their organizations before relevant international meetings, including UNFCCC.

- Evaluate the legal situation of land tenure and recognition of indigenous territories before the implementation of REDD initiatives.

- All REDD and climate mitigation activities should be subject to stringent and independent Environmental Impact Assessments and Social/ Cultural Impact Assessments.

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- All REDD and climate mitigation activities should be subject to stringent and independent Environmental Impact Assessments and Social/ Cultural Impact Assessments.

- (EIA) and Social/Cultural Impact Assessments (SCIA) with the full and effective participation of Indigenous Peoples. The EIA and SCIA should be done prior to acceptance and implementation of development projects (e.g. dams, commercial lumbering etc) by private investors and other donors.

International processes and organizations

- Co-ordinate and share information with the UN agencies, specialized bodies and initiatives like CBD, UNFCCC, UNESCO, FAO, UNICEF, GEF, FCPF, UNDP, UN-REDD.

- Programme, UNU Traditional Knowledge Centre, UNEP and others that are considered relevant for the purpose of implementing direct and articulated action on climate change and indigenous peoples.

- Recognizing the close links between traditional knowledge, biodiversity and climate change, ensure close cooperation and more synergy between the CBD and UNFCCC on traditional knowledge and climate change, and supports the establishment of a working group on local level adaptation with the full and effective participation of Indigenous peoples.

- The Joint Liaison Group of the CBD/UNFCCC/ UNCCD to establish a Working Group/Expert body on Traditional Knowledge and Climate Change.

- UN-REDD Programme and other funders should develop compliance guidelines.
UN-REDD Programme and other funders should have a grievance and recourse mechanism to ensure that Indigenous Peoples' rights are observed at the national and international levels.

- Calls on the World Bank to have ongoing dialogue with indigenous peoples on issues of mutual interest, through a permanent mechanism.

- Request UN-REDD Programme and the Forest Carbon Partnership Facility (FCPF), in cooperation with the United Nations Permanent Forum on Indigenous Issues (UNPFII) and appropriate Indigenous institutions and organizations, to incorporate training and awareness on UN-DECRIPS in their

consultations and national round-tables on REDD.

REDD Funds

- Tie funding to compliance and observance of Indigenous Peoples' rights and the Declaration.

- UN REDD and other donors should have specific funds and facilities that Indigenous Peoples and forest dependant communities can access directly.

- Specific funding should be set up for Indigenous Peoples and forest dependant communities, for start up and ongoing capacity building and climate actions.

Civil Society Organizations

- CSOs should be proactive in lobbying for Indigenous peoples rights at all levels, regarding REDD.

- Establish an Independent Committee (including Indigenous peoples, NGOs, other stakeholders to monitor all REDD activities at all levels. ◄

Indigenous Peoples Summit on Climate Change: The Engagement of Indigenous Youth

The Indigenous people's summit on climate change held in Anchorage, Alaska was the first summit of its kind that drew indigenous people from all over the world to discuss and share experiences on climate change. The summit saw the participation of over 300 people that included indigenous people, donor community, foundations, international agencies, businesses and NGO's among others.

Why the Summit?

The summit was organized specifically for indigenous peoples not only to share lessons ,practices and experiences but also because they indigenous peoples are the first people to experience impact of climate change, a problem that many agreed they least contributed to, yet they are also affected by attempts to mitigate its effects. Indigenous peoples moreover are key observers of local environmental processes- changes relating to temperature, amounts and qualities of rain, length of seasons, and abundance of plants and animals etc- and have had a history of adapting to environmental changes. Climate change has also a human rights dimension to it since its threatening Indigenous people's right to food, self determination, water, health and their very own survival- hence the need for people to come up with a human rights approach to climate change decision making.

Indigenous peoples, it was said, have sustainable practices regarding environmental management and resource utilization to share with others, but their capacity to adapt has been compromised because of legal, financial and political constraints.

Hence the summit agenda began with the presentation of reports by indigenous peoples on impacts of climate change based on regions, namely, Africa, Asia, Pacific, Latin America and Arctic. This was followed by presentations of research commissioned by the summit and briefings on international instruments to address climate change. The following days saw the break outs into four simultaneous thematic sessions, dialogues with representatives from international agencies, NGO's, foundations and others. During breaks the youth and regions had their caucuses in roundtables and exchanged more views. On the final day focus was placed on the declaration and action plan generated from thematic session's outcomes which were to guide indigenous peoples in climate change negotiations in COP 15, Copenhagen and beyond.

Indigenous Peoples at the Anchorage climate summit

The youth; todays and tomorrow's leaders

The participation of youth was evident in the summit although few in number, people noted

that at least regional coordinators included youth in the participation. Indigenous youth voices from Latin America, North America, Arctic, Pacific, Caribbean, Asia and African regions were more vocal during the summit and the youth were able to give their perspectives on climate change each day during the plenary where each region had opportunity to address the summit. The indigenous youth reiterated the importance of their participation since they are the future generation. The youth also mentioned that they too face unprecedented challenges as a result of climate change and they have a role to play in addressing it.

The indigenous youth echoed their fears concerning the environmental crisis and stood in solidarity with their communities whom they said are disproportionately affected by climate change especially the indigenous women whose workload has increased, with scarcity of natural resources that they depend on. For instance in Africa indigenous women have had to walk for several kilometers to search for water whose scarcity has been exacerbated by climate change and this has taken up their time energy that could have been devoted to other activities. The youth gave their commitment to protecting mother earth, respecting cultural diversity and traditional knowledge, and positive involvement in all foras on climate change.

They called on governments to be responsible to their people and help communities in meeting their adaptation needs, in guaranteeing food and water security to avoid conflicts that are as a result of fight for scarce resources. This was in line with the fact that adaptation to climate change will require knowledge of climate trends, prediction of ecosystem responses and impacts on social systems at all scale.

The governments and donor community were also called upon to support clean renewable energy investments in indigenous peoples territories- wind and solar to reduce pressure for instance on wood fuel and other non renewable energy sources.

Further, they called for more resources to be availed for the most vulnerable indigenous people's communities in the form of funding for local adaptation and for environmentally displaced peoples. For instance, Africa participants noted that adaptation was a great need for the region since the impacts have been harsh and hence they need to adapt and diversify livelihoods. The youth in the discussions they held in roundtables were all in agreement that indigenous peoples themselves are the ones better placed to come up with solutions for mitigation and adaptation, which will continue to uphold environmental integrity and ensure that the future generations inherit a healthy environment.

Polluters, those countries with greenhouse gases emissions that had not reached the emissions target set were asked to take responsibility for their actions and inactions.

The youth envisioned a time when they will be able to influence decisions and bring about meaningful change. ◄

Climate Change and Indigenous Peoples: The Impacts on livelihoods and traditional systems

By Indigenous Information Network Team

The 2007 assessment report of the United Nations Inter-governmental Panel on Climate Change (IPCC), concludes that there is unequivocal evidence that the earth's climate system is warming, very likely due to anthropogenic (human caused) greenhouse gas emissions. The predicted that in the absence of effective mitigation, the earth's air temperature will increase by 2.0 to 4.5 degrees by the end of the century, resulting in a sea level rise of at least 18 to 58 centimeters and drought. Projected temperature increases in high latitudes, such as the Arctic, are 5 to 7 degrees by 2009. The IPCC report presented evidence from all continents that show increasing regional climate change and Africa was named among the most vulnerable continents in terms of impacts of climate change, Asia came in second followed by small island states. Carbon dioxide, the principal greenhouse gas emissions in the atmosphere, has increased by 35 per cent since the industrial revolution as a result of human activity, especially in the rich and industrialized nations. The Inter-governmental Panel on Climate Change chart of projected impacts shows that every region on the planet will be impacted by climate, outlines how climate change affects each region and every region

described incorporates some of the 300 million Indigenous peoples.

The emerging economies of China, India, Brazil and others are predicted to generate significant global GHG's. The impacts and effects of projected global warming on societies and cultures, as well as the environment and economy, are stark and worrying.

In March 2008, The World Bank hosted a conference on Social Policy and Climate Change, where Indigenous peoples were present. In Navin Rai's presentation called 'Indigenous Peoples and Climate Change', he stated that Indigenous peoples are often disproportionately affected by climate change, and that global efforts to combat climate change may further undermine Indigenous peoples' customary rights to land and natural resources. To better understand how climate change impacts Indigenous peoples especially women and youth, it is important to note Indigenous peoples' special relationship with the environment. Indigenous Peoples depend directly on genetic, species and ecosystems diversities to to support their ways of life. Theirs socio-economic matrix, traditional knowledge, cultural and spiritual practices are interlinked together and are further interlinked with their natural environment that include, land, water, mountains, forests among others. Due to direct dependency on natural systems, any impact that climate change has had on these systems has and will continue to threaten the livelihoods of Indigenous Peoples populations. Indigenous peoples are as unique and diverse as the biodiversity of flora and fauna in the natural world.

Indigenous people are the first to feel the effects of climate change that results in the separation from their traditional diets, special plants, animals as they become endangered, fresh water scarcity, extreme changes in weather and seasons, their traditional territories are destroyed, the unpredictability of Indigenous plant growth or animal migration, loss of traditional hunting and trapping territory with a subsequent loss of cultural practices and the loss of traditional and sacred lands among others. This is true for Africa.

The impacts of climate change on indigenous peoples are in terms of effects to their social, cultural, economic and political settings. Climate change affects their natural resource base (biodiversity) hence their wellbeing, traditional systems and livelihoods among others. These effects are explained below.

Collective responsibilities among communities in rural areas is a traditional system they have held for centuries

Impact on Biodiversity

Indigenous peoples interact daily with ecosystems and are intimately linked with biodiversity. They depend on biodiversity for provisioning services that is for food, medicine, fuel wood ,medicine, freshwater etc, cultural benefits like spiritual and religious values, aesthetic values, cultural heritage, knowledge systems, cultural diversity, sense of place, symbolic and communal values ,ecological indicators-Seasons patterns, regulatory benefits, air quality, water purification, pollination biological control of human, livestock, diseases etc.According to the Millennium Ecosystem Assessment (2008) it has been noted that 1 million species face an increased threat of extinction as a result of climate change.

So today's warming trend is likely to have a significant impact on species as well as species' habitats – in short, on biodiversity. Many species in Africa are already at risk of extinction due to natural processes and human activities .Climate change may lead to a sharp increase in rates of extinction. According to one recent study focusing on five regions of the world, if the climate continues to warm it could dramatically increase the number of species going extinct. Mid-range predictions suggest that 24 per cent of species in these regions will be on their way to extinction by 2050 due to climate change. This study also indicates that for many species, climate change poses a greater threat to their survival than the destruction of their natural habitat. Loss of forests equates to a loss of many species: a 20 year studies have shown that deforestation and

introduction of non- indigenous species has led to a bout 12.5% of the world's plants species to become critically rare.

Indigenous peoples are found in areas of high biodiversity and human cultural diversity is associated with it, hence it's endangered. Over the years Indigenous peoples have been using biodiversity as a tool for adaptation hence climate change threatens the defense (Ecosystem approach) because climate is changing too fast and natural conversion of habitats is making natural adaptation hard.

Impact on traditional knowledge systems

Indigenous peoples used traditional knowledge to cope with climate change because they could forecast weather, know when to move cattle's to other pasture lands, use cloud signs, have early warning systems etc. With climate change traditional knowledge has been distorted. Loss of plants for instance medicinal plants means that traditional knowledge associated with it is lost, prediction of weather patterns has become difficult, movement of people due to environmental problems lack of pasture, means alienation of people from their lands and resources from which they derive their traditional knowledge-natural resource/biodiversity is central to indigenous peoples livelihood and natural resources management because it provides intrinsic values and also helps in development/continuation of traditional knowledge and practices.

Traditional knowledge faces serious levels of erosion. As the peoples and communities holding the knowledge themselves face a range of threats from outright "assimilation" into "mainstream" society, the knowledge they hold also slips away. Adverse effects of climate change will affect indigenous people's knowledge, innovations and practices with the loss of resources medicinal plants thus reducing opportunities for learning and practicing traditional health, biodiversity conservation and food security knowledge.

Extinction of floral and faunal species will be followed by loss of Indigenous Peoples art, since most indigenous people's languages, songs and tales are closely associated with plants, wild animals and their habitats. The disappearance of fish in rivers, bees in forests, edible wild animals in the forest will not only lead to food shortages, but will also lead to loss of traditional fishing skills, honey harvesting skills and hunting skills.

Impact on peace and security;

Conflict due to scarcity of natural resources and/or fresh water

Conflicts have resulted lately provoked by climate change, over already scarce resources. This may occur around water, wood products, or other dwindling resources in indigenous territories. This is especially dire for Indigenous women and youth, who suffer the most during such conflicts.

Conflict can take the form of either human-human or human – wildlife conflicts.

Human-Human Conflict

This conflict is due to fight for scarce resources for instance water and pasture. The Indigenous peoples particularly the nomadic pastoralists are continuously threatened by powerful forces beyond them, for example, failing rainfall and drought. These phenomena do not only lead to livestock loss, but it also becomes a trigger for conflict among the nomadic pastoralists. The competition for scarce resources (pasture and water) becomes a recipe for conflict especially when one pastoral community invades the purportedly territory of another pastoral community or when one community prevents the other from accessing the scarce resources. Conflicts also happen when one pastoral community desperate attempts to restock the lost livestock from drought by raiding from the neighbouring or distant pastoral communities. This usually leads to injury and loss of human lives. This is also exacerbated by the fact that there is no insurance for lost livestock.

Human – Wildlife Conflict

This has been exacerbated by the establishment of protected areas by governments which have led to reduction of land used by indigenous pastoral communities and hunter gatherers. This has restricted the range used by both pastoral communities and hunter- gatherers to graze their livestock and harvest honey respectively. The creation of protected areas in inland waters has also restricted the fishing indigenous communities from accessing their fishing grounds. These problems have been

compounded by the effects of climate change such as drought, ecosystem change and water shortage. Pastoral communities are forced by water and pasture shortages to graze into the wildlife parks and reserves competing with wildlife. This ultimately leads to human-wildlife conflicts, predation of livestock and human aggression. Death of herbivores in the Wildlife Park and reserves from drought and water scarcity, will lead to migration of carnivores to nomadic pastoralists grazing areas to prey on surviving livestock.

Impact on right to self determination; Migration

As communities become further threatened by climate impacts, Indigenous communities will experience a further decline in their right to self-determination.Indigenous Peoples have been turned into environmental refugees since they have been forced to move from their homes and traditional territories because of environmental factors such as drought, water shortage, desertification, loss of forests which are caused by climate change. The population which migrate is usually composed of youth and men of productive age. Women, children and the elderly are usually left behind. Climate impacts that force communities to relocate may have profound psychological impacts on young people. The impacts include those associated with the loss of the culture/traditions and space-specific language associated with their territories. As Indigenous Peoples move to urban settings to seek employment and opportunities previously found in their home communities, they may encounter discrimination, while experiencing issues of identity loss, and the lack of family and community support.

Impact on Gender (Women, children and youth)

It is reported by the Gender and climate change website that women are more vulnerable to climate change because they represent the majority of the worlds poor and because they are more than proportionately dependent on natural resources that are threatened. Women, it is known are the primary stewards of natural resource management for their households and communities. Therefore, women are the first people to become aware and feel the initial consequences of environmental change. When organizations appeal for aid during times of catastrophe the face of a suffering woman or child crops up because they (women) are the most vulnerable constituents in a society. When climatic disasters strike women are the most significantly hit both because of their unique dependence on environmental resources? This is true for indigenous women who more often than not interact with environment on a day to day basis using their traditional knowledge to cope with changes.

Women are the primary caretakers of their family, holding significant responsibilities like tilling the land, gathering wild fruits, vegetables, traditional herbs, and construction materials. When men migrate to towns and cities as a result of effects of climate change, women are left behind with very difficult responsibilities of taking care of the children and the elderly. The capacity of indigenous women to perform their roles as water bearers, transmitters of culture and language among others are undermined. The youth also have been disproportionately affected by climate change. They are the future generations who want to inherit a healthy environment yet climate change is threatening their own existence.

Empowering communities with information on health, gender and education is key to a healthy nation

Impact on health; (human and animal health) and Food security

A relationship between climate change and incidence of new diseases and or pests has been established. In Kenya during the world health day celebration, the ministry of health noted the fact that disease zones have increased and the diseases thought to be for dry lands have also been experienced in highland areas. Increase in range of vector and water borne diseases, increase in occurrence and spread of infectious diseases and malnutrition are the common consequences of climate change among the indigenous peoples. This is so because traditional food systems have been destroyed by climate change. Ecosystem change and extinction of plant species as a result of drought leads or has led to poor nutrition to both people and livestock. Social dislocation as a result of impacts of climate change leads to mental depression and psychological torture of people and in most case are left untreated.

For pastoralists who depend on livestock, poor pasture or lack of it has led to breeds losing market value as well as their health. This being the primary source of livelihood for them has resulted in poor animal health. There has also been incidence of pests and new livestock diseases like the rift valley fever which also affected livestock.

The Inter-Governmental Panel on Climate Change (IPCC) report of 2007 mentions that floods are expected to be more frequent. These will have severe impacts on food security and will be worsened by expected warming of lakes and rivers decreasing fish productivity.

Impact of climate change mitigation initiatives

Indigenous communities may or have been affected by many of the proposed solutions to climate change, and special efforts must be made to avoid this. For instance, bio-fuel production in many areas involves the large-scale plantation of single crops, which reduces biodiversity. Indigenous Peoples being relocated to make way for bio-fuel implemented without their consent in violation of the UN Declaration on the Rights of Indigenous Peoples (UNDRIP). iin other cases, Indigenous communities have fought climate projects implemented without their consent, in violation of the UN Declaration on the Rights of Indigenous Peoples (UNDRIP).

Indigenous Peoples Responses

Indigenous peoples are not only keen observers of climate changes but are also actively trying to adapt to the changing conditions. This is especially significant in view of the fact that Indigenous peoples maintain within their lands 80% of the world's biodiversity. In some instances, people have drawn on already existing mechanisms for coping with short-term adverse climatic conditions such as droughts or flooding. Some of these responses have be traditionally included in their normal subsistence activities, while others are acute responses, used only in case of critical weather conditions. Some indigenous peoples have resorted to diversifying their resource base. This is a commonly employed strategy to minimize the risk. traditional people often (due to droughts and floods) that has killed their livestock, supplements these by gathering wild food plants. In areas with market access people may also supplement their subsistence base by selling handicrafts, forest products, and so forth. Changes in resources and/or life style: Some indigenous peoples for instance pastoralists have resorted to wild foods in the case of emergency situations such as droughts. For example, the Pokot of Nginyang (Kenya), who normally relies on pastoralism have shifted to wild seeds and wild fruits.

Surviving in the midst of all these changes

However despite the challenges posed by climate change, indigenous peoples are trying hard to survive. The people have been calling for the integration of both scientific knowledge and research together with the values, principles and practices of Indigenous relationships with the natural world which can provide a sustainable future for not only Indigenous peoples, but for all of life.

Indigenous peoples are vital and active and may help to enhance the resilience of these ecosystems. In addition, they interpret and react to climate change impacts in creative ways, drawing on traditional knowledge as well as new technologies to find solutions, which may help society at large to cope with the impending changes because Indigenous peoples' concepts about the environment are rooted in their language and cultural practices, Indigenous language revival is essential in dealing with climate change.◄

Eco -Tourism in Practice at Base Camp, Maasai Mara

By Tabitha Sitatian

Base Camp borders the Maasai Mara National Reserve, hidden away under thatched roofs with spectacular views of the savannah. It is a network of responsible tourism destinations since 1998. Their slogan, "Leave a positive footprint," has become their approach to responsible travel. Base Camp is built on the principle of eco-tourism and environmental awareness and it endeavours to minimize the negative impact on the local environment.

Clean water is a crucial resource for the people and wildlife of the Maasai Mara. The camp uses as little water as possible and recycles all the used water. Water needed for the camp is pumped from Talec River, after going through a natural cleaning sand filtering system. All waste water from the shower and sink, is collected and reused to water the planted indigenous trees on the camp's compound. They use eco-friendly soaps, bio-toilets instead of flash toilets, which use 20ltrs of water per flash. Water is heated using solar which also provides lighting to the camp. They also have a compost site for all the solid waste collected which later acts as manure to the planted trees. Everything is put to use, for example, Tetra pack for milk is used to plant seeds in the empty packs and the water plastic bottles are used for drip irrigation.

Tree Planting:

Elephants, fire, grazing, settlements and tourism, all contribute to the change of the eco-system with in the Maasai Mara. The forest is under heavy pressure from the local people and hoteliers who collect building poles and firewood. Base Camp has a tree nursery with the aim of becoming self-sustainable. All the trees in the nursery are indigenous. Visitors at the camp are encouraged to buy a tree from the nursery and plant it in the camp's compound. By planting trees, Base Camp also helps in mitigating climate change- trees acts as carbon sinks, they attract rain; the more the trees, the more the oxygen; desertification is also reduced, catchment areas are restored and all these will regulate the rain patterns. Over 1000 trees have already been planted at the camp. 30,000 more trees are in the nursery. Trees are also given to schools for planting to prevent soil erosion, drought, flooding and capture carbon dioxide. Base Camp has a policy of ensuring that their business and all the travels is carbon free. When American President Barack Obama (was a Senator then), came to Kenya in 2006, he chose Base Camp for his safari experience, because of its reputation as an eco-friendly camp with ties to the local Maasai community. Little wonder then that the Eco-tourism Kenya certified the Base Camp Maasai Mara, as the best practice of eco-tourism in 2004. When you stay at the Base Camp, you get a once in a lifetime safari and cultural experience, where you get to meet the wild, the Maasai, the Savannah; all living in harmony with one another.

Base Camp Maasai Mara:
Empowering the Local Community

Base Camp is a network of responsible tourism destinations that offers exciting travel experiences. Community and conservation projects are part of Base Camp's responsible tourism concept. Base Camp has teamed up with local Maasai land owners to protect land bordering the great Maasai Mara and Serengeti eco-system. Projects generate community income which improve their livolihoods and empower the local community economically.

Beadwork:

Over one hundred women are working on this project and making a positive change in the lives of their families. The local women are trained at the arts and crafts centre at the camp. All the beadwork is handmade using the glass beads

and high quality leather, but scrap metal and waste materials are utilized. The thread they use is made from used plastic food bags. After the women complete the making of different designs, a person receives 75% of the total cost of the item sold. Base Camp buys all the materials used. The women are involved in the pricing of the items

Each item is priced in accordance with its significance in the Maasai culture. Earnings from this project have greatly improved their housing, health, children's schooling and clothing. According to the chairlady of the group, Mrs. Grace Teeka, those women who did not join the group are now regretting, as some of the women have bought cows, have built modern houses; their husbands are happy with the project and they even remind them of meetings when the women forget. The manager of the Base Camp is a lady by the name of Grace Sorimpan Osoi. She has managed the camp for two years, with 36 men and 3 ladies. That is not a mean achievement considering the Maasai culture where women are supposed to be seen only but not to be heard.

Education:

It is a new Maasai weapon and an investment of the future. Base Camp facilitates learning and management training in responsible tourism. A community day is held once a year in the camp. On this day, the community accesses the activities of the Base Camp. It's an open forum for dialogue. Base Camp sponsors high quality performers in primary, secondary and university schools. At the moment there are 27 girls who are fully sponsored by Base Camp at St. Mary's Girls Secondary in Narok. They also train tour guides in Koiyaki Guide School. This then empowers the local youth who get employment as tour guides after the training.

Health:

Base Camp has constructed health and sanitation facilities and is promoting health training and awareness. They started with their own staff by creating awareness on HIV/ AIDS. When women meet for the beadwork, a counsellor is always there to create awareness on different issues concerning health, for example: HIV, malaria, clean water and clean living environment.

Traveller's Philanthropy:

Base Camp has taken another step in helping to empower the local community, by involving guests in contributing and supporting local communities in sustainable programmes in education, health, water and environment, so, by the time the travellers leave Base Camp, they leave a positive footprint behind.◀

Food Security: The Uganda Experience

By Henry Neza. *United Organization of Batwa Development - UOBDU*

A Season in Uganda

July is normally a dry month in Uganda when crops are harvested and land preparation for the second season begins. Recently, unseasonable rains were experienced in parts of Lake Victoria Basin, central and eastern Uganda during the last ten days of July. At that time, the major part of the first season annual crop harvest was over in most districts. Near normal cereal and pulse harvests were reported across the country. Nevertheless, relatively dry conditions in May and June affected some of the crops in several central and eastern districts and crop development and livestock production in western and southwestern Uganda.

The re-establishment of rains in parts of Uganda during late July offered a reprieve to crops, for example the staple crop sorghum, which were still in vegetative stages and therefore became more likely to recover from effects of the dry conditions. The impact of reduced rains on production and subsequent risk to food security, however, can only be ascertained after August, when most crops are harvested. Improvement in rains can boost livestock conditions, by reviving vegetation and sustaining water supplies. For now, livestock remain close to homesteads and continue supplying milk and other products for pastoral needs and thus playing a significant role in food security. In some Batwa communities of Uganda food insecurity is experienced due to challenges in attaining sufficient livelihood conditions as a consequence of climate change, and, as a result, the Batwa people seek jobs across Uganda's borders in the D.R. Congo and Rwanda.

another must be taken seriously. The Windhoek High Level Ministerial Declaration expresses this clearly: "Governments, in cooperation with the research community and with support from the international donor community, should undertake rigorous comparative assessments of alternative agricultural models and cropping systems."

This should be seen as complementing the 2003 Maputo Declaration target of raising the share of national budgets devoted to agriculture and rural development to at least 10%. Indeed, the progressive realization of the right to food is not merely an issue of raising the budgetary allocation of the right to food nor is it merely an issue of raising the budgetary allocation for agricultural development. It also requires that governments opt for the orientations more conducive to the realization of the right to food by carefully balancing the existing options against one another.

The conclusive understanding of the best options for a reinvestment in agriculture has significantly improved. Almost sixty governments have proved the conclusions of the international assessments of Agricultural Knowledge, Science and Technology for Development (IAASTD) during an Intergovernmental Plenary that was held in Johannesburg in April 2008. The IAASTA, a four-year process initiated by the World Bank and the FAO, involved 400 experts from all regions. It calls for a fundamental paradigm shift in agricultural development, noting that, "successfully meeting development and sustainable goals and responding to new priorities and changing circumstances would require a fundamental shift in agricultural knowledge, including science, technology, policies, institutions, capacity development, and investment."

The IASTAAD conclusions provide the international community with much needed guidance during a period of crisis. The UNEP, FAO, and UNCTAD have all recently published reports that demonstrate how models of sustainable agriculture should and could be scaled up.

Therefore, it is important to consider the range of options available and balance them against each other. It is in this context that the right to food framework could assist in guiding governments towards making the right choices. This framework requires a prioritization of the needs of the most vulnerable; that will define benchmarks not only by levels of production achieved, but also by the impact on the right to food through different ways of producing food as well as decision making based on participatory mechanisms.

Karamojong traditional food storage granary

2. An enabling environment: market access and sustainable food chains

The chairperson of the CSD-17 identifies the need to create an 'enabling environment' as an area for improvement. The other three fields identified in the chairperson's message can be linked to this: 'sustainable value chain development,' 'market access,' and 'food security and safety net mechanisms.'

Indeed, strong and well–targeted investment in agriculture will not suffice. Smallholder farmers, which are the first vulnerable food insecure group, being 50% of the hungry, will only be able to improve their situation in a favorable economic and socio-political environment. Efforts by agronomists will be pointless if the right institutions, regulations, and accountability mechanisms are not established and implemented. It is crucial to build an enabling environment which is more about how to help the world feed itself than "how to feed the world."

The constraints to rural development at the local level have widely been identified by the IAASTAD. As for the FAO Voluntary Guidelines for the progressive realization of the right to adequate food in the context of national food security, they emphasize the need for states to put in place national strategies mapping the groups which are most vulnerable, clearly allocating responsibilities across different branches of

government, setting benchmarks, imposing timeframes, and empowering independent institutions, including courts, in order to enhance accountability.

At the global level, two issues for which improved global governance is needed must be highlighted:

1. Market access and trade: Access to markets and remunerative prices are crucial conditions for smallholder farmers and their communities to escape hunger. The current multilateral trading system is heavily skewed in favor of a small group of countries, and is in urgent need of reform. In agriculture, in particular, trade-distorting measures, obstacles to market access for developing countries, domestic support schemes for OECD countries' farmers, and export subsidies have led many stakeholders to deeply unfavorable situations. Yet, simply removing the existing distortions will not suffice. If trade is to work for development and to contribute to the realization of the right to adequate food, it needs to recognize the specificity of agricultural products, rather than to treat them as any other commodities, and allow more flexibilities to developing countries, in order to shield agricultural producers there from the competition of industrialized countries' farmers.

2. Regulation of global food chains: Trade is mostly done not between states, but between transnational corporations. If the collective aim is a trading system that works for development, including the human right to food, the role of these actors also must be considered. The expansion of global supply chains only shall work in favor of human development if this does not pressure states to lower their social and environmental standards in order to become 'competitive states,' attractive to foreign investors and buyers.

All too often, at the end of agro-food supply chains, agricultural workers do not receive a wage enabling them a decent livelihood. The ILO estimates that the waged work force in agriculture is made up of 700 million producing food, but who are often unable to afford it. This is unacceptable. It should be asked how the relevant ILO conventions could be better implemented in the rural areas, which all too often labor inspectorates are unable to monitor effectively, and how those working on farms, often in the informal sector, can be guaranteed a living wage, and adequate health and safety conditions of employment. Consequently, the international community should aim to adopt incentives and regulations to ensure that transnational agro-food companies contribute to the sustainable development of the countries they source from, and to the realization of the human right to food.

3. Land

Prior to its 17th session, the Commission identified access to land and security of tenure as one of its priorities for future work. Welcome this decision, as it is an overshadowed aspect in the global discussions on the food crisis. Improved security of tenure as one of its priority for future work.

Improved security of tenure and more equitable access to land are indispensable for the realization of the right to food because 50% of those who are hungry are smallholders who live on less than two hectares, and 20% are landless laborers. Access to land is crucial for them. Sustainable access to land encourages more sustainable farming, particularly by the planting of trees and more responsible use of the soils and water resources. This in turn results in improved nutrition and health; fruit trees are sources of vitamins and proteins, medicine trees of health remedies. It improves biodiversity and facilitates adaptation to climate change, as farming systems including trees are more resilient to climate extremes.

Providing landowners and users with security against eviction also enables the development of small-scale agriculture, which is highly productive per hectare and, because it is labour intensive, is a source of rural employment. This should not be underestimated in this period of economic crisis, as many countries face waves of return of immigrants on top of important urban unemployment. In that respect, lessons from the past must not be forgotten. Equitable land distribution has been proven crucial in many countries for the long periods of stable economic growth and poverty alleviation. Land reform with a strong redistributive component has been an important element of the development path of several countries.

Three challenges are faced as far as smallholder farmer's access to land is concerned: protecting the security of land tenure, promoting land reform, and tackling transnational large scale acquisition of land.

Responses grounded in human rights will be more effective –more responsive to the needs of the poorest and more sustainable. States indeed have an obligation to respect, protect and fulfill the right of access to productive resources, as an essential condition for the realization of the right to food. This is expressed in Guideline 8.1 of the Voluntary Guidelines on the right to food.

Recommendations

The CSD has a unique contribution to make to the current discussions about the future agricultural development. Consistent with the emerging consensus that increasing agricultural production must go hand in hand with increasing the incomes of the poorest, particularly small-scale farmers, and switching to modes of production which do not contribute to climate change, the CSD could consider, in its vision statement:-

1. Reaffirming the need, not only to increase food production, but also to reorient agro-food systems and the regulations that influence them at national and international levels towards sustainability and the progressive realization towards the right to food.

2. Reaffirming the conclusions of the International Assessment of Agricultural Knowledge, Science and Technology for Development on the need for a paradigm shift in agricultural science, policies and institutions.

3. Anticipating the effects of climate change on agricultural and agro-food systems, and warning the international community of the need to encourage a diversity of resilient agricultural systems able to cope with climate disruptions, including agro-ecological systems.

4. Calling for a World Food Summit with a comprehensive agenda in order to encourage the international community to address the structural causes of food security and fill in the gaps of the currently fragmented global governance (including the issues of sufficient or inadequately targeted investments in agriculture, unregulated markets which do not guarantee stability and remunerative prices, speculation on the futures markets of agricultural commodities, weak protection of agricultural workers, and adequate regulation of the agro-food chain).

5. Promote the adoption of national right to food strategies, following the FAO Voluntary Guidelines on the progressive realization of the right to adequate food, in order to design and implement at national level comprehensive strategies aiming at sustainable food systems, including production, transformation and consumption.

6. Take leadership into encouraging states and international organizations to implement the conclusions of the International Assessment of Agricultural Knowledge Science and Technology for Development (IAASTD), and explore the options to equip the international community with a permanent independent expert body, which could regularly update the IAASTD conclusions.

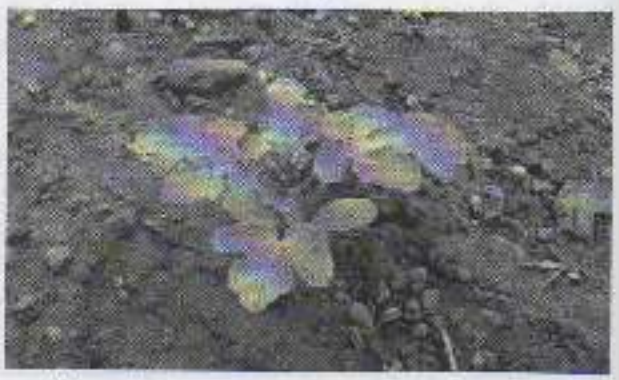
7. Encourage states and international organizations to compare the various agricultural development model in order to ensure that scarce resources such as land, investment, and human resources are used to support the models that are most sustainable.

8. Contribute to improving the recognition of smallholders' access to land issues by the international community by:

(i) Including the Guideline 8.1 of the Voluntary Guidelines on the right to food as a strong reference in the measures and actions promoted by the commission;

(ii) Emphasizing the essential role of agrarian reform (redistribution of land) in the realization of basic human rights, food security, and sustainable agriculture;

(iii) Encouraging donor countries and international institutions to support countries which engage in agrarian reforms and Calling for the adoption of international guidelines on large-scale offshore acquisitions of land.



With availability of water, drylands can be productive.

Indigenous Women and Climate Change

By Georgina Wabwire - *Indigenous InformationNetwork*

Continued excessive greenhouse gas emissions are creating floods, droughts, hurricanes, sea level rise and seasonal unpredictability. Among the consequences are failed harvests, disappearing islands, destroyed homes, water scarcity and deepening health crises which are undermining millions of peoples' rights to life, security, food, water, health, shelter and culture. According to the IPCC, today almost 500,000 people live on islands that are threatened with extinction by sea level increases. These kinds of impacts are likely to lead to mass immigration across borders, increased conflict over scarce resources, among other problems. The irony is clear to Indigenous Peoples; as communities, they have contributed perhaps the least to climate change, but suffer the adverse consequences the most. Indigenous Peoples live in places where the effects of climate change are felt and observed including the polar ecosystems; dry and sub humid ecosystems,, arid and semi arid lands, grasslands, Mediterranean landscapes, forest ecosystems etc.

Climate changes impact Indigenous Peoples as a whole, yet Indigenous women are the most disproportionately affected minority.

For many generations, they have been the store of indigenous knowledge of environmental protection, preservation and biodiversity. In addition, women and girls spend many hours fetching fuel and water during floods or drought in poor countries. Women are also the caregivers for sick family members when waterborne diseases occur due to floods, and they will usually be the first in the family to eat less when food is scarce. Perhaps most importantly, women are hugely underrepresented in decision-making regarding climate change, greenhouse gas emissions and adaptation or mitigation solutions. As a result, climate changes specifically put women's rights to food, life, security and health at risk. As such, many women's groups and rights activists, including the Association for Women's Rights in Development have advocated for climate change to be recognized as a gender issue.

Impacts of Climate Change on Indigenous Women.

Women have faced various challenges as a result of climate change including food insecurity due to changes in rainfall patterns, an increase of pests and diseases from changing temperatures, and saline water intrusion into freshwater systems resulting to fishing difficulty. Women also experience health risks as a result of climate change. Food insecurity may force women to eat less, even if they are pregnant or nursing mothers, making them susceptible to illness and their newborns prone to malnutrition. Dumpsites are an additional health risk for women. For example, Dandora dumpsite in Nairobi has been found to be emitting methane, one of the potent green house gases. This gas has caused the local population to experience a rise in skin illness and cancer, and women have reported frequent cases of miscarriage.

With the destruction of crucial resources as a result of climate change, Indigenous women stand to lose their ecological knowledge, practices and sustainable livelihoods. The loss As water becomes scarce, women's workloads increase, thus limiting their chances to participate in social or local life or in pursuing other alternative sources of income. As primary caregivers of the family, the women have to spend more time caring for the sick family members. Women exert precious time and energy collecting, storing, protecting and distributing drinking water. In the discharge of these roles, Indigenous females face violations of their rights. For example, women and girls traveling long distances in search of resources are prone to sexual harassment or assault. In addition, girls may be forced to end their education early.

In pastoralist communities, women face farther violations, such as having fathers trade their daughters as dowries to replace income lost from livestock due to prolonged droughts. The scarcity of water also causes conflicts among communities' members as they compete for ever-depleting source of water. Since it is traditionally women who to fetch water, they are the most affected by such conflicts. Further, there is a concern that there is an increase in domestic violence due to food insecurity. Wives who cannot feed their families adequately are reported to have been physically and/or verbally abused by their husbands.

Food insecurity easily interrupts and limits opportunities for education. Some women engage in charcoal burning as a source of income out of desperation,, contributing to deforestation and climate change. In a training workshop of Indigenous Peoples held by Indigenous Information Network in Isiolo in 2008, indigenous women from Marsabit complained that they had limited income-generating opportunities. They explained that the drought in Marsabit was killing their livestock and prevented them from farming. On a more positive note, training from the IIN sensitized the women to the implications of charcoal burning, and suggested various other income generating activities, such as bee keeping or sustainable charcoal-burning.. It will be interesting to see if such training is implemented in indigenous communities in the future.

Immigration and displacement as consequences of climate change and/or adaptations to mitigation measures reinforce violence already experienced by indigenous women, exposing them to higher risks of trafficking, exploitation and gender-based violence.

In traditional societies, women are more vulnerable to the impacts of climate change as they are often not allowed to participate in the public sphere, and are therefore less likely to receive critical information for emergency preparation. For example, in Southeast Asia women do not have access to early climate warnings, because such warnings are placed in public places where women rarely go. In some indigenous communities, girls and women are not taught to swim and are prohibited from going out of their homes unaccompanied by male relatives, decreasing their chances of survival during natural disasters.

Women's human rights are not comprehensively exercised throughout natural disaster situations. Economic and social rights are violated in disaster processes if mitigation, relief and reconstruction policies do not benefit women and men equally. The right to adequate healthcare is violated when relief efforts do not meet the needs of specific physical and mental health needs throughout their lifecycle in particular when trauma has occurred. The right to security of persons is also violated when women and girls are victims of sexual and other forms of violence while in relief camps or temporary housing civil and political rights are denied if women cannot act autonomously and participate fully at all decision-making levels in matters regarding mitigation and recovery. The ultimate effect of these climate change impacts however, is exacerbating poverty in the community.

Adapting to Climate Change.

Being the most vulnerable group to climate change, women can employ various adaptation measures to cope with these effects. They can get involved in alternative income generating activities, for example small-scale beadwork enterprises like the Namayiana women's group in Ngong district, Nairobi.

Some pastoralist communities have adopted a form of nomadic trading to sell the Maasai *shukas*. Here, the women group follow livestock traders on the different market days in search of customers. The rotational market days offer the best opportunities for the women to generate income.

Female farmers can also switch to cultivating crops that can be harvested before the flood season, those are that are drought resistant and rice varieties that grow above water when the floods come. During floods, women have been seen to take the initiative of looking for relocation sites for their affected families and community members. Instead of depending on wood fuel, women can share practices of using alternative energy related technologies such as solar, biogas and improved cooking stoves. They can also engage in better farming methods that realize higher yields such the use and application of compost manure, multiple cropping, intercropping and changing cultivation to easily marketable crop varieties.

To combat emerging financial challenges and issues of food security, women are creating self-help groups and establishing partnerships with other Indigenous women's groups. In addition

women actively participate in trainings to enrich their skills in food and livestock production and environmental conservation. Indigenous Infomation Network (IIN) specifically deals with various women and self-help groups and has held a number of grassroots training workshops to educate women on environmental conservation.

It is important to note that women are at the forefront of reforestation efforts. Women's groups nurture tree seedlings and sell them to other interested parties while at the same time planting their own. They grow vegetables and fruit trees such as guavas and pawpaw trees. One such group, the Merigo women's group in Marsabit, has succeeded in planting tree seedlings and vegetables as a source of both food and income to them, despite regular droughts.

In addition, women can engage in polythene bags recycling projects as an income generating activity. This involves collecting used polythene bags and weaving ropes, mats and baskets from them. The sale of the final products brings some additional income.

Why women should be involved in decision-making

Having demonstrated that the sustenance and well being of families and communities at large depend extensively on women, it is crucial that they be actively involved in decision-making meetings.

The Former UN secretary-General, Kofi Annan emphasized the importance of women's voices with regards to development when he commented that:

'There is no development strategy more beneficial to society as a whole-women and men alike-than the one which involves women as central players.'

The former Executive Secretary of UNCCD, Hama Arba Diallo also added his voice on this issue when he stated that;

'Women play a pivotal role in the pastoralist way of life, assuming diverse responsibilities with regard to the livestock, the land and the household. In the course of their daily tasks, they have developed an intimate knowledge of natural resource management, which they put into practice for the benefit of both their communities and the environment. However their knowledge and capabilities have not been fully recognized and they are often excluded from the decision-making process.'

Most societies have been established as patriarchal, limiting the role of women in crucial decision making which ultimately affects both genders. This has been especially evident in the indigenous communities where women have been down trodden with no voice in the society yet they are central to any development in any society. Although there is some development with regard to the recognition of the capabilities of women and their rights, it is not adequate enough to reach international standards. Women are still sidelined in matters of development and in involvement of decision making meetings. International laws demand the recognition of the significant roles played by women for example the *Convention on the elimination of all forms of discrimination against women, Article 14*, is to the effect that;

'State parties shall take into account the particular problems faced by women and the significant roles which rural women play in the economic survival of their families.'

States cannot truely recognize the significant role of women without providing safe spaces for female voices to be heard and involved. This applies both at the local and international level meetings like the conference of parties meetings that mainly concern climate change.

The *Manila Declaration for Global Action on gender, climate change and disaster risk reduction* which came into force on 22nd October 2008, denounces the absence of gender perspective in the global agreements on climate change, despite national, regional and international commitments and legally binding instruments on gender equality. This declaration further declares that women and men must equally participate in climate change and disaster reduction decision making processes at community, national, regional and international levels. If this declaration will be observed, then there will better prospects for women in the future.

Conclusion.

It is clear that women and in particular indigenous women have lost a lot as a result of climate change despite the fact that they

contribute less towards it. Their livelihoods, culture and traditional knowledge are continuously at risk because of the impacts of climate change. Even measures that are aimed to mitigate the effects of climate change are impacting on them in negative ways. These effects are so pressing and should not be ignored. Developed countries, who account for the majority of greenhouse gas emissions, must cut their emissions drastically and now, institutions that deal with climate change should consider women in decision making and there should be trainings to the women at the grass root level on what climate change is all about and how to adapt. ◄

Environmental Governance

Environmental Governance relates to implementing policies in response to environmentally-related demands with the goal of attaining environmental sustainable development. Therefore any discussion or consideration of environmental issues should be done in the context of sustainable development. The integral relationship between environment and development was reaffirmed at the highest political level at the United Nations Conference on Environment and Development in 1992 where the over-arching principle of "Common but Differentiated Responsibility" was embodied in the Rio Declaration's Principle 7 as follows:

"States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command."

However as will be discussed later this principle of 'common but differentiated responsibilities' has not been fulfilled and neither has environment been incorporated into development. Environmental governance occurs at the international, national, and local levels and thus for sustainable development to occur globally, the systems of governance at all three levels have to be strengthened. This paper therefore seeks to discuss the three levels of governance and whether they are working in the face of the deteriorating environmental conditions.

International Environmental Governance.
UNEP is the principal UN body in the field of environment. This was established by the 1997 Nairobi declaration which was adopted by the UNEP Governing Council and endorsed by the UN General Assembly. It is the leading global environmental authority that sets the global agenda, promotes the coherent implementation of the environment dimension of sustainable development and serves as an authoritative advocate for the global environment. However during the 25th session of the governing council of UNEP, various participants expressed the feeling that UNEP has been unable to take on the task of a global environmental champion and protector. Some attributed this to the fact that it is de-centralized and that its few regional offices are weak whereas others blamed UNEP's inability to financial constraints. Nevertheless, the participants appreciated what the institution was doing so far.

There are various multi-lateral environmental agreements in place internationally to safeguard the environment. The majority of states are subject to these agreements but have not implemented them in their own countries. This therefore renders these environmental agreements inefficient and unable to create change, despite the fact that there is continuing proliferation of these agreements at the international level which in most cases are overlapping. For developing countries in particular, the proliferation of multilateral environmental agreements for environment and sustainable development has created strains and burdens with regards to participation at international and regional meetings, policy and project or programme implementation. The principle of common but differentiated responsibility in the Rio declaration recognizes the primary responsibility of developed countries in causing the environmental crisis with their unsustainable productions and consumptions. However the implementation of this principle is far from satisfactory. The Kyoto protocol, for example, is a legal instrument that emphasized

the principle of common but differentiated responsibility, but the tremendous resistance by some northern countries, and the its outright rejection by the Bush administration is a denial of said principle. There is therefore the need for developing countries to ensure that a strengthened International Environmental Governance will commit to enforcing the principle throughout the UN system, in all multi-lateral environmental agreements and in financial institutions and mechanisms.

In addition the polluter pays principle which requires that enterprises should internalize the environmental externalities by bearing the costs of controlling their pollution has not been operationalised in the various states. The Rio Declaration, principle 16 is to the effect that:

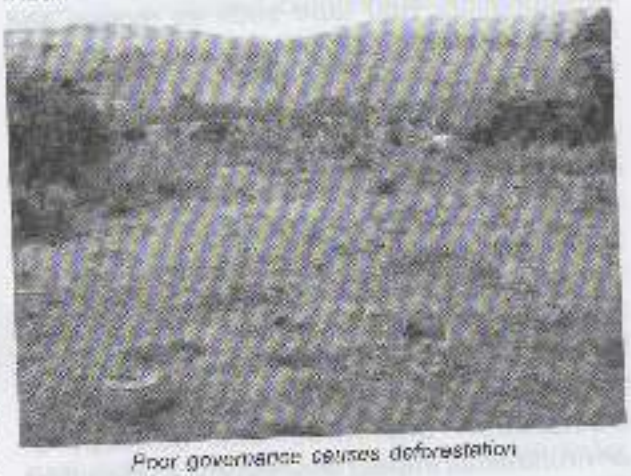
"National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment."

This principle has not been implemented in many countries, which is why many enterprises generate pollution and waste in the production of their goods and services without any regard to the environment. The rationale underlying the internalization of environmental costs is that if the real value of the environment and components of it are reflected in the costs of using it, the environment will be sustainably used and managed.

Another principle that also regulates states in dealing with environmental issues is the precautionary principle. This is explained in principle 15 of the Rio Declaration on environment and Development stating that, : "In order to protect the environment, the precautionary approach shall be widely applied by states according to their capabilities. Where there are threats of a serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

Although the concept of precaution may be understood as essential to environmental protection and is one of the most commonly encountered international environmental concepts, it is also one of the most controversial of the Rio principles because of the disagreements about its precise meaning and legal status. There is also the concern that it can lead to overregulation, may limit acceptable and sustainable human development activity, and will be misused, particularly for trade protectionist purposes. It is likewise important to note that in general, multi-lateral agreements on the environment and said principles are not known to the majority of the citizens, and are thus rarely applied in any real sense. There is therefore a serious need for free citizen training and accessibility of information to the general public.

The rejection by some countries, specifically super powers unwilling to abide by rules other than their own, may jeopadize efforts needed to meet the challenge of sustainable development. In view of these various principles and international agreements in place to sustain the environment on a global scale, the following analysis seeks to discuss how national governments have responded to said agreements and what measures must be instilled for environmental governance.



Poor governance causes deforestation

National Environmental Governance.

The principle of common but differentiated responsibilities has not been fulfilled by developed countries. As such, developing countries have been left to struggle with the effects of the world-wide pollution all the while contributing a fraction of what developed nations do. Whereas various developed countries have made commitments to finance a number of developing countries in sustaining the environment, many of those commitments have yet to be met.

The Rio Declaration, Principle 10 states that:

"Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities and the opportunity to participate in the decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings including, redress and remedy, shall be provided." Public participation in the context of sustainable development requires in particular the opportunity to hold and express opinions, and to seek, receive and impart ideas. It also requires free and easy access to information on social policies, usually held by governments regarding social policies. The distribution of information, and thus the dissemination of power with regards to a statute requires paying the government printers based in Nairobi. Additionally, the statutes are also written in a language that requires a certain level of education. Red tape such as money and language-barriers essentially guarantee that the majority of citizens, specifically indigenous peoples and those in rural areas, remain in the dark about policies that ultimately affect their land, their people and their livelihoods.

Nevertheless, in many countries public participation rights are being slowly improved through environmental impact assessment processes, access to information, and the right to make submissions on environmental and impact statements. Principle 17 of the Rio Declaration enshrines this concept of environmental impact assessment to the effect that;

"Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority."

Environmental impact assessment seeks to ensure that adequate and early information is obtained on likely environmental consequences of development projects, possible alternatives, and measures to mitigate harm. It is generally a prerequisite to decisions to undertake or to authorize designated activities. Indeed, many countries have implemented this requirement in their environmental regulations. For example, in Kenya the environmental management and coordination Act provides at *Section 58(2)* that:-

"The proponent of a project shall undertake or cause to be undertaken at his own expense an environmental impact assessment study and prepare a report thereof where the Authority, being satisfied, after studying the project report submitted under subsection (1), that the intended project may or is likely to have or will have significant impact on the environment, so directs."

Section 59 of the same Act provides for publication of environmental impact assessment reports. It is to the effect that

"Upon receipt of an environmental impact assessment study report from any proponent under section 58(2), the Authority shall cause to be published for two successive weeks in the Gazette and in a newspaper circulating in the area or proposed area of the project a notice which shall state." Part (d) of this section provides for a time limit not exceeding sixty days for the submission of oral or written comments on the EIA report. This is the section where public participation is addressed. However ,it may not be entirely effective in that the local communities and indigenous peoples are not aware of this concept and cannot access the reports normally published in the newspapers (since newspapers rarely reach those communities). This is despite the fact that some of these projects that are likely to cause significant environmental harm are normally initiated in the local community areas.

In June 2008, UNEP in consultation with legal experts of various countries formed draft guidelines for the development of national legislation on access to information, public participation and access to justice in environmental matters that would guide governments in establishing legislations that would ensure public access to information, public participation and access to justice in environmental matters. It also established draft guidelines for the development of national legislation on liability, response action and compensation for damage caused by activities dangerous to the environment. These are also meant to guide governments in establishing legislations for compensation in the case of environmental damage. However, whether these

guidelines will be put into use will depend upon the initiative of the respective governments. Many jurisdictions allow a right to judicial review and the right to be heard by the courts on matters of environment to all individuals in fulfilling the "Access to Justice Principle." All persons are given the locus standi to approach courts where the environment is in danger. The rationale behind this is that when the environment is polluted it affects everyone. One does not need to have a personal interest in the matter in order to sue like is required in most common law actions before courts. In Kenya, this is provided for under *section 3* of the Environmental Management and Co-ordination Act, 1999.

The section is to the effect that "...every person in Kenya is entitled to a clean and healthy environment and has the duty to safeguard and enhance the environment." The section further provides that if a person alleges that the entitlement conferred under subsection (1) has been or is likely to be contravened, then he may apply to the High Court for redress and the court shall make such orders as it may deem fit. Although the system of environmental governance at the national level seems to be improving steadily, local level governance has proved to be challenging.

Participation of indigenous peoples in decision making processes is key to achieving good governance

Environmental Governance at the Local Level.

The rights and concerns of indigenous peoples and local communities have been internationally recognized, first through the ILO convention 169. This convention affirms the way of life of indigenous and tribal peoples, recognizes the need to safeguard their customary rights to land and natural resources and stresses that they should benefit equally from economic and social development and that they and their traditional organizations should be closely involved in the planning and implementation of the development projects that affect them.

This therefore requires that development practitioners should not assume that indigenous world views about land and natural resources, as well as development priorities, are identical to those commonly held by governments and development agencies. They must take into consideration specific understandings of the natural world among indigenous peoples. In many cases, local communities are left out of development issues that also affect them. Further, they are not involved in policy-making since most of these activities take place in the urban areas to the exclusion of the local communities. For example, pastoralists only realize laws or policies that affect them when they encounter their negative implications. In addition, some conservation programs have caused discomfort and hardship for local communities, for example displacement for the creation of national parks. The community is normally promised compensation, but those promises rarely materialize to the extent that was originally agreed upon. An example of this is the case of Amboseli in Kenya, where with the establishment of the park in 1977, the local Maasai communities were promised several benefits. First, to make up for restricting access to spring water within the park boundaries, a pipeline was constructed to provide adequate water supply to the Maasai. In addition, they were promised annual compensation for loss of grazing land and direct economic benefits from development and tourism. However, by 1980, the new water system did not supply enough water, after 1981 the compensation payments were irregular or lacking, and direct income from tourism was limited as the tourism industry became tightly controlled by Nairobi-based concerns. The net effect of the park on the Maasai was overwhelmingly negative.

Local communities have the right to benefit and be compensated from any and all projects initiated in their areas. Failure to do so is a direct violation of their rights and a breach of international law, in particular the Convention on Biological Diversity and International Labour Organisation (ILO) article169. It must be understood that conservation initiatives have little

chance of being sustainable if they are not met with broad local support.

It is clear that the system of environmental governance at the three levels is weak. Environmental governance should be strengthened to address agreed-upon environmental priorities and capacities of states enhanced to implement their environmental obligations and achieve their environmental priority goals, targets and objectives. There should be education, trainings and rights awareness to empower communities in demanding environmentally-friendly services. Lastly, there should be capacity building on the multi-lateral environmental agreements at the national level to enable respective governments to implement them at the local level. It is only through the cooperation of branches and the inclusion of citizens that effective conservation can be initiated on a global scale. ◀

Networks as Change Mechanism Building Strong Networks and Attributes of a healthy network

Today, society network of people with similar interests are connecting in increasingly more powerful ways. This societal network presents new opportunities in meaningful ways.

A network is a social structure made of nodes which are generally individuals or organizations that are linked in one or more ways for example by values, vision, ideas or kinship. A network provides opportunities for more effective advocacy.

According to netcentric campaigns, networks that are functional have or portray seven characteristics. For networks to assess whether they are healthy they have to look at the attributes of healthy networks on a scale of whether they rate weak, moderate or strong in relation to the attribute being evaluated.

The first attribute mentioned concerns social ties whether network members know and trust each other. That for a network to be functional members must know each others interests, talents etc and they must trust and rely on each other. In this case also members must have an interest in operating as a network or see the value of being in a network.

What brings people together in terms of having a common story or position also presents another attribute. A healthy network has members sharing a common story for instance slum dwellers coming together to improve housing or indigenous peoples of the tropical forests forming an alliance to articulate and coordinate their work regionally and internationally. Having a common story, the network is connected by shared unifying values, interests, motivations and language as well as using the shared values to advance the work of the network and growth of the community.

Having a clarity or purpose in terms of vision of the network is another health attribute of a network. Network members must have a clear and common sense of how they will make changes in their society and know what they will get in exchange for participation in the network. There should be clear steps in terms of actions that the network seeks to undertake.

A communication grid whereby there are many conversations and exchanges is another attribute that network can survive on. As a healthy attribute it calls for mechanisms for communication to be in place (online or in person), capacity of the communication mechanism to handle the intensity of the network and members know how to find and communicate with each other. The communication channel should be robust and must effectively manage communications that is sort delivery of messages and be able to segment audiences.

A healthy network must be able to manage resources and apply network assets to coordinated tasks, that is it should have shared resources. One characteristic is that a network should have excess resource existing within it, members can identify and access resources and network effectively manage resources.

Does the network gather information to help it grow and refine activities? This result to an attribute refers to as "feedback mechanism". The network is functional if feedback is gathers and used to advance the networks work. The feedback can be in terms of information on actions and successes of the network to inform readjustment of network priorities and trends assessment.

Lastly, leadership is a trait and characteristics of a healthy network. Effective leaders should exist within networks to monitor resources, communicate, and give feedback and output to communicate, and give feedback and output to

Faces from the climate change conferences

Copenhagen, December 2009

Copenhagen, December 2009

Nairobi - Kenya 2010

Anchorage - Alaska 2009

Nairobi - Kenya December 2009

Copenhagen, December 2009

Anchorage - Alaska 2009

Bangkok 2009

Indigenous women during training at Bodhai - Kenya

Participants listening keenly to contributions, Bodhai - Kenya

Participants at a workshop in Morogoro - Tanzania

Participants share ideas at a workshop, Morogoro - Tanzania

Group photo of workshop participants, Mbale - Uganda

Groupwork session, Isiolo - Kenya

Indigenous Karamojong Women - Uganda

Taking time to look at the publications, Morogoro - Tanzania

Environmental Activities of the Year

Procession during the world environment day

School children celebrating the world environment day Archers Post, Samburu

School children key environmental messages. Archers Post Samburu

Indigenous Women participants pose for a photo after training, Isiolo - Kenya

Batwa group discussing environmental issues

A Karamojong participant presenting her point , Mbale - Uganda

An elder from the Ariaal Community in Bodhai addressing participants at a workshop

A Batwa elder entertains participants during a break, Mbale - Uganda

Faces from the climate change conferences

Nakuru - Kenya 2009

Anchorage - Alaska 2009

Bangkok 2009

Copenhagen, December 2009

Copenhagen 2009

Potzdm 2009

Copenhagen 2009

Copenhagen 2009

members. A network with a leader who can see and respond to trends, make decisions and redirect energies or priorities to the advantage of the networks is said to be a strong network. For instance in a network where all members are friends and each one of them has access to information about the rest and trust each other enough and see the value of the network then the network can be said to be strong.

Indigenous Peoples from Nigeria, Kenya, Uganda and Tanzania

Building Strong Networks

Building strong networks calls for sheer determination, motivation, shared values and a common vision. There are many networks that are in place and that have had success in terms of best practices and building focus around shared values. These networks are movements that are spread across continents and some are regional or international. For instance we have networks of indigenous peoples organizations living in forest areas and those that are working on biodiversity issues. There are networks of slum or shack dwellers who are striving to provide for themselves better housing. The women's networks are many ranging from those that are for empowering women in economic activities, health to human women's rights related Networks.

All these networks have mandates that they operate on and costitutesthe people it represents. They have a democratic approach to decision making and in matters concerning their activities that are decided by the representatives themselves.

To assess the strength of a network, according to netcentric campaigns, the seven attributes of healthy networks are to be tested by the network itself where they rate on a three scale of weak, moderate and strong.

The results will then inform the network whether they are strong, if there is need for improvement or whether the network should reevaluate itself in terms of common goal or vision. ◄

Natural Resource Conflicts

By Rodah Rotino

Natural resource conflicts are disagreements and disputes over access to, control and use of natural resources. These conflicts often emerge because people have different uses for resources such as forests, water, pastures and land, or want to manage them in different ways. Disagreements also arise when these interests and needs are incompatible, or when the priorities of some user groups are not considered in policies, programmes and projects. Such conflicts of interest are an inevitable feature of all societies. In recent years, the scope and magnitude of natural resource conflicts have increased and intensified. These conflicts, if not addressed, can escalate into violence, cause environmental degradation, disrupt projects and undermine livelihoods. Acknowledging that conflict is a common feature of any resource use system is a prerequisite for sustainable management that is participatory and equitable.

Natural Resource Conflict Management and Resolution

What are natural resource conflicts and their consequences?

Natural resource conflicts have always been with us, due in part to the multiple and competing demands on resources. Conflicts can arise if user groups are excluded from participating in natural resource management. They also occur if there are: contradictions between local and introduced management systems; misunderstandings and lack of information about policy and programme objectives; contradictions or lack of clarity in laws and policies; inequity in resource distribution; or poor policy and programme implementation.

Conflict will always exist to some degree in every community, but it can often be managed and resolved.

The form and intensity of conflicts vary widely by place, and over time within any community. Conflicts manifest themselves in many ways, ranging from breaking rules to acts of sabotage and violence. Sometimes conflicts remain hidden or latent. People may allow grievances to smoulder because of fear, distrust, peer pressure, financial constraints, exclusion from

certain conflict resolution procedures, or for strategic reasons. Because some societies encourage their members to avoid public confrontations, a lack of public disputes does not mean there is no conflict.

Why do conflicts arise?
How do conflicts manifest themselves?

Natural Resource Conflicts

They occur at various levels and involve a variety of actors. They range from conflicts among local men and women over the use of trees, to conflicts among neighbouring communities disputing control over woodland, to villages, community-based organizations, domestic and multinational businesses, governments, international development agencies and NGOs in conflict over the use and management of large forest tracts. Most conflicts are characterized by the presence of multiple stakeholders who themselves may have subgroups with varying interests.

Conflict and Natural Resource Management

The ways in which people (even those from the same community) respond to natural resource conflicts vary considerably. All communities have their own ways of handling conflicts. These mechanisms may be formal or informal, violent or peaceful, equitable or not. Although the specific strategies may vary, people generally rely on the same basic procedural modes to handle conflicts: avoidance, coercion, negotiation, mediation, arbitration and adjudication. People involved in natural resource conflicts take courses of action based on their preferences, their understanding of their options, their perceived likelihood for success and their relationship with an opponent. Not all people have equal access to all options – gender, class, age and other factors may restrict the options of certain groups and individuals. Seasonality, through its influence on labour patterns and income flow, can affect the ability of people to act.

Finally, the nature of the conflict itself may prescribe the use of certain legal procedures.

How do different groups deal with natural resource conflicts?

Conflict and Natural Resource Management Definitions of Key Conflict Management and Resolution Strategies

Avoidance
Acting in ways to keep a conflict from becoming publicly acknowledged

Coercion
Threatening or using force to impose one's will.

Negotiation
Following a voluntary process in which parties reach agreement through consensus.

Mediation
Using a third party to facilitate the negotiation process (A mediator lacks the authority to impose a solution).

Arbitration
Submitting a conflict to a mutually agreeable third party who renders a decision.

Adjudication
Relying on a judge or administrator to make a binding decision.

Natural resource policies, programmes and projects offer significant means of addressing many of the needs and concerns that propel resource-related conflicts. Ironically, policies, programmes and projects themselves can serve as sources or arenas of conflict, even though their intention is to ameliorate such conflicts. This situation generally arises when there is inadequate local participation in all phases of interventions, and when insufficient consideration is given to anticipating conflicts that might emerge.

Natural Resource Management Policies, Programmes and Projects as Sources and Arenas of Conflict. Natural resource policies and interventions are often formulated without the active and sustained participation of communities and local resource users.

For example, some governments have long relied on centralized management strategies based on centralized control by administrative units and technical experts. These policies and practices frequently fail to take into account local rights to, and practices regarding, natural resources. For example, the introduction of new policies and interventions without local input may end up supplanting, undermining or eroding community institutions governing resource use.

Some reasons why conflicts may arise during policy, programme and project implementation:
- Policies imposed without local participation
- Lack of harmony and co-ordination between bodies of law and legal procedures
- Poor identification of and inadequate consultation with stakeholders
- Unco-ordinated planning
- Inadequate or poor information sharing
- Limited institutional capacity
- Inadequate monitoring and evaluation of programmes
- Lack of effective mechanisms for conflict management.

Stakeholders

These people possess an economic, cultural or political interest in, or influence over, a resource. The stakeholders may need the resource for subsistence, large and small commercial activities, conservation, tourism or for cultural reasons such as use of sacred sites. The concept is complex and dynamic because stakeholders are not generally homogeneous but can be further divided into subgroups according to their specific interests. Conflicts can occur because planners and managers identify stakeholders inadequately, or they refuse to acknowledge a group's interest in a resource.
Many policies and interventions face challenges in defining exactly what constitutes a community because of the limited ability of planners to identify the range of interests within it.
When planners and managers fail to identify and consult with the full spectrum of stakeholders, they limit their understanding of these groups' diverse needs and priorities and their indigenous knowledge of the situation. This increases the likelihood of conflicts Despite growing recognition of the need for integrated approaches to natural resource management, many governmental and other agencies still rely on sectoral approaches with limited cross-sectoral planning and and coordination. For example, the agricultural service may promote cash crop expansion in forests to raise incomes without recognizing its adverse effects on other resource users. Overlapping and competing jurisdictions and activities among agencies may result in their inability to reconcile the needs and priorities of various stakeholders.
Effective sharing of information on policies, laws, procedures and objectives can enhance the success of programmes and reduce conflicts. In contrast, lack of information on the intention of the planning agencies may lead to suspicion and mistrust. Conflicts arise when governmental and other organizations lack the capacity to engage in sustainable natural resource management. Organizations not only face financial constraints for staff and equipment, but also often lack the expertise to anticipate conflicts, or to handle that arise in the course of their activities.
Programmes and projects are often designed without clearly defined monitoring and evaluation components, especially regarding natural resource conflicts. Without systematic monitoring and evaluation of natural resource management activities, it is more difficult to identify, pre-empt or address conflicts.
For natural resource management programmes to be effective, mechanisms for participatory conflict management and resolution need to be incorporated from the outset into their design and implementation. These mechanisms should ensure that open or smouldering conflicts are constructively dealt with to reduce the chances of their escalation. In some organizations, such mechanisms cannot be easily installed because existing legislation or policy does not permit it.

Strategies

There are several strategies that local communities, resource users, project managers and public officials can use to manage and to resolve conflicts. A vast repertoire of local-level strategies and techniques for managing and resolving regarding natural resources has evolved within communities. There are many cross-cultural similarities – negotiation, mediation and arbitration are common practices, as are more coercive measures such as peer pressure, gossip, ostracism, supernatural sanctions and violence. Customary natural

resource conflict management strategies have both strengths and limitations.

Approaches to Natural Resource Conflict Management And Resolution

Customary Systems for Managing Natural Resource Conflicts

Strengths

- Encourage participation by community
- Have been supplanted by courts and administrative members and respect local values and laws, customs.
- Are more accessible because of their law.

Limitations

- Are often inaccessible to people based on cost, their flexibility in scheduling and gender, class, caste and other factors, procedures, and their use of the local language.
- Are challenged by the increasing heterogeneity of collaboration, with consensus emerging communities due to cultural change, population from wide-ranging discussions, often movements and other factors that have eroded the fostering local reconciliation.
- Often cannot accommodate conflicts between communities or between a community and the State.

National Legal Systems governing natural resource management are based on legislation and policy statements, including regulatory and judicial administrations. Adjudication and arbitration are the main **strategies** for **addressing conflicts**. However, some national systems take into account legal systems based on local custom, religion, ethnic group or other entities.

National Legal Systems for Managing Natural Resource Conflicts,

- Are often inaccessible to the poor, women, marginalized groups and to remote communities because of cost, distance, language barriers, political obstacles, illiteracy and discrimination.
- Take national and international concerns
- May not consider **indigenous** knowledge, local and issues into consideration, institutions and longterm community needs in decision making.
- Involve judicial and technical specialists
- May involve judicial and technical specialists in decision-making.
- Lack the expertise, skills and orientation required for participatory natural resource management.
- Result in decisions that are legally used in procedures that are generally adversarial and binding.
- Promote a winner-loser situation.

Addressing conflicts is a prerequisite for sustainable natural resource management conflicts over natural resources are growing in scope, magnitude and intensity. If not addressed in an effective and timely manner, natural resource conflicts can adversely affect community livelihoods and result in resource degradation. Alternative conflict management offers an innovative, multidisciplinary approach to understanding, analyzing and managing conflicts both before and after they occur. It seeks the development of participatory and consensus-building strategies, and it builds upon existing formal and informal conflict management mechanisms within local communities. Alternative conflict management also seeks to strengthen the capacity of local institutions and communities to manage conflict and promote sustainable resource management.

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Logging and deforestation is the cause of degradation of environment and thus causes conflicts among different communities

Traditional Knowledge and the Conservation of Biological resources; The case in Africa

By Lucy Mulenkei, *Indigenous Information Network*

"Human progress is neither automatic nor inevitable. We are faced now with the fact that tomorrow is today. We are confronted with the fierce urgency of now. In this unfolding conundrum of life and history there is such a thing as being too late...We may cry out desperately for time to pause in her passage, but time is deaf to every plea and rushes on. Over the bleached bones and jumbled residues of numerous civilizations are written, the pathetic words: Too late." Martin Luther King Jnr. 'where do we go from here: chaos or community'

Africa's present biological wealth is based on innovations of successive generations of local communities, which have consistently developed and conserved their biological resources. In so doing they have accumulated knowledge, innovations and practices. The livelihood of the local communities of Nomadic Pastoralists, farmers, hunters and fisher-folk depends almost exclusively on thee resources, innovations, technologies and practices. In the traditional African worldview, environmental resources (land, water, animals and plants) are not just production factors with economic significance, but also have their place within the sanctity of nature. Certain places have a special spiritual significance and are used as locations for rituals and sacrifices, for example, sacred grooves, shrines, mountains and rivers. These locations are quite often patches of high biodiversity, which are well conserved and protected by the community. As we look at the traditional knowledge the Indigenous and local communities, we will also be focusing on the objectives of the convention as quoted in Article 1 of the Convention on Biological Diversity. This will help us see how far are we in terms of achieving the 2010 targets of reducing the loss of biodiversity. Traditional knowledge for indigenous peoples is one of the best ways to reduce the loss of natural resources.

Article 1:
'to be pursued in accordance with its relevant provisions, which are the ***conservation of biological diversity****, the* ***sustainable use of its components*** *and* ***the fair and equitable sharing of the benefits*** *arising out of the utilization of genetic resources, including by with appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies , and by appropriate funding."*

Indigenous local people in Africa have their own ways of using resources available without depleting them. They use their intimate knowledge of plants, soils, animals, climate, and seasons, not to exploit nature but to co-exist alongside it. This involves careful management, control of population, the use of small quantities but a wide diversity of plants and animals, small surpluses, and minimum wastage. In traditional African cultures, plants provide food, medicines, pesticides, poisons, building materials; animals provide meat, clothes, string, implements and oil. Indigenous knowledge of nature has ensured the survival of many people in fragile habitats. Subsistence farmers produce to meet their family needs without attempting to dominate nature or exploit it excessively. They developed technologies, which act in harmony with nature unlike science. Indigenous knowledge is full of beliefs, which have not been explained in rational terms, but its knowledge is centered in the harmony of the natural world. All flora and fauna have a place in an ordered universe made up of humankind, nature, and spirits.

Indigenous cultures and traditions have helped to protect the natural world from destruction through religion and rituals. Cultural diversity and biodiversity are not only related, but often inseparable. Of the estimated 6,000 cultures in the world, between 4,000 and 5,000 are indigenous, which means that indigenous peoples make up between 70 and 80 per cent of the world's cultural diversity. The interaction between biodiversity, human languages and cultures may be best observed at the local level. As we look at traditional knowledge we must think of the culture and ways of life for the traditional people who still hold those cultures and traditions close to their heart and life. Africa is a continent of historical landscapes. These landscapes are not only shaped and modified by human activity but also symbolically brought into the sphere of human communication by words, stories, songs, proverbs and legends that encode and carry human relationships with the environment. Indigenous peoples have identified themselves

these landscapes which they believe carry their lives their language and at most their spirits. It is to them a gift from Mother Earth. Indigenous peoples believe that People who do not speak in their mother tongue do not have access to traditional knowledge and are bound to be excluded from vital information about subsistence, health and sustainable use of natural resources.

In the two centuries, Indigenous Peoples of the continent and many ethnic groups around the world have been faced with many challenges that threaten their extinction. The unfortunate and worrying situation is that, the threat is not only them as a people but also the biological and other natural resources. The causes and consequences of this loss lie in the increasingly unsustainable exploitation of the earth's natural resources and the growing marginalization and dispossession of indigenous and minority groups. Africa is economically the least developed continent, and yet is one of the best endowed in biological resources. The continent is rich in crop and medicinal plants diversity, the economic value of which has not been valued. The knowledge and innovation that its people have developed to use and conserve these biological resources is based on indigenous practices developed and tested over generations. However, the prevailing trend of biodiversity loss is a major concern since the continent's economies, cultures and political systems are heavily dependent, albeit precariously, on the conservation, management, and sustainable use of biological resources (Nnadozie *et al.*, 2003).

Take the example of Tanzania. Tanzania has a population of over 30 million people and an area of 939,400 square kilometers. It is endowed with rich biodiversity comprising over 10,000 species of flora and fauna and marine resources. Traditional medicine plays a role in primary health care and has great future potential. For over 60% of the population seeking advice on health, the first point of contact is traditional healers, the majority of whom in rural areas. Currently there are over 75,000 traditional health practitioners in the whole of Tanzania of these about 2,000 live in towns. The traditional healers in towns earn their living solely from selling traditional remedies. With growing recognition of the role of traditional medicine in health care the selling of traditional medicines within and outside is a growing area of endeavor. This has helped change prevailing attitude towards the sale and use of Indigenous remedies. (P.P.Mhame 2004)

Globally, there is increasing acknowledgement of the relevance of indigenous knowledge as an invaluable and underused knowledge reservoir, which presents developing countries, particularly Africa, with a powerful asset in environmental conservation and natural disaster management. Specifically, from time immemorial, natural disaster management in Africa has been deeply rooted in local communities, which apply and use indigenous knowledge to master and monitor climate and other natural systems and establish early warning indicators for their own benefit and future generations. Indigenous knowledge is therefore an essential element in the development process and the livelihoods of many local communities. In terms of biodiversity, traditional knowledge can be seen as the "knowledge, innovations, and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity". It should at the same time be recognized that the value of African Indigenous Knowledge systems is not simply with regard to the maintenance of biodiversity and how to manage ecosystems sustainably, but also and more importantly with its significant contribution over the centuries to the world's reserve of clinically useful plants, food crops, animal genetic resources, and increasingly, also industrially useful resources such as enzymes (Nnadozie *et al.*, 2003, Ekpere, 2004; Shikongo, 2000).

For the sustainability of our cultures and traditions the young and the old have to work together (Karamojong Indigenous Woman from Uganda)

Recognition of Indigenous Knowledge

It should be noted however that a major challenge faces some countries in the linking the traditional and indigenous knowledge with modern science. In Kenya, for example, the main challenge the country continues to face is how

to reconcile indigenous knowledge and modern science without substituting each other, respecting the two sets of values, and building on their respective strengths. Recent studies in Kenya on the application and use of traditional knowledge in environmental conservation and natural disaster management cited examples of areas where such knowledge is still prevalent and harnessed. The current intellectual property rights system in Kenya does not recognize or protect the rights of indigenous and local communities to their Traditional Knowledge. Consequently, bio-prospecting has continued without Indigenous and local communities benefiting fairly from the commercialization of their knowledge and innovation (Mbeva2004). However, despite the prevalent application and use of indigenous knowledge by local communities, it has not been harnessed to fit into the current scientific framework for environmental conservation and natural disaster management in Kenya. As a result, there is a general lack of information and understanding of the need to integrate or mainstream indigenous knowledge into scientific knowledge systems for sustainable development in the country. To achieve this integration would require a blend of approaches and methods from science and technology and from indigenous knowledge. In some countries like Sudan and Kenya, recognition of indigenous traditional knowledge has not been prioritized. As such, these resources have been lost and continue to be lost each day. This has caused many of the elders to wish for the days when traditional knowledge was used reflectively. One interesting example of traditional conservation values is of a sedentary community at the confluence of two rivers. This community was fish-eating, and had rules designed to control how fishing was done. For example, nets were designed in such a way that they did not catch very small fish. This meant that the fish supply was sustained. There were also rules regarding the killing of certain species of animals, such as giraffes. If you killed If you killed such an animal, the punishment was to give 10 cows to the king. If a community member had suffered as a result of animal actions, for example if one's crops were destroyed by an elephant, it was necessary to go to the king to consult with him to determine the action that should be taken. Simply killing the animal was not permitted. This is how the cultural system sustained the environment. However, during the civil war, the army killed anything that crossed their path without any regard for environmental sustainability. Looking at the two cases from Kenya and Sudan, it is important then to ensure that these are carefully discussed by all, together with the knowledge holders, to ensure positive linkages between traditional knowledge and sustainable management of natural resources. This is very important as traditional knowledge is the communal knowledge held by Indigenous Peoples, which is then passed on from generation to generation. Some examples of this are religious traditions and sacred sites; the use of traditional herbs, trees and plants by medical practitioners, traditional birth attendants, healers; and arts and music. This kind of knowledge is gradually being lost through the lack of commitment by Governments in the implementation of the convention, globalization and lack of recognition of the importance of the knowledge and holders of that knowledge.

Recently, the United Nations Environment Programme (UNEP) initiated a project in Kenya, Tanzania, South Africa and Swaziland to harness and promote the use of indigenous knowledge in environmental conservation and natural disaster management through training and access to and exchange of information. The information collected and analyzed through the project is expected to enhance understanding of the need to integrate indigenous knowledge in development processes for poverty and disaster risk reduction as well as in fostering involvement of all constituents including the local communities. The project should be seen as part of a new interest in traditional African knowledge systems, which are still prevalent despite the numerous interruptions, by development interventionists. It is hoped that the project will be replicated in more countries in Africa and other regions of the world. UNEP agrees that Africa's biodiversity is under threat from six main sources (UNEP, 2002):

1. Loss of species or subspecies;
2. Invasion by alien (non-native) species;
3. Natural habitat destruction, degradation and loss;
4. Erosion and loss of traditional knowledge innovations and practices relevant to biodiversity conservation;
5. Human population growth, pollution and

economic expansion (Unsustainable development; and
6. Lack of recognition of indigenous knowledge and indigenous property rights.

It is essential and imperative to recognize the importance of traditional knowledge across the globe. In order to do this, the Convention on Biological Diversity therefore provides that we:-
1. Respect, preserve and maintain the traditional knowledge of the Worlds' indigenous and local communities who are often the most marginalized and disadvantaged of groups even in their native lands.

2. Recognize that the use of such knowledge should be promoted for wider application with the approval, involvement and prior informed consent of the holders of such knowledge.

3. Recognize that the creators, owners and holders of such bodies of knowledge should equitably share in all the benefits, which arise from the use of their knowledge.

Article 10c on sustainable use –'protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirement'.

Traditional knowledge and access and benefit-sharing are complementary. Indigenous peoples should be able to access the resources which allow them to put traditional knowledge into practice. This means, for example, that traditional healers should be able to access the herbs and other plant material necessary for their work. In terms of benefit-sharing, this refers to the equitable sharing of any benefits that may arise from the use of such resources. If a foreign company decides to exploit traditional indigenous resources and knowledge by patenting a plant that has been prepared and used in the curing of a certain disease, those who have been practicing that preparation and use for centuries should benefit from that. All too frequently, indigenous peoples are excluded from decision-making processes when it comes to access and benefit-sharing; often, they are not even aware of the fact that their resources are being removed or exploited elsewhere. Sometimes the government can take advantage of this ignorance by coming in the guise of visitors or researchers, and asking for indigenous peoples to sign away their rights without fully explaining the implications of the rights being signed away. It is now increasingly recognized that traditional teachings and practices have played and continue to play an important role in decision-making, and serve as a foundation for the survival of indigenous and local communities not only in Africa but also elsewhere. Their ancient relationship with the land has given indigenous peoples a profound knowledge of the living Earth. From an indigenous world view, all parts of the universe are interconnected. Every living creature, whether bird, animal, tree or plant, lives according to the instructions it was given by the creator (Posey, 1999). The conservation of biological diversity is an integral part of indigenous teachings (Blanchet-Cohen, 1996). It has to be noted though that this is not true in all cases as there are strong evidence for human induced extinctions of large mammal faunas in North America, Australia and New Zealand by indigenous people (Cunningham, 2005, pers. comm.)

Another important aspect to consider is that African traditional knowledge was and remains of fundamental socio-cultural importance to African society. During knowledge transmission to and the socialization of children over several generations African social institutions are gradually crystallized (routine or habitual ways of doing things gradually become the customary way that things are done) and social roles become defined. Those processes therefore result in Africa's diverse and unique cultures, traditions and societies. According to Ruddle (2001) referring to the pacific region, just as local knowledge and its transmission shape society and culture, so too, does culture and society shape knowledge this is equally true for African society. It is then important to consider the characteristic and other aspects of traditional knowledge to understand the barriers to the use and application of traditional knowledge, innovations and practices of local and indigenous communities in Africa. According to Ekpere (2004) any attempt to understand traditional knowledge must recognize its:

- Holistic nature;
- Mode of transmission;
- Communal ownership and collective intellectual property construct (it is important to note that communal ownership does not always apply

e.g. to some traditional medicines.
- Responsibility and custodianship to ensure true conservation and effective transfer from one generation to another.
- Non-fixation in time frame.

The above recommendations remind us clearly on the great concern of the great loose of Traditional knowledge in Africa, and what we need is action. The Convention on Biological Diversity in 8j and related provision say *" subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles for the conservation and sustainable use of biological diversity and promote their wider application with the appropriate and involvement of the holders of such knowledge, innovation practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovation and practices.*

Policies in Place

There are some requirements and constraints involving the use of traditional medicines and the even sometimes the use of indigenous and traditional knowledge in Africa. In the case of Tanzania, according to Paulo P. Mhame on his conference paper on the role of traditional knowledge in the national economy and traditional medicine in Tanzania, there is need to develop adequate facilities for research into and development of products using such resources, and an effective system of marketing the products that are available or become available in due course. Suitable control mechanisms are also needed to ensure that the underlying nature resources are used sustainably.

Some of the challenges on developing health care uses of these traditional medicines at the local and national level are:
- Inadequate awareness
- Insufficient investment in research and development
- Inappropriate distribution chains
- Lack of data of comprehensive information on medicinal plants

The fact that regulations governing the exploration, export and conservation of fauna and marine resources are issued by the relevant departments of different ministries is also an obstacle. Various regulations from different ministries exist, but there is no single regulation that spells out how to control and regulate the exploration, export and conservation of medicinal resources derived from animal and marine life.

A traditional hut with some ornaments of the San indigenous community of the Kalahari.

Recommendations

- Traditional knowledge is concerned with values, attitudes and behaviors from one generation to another. Some of the methods for preservation of traditional knowledge include documentation, archiving and communication and information sharing. This would ensure that traditional knowledge and knowledge of daily life is not only passed on to future generations, but its use could also be exploited fully by indigenous peoples living today.

- Information on traditional knowledge and on access and benefit-sharing should be disseminated in ways that are more easily accessible by indigenous peoples on the ground. This includes translating information into local languages, and getting rid of the technical jargon. Processes such as access and benefit-sharing should be explained in simple terms that can easily be understood.

- Information should also be disseminated through the use of various types of media. One example that has been put into practice is the use of radio talk shows. Such shows could be used to discuss the proceedings at a recent COP which had been attended by an indigenous person from the region, for example. Other means, such as television shows, presentations and dramas, could also be used for information dissemination and the explanation of concepts such as access and benefit-sharing.

- Databases and registers could also be

created for use in the preservation of traditional knowledge and kept at the hands of those who have knowledge for protection and preservation from exploitation or misuse in the public domain.

• In terms of access and benefit-sharing, more advocacy is needed specially with the government and other partners to ensure that ABS mechanisms are being implemented on the ground.

• Policy makers ought to formulate methods for equitable access to traditional knowledge held by indigenous societies and for compensating its owners.

• It is not enough to recognize indigenous knowledge, practices and innovations in writing; these practices must be recognized at local, national and regional levels and allowed to continue through access to land and resources.

• Indigenous peoples must be vigilant of researchers, companies and other prospectors entering their territories, and question the motives of anyone attempting to cut a business deal.

• Indigenous peoples have too often gained little to nothing from the foreign use or occupation of their lands, use of their resources and of their knowledge, it is therefore important to have awareness-raising and capacity building, for the communities to be better able to protect these resources and gain compensation for their use and exploitation by outsiders.

• Building a regional, national and international registry of traditional knowledge and innovation based on biological diversity may help in reducing transaction cost of he potential entrepreneurs, investors, fellow learning communities and even traders.

• Compliance with prior informed consent of the communities to respect their knowledge rights for eventual benefits sharing, keeping in mind the share of not only individual knowledge holder, but also their communities, nature conservation and the ones who add value and innovation augmentation fund.

• It is important to create open source technologies pool to support livelihoods options for disadvantaged communities.

Bothai women listening to a local radio programme

Biological resources are the backbone of the African economy as well as the life-support system for most of Africa's people, especially the marginalized rural communities. A variety of resources, both plant and animal, are used for food, construction of houses, carts, boats, household utensils, clothing and as raw materials for manufactured goods. Many resources, such as timber and agricultural produce, are traded commercially, and others are used in traditional crafts such as basket weaving and carving. In addition, many species with medicinal properties are harvested by local communities and pharmaceutical multinationals alike. (UNEP, 2002; Nnadozie *et al.*, 2003; Shikongo, 2000; Wynberg, 2004). The wealth of African natural resources also has global importance, for the world's climate and for the development of agriculture or industrial activities such as pharmaceuticals, tourism or construction, to name but a few of the most important areas.

Unlike many other regions of the world where traditional knowledge, innovations and practices about biodiversity are held by geographically distinct indigenous groupings, in the African region such knowledge is intrinsic to the daily functioning of virtually all rural households (Wynberg, 2004; Nnadozie *et al.*, 2003). Rural households depend on the continued use of their knowledge of natural resources for their sustained survival on a daily basis. This finds expression in the enormously diverse cultures of the more than 2000 ethnic groups that inhabit

the continent, and in the central role played by plants and animals in African indigenous systems of medicine and agriculture.

Respect for biological diversity

Respect for biological diversity implies respect for human diversity. Both elements are fundamental to stability and durable peace on earth. The key to creating forms of development that are sustainable and in harmony with the needs and aspirations of each culture implies that abandon patterns that undermine the lives and perspectives of those cultures. Tolerance and reciprocal respect for cultural distinctiveness are indispensable conditions for increased mutual understanding among the world's peoples and recognition of our common humanity. At the dawn of the new millennium, humankind has a historic opportunity, to be responsibile, to make a case that is stronger than ever for cultural diversity and biodiversity. By focusing on "sustainable diversity", we assume that human beings belong to the biological universe while, at the same time, they are the only species on earth that has the privilege of creating diverse forms of culture in time and space. Accordingly, they determine the earth's future. This places a special obligation on them to ensure a proper balance between environmental health (especially biodiversity) and equitable development. Thus, cultural diversity should be regarded as a powerful guarantee of biodiversity. Development models produced since in the 1970s have clearly failed, despite constant revision, to live up to the expectations they raised. The concept of sustainable development, based on a clear understanding of the role of biological and cultural diversity in maintaining ecological systems, cannot be viewed exclusively through an economic prism that puts technological progress to the fore. Globalization tends to create a context conducive to interdependence, often to the detriment of the least developed countries and without consideration for the diversity of cultures. The new challenges arising from globalization are making it increasingly important to redefine the relationship between culture and development or, to be more precise, between cultural diversity, biological diversity and development. ◄

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As years go by Indigenous Peoples have learnt to adapt new technology which can easily improve their own traditional technology as a mechanism to alternative livelihoods as shown in this traditional stove which has been improved to facilitate Rebecca Ngorimpeng from West Pokot to bake bread for sale.

Do Trees Grow on Money?

By Markku Kanninen, Daniel Murdiyarso, Frances Seymour, Arild Angelsen Sven Wunder and Laura German

Forestry, land use change and carbon emissions

Forests are receiving a level of International attention not seen since the 1992 Earth Summit. The 2006 Stern Review was compelling in reminding policy makers of the important linkages between forests and climate: One fifth of total annual carbon emissions now come from land-use change, most of which involves tropical deforestation. Every year around 13 million hectares of forest are lost, and deforestation now adds more carbon to the atmosphere than the global transport sector. The world can no longer afford to ignore the role of deforestation in global warming.

Every year land-use changes release an estimated 6 billion tons of carbon dioxide, most of it through tropical deforestation. Yet avoidance of deforestation was not on the list of activities eligible for the Clean Development Mechanism agreed at the Marrakesh Accords in 2001 (UN Framework Convention on Climate Change, Conference of the Parties 7). The decision not to include deforestation in this financing mechanism resulted from concerns about leakage (increased emissions outside project boundaries), additionality (unsolved issues of baseline emissions levels) and how to establish baseline (or reference) levels of emissions. Most causes of deforestation lie outside the forestry sector. Understanding them is crucial to identifying appropriate incentives to curb deforestation. Financing REDD may require significant international funding.

Deforestation and degradation

In addition to contributing to climate change, deforestation causes loss of biodiversity, flooding, siltation and soil degradation. It threatens the welfare of forest-dependent people as well as the future supply of the forest's products. Although definitions of both deforestation and degradation and methods for assessing them vary. The United Nations Food and Agriculture Organisation estimates that for the period 2000-2005 the net annual loss of forests (deforestation offset by regenerating forests and the expansion of tree plantations) averaged 7.3 million hectares.The highest absolute losses are in South America, followed by Africa. The highest losses as a proportion of remaining forest area are in Central America and Southeast Asia. Agreement on definitions and harmonisation of cost-effective monitoring systems and methods for setting agreed reference levels will become more important as policy initiatives focus on REDD.

Deforestation may be defined as long-term or permanent conversion of land from forest to non-forest uses. Effectively this definition means a reduction in crown cover below a given threshold, typically 10 per cent. The term specifically excludes areas where the trees have been temporarily removed as a result of harvesting or logging and where the forest is expected to regenerate naturally or with the aid of silvicultural measures.

In the context of the REDD debate, degradation is defined as a loss of carbon in forests, including emissions from forests caused by a decrease in canopy cover that does not qualify as deforestation.

Causes of deforestation and degradation

Deforestation and degradation are caused by either ***direct causes***, those directly linked to clearing or degrading land, or ***underlying causes***, the background societal factors that drive direct causes. Another distinction is between deforestation/degradation driven by causes originating within the forest sector (*intra-sectoral factors*) and activities driven by causes originating from other sectors (*extra-sectoral factors*).

The three main direct causes of deforestation and forest degradation are agricultural expansion (including grazing), wood extraction and infrastructure extension. Forest fires also cause deforestation and forest degradation, and their frequency and intensity are increasing due to the impacts of climate change. The underlying causes of deforestation and forest degradation can be grouped under macroeconomic, governance and other factors.

Analysis of deforestation in 152 countries suggests that the three direct causes of deforestation interact with five principal underlying causes: demographic, economic, technological, policy and cultural variables. In the Amazon Basin, forests are cleared for beef and soybean production, while in Southeast Asia deforestation results from development of oil-palm plantations by large-scale industrial tree farms. Demand from China for pulpwood and from Europe and domestic markets for palm oil caused the deforestation or degradation of almost half the carbon-rich peatlands of Southeast Asia between 1996 and 2006.

Wood extraction is the main intra-sectoral cause of deforestation, though reduced-impact logging can both minimise damage and reduce the chances that logging will lead to conversion to other land uses. Uncontrolled extraction and poor logging practices often lead to degradation and deforestation. Road construction facilitates in-migration and conversion to agriculture, especially where property rights are unclear or poorly enforced. Degraded forest may be abandoned or designated for conversion to other use.

Clear-cutting for pulpwood and logging (sometimes illegal), have been major causes of deforestation in Southeast Asia, whereas unsustainable fuelwood extraction and charcoal production predominate in sub-Saharan Africa. Though road construction accounts for small amounts of direct forest clearance, the consequent reduction of transport costs can stimulate other activities that result in further clearance.

Of the underlying causes, economic growth may initially increase deforestation for agricultural production. But pressures on forests may decline as agricultural production becomes intensive; service sectors become more important and demand for forest products and factors that can affect forests include external debt, foreign exchange-rate policy, trade policies, support for expansion of forest-product industries and economic crises.

Governance factors play a major role in determining what happens to forests. Secure property rights and effective local institutions are needed for investment in sustainable forest management. However, secure rights can encourage conversion of forest to more profitable use, so they are only an effective tool for REDD when combined with economic incentives to raise the profitability of forest conservation. Without transparent decision-making, a clear and strongly enforced legal framework and effective decentralisation, it is easier for unscrupulous national and local elites to manipulate forest protection policies to their own benefit. Widespread corruption often neuters public accountability.

In addressing these multi-dimensional causal factors, REDD schemes must recognise that there can be no 'one size fits all' approach. Because it is impossible to predict all the macroeconomic factors or devise policy interventions for them, the level of forest protection offered by REDD policies will be equally uncertain. In pursuit of economic growth and poverty reduction, Governments may see the conversion of forests to other uses as appropriate, so REDD schemes will need to provide convincing economic alternatives. A central question is whether the prospect of a global REDD regime will encourage governance reforms that give forest protection higher priority at the expense of the interests of privileged political and economic elites.

High demand for fuel wood is a key driver of deforestation

Reducing deforestation and degradation

In analysing policies to abate deforestation, it is useful to distinguish between 'appropriate' and 'inappropriate' deforestation, even if their application is seldom clear-cut. In 'appropriate' deforestation, low utility forest may be converted to provide higher or longer-lasting benefits. 'Inappropriate' deforestation occurs when forest with important economic values or high biodiversity is converted to a less suitable use. A global REDD regime would alter the calculus of what is most appropriate in any particular place, using a combination of economic and financial instruments, direct regulation, and governance and institutional strengthening. All the factors described below have a bearing on the design and implementation of REDD strategies.

To reduce the profitability of alternative land use, it's possible to internalise the harmful environmental impacts of forest conversion, eliminate subsidies that raise returns from unsustainable logging and conversion, and create positive incentives for forest protection and sustainable use. Corrective economic and financial incentives include lower tax rates on conserved forest land; certification schemes and targeted investment flows that reward beneficial activities; and transfer payment schemes for specified actions that constitute an environmental service. For instance, payments for ecosystem services (PES) could be made for carbon sequestration and storage, biodiversity conservation, watershed protection or retention of landscape beauty.

None of these instruments can be effective unless forest actors have secure tenure to the land and control over its resources. Where such

conditions do not exist, direct regulation of forest use may be necessary. This includes making conversion or degradation illegal by setting up national parks, zoning land use, banning logging or burning, and prohibiting road construction. However, complex regulation can increase opportunities for corruption.

Though secure land tenure is needed to attract long-term investment in sustainable forest use, some property regimes require forest clearance in return for securing property rights. Such perverse incentives should be eliminated, and where tenure is insecure, resolving it should be conditioned upon sustainable forest management. Readily available information and transparent procedures involving all stakeholders are necessary to improve the integrity of decision-making and hold government agencies and private companies to account. The capacity of a government to design, implement and enforce policies is key to ensuring their effectiveness. Insufficient devolution of forest management authority has hindered some reforms. Strengthening local rights to forest resources needs to be matched by adequate local governance capacity and the right incentives.

Implications for policies and further research to support REDD

The complex interplay of social, economic, environmental and political factors makes it difficult to generalise about appropriate responses to the various causes of forest loss and degradation. Responses must be tailored to specific contexts, but all have to address the simple fact that forests are being converted or degraded because such activity earns a higher economic return to the land user than maintaining them as forests.

Much data on forest cover, deforestation and degradation are still unreliable. More robust and internationally agreed definitions, systems and methods will be needed to monitor changes in forest carbon stocks. Though new technology exists to remedy the deficit, capacity at the national level must be assessed, and improved where necessary. Reaching agreement on baselines and and reference levels will not be easy, as it will be in each country's interest to establish a high baseline to maximise REDD financial transfers. REDD programmes cannot influence macro-level drivers of deforestation, such as population growth and exchange rate movements, so methods used to determine baselines must be able to cope with uncertainty.

For nationally applied REDD schemes, the priorities for further research on reference levels and baselines development are:

- Analysis and modelling of historical changes in forest cover
- Analysis of the extent to which such models are able to represent the future projection of biophysical and socio-economic parameters in a given REDD scheme
- Analysis of the importance of the geographic scale of the assessment (e.g., national versus sub-national) of national reference levels.

Prominent among REDD policy options are direct transfer payments, and more research is needed on the necessary conditions for PES schemes to be effective, efficient and equitable. Research is also needed on how such schemes can integrate multiple ecosystem services such as carbon storage and watershed protection and on the best ways to clarify and secure forest tenure. REDD programmes must incorporate long-term efforts to create and reform institutions, strengthen government processes and build the capacity to implement new models of forest management. Their design and implementation will require trade-offs among efficiency, effectiveness, fairness and risk. Should resources be directed to situations with the greatest potential for reducing emissions or poverty? Should REDD proceed where there is a high risk of funds being lost to corruption? Such political decisions need to be informed by scientific research and economic analysis. Successful implementation of REDD schemes will often require strengthening the stake of local communities in protecting forest assets to allow them to match the power of larger actors. Judicial systems need strengthening to combat illegal forest exploitation. International cooperation is required to address the demand for illegally produced wood products. To oversee payments under REDD schemes, governments will need to create new institutions.

A key challenge will be to ensure payments are made to those who control what happens to the forest. All of these actions will have consequences with diverse impacts on the often conflicting needs of stakeholders. Balancing them will require a robust and flexible REDD mechanism. ◀

The Anchorage Declaration

24th April 2009

From 20-24 April, 2009, Indigenous representatives from the Arctic, North America, Asia, Pacific, Latin America, Africa, Caribbean and Russia met in Anchorage, Alaska for the Indigenous Peoples' Global Summit on Climate Change. We thank the Ahtna and the Dena'ina Athabascan Peoples in whose lands we gathered.

We express our solidarity as Indigenous Peoples living in areas that are the most vulnerable to the impacts and root causes of climate change.

We reaffirm the unbreakable and sacred connection between land, air, water, oceans, forests, sea ice, plants, animals and our human communities as the material and spiritual basis for our existence.

We are deeply alarmed by the accelerating climate devastation brought about by unsustainable development. We are experiencing profound and disproportionate adverse impacts on our cultures, human and environmental health, human rights, well-being, traditional livelihoods, food systems and food sovereignty, local infrastructure, economic viability, and our very survival as Indigenous Peoples.

Mother Earth is no longer in a period of climate change, but in climate crisis. We therefore insist on an immediate end to the destruction and desecration of the elements of life.

Through our knowledge, spirituality, sciences, practices, experiences and relationships with our traditional lands, territories, waters, air, forests, oceans, sea ice, other natural resources and all life, Indigenous Peoples have a vital role in defending and healing Mother Earth. The future of Indigenous Peoples lies in the wisdom of our elders, the restoration of the sacred position of women, the youth of today and in the generations of tomorrow.

We uphold that the inherent and fundamental human rights and status of Indigenous Peoples, affirmed in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), must be fully recognized and respected in all decision-making processes and activities related to climate change. This includes our rights to our lands, territories, environment and natural resources as contained in Articles 25–30 of the UNDRIP. When specific programs and projects affect our lands, territories, environment and natural resources, the right of Self Determination of Indigenous Peoples must be recognized and respected, emphasizing our right to Free, Prior and Informed Consent, including the right to say "no". The United Nations Framework Convention on Climate Change (UNFCCC) agreements and principles must reflect the spirit and the minimum standards contained in UNDRIP.

Participants at the Global Indigenous Peoples Summit in Anchorage

Calls for Action

1. In order to achieve the fundamental objective of the United Nations Framework Convention on Climate Change (UNFCCC), we call upon the fifteenth meeting of the Conference of the Parties to the UNFCCC to support a binding emissions reduction target for developed countries (Annex 1) of at least 45% below 1990 levels by 2020 and at least 95% by 2050. In recognizing the root causes of climate change, participants call upon States to work towards decreasing dependency on fossil fuels. We further call for a just transition to decentralized renewable energy economies, sources and systems owned and controlled by our local communities to achieve energy security and sovereignty.

In addition, the Summit participants agreed to present two options for action which were each supported by one or more of the participating regional caucuses. These were as follows:-

A. We call for the phase out of fossil fuel

development and a moratorium on new fossil fuel developments on or near Indigenous lands and territories.

B. We call for a process that works towards the eventual phase out of fossil fuels, without infringing on the right to development of Indigenous nations.

2. We call upon the Parties to the UNFCCC to recognize the importance of our Traditional Knowledge and practices shared by Indigenous Peoples in developing strategies to address climate change. To address climate change we also call on the UNFCCC to recognize the historical and ecological debt of the Annex 1 countries in contributing to greenhouse gas emissions. We call on these countries to pay this historical debt.

3. We call on the Intergovernmental Panel on Climate Change (IPCC), the Millennium Ecosystem Assessment, and other relevant institutions to support Indigenous Peoples in carrying out Indigenous Peoples' climate change assessments.

4. We call upon the UNFCCC's decision-making bodies to establish formal structures and mechanisms for and with the full and effective participation of Indigenous Peoples. Specifically we recommend that the UNFCCC:

a). Organize regular Technical Briefings by Indigenous Peoples on Traditional Knowledge and climate change;

b). Recognize and engage the International Indigenous Peoples' Forum on Climate Change and its regional focal points in an advisory role;

c). Immediately establish an Indigenous focal point in the secretariat of the UNFCCC;

d). Appoint Indigenous Peoples' representatives in UNFCCC funding mechanisms in consultation with Indigenous Peoples;

e). Take the necessary measures to ensure the full and effective participation of Indigenous and local communities in formulating, implementing, and monitoring activities, mitigation, and adaptation relating to impacts of climate change.

5. All initiatives under Reducing Emissions from Deforestation and Degradation (REDD) must secure the recognition and implementation of the rights of Indigenous Peoples, including security of land tenure, recognition of land title according to traditional ways, uses and customary laws and the multiple benefits of forests for climate, ecosystems, and peoples before taking any action.

6. We challenge States to abandon false solutions to climate change that negatively impact Indigenous Peoples' rights, lands, air, oceans, forests, territories and waters. These include nuclear energy, large-scale dams, geo-engineering techniques, "clean coal", agro-fuels, plantations, and market based mechanisms such as carbon trading, the Clean Development Mechanism, and forest offsets. The rights of Indigenous Peoples to protect our forests and forest livelihoods must be ensured.

7. We call for adequate and direct funding in developed and developing States and for a fund to be created to enable Indigenous Peoples' full and effective participation in all climate processes, including adaptation, mitigation, monitoring and transfer of appropriate technologies in order to foster our empowerment, capacity-building, and education. We strongly urge relevant United Nations bodies to facilitate and fund the participation, education, and capacity building of Indigenous youth and women to ensure engagement in all international and national processes related to climate change.

8. We call on financial institutions to provide risk insurance for Indigenous Peoples to allow them to recover from extreme weather events.

9. We call upon all United Nations agencies to address climate change impacts in their strategies and action plans, in particular their impacts on Indigenous Peoples, including the World Health Organization (WHO), United Nations Educational, Scientific and Cultural Organization (UNESCO) and United Nations Permanent Forum on Indigenous Issues (UNPFII). In particular, we call upon all the United Nations Food and Agriculture Organization (FAO) and other relevant United Nations bodies to establish an Indigenous Peoples' working group to address the impacts of climate change on food security and food sovereignty for Indigenous Peoples.

10. We call on United Nations Environment

Programme (UNEP) to conduct a fast track assessment of short-term drivers of climate change, specifically black carbon, with a view to initiating negotiation of an international agreement to reduce emission of black carbon.

11. We call on States to recognize and implement the fundamental human rights and status of Indigenous Peoples, including the collective rights to traditional ownership, use, access, occupancy and title to traditional lands, air, forests, waters, oceans, sea ice and sacred sites as well as the rights affirmed in Treaties are upheld and recognized in land use planning and climate change mitigation strategies. In particular, States must ensure that Indigenous Peoples have the right to mobility and are not forcibly removed or settled away from their traditional lands and territories, and that the rights of peoples in voluntary isolation are upheld. In the case of climate change migrants, appropriate programs and measures must address their rights and vulnerabilities.

12. We call upon states to return and restore lands, territories, waters, forests, oceans, sea ice and sacred sites that have been taken from Indigenous Peoples, limiting our access to our traditional ways of living, thereby causing us to misuse and expose our lands to activities and conditions that contribute to climate change.

13. In order to provide the resources necessary for our collective survival in response to the climate crisis, we declare our communities, waters, air, forests, oceans, sea ice, traditional lands and territories to be "Food Sovereignty Areas," defined and directed by Indigenous Peoples according to customary laws, free from extractive industries, deforestation and chemical-based industrial food production systems (i.e. contaminants, agro-fuels, genetically modified organisms).

14. We encourage our communities to exchange information while ensuring the protection and respect of intellectual property rights at the local, national and international levels pertaining to our Traditional Knowledge, innovations, and practices. These include knowledge and use of land, water and sea ice, traditional agriculture, forest management, ancestral seeds, pastoralism, food plants, animals and medicines and are essential in developing climate change adaptation and mitigation strategies, restoring our food sovereignty and food independence, and strengthening our Indigenous families and nations.

We offer to share with humanity our Traditional Knowledge, innovations, and practices relevant to climate change, provided our fundamental rights as intergenerational guardians of this knowledge are fully recognized and respected.

We reiterate the urgent need for collective action.

Agreed by consensus of the participants in the Indigenous Peoples' Global Summit on Climate Change, Anchorage Alaska, April 24th 2009

UN Integrated Regional Information Networks

Source: http://www.irinnews.org

Wonderfonte in spruit

One legacy of South Africa's extensive mineral deposits is the infrastructure and wealth of the country. But another more troubling legacy is emerging as an increasingly urgent problem: environmental contamination from over 100 years of mining that could severely pollute the country's water, affecting the food chain and citizens' health.

The magnitude of the potential problem has government agencies scrambling to coordinate a response to a relatively new issue for the regulatory bodies. "The truth of the matter is that as a nation we don't know how to deal with this problem because it has never happened to us before," said Dr Anthony Turton, a leading water researcher at the Council for Scientific and Industrial Research (CSIR)."This was always suppressed before because people didn't matter in the pre-1994 South Africa. All we've done so far is see the tip of the iceberg. We certainly don't have any coherent government strategies yet."But the urgency is real. As more mines close and more tests reveal hazardous contamination levels in sediment and local food samples, there is growing concern about acidic waters emanating from disused mines.

The epicentre of the problem lies southwest of Johannesburg in a valley ringed by mines - both active and closed - where a small river called the Wonderfonteinspruit runs southwest from the mining town of Randfontein to Carleton Ville and Khutsong, and into the Mooi River, which provides water for Potchefstroom, a large university town.Over 10 years of scientific studies have established that the sediment in the Wonderfonteinspruit is contaminated with radioactive uranium and high levels of other heavy metals in wastewater discharged from local mines. By law, wastewater from mines is supposed to be treated to a standard established by the Department of Water Affairs and Forestry (DWAF) before being discharged into waterways, but the evidence of contamination in the sediment means there has not been compliance. The mining companies were not closely regulated during the apartheid years, but environmental activists charge that while laws are now in place, enforcement is not. Further complicating the enforcement issue is that several different mining companies, Gold Fields and Harmony - operate in the area and discharge water into the same canals and pipelines, so identifying a specific source of contamination can prove difficult.

A second source of pollution is runoff and wind-eroded particles from slime dams - soil residue from within the mines that often contains radioactive elements and heavy metals. On a recent site visit south of Carletonville, residue from eroding slime dams was observed washing down dirt roads towards drainage canals that empty into the Wonderfonteinspruit.

A 2007 report by the National Nuclear Regulator (NNR) stated: "These slime dams and rock dumps are potentially significant contributors to diffuse contamination."

Wind-blown radioactive dust particles from the slime dams could also pose "significant radiation exposure" through inhalation or by contaminating agricultural crops, while cattle posed a serious problem because they churned up sediment loaded with radioactive elements and heavy metals in the waterways when they went into them.

After the NNR's report was released, the largest mining company operating in the area, Harmony, issued a directive to land and water users in the area, saying that cattle should no longer be watered in the river.

Thus far, the more proactive steps are coming from the local community. The Merafong Council, which includes the town of Carletonville and surrounding district, has put up signs warning people to not use the water and has provided drinking water to informal settlements on the river's banks.

"Although Water Affairs in their latest reports indicate that the water itself is safe, it is a known fact that there are sediments that are Though the more proactive steps are coming from the local community. The Merafong Council, which includes the town of Carletonville and surrounding district, has put up signs warning people to not use the water and has provided drinking water to informal settlements on the river's banks.

"Although Water Affairs in their latest reports indicate that the water itself is safe, it is a known fact that there are sediments that are contaminated with radiological elements," said Albie Nieuwoudt, Strategic Executive for Economic Development, Planning, and Environmental Management at Merafong.

"That's why we put up the signs. We've just created our own Environmental Management section to look at issues arising from dust and slime dam residue; we've got a duty to protect our citizens."

Acid Mine Drainage

After 100 years of mining in South Africa, the subterranean infrastructure is vast and many neighbouring mines are interconnected for safety reasons. To mine for gold, mining companies must displace the groundwater for the duration of the mining operation by umping it out. This slurry carries an assortment of naturally present heavy metals to the surface on the slime dams and discharges water.

When a mining company ceases operation, water begins to re-enter the area and reacts with exposed pyrite, a mineral formation, which creates sulphate. Sulphate reacts with water to become sulphuric acid, which then dissolves the heavy metals into the mix as the water rises and eventually "daylights" onto the surface. At this point, the water is considered to be acid mine drainage or "mine water decant".

"You get this flow of water that comes up through the springs and it is very low Ph - very acidic - and it is a whole tail of heavy metals and potentially radioactive metals," said the CSIR's Turton. In the Wonderfonteinspruit area the aquifers are in dolomite, a spongy layer of rock through which water moves quickly. The speed of the water is increased by the mining shafts. In August 2002, acid mine water began to appear in the West Rand Mining Basin just above Krugersdorp Game Reserve.Harmony Gold rapidly built containment dams and channelled the water into Robinson Lake for treatment, but a percentage of the water is unusable even after treatment and is released into the Tweelopie Spruit, a small river in the area.

A 2006 Water Resources Commission report described Robinson Lake as having an exceptionally high uranium concentration after the influx of acid mine drainage water. "This extreme concentration is believed to be the result of remobilisation of uranium from contaminated sediment by acidic water."A separate paper about the 2002 decant, written in 2007 by CSIR scientists and Water Geosciences Consulting, stated: "The ramifications of mine water decant for the sub region are enormous. The greatest focus in this regard is undoubtedly the Cradle of Humankind World Heritage Site ... Of no lesser concern, however, are the downstream landowners and agricultural activities that are largely or wholly dependant on groundwater for potable and business use."According to Turton, "This is the source of major concern in the short term, but there are other future worries as mines close down and decant starts to move across to the East Rand."

He fears that the country's energy crisis will exacerbate the problem by forcing smaller mines that cannot absorb the financial losses caused by power outages to close. "If they close prematurely, this process will simply be accelerated like a domino effect and hit us before we have the necessary science in place to inform the policy-making process," he said.But DWAF Minister Lindiwe Hendricks has stated that wastewater from mining operations is not a threat to the country's water supply. When the 2002 decant began, DWAF instructed the responsible mines to contain and treat the water. Hendricks said DWAF's plan to deal with future AMD issues was to build a long-term treatment plant. The Western Basin Environmental Company has been established to treat acid mine drainage water.

Demonstration on organic farming

A Farmer's Tale

Douw Coetzee's farm is located on the Wonderfonteinspruit stream, and his dam is a radioactive hot spot with high levels of radioactive sediment and other heavy metals like cadmium. The dam tested higher for radioactivity than the site above his property where mining waste enters the water via a pipe. Coetzee said he had submitted fish and cow samples from his farm months ago but had yet to hear any results.Regulators from Harmony mines, as directed by the NNR, ordered Douw and his brother Sas to stop using the water for irrigation purposes because it exposed the sediment, so the Coetzees watched their fields wither and lost their primary income from maize.Then they were told to keep their cattle away from the water because cattle disturb the sediment when they go into the water to drink, allowing the mine waste to move along in the water's flow. He cannot sell the cattle, which are multiplying rapidly, or the farm, for fear of contamination. "It's not morally right," he said.

He and his brother are not only worried about financial ruin but also their health. "I've lived here all my life; I played in this mud when I was a child. The cadmium level in our dam is 16,000 times higher than the allowed maximum. We're caught up now in nothing but meetings and maintaining what's left of the farm," said Coetzee.

"Basically we're just keeping the cattle alive and having to borrow money from the bank. This was supposed to be my legacy to my children, but everything has been stopped. This is horrible." He said there were approximately 50 subsistence farmers upstream who did not know about the issues until him and his brother met

with them. Whether or not those farmers were still irrigating with river water was unclear. The farmers' union spokesman was unavailable for comment.

What's next

The NNR has established a Regulatory Steering Committee, involving all the relevant local and national government agencies, to be advised by a team of scientific experts yet to be named. The CSIR's Turton noted that even though many people were frustrated with the current number of reports, the reports thus far have been inadequate in scope and funding. He said two studies were needed to clearly define the issues in the area and allow government agencies to act: one is a "fate and pathway" report that will definitively determine whether the heavy metals and/or radioactive pollution are entering the food chain and, if so, what steps are necessary to break the chain of pollution; the second is an epidemiological study of people exposed to mine waste. The reports could potentially create a rough blueprint of the mining pollution issues and appropriate actions that other areas of the country will face. "This is a national strategic issue," said Turton. "We know the next decant will be in the East Rand in the next 10 years, when they stop mining. It is the only way we will get a handle on human health issues arising from chronic exposure." The Coetzee brothers plan to take meat samples from their cattle to a laboratory in Europe and also have themselves tested while there. Douw pointed to a collection of disused buildings on the property and said the farm used to employ 19 families. "We tried to hold onto them as long as possible but eventually they didn't get anything from us because we didn't have any money," he said. "It's complete ruins now. These used to be nice houses." ◀

Training women on drought resistant crops will go a long way in achieving the millenium development goals

Africa: Climate Change Devastates Continent

By Sifelani Tsiko, Harare

Small holder farmers, fisher folk and pastoralists in Africa will be the hardest hit by climate change even though their continent is the least polluting globally. Agronomists, environmentalists, ecologists and development activists who met at a conference on Climate Change, Agriculture, Fisheries and Pastoralism in Africa at Selingue village, about 200km south of Bamako in Mali said farmers, fisher folk and pastoralists were already feeling the negative effects of climate change.

The impact of climate change is already being felt in different parts of the continent," said Dr Regassa Feyissa, a veteran Ethiopian agronomist and plant breeder.

"Extreme weather patterns have led to a decrease in rainfall, rising temperatures and heavy rains in some cases. Smallholder farmers and pastoralists are already experiencing the negative impact of climate change."

In the past three years, he said, rising temperatures had led to the hastening of crop maturity and a rise in biomass levels in Ethiopia. "Yield levels are falling and there is a huge biomass. There is a disruption of the earth's climate system and this will soon force pastoralists and farmers in Ethiopia to change their agricultural practices," Dr Feyissa said.

More than 150 participants from 25 African countries and 10 countries from other continents discussed a broad range of issues critical to the survival of smallholder farmers, pastoralists and fisherfolks from November 26-December 2 at Nyeleni village centre at Selengue in Mali. Participants noted with concern that climate change mainly caused by the unsustainable way of production, transport and lifestyle in industrialized countries in the North is killing and destroying the livelihoods of smallholder farmers, pastoralists and fisher folk in Africa.

"People have been pushed into poverty, millions have died and many more have been forced to migrate. The large scale use of fossil fuels since the industrial revolution, mainly in the rich countries, is the main cause of climate change," "People have been pushed into poverty, millions have died and many more have been forced to migrate. The large scale use of fossil fuels since

the industrial revolution, mainly in the rich countries, is the main cause of climate change," read part of the joint statement by the participants.

Tendai Ngosi, a development activist from Malawi said the southern part of her country is increasingly experiencing more floods that in the past leading to the emergence of diseases.

"The quantity and quality of fish caught by our fisher folk is declining. This will have serious implications on the livelihoods of millions of people who depend on fishing on Lake Malawi," she said.

Malaria is now re-emerging as the biggest killer on the shores of Lake Victoria, Lake Malawi and other major water bodies dotted around the continent.

"There is a new wheat fungal strain that is affecting Ethiopia and more recently it has now been reported in Uganda and Kenya. I don't know how it started but it is spreading, mostly likely due to climatic changes," Dr Feyissa said.

"There are various microbial diseases that are emerging now. Malaria is one of them. Africa will be the hardest hit and we have to find solutions and demand social justice from the North."

Mr. Peter Malomba, a Kenyan farmer activist said rains have become unpredictable affecting farming activities in his own country. "Rains either come too late or too early. We don't know when to plant and we can no longer depend on the Met office here in Kenya," he said. "Technologies have failed us and nature is fighting against us."

"Lake Victoria which supports the livelihood of millions of people is dying, water levels are falling and water hyacinth is spreading fast," Mr. Malomba said. "Boats can't move because of the weeds. The quality and quantity of fish is declining and we are worried about the future of our people."Tidimalo Coetzee of the Botswana agricultural ministry said her country is experiencing prolonged dry periods with high temperatures which have led to cattle dying."The livelihood of our farmers who depend heavily on cattle is being threatened as climate change occurs," she said. "Grazing pasture is dwindling because of drought, the quality of meat is also declining and the frequency of disease outbreaks is rising."Conflicts between traditional pastoralists groups and farming groups are rising in the Great Rift Valley region as climate change is leading to a shift in agro-ecological practices.Declining water availability and grazing lands is worsening the conflicts in other parts of Africa where people had co-existed peaceful for years.

Africa: Climate Change Devastates Continent. Some of the major causes of climate in change in Africa which were raised by participants include:

- Unsustainable exploitation of forests by multinationals
- Unsustainable mining activities done by large multinationals (e.g. large tracts of forest land being cleared by diamond mining conglomerates in Sierra Leone)
- Unethical exploitation of Africa's mineral resources, for example gold in Tanzania and Kenya, granite and gold in Zimbabwe causing extensive damage to the environment
- Unsustainable production systems by industrial conglomerates operating on the continent.

Poverty makes Africa vulnerable to the whims of powerful multinationals and countries. Africa's emissions are estimated at 3.6 percent out of the total carbon dioxide emissions per year. The biggest culprits are the rich countries in the North particularly the US which has refused to ratify the United Nations Framework Convention on Climate Change (UNFCC) Kyoto Protocol.

"People's lives, livelihood and the destruction of nature cannot be measured in monetary terms. Rich countries and big companies must pay compensation to the developing countries.

"The total development aid from the rich countries is just a very small portion of what they should pay," read part of the conference communiqué.

"Africa is the most vulnerable, it will be the hardest hit and the impact will be catastrophic," said Mithika Mwenda of Climate Network Africa.

He said the impact of climate change in Africa include:

Food and livelihood pressure due to climate change will lead to populist or military coups in a number of countries in Africa Population movements and displacement both within countries and internationally decrease in area of land suitable for agriculture decreased local food supplies health status of millions of people, increased malnutrition and consequent disorders Increased frequency of new vectors

and short term development time of pathogens as a result of higher temperatures Increased burden of waterborne diseases such as cholera, malaria, cardio-respiratory diseases due to heatstroke. Water conflict security will worsen due to prolonged drought, shrinking lakes, drying rivers and aquifers and sinking water tables Increased agro-fuel-food conflicts increased food prices, erosion of bio-diversity, displacement of smallholder farmers

Natural disasters landslides, damage of infrastructure by floods, human death and downstream insecurity, for example Mozambique's experience of Cyclone Eline induced floods in 1999-2000 ped. "The aspirations of the poor and marginalized must be addressed together with climate change. Rich countries must not only cut back on their consumption but they should also help support and promote the rest of the world to adapt to climate change," Mwenda said.

Development activists also said there is need to document the serious impact of climate change for agriculture, pastoralism and fisheries in Africa and share experiences on how peasants, pastoralists and fisherfolks overcome the consequences of climate change.

They also said there is need to strengthen social movements and pile pressure on rich countries and multinationals to stop the unsustainable exploitation of resources in the South. Participants also agreed that there is need to develop and promote sustainable alternative policies and practices, to implement and promote food sovereignty, agro-ecology and other sustainable food production systems.

In addition, they said there is need for a collective response in the form of global partnerships in the common struggle for sustainable development.

Indigenous African knowledge systems are critical to the survival and adaptation of people living under the threat of climate change. Agro-ecologists said support and promotion of indigenous knowledge systems is critical in conservation and development of bio-diversity. But the erosion of indigenous knowledge systems and widespread use of conventional agricultural systems has had a damaging effect on the capacity of most African communities to feed themselves and conserve agro-bio-diversity.

Restoration and enhancement of indigenous knowledge systems is the way to go. ◀

Call for Action on Gender and Climate Change by International Colloquium on Women's Empowerment, Leadership, Development, International Peace and Security

Monrovia, Liberia 2009

We participants in the Gender and Climate Change sessions representing women leaders of governments, intergovernmental and nongovernmental organisations, academia, media and other stakeholders thank Their Excellencies, President Ellen Johnsson-Sirleaf of the Republic of Liberia and President Tarja Halonen of the Republic of Finland for convening the International Colloquium on Women's Empowerment, Leadership, Development, International Peace and Security 7-8 March in Monrovia, Liberia. The colloquium provided a forum to reflect on the impact of climate change in developing countries on the daily lives of women, in particular, and also women's possibilities to participate in mitigation and adaptation to climate change. In the light of our deliberations we:-

• Recognise that climate change will undermine most seriously efforts to poverty eradication and achievement of the Millennium Development Goals, so that it raises serious questions of climate justice and equity. Recognise that a gender sensitive strategy is a precondition to the rising challenges of sustainable development.

• Note with concern the findings of the Intergovernmental Panel on Climate Change presented in its 4th Assessment Report, that climate change may affect most strongly the poorest regions and people, especially women, young people and children through impacts on agriculture, food security and availability of water, which are traditionally women's tasks in many developing countries.

• Recognize that women and young people have

the skills and capacities to adapt to climate change, but they can also be powerful actors e.g. by planting trees, maintaining forests and developing ecological food production and sustainable household energy which are also creating new sustainable jobs. Likewise they can play central role in changing the consumption and production patterns to sustainable ones.

• Thus awareness raising, information and using traditional knowledge as well as strengthening women's' networks is important.

• Acknowledge the historic momentum of the ongoing negotiations on a new global and comprehensive climate agreement and the commitment of the Parties to the United Nations Framework Convention on Climate Change to agree on the new commitments and action in Copenhagen in December 2009.

• Call upon all Parties and relevant intergovernmental and nongovernmental organisations and other stakeholders to co-operate and to do their utmost to achieve the new agreement on climate change, and in this process pay particular attention to encouraging women to participate in the negotiations and urge parties to incorporate gender considerations into the new agreement in order to lay foundation for gender-sensitive efforts to implement the agreement in the most cost effective way.

• Further call upon governments and other stakeholders to create an enabling environment for participation of women at the local, national regional and international level in decision making on climate change and in activities to implement these decisions.

• Request governments, the Secretariat of the United Nations Framework Convention on Climate Change and the UN system in the context of delivering as one, other relevant international organisations and financing institutions in the context of current and coming programmes and priorities to support the implementation of the climate commitments and actions by planning for information sharing, training and other forms of capacity building to encourage women's participation in the mitigation and adaptation activities including risk prevention and management as well as making the necessary resources and technology available both for men and women. Special consideration needs to be given to developing gender-sensitive financing. ◄

The Right to Food: Questions and Answers

Food and Agriculture Organization of the United Nations - Right to Food Unit

1. What is the human right to food?
The right to food is first of all a human right. It is the right to feed oneself in dignity. It is the right to have continuous access to the resources that will enable you to produce, earn or purchase enough food to not only prevent hunger, but also to ensure health and well being. The right to food only rarely means that a person has the right to free handouts.

2. Is the right to food a right to food aid?
The right to food is primarily the right to feed oneself and one's family in dignity, but of course there can be situations when people cannot do that. There are emergency situations –wars, natural disasters –and there are persons – disabled, sick or orphaned -who cannot feed themselves, and need assistance. People in those circumstances must receive assistance, whether food aid, cash or any other form.

3. Is the right to food a legally binding right?
For the 159 countries that have ratified the International Covenant on Economics, Social, and Cultural Rights, the right to food is a legally binding right, on equal footing as the human rights prohibiting torture and protecting free speech and the press. In addition, many countries have included the right to food in constitutions and legislation. Countries that have not ratified the Covenant should at least recognize their moral responsibility to realize this right.

4. Who is responsible for implementing the right to food?
States are the primary duty bearers for implementing human rights, including the right to food. That means that a parliament, executive, judiciary and other institutions, have roles to play. In addition, there are moral responsibilities that all of us individuals and stakeholders everywhere should recognize and accept.

5. States already have many obligations, how can they afford to realize the right to

food?

Human rights may require spending, but many steps toward realizing the right to food cost little or nothing. Ending discrimination in access to food and resources is one such step. Under international law, states are obligated to progressively realize the right to food, which recognizes resource constraints. A human rights –based approach to food security can even save money by promoting transparency in government spending. It also empowers people to hold their governments accountable for how they budget money.

6. Is hunger a human rights violation?

Hunger is often a human rights violation. If a public institution, either deliberately or through negligence, is causing hunger then that would be a human rights violation. Discrimination in access to food and resources is also a violation of the right to food. A state that does not deal with hunger and fails to request international assistance when necessary is also violating the right to food. A state that is doing its best within its financial and institutional capacity to end hunger, malnutrition and inequality, could not be considered in violation of human rights law.

7. What can people do if their right to food is violated?

People can complain to the official responsible for the action that affects the right to food. Then, they can complain to the next higher level. Ombudsperson, human rights commissions, the United Nations Special Rapporteur on the right to food and other institutions can also receive complaints. The right to food can be enforced by courts. People can also organize and work with the media to put pressure on the government.

8. Can human rights really help fighting hunger and malnutrition?

There is international consensus that hunger and malnutrition are often caused or heavily influenced by structural factors. Poorly defined roles and responsibilities, social exclusion of the poor, or non-responsive public bodies can all contribute to hunger. The rights-based approach to food security addresses these structural obstacles by emphasizing individual entitlements, redress mechanisms, transparency and accountability. Furthermore, linking development issues with human rights brings new stakeholders into the fight for food security, broadens its support base, and increases the political pressure.

9. Why is FAO involved in the right to food?

Freedom from hunger is among fundamental goals in FAO's constitution. At the 1996 World Food Summit (WFS), Heads of State and Government issued the Rome Declaration reaffirming, the right of everyone to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger." The WFS Action Plan reaffirmed FAO members' commitment to, implementation and full progressive realization of this as a means of achieving food security for all."

Right to food will guarantee the health of these children.

10. What Are the Right to Food Guidelines?

The Right to Food Guidelines, also known as the voluntary guidelines to support the progressive realization of the right to adequate food in the context of national food security, have been accepted by all of FAO's members. The Guidelines give governments specific recommendations on how to incorporate right to food principles in legislation and policies. They contain recommendations on a range of relevant issues, including access to natural resources, education, legislation, markets, safety nets and human rights institutions.

11. What does a right to food project typically look like?

Essential to any right to food project is participation of all stakeholders, especially those seriously affected-the hungry and the poor. Projects typically aim to strengthen the capacity of state institutions, to fulfill their obligations and

the capacity of rights-holders to hold their governments accountable. This involves training, advocacy and working to create fair enforceable laws. Projects can also help reinforce redress mechanisms, whether legal or social, and ensure they're available to those who believe their rights are not being realized. Considering the requirement to progressively realize this right, projects target first those most vulnerable, especially those discriminated against in terms of access to resources.

12. Are there concrete examples of successful right to food actions?
Many countries have taken successful actions toward realizing the right to food. When grain silos overflowed in one Indian region while another region's drought – struck residents went hungry, a court decision forced the government to distribute reserves to remedy the situation. In Brazil, a mobilized civil society and a determined government are working together to reconcile centuries of discrimination that have kept millions from the resources they need to feed themselves and their families.

13. How does the right to food differ from food sovereignty?
The right to food is a recognized human right with international treaties according it full legal protection. The right does not prescribe specific economic policies and is flexible about the method countries use to achieve food security. It focuses on accountability and participation of the individual in the political process and redress mechanisms. Food sovereignty is a political concept promoted mainly by civil society and academia. It emphasizes self-reliance, protection of domestic markets, ecological production and the idea that people should define their own type of food and agriculture.

14. Would you like to add anything in conclusion?
The planet produces enough food, of adequate quality, to feed the world's entire population. Yet, for the 854 million women men and children suffering from chronic hunger, the fundamental right to food is not realized. This is unacceptable. Legal instruments have been elaborated, political commitments made and practical guidelines –the Right to Food Guidelines- elaborated. What we need now is a shift from charity to human rights, from rhetoric to action and results. It is time to make hunger history and the right to food a reality for all. ◄

Voices of Africa Indigenous Peoples on Climate Change

Wilson Kimanu
Enkukai Youth Group

What do you understand by climate change?
It involves witnessing persistence in drought around my area, livestock dying due to the changes and human beings getting more infected with diseases. Before all this one cow could go for 40 thousand shillings but nowadays they get sold at 20 thousand shillings only.

What brings these changes in climate?
The way land gets distributed and the new land owners get involved in activities that are not environment friendly e.g;
- Cutting down trees
- Farming techniques
- Charcoal burning-people keep cutting trees for economic reasons without planting more to replace those they cut. With time Trans Mara may be an arid or semi arid region if the government does not intervene.

Are there people who have come to teach you about climate change?
We have never had anyone come and teach us about climate change, we only get to hear of it on radio. The charcoal burning process as it has emerged is being facilitated by the police who get bribes from the charcoal burners in order to resist arrest. With each lorry of charcoal, a certain percentage of money is distributed among the game rangers and police.

Will the people from Enusueen be happy to receive information about climate change?
They will and are open to change. The Maasai are very cooperative people and also information they get will be of great importance to them and generations to come.

Are the people of Enoosaen aware that there are meetings held and do they attend such meetings?
They do not attend meetings and its even the first time am hearing of the Copenhagen meeting on climate change.

What information would you want presented at Copenhagen about climate change and what should be done when they get back?
That we are not aware of the climate change and therefore we need to be educated on the same. And we should also be let in on the discussions that take place there and what is eventually agreed on should be implemented.

Have individual lives changed as a result of climate change?
For some life has changed because they have now been forced to change their grazing land to farming. Subsequently their livestock has been sold off. ◀

Hussein Abdullahi
Oalesa Environmental Conservation

What is the difference in climate between now and ten years back?
Ten years back our elders were in a position to forecast the weather patterns which does not happen at this present time
-Climate change has made eastern province witness dry spells for the past three years which has been catastrophic to both human and plant life.

Is rain useful now or in the past?
There was a lot of rain in the past as compared to now when there is little or no rain.

In your own words, what has contributed to climate change?
The practice of tree cutting for economic reasons such as charcoal burning.

Is there any group that has been here to teach on climate change?
There are some NGO's like HN which went into the Boni forest to educate the people who were living in the forest about the importance of environment conservation and against practices like poaching. This has led to increased awareness among the local population on importance of environment conservation and action has been taken. The concerned authorities are doing little to help.

Have you been involved in any tree planting exercises?
Trees have been planted by volunteers and other well wishers in Masalani town. Sides of Bodhai there are groups who are involved in environment conservation activities. In Wajir there is a woman who is in charge of tree planting and has planted several in Wajir west already.

Is education that important?
Yes because it has enabled people know the importance of trees and the environment at large. The most affected areas are around Dadab which is currently home to more than 150 thousand refugees who cut down trees for sale around that area and are also involved in poaching as a means of livelihood.

What in your opinion should be done by the government and NGO's to curb this menace?
The government in conjunction with NGO's should finance community projects which in place should engage in tree planting to replace those already cut down along Garissa up to the Kenya-Somali border. The concerned ministry should issue tree seedlings among the people so that they can be involved in afforestation.

Have the local people complained about the havoc brought about by the refugees?
There have been complaints raised by the locals but little has been done as more and more of the refugees are still arriving.
Also locals are involved in exchange of sugar along the Somali border for one bag of charcoal and therefore they play a major role in cutting down trees.

Does that mean that poverty has also contributed to destruction of the environment?
Poverty has contributed greatly because if not for it things like charcoal burning is the main source of fuel used around.

What message would you want presented at the Copenhagen meeting?
That proper funds should be put aside/allocated to facilitate afforestation in areas affected by tree cutting. Also there should be proper planning to reduce climate change in the world at large and African countries should be compensated because it's the more developed countries that have contributed greatly to change in climate due to industrialization.

Do you want to know what will have been discussed in Copenhagen?
The effects of climate change and what should be done to about it. ◀

Lazarus Singaru
Namanga Environmental Group

What is climate change?
It is lack of rains, increased in heat levels, too much wind and also increased diseases among human beings.

What is the difference between a while ago and now?
Then we used to get rain at least twice a year, April and November but nowadays we only get rain once a year.

What are the visible changes in your area?
We have not had rain the whole year resulting in lack of water, livestock dying, agriculture has been affected and subsequently the economy has gone down.

Levels of snow on Mt Kilimanjaro have gone down, is that as a result of climate change?
It is because some time back there was so much snow on the mountain but due to changes in climate the levels have decreased.

What brings these changes in climate?
Most people blame the climatic changes to scientific experiments and there is also the perception that God is punishing people due to their ungodly ways.

Are people interested in knowing what caused these changes?
People are really interested in knowing but the problem is that most people lack education and therefore cannot comprehend these changes.

What in your opinion should be done to help solve these changes in climate?
People should be educated on these changes in climate to be able to know what it involves i.e. its causes and how to prevent or reduce the effects of climate change. We should all come together to fight climate change.

Have the lives of individuals changed as a result of changes in climate?
They have, most people have now moved to urban areas searching for white collar jobs because the changes in climate have not been favorable to their farming activities in the rural areas. ◀

Alice Lesepen
Marigo Women Group

What is climate change?
It is the increased levels of heat that are being felt leading to destruction of many things.

What is the difference in climate between now and sometime back?

The heat levels are really high right now; the temperatures at times rise to a high of 40 degrees.

Can the changes in climate affect the health of people?
These changes have resulted in people falling sick more often. Children for example could suffer from marasmus and other deficiency diseases because of lack of food.

Have the livelihoods of people changed?
They have because they now rely on manufactured foods which are quite expensive for some people to afford. There is also more migration witnessed from rural areas to urban areas in search of jobs because activities like farming have been unproductive as a result of the changes in climate.

Has the government or any group provided information on climate change?
We have not gotten any information and the little information available is only useful to the literate people.

What are your expectations on the Copenhagen meeting?
I would like to know of what importance the meeting will be to me and the community.
What should be done that is different to help curb climate change in order to go back to our normal lives. ◄

George Kihor
Community Empowerment Perception
Kenya

What are the visible changes you see now that was there when you were young?
We used to farm along the Kerio valley and we harvested a lot, that could feed my whole community till the next harvest. On the contrary, now the rivers along the Kerio valley have all dried up and farming as well as fishing has been inhibited.

What has brought about all these changes?
Majorly it is the cutting down of trees for charcoal burning living the land bare.

Has there been any group that has come to educate people about the changes in climate?
The IIN has been trying to educate people about the climate change and the importance of planting trees and environmental conservation.

Have the lives of people changed due to these changes in climate?
More and more people have moved to urban areas like Lasin ngishu and Trans nzoia to seek jobs that will sustain them.

What could be of importance to the people?
People need to be educated about the importance of environment conservation and this will mean that we will be reducing the effects of the changes in climate.

Are people usually given feedback from meetings held on climate change?
Until now most people have no idea what climate change is all about but through organizations such as IIN we are slowly working towards educating people.

If you get to attend the climate change meeting in Copenhagen what message will you take there?
That people from Africa and any community in Marakwet are really being affected by the effects of changes in climate. We therefore need help from more developed nations to help fight the climate changes and be able to get back to our normal lives. ◄

Susan Nafiali
Hadzabe Survival Council
Tanzania

What is climate change?
These are the changes that have resulted in low amounts of rainfall being witnessed and hence resulting in deaths of livestock and human beings.

Have you been able to witness any changes?
We used to live in the forest sometime back but we have been invaded by the Mangati and the Nyiriba. These two communities are mainly involved in farming and they clear the forest for farming.

Why are they moving?
They are moving to get better farming land and natural resources. They have destroyed our water sources in the process of clearing land for farming.

What should be done to go back to your old life?
People should be relocated back to their original homes because us who lived in the forest were only involved in hunting unlike them who clear the forests for farming.

Has the government or any NGO educated people on the environment?
Ndorobo tours and Pingos, Pan Africa have educated us on environment conservation and we are really grateful. They have helped us separate forest region and the area meant for human occupation.

What message would you take to Copehagen if given the chance?
I would like the government to recognize indigenous people and be of help to them. ◄

Bordakhane Wambile
Merigo Women Group - Kenya

What is different now compared to some years back?
A while back there was enough vegetation for all our livestock which is not the case now.

What caused all these?
People have been cutting trees for charcoal burning in order to earn a living. Tree cutting is the major cause.

What action has the government taken?
The government has distributed maize supplements to people but. the community is complaining that it is not enough and for this reason they cut down trees to be able to earn more.

Is it still possible to forecast the weather nowadays?
We really cannot tell when the rains are due nowadays. Long time ago we listened to the croaking of frogs to know when the rains would come which is not the case nowadays because the rivers are all dried up now.

What would you like done?
We would like the government or NGO's to finance local initiatives like the group am heading to be in a position to take up local projects. For example by getting us water tanks that we could use to store in water for purposes of irrigation and other initiatives.

Has there any group already?
The ministry of agriculture and the Indigenous Information Network have given out tree seedlings to be planted. We thank them for their help. ◄

John Ngatia
Samburu Nomadic Intergrated Programme - Kenya

What is climate change?
It is what is being characterized by the rivers drying up and other things being destroyed like animals dying and crops failing to grow well.

Could you name some rivers that have dried up?
The kauro Larisoro River which used provide water to people in Samburu east is one of such rivers. The other Ewaso nyiro has its water levels reducing gradually.

How have those changes affected people?
The changes have had a negative effect on people's lives. Ten years ago we used to get water from our rivers and there were also a lot of rains which is not the case now. Lack of rains has resulted in increased levels of poverty because we Samburu entirely depend on our livestock which are dying as a result of the effects of climatical changes.
People are also shedding their cultural practices for example the morans are no longer wearing their trademark kungus as they move to the cities in search of better jobs. Lack of rains means that there is very little or no food in the farms and people are forced to go for processed foods that are much more expensive

It is what has resulted in: livestock dying, Very high temperatures being felt, Lack of water, Drought etc.

Are people aware of the causes of climate change?
They are not aware and that is why they continue to involve themselves in activities like tree cutting.

Are there groups that have spoken to you about climate change?
The government as well as some NGO's have been here to warn people about cutting trees and educate about climate change but the people have remained reluctant not heading to this advice.

What is the difference now and ten years back?
Ten years back a time like this there was rainfall unlike now when we are having drought. The forest area was much bigger and there was a lot of wildlife. Now the forest has been cleared by those cutting down trees and the number of wild life is decreasing.

What could be done to restore the lost glory?
The government should put in place tough measures to handle those involved in cutting trees for example fines and jail terms for law breakers.
We as the community should get into groups that will help in environmental conservation.

What message would you take to Copenhagen if you get to attend the meeting?
I will talk about the two major problems, Destruction of environment and effects of these destructions in environment e.g. diseases. ◄

Charles A.Toyoth
TOBARI - Uganda

What is Climate Change?
Climate change is a change in patterns of climate in an unusual way.
Community Perspective: It is perceived to be a bad phenomenon as a result of traditional beliefs. E.g. when people kill themselves they believe that God gets annoyed. They attribute what is taking place in the area to the spiritual connection.
In schools: It is a pattern that is affected by other effects that occurred within the universe or earth.

What makes the community think that there is a change?
The number of physical features that people realize a change in climate had occurred e.g. the rise in temperature is one of those features that indicate climate change. In the past, there was a large range in temperatures. Now, temperatures are simply rising.
a) Speed of wind nowadays, the wind is much stronger
b) Seasons changing. In the past, differences in rainfall levels have marked the changes in seasons. Now, the patterns of rainfall in Karamojong are distorted.
c) Types of trees that grow in particular ecosystems have already changed—The scrubland vegetation growing in particular areas reaches different tolerance limits. We have found that similar vegetation has not been growing in traditionally similar conditions.
d) Farming According to the elders, a drought occurs approximately every ten years. However, the current drought has been alarmingly persistent: we have not seen a good harvest in 3 years. Even the government, through the National Agriculture Advisory Services, has had to respond to the drought. The types of seeds that they provide, however, do not really respond to the changing ecological system because they are inappropriate for the growing conditions. This causes food shortages.
e) Livestock—As people breed their livestock according to traditional practices, livestock migration patterns have been distorted because owners are migrating according to irrigation systems. Drought has caused changes in migratory routes and livestock rearing practices.
f) Particular sites on the riverbed that are traditionally relied upon as sources of water during drier seasons have also been drying up. While migrations and the availability of water sources have been traditionally attributed to spiritual matters, we are learning from our partners, such as Indigenous Information Network and other environmental agencies, that greenhouse gases produced by human activities cause climate change. Industrialisation using fossil fuels is one of

these human activities.

Have you seen the government come over and tell you that, or try to get some data, or give you information on climate change issues? Do they give you any solutions or alternatives?

The national government may be aware of climate change, but policy implementation seems to be lacking at the grassroots level. Even National Adaptation Plan of Actions (NAPAS) only sees development as a result of pressure on government officials at an international conference. Otherwise, on the grassroots level, issues of climate change are unmentioned the focus is only on improving livelihoods.

Bearing these changes in mind, how do you think your people's future will be affected?

Actually, I don't see any hope that people are adapting – we seem to be heading towards imminent doom. We are one of the largest migrating populations in the country and people are not responding to climate change very well.

The children and all the elders are now in the streets of Kampala. Development agencies have tried to settle them back home, but the government has opted to house people in camps. Moving people from time to time is not working. We are actually under a threat of extinction within the next 10-20 years: our people survive on livestock and subsistence agriculture and both these options have failed in these harsh climactic conditions. Disease among livestock is quite common, while crops have largely failed due to the lack of rain. Now, conflicts have arisen among our communities and the government has been unable to respond effectively.

Do you see any means of preserving pastoralism?

Pastoralism in the near future is not going to be a basic livelihood option for many communities that have traditionally depended on it. Alternative income strategies in the Karamojong area are also limited: the semi-arid climate makes bee-keeping and honey production difficult because the plants do not flower in dry conditions, while literacy rates are too low to support productive business ventures. Literacy within our community is among the lowest in Uganda. ◄

Anyakwin Petero Hauness
TOBARI - Uganda

Within the past 10-20 years, what changes have you witnessed in the environment and your community?

I have observed that the climate is changing. While I was growing up, we used to have many gardens, such as beans and maize. Recently, we have not harvested anything for two years. For example, I have never tasted sorghum flowers, though I have tasted original Karamojong maize.

Does your community see the changes? How do you ensure that the new generation, which has never witnessed the contrasts, knows of the changes?

Children aged 5-10 years have also observed climate changes that are taking place. Rain is becoming scarce. In some places they go to school, sometimes they are locked in classrooms. But nowadays they don't experience it but they experience the heat.

How does education affect it?

The number of children who have gone to school has increased, but they go as a means of survival. They attend school because the schools offer meals. If they don't see smoke coming from the kitchens, they realize that there is no food and they decide to stay home.

The old are not able to move around and look for food like the young. How are the old affected?

Since they have not received any assistance and food aid takes a long time, most of the elderly may not survive. The lack of elderly peoples will result in a lack of national wisdom. We will not have any knowledge. The elderly have become powerless and they cannot command anything so far. They used to predict rain.

What do you think is the future of this community? Is there hope?

I don't think there is any hope because climate change

In case people who want to buy land Batwa should buy where its not affected the soil and do not affect the crops. Batwa should have at least enough land to cultivate, put house and also where they can get food. In Uganda, some people sent kids to school because there is no food at home and if kids do not see anything in school they just run away. But we have urban organization which we have done our best to encourage them to get boarding schools. Where they can stay in school the whole term and it is good that they are doing very well. ◀

Samwel Naikada
Dupoto Community Forest Association

What do you understand by climate change?
This is a change in our surrounding, environment, Weather, and also the living of the people's environment. When we talk of environment, we are talking of rain seasons, nowadays rains occur in unexpected seasons. Changes in environment cause drying of land and the level of water is going down. pollution of environment is going up which can lead to toxic air which can lead to diseases and bad health

Have you experienced this change?
Yes:
- Changes in the rain patterns
- Fruiting seasons, trees do not produce any fruit flowering
- Animals' production is going down because of the quality of grass because there is no sufficient rain.
- Allergies, people are becoming allergic to many things because of climate change.

Kirindon area is experiencing a lot of changes how?
These changes are actually caused by the individuals. In past there was a big forest in Kirindon but people decided to cut it down to get more land for cultivation or more produce. After a short period of years (5) the land produces no more products due to lack of soil fertility and the land started developing an ugly bush which is dangerous to livestock and even man. Poverty is in Kirindon because of forest destruction.

How do you explain to someone climate change?
Whenever you see this things which did not happen there before then you can know that this is climate change e.g. when it is too hot or cold. Climate also changed even the feeding habits in animals e.g. buhoons have changed to be carnivores. Low yield due to climate change.

Has this brought any change to lifestyles of people?
Yes. Pasturalists are trying to cope with other feeding styles because milk is getting limited, so they engage in businesses etc.

What do you think will happen in the future if nothing is done in response?
Big problem e.g. the riverbeds and all water sources are going to dry up.

Do you know any dried rivers due to human activities?
Mara River, the water level is going down because of interference of Mau forest and pollution.

Are there any people, organization or government that have come with awareness about climate change?
No, apart from Arid Lands Resource Management Programme (ALRMP) telling people on tree planting and issues of reforestation. No one came to tell about climate change.

What do you suggest to do to assist people in creating awareness to conserve the environment?
Government to put funds for the awareness by using KWS etc. and NGOs

You are going to Copenhagen, so what message are you taking there?
1. To make sure this awareness on climate change reach the community and also discussing the importance of conserving the environment and the dangers of polluting the environment.
2. To ensure that the issues of the communities are heard, e.g traditional knowledge.
3. When I come back I will preach out to the communities where people care less about global warming.

Does it mean that indigenous people are ignored in the rural areas?
The problem is the lack of information and the solution is to give the NGOs or some organizations being empowered to be the voice of indigenous people. If the government cannot do that and give some support to this organization they will not be able to reach some communities. ◀

Motivating the children and youth to engage in environmental conservation activities

Archers Post - Samburu 2009/2010

Rewarding children after their good performance motivates them to keep and carry messages they learnt all through

Sharing messages and songs is part of empowering students to learn just more than they get in class

Rewarding teachers motivates them to keep up encouraging the children

Starting early is a gift

If human beings were to treat one another's personal property the way they treat the natural environment, we would view that behavior as anti-social and illegal. We would expect legal sanctions and even compensation. When will we learn that to commit a crime against the natural world is also a sin?

His All Holiness Ecumenical Patriarch Bartholomew on Peace and the Environment