

Media Conference

International Day of Biological Diversity

Statement by the Executive Secretary,
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22 May 2007

Indigenous and Local Communities – the Human Face of Climate Change

Distinguished Members,

Since the appearance of man on earth, impacts on the natural functions of our planet have never been as destructive as in the last 500 years, leading to an unprecedented extinction of biological diversity on earth. The pressures on the planet's natural functions caused by human activity and manifested in climate change have reached such a high level that the ability of ecosystems to satisfy the needs of future generations is seriously, and perhaps irretrievably, compromised.

During the last century, the extinction rate of species increased a thousand times. Every hour three species that are the result of thousands of years of evolution disappear forever. Each day, 150 species perish. Each year, between 18 and 55 thousand species become forever extinct. This loss of biodiversity is real and climate change, caused by human activity, is one of its main drivers.

The overall findings of research into climate change and biodiversity are horrific. "The current extinction rate is now approaching 1,000 times the background rate and may climb to 10,000 times the background rate during the next century, if present trends continue. At this rate, one-third to two-thirds of all species of plants, animals, and other organisms would be lost by the second half of the next century, a loss that would easily equal those of past mass extinctions." The facts are that many plant and animal species are unlikely to survive climate change. For some of these species there will no longer be anywhere suitable to live. Others will be unable to reach places where the climate is suitable.

The latest report published early this year by the Intergovernmental Panel on Climate Change, is categorical. The current concentration of greenhouse gases in the atmosphere is greater than it has ever been observed in the last 650,000 years. The report specifies that even if greenhouse gas concentrations were now to stabilize, human-caused global warming and the rising of sea and ocean levels would continue for centuries due to the complexity of the world's climate and the interconnectivity of ecosystems.

Although much research has been initiated concerning the physical side of climate change, to date what has been lacking is research into the social and cultural impacts of

climate change – what has been lacking in all the reports on climate change – is the human face to climate change.

The eighth meeting of the Conference of the Parties (to the Convention on Biological Diversity) noted with concern that indigenous and local communities, particularly those in the Arctic, small islands and high altitudes, are highly vulnerable to climate change, but more importantly that indigenous and local communities, in maintaining healthy ecosystems and other practices, can mitigate against climate change

Furthermore, they requested that a report be developed by the Executive Secretary on indigenous and local communities highly vulnerable to climate change focussing on causes and solutions, including innovations and adaptation to climate change. This is the report you have before you. It provides something new in the climate change debate – it provides for you a human face – the face of the world's indigenous and local communities. Its findings, in terms of indigenous and local community vulnerability are startling, but it also suggests possible contributions that indigenous peoples can make to this global issue, including the use of traditional knowledge, the promotion of biodiversity and environmental management to mitigate and adapt to climate change.

Such conclusions require urgent and unprecedented efforts and interventions from all stakeholders and the global community itself. We face a grave situation of increased biodiversity lost accelerated by climate change. Indigenous and local communities, often amongst the World's most marginalized and impoverished peoples will bear the brunt of this catastrophe because of their close association with lands and waters traditionally occupied and used by them and the plants and animals contained therein.

Indeed as it has been said the poor and the marginalized are the human face of the consequences of climate change. This phenomenon affects all the regions and all the people but ironically, those who have contributed to it the least and are the less able to adapt to its impacts, will suffer the most. This is particularly valid for the indigenous and local communities.

Indigenous and local communities will suffer the most from the impacts of climate change and the related loss of biodiversity, however there is much that indigenous and local communities and their environmental knowledge can contribute to solutions on biodiversity loss and climate change. Indigenous and local communities have accumulated vast amounts of ecological knowledge in their long history of managing the environment. Indeed their very survival has relied on learning to use their local resources, including biological resources, in sustainable ways.

Indigenous and local communities have much to offer concerning adaptation to climate change. Recently it was reported that indigenous peoples in the Andes in Peru are working with government seed banks to reintroduce diverse varieties of potato to high altitudes to address climate change and the resulting extreme and variable weather conditions. Even on small holdings indigenous farmers may have up to 70 kinds of potatoes – some are drought resistant, some are frost resistant – the indigenous farmers

are creating what may be called by business – diverse portfolios to address climate change. Other farmers are breeding their Alpacas with low land Alpacas to increase their genetic diversity and resistance to the variable weather conditions being experienced in the Andes, as the result of climate change. Traditional knowledge of the indigenous and local communities can be an important role in adaptation to climate change and its potential has yet to be fully explored. Indeed the potential of the full implementation of Article 8j of the Convention on Biological Diversity has yet also to be fully explored.

To this end, I want to appeal to the World’s indigenous and local communities and you, directly, in your roles in the mass media, to accept the challenge of being partners with the Convention of Biological Diversity, and to raise public awareness about these matters, in our mutual efforts in this struggle to save life on Earth.

Thank you.

FACT SHEET FOR MEDIA

(Also please refer to the exhibition on indigenous and local communities and climate change in the public entrance of the United Nations Headquarters which forms part of the cultural exhibition of the United Nations Permanent Forum on Indigenous Issues.)

Background

The Convention on Biological Diversity recognised since its inception that a symbiosis exists between the knowledge, innovations and practices of indigenous and local communities and the conservation and sustainable use of life on Earth and this is manifested within the Convention in Article 8(j) and related provisions. The Parties to the Convention recognize that the survival of species goes hand in hand with the maintenance of traditional knowledge, and that much can be learned from indigenous and local communities in our efforts to ensure the sustainable use of biological diversity.

As we are rapidly approaching the target date of 2010 to reduce significantly the loss of biodiversity, we must fully recognize and value the contribution that traditional knowledge can make to the achievement of the three pillars of the Convention: the conservation of biological diversity, its sustainable use and the fair and equitable sharing of benefits arising from the utilization of genetic resources. The active involvement of indigenous and local communities around the world is therefore essential in the achievement of the ambitious target

Indigenous and local communities depend on the environment and its resources and have a very close relationship with their natural surroundings. These communities are often amongst the most marginalised and disadvantaged communities in the world.

Indigenous and local communities, because of their close association with their traditional territories and environment, particularly those in the Arctic, small islands and high altitudes, are highly vulnerable to climate change.

But more importantly that indigenous and local communities, empowered to use their traditional environmental knowledge, innovations and practices, have an important role in maintaining healthy ecosystems, and can mitigate against climate change¹.

Traditional knowledge is generally described as knowledge, innovations and practices of indigenous and local communities, developed over millennia, often transferred orally and intergenerationally and shared through experience and adapted to the local social structure, culture and environment.

Traditional knowledge of indigenous and local communities is an integral part of their culture and life. Consequently, adverse external impacts on indigenous and local communities' ways of life, social structures, cultures and habitat will also affect their knowledge, innovations and practices and vice versa.

Traditional ways of life are being threatened by climate change. Regions that are particularly vulnerable to climate change include the Arctic, small islands and high altitudes.

Ironically, Indigenous and local communities are amongst the communities that contribute the least, per capita, to the emission of greenhouse gases, yet they are among the first to face direct adverse consequences of climate change.

Knowledge, innovations and practices of indigenous and local communities can contribute within the context of mitigation and adaptation to climate change. Indigenous people can contribute to the understanding of climate change through their observation and perspectives on changes in the environment.

Arctic Communities and Climate Change – The tip of the iceberg

The Arctic region is an enormous and diverse region of over 30 million km² covering approximately 1/6 of the Earth's landmass.

Arctic regions are now experiencing some of the most rapid and severe climate change on Earth, which will contribute to global environmental and socio-economic changes - many of which have already begun.

Projected warming in the 21st century is expected to be greatest over land and at high northern latitudes. Under some climate change projections, Arctic late-summer sea ice may disappear entirely by the latter part of the 21st century².

¹ Decision VIII/5/B/I, paragraph 6

The livelihood of indigenous and local communities in the Arctic is already being affected by climate change. The following are some of the most commonly reported climate change observations affecting indigenous and local communities in the Arctic:

- late freeze-up,
- melting sea ice,
- prolonged winter storms,
- thawing ground,
- coastal erosion,
- increasingly unpredictable weather and increased extreme weather,
- reduced population of some animal species,
- changing and shifting vegetation zones,
- changing animal travel/migration routes.

The Shishmaref village, located on a small island in Alaska, had to be relocated to the mainland, making the people of Shishmaref amongst the first climate change “refugees”. The village was facing increased erosion due to sea level rise and thawing permafrost.

Activities for the adaptation of Arctic ecosystems and communities to climate change should make use of local and indigenous knowledge and participation. Indigenous and local communities can contribute to the understanding of changes in the Arctic through their observations and perspectives on changes in biodiversity and ecosystem functioning.

Small Island States Communities and Climate Change – Atlantis revisited

Small Island States are by no means a homogenous group of territories, as they span across many different ocean regions. However, they share many common features, including their vulnerability to the negative impacts of climate change.

Many small islands are already facing severe problems caused by a changing climate, creating tremendous challenges for many indigenous and local communities.

Small islands States are particularly vulnerable to climate change because they are characterized by:

- subsistence economies,
- small physical size and relatively isolated location, surrounded by large spans of the ocean or sea,
- poorly developed infrastructure
- limited financial and human resources, and

² IPCC (2007). Climate Change 2007: The Physical Science Basis. Summary for Policymakers. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

- small, localized, and highly specialized species populations that can easily be driven to extinction.

The cumulated effects of all these factors establish clear limitations to the capacity of small island States to mitigate and adapt to future changes in climate, in particular to sea level rise and extreme weather conditions.

The livelihood of indigenous and local communities in Small Island States is already being affected by climate change. Climate change impacts affecting small island States communities include:

- beach erosion due to sea level rise, floods, and storm surge,
- increase in ocean temperatures, causing coral bleaching,
- increase in disease outbreaks,
- reduced agricultural and fish productivity, and
- infiltration of sea water into freshwater systems.

In the Maldives, 50% to 80% of the land area is less than one metre above sea level³. Any storm or rise in sea level has direct negative impacts on the population and ecosystems of such islands.

Conservative estimates of global average sea level rise at the end of the 21st century is projected to range between 18 and 59 cm⁴.

The Lateu settlement, located in the Pacific island chain of Vanuatu, was recently relocated further inland, to escape rising sea levels. Inhabitants of the islands are now referred to as climate change “refugees”.

High Altitude Communities and Climate Change – the disappearing glaciers

Mountain environments cover about 27% of the Earth’s surface. Many species adapt and specialize in these ecosystems, providing essential goods and services to people living in mountain regions.

Over 50% of the world’s population is directly dependent on freshwater from the mountains⁵. The shrinking of glaciers modifies the water-holding capacities of mountains, affecting the quantity of freshwater available to both humans and biodiversity. Many indigenous and local communities are located in high altitudes, such as those in the Andes and Himalayas, and are directly dependent of high altitude areas for freshwater supplies.

³ UNFCCC (2005). Climate Change, small island developing States. Bonn, Germany.

⁴ IPCC (2007). Climate Change 2007: The Physical Science Basis. Summary for Policymakers. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

⁵ CBD (2006b). Mountain Ecosystems and their role as water suppliers – Highland waters, a resource of global significance. Conference of the Parties to the Convention on Biological Diversity. Eight Meeting, Brazil 20-31 March 2006.

During the 20th century, Mount Kenya and Mount Kilimanjaro lost 92% and 82% of their ice mass respectively⁶.

In addition, 67% of glaciers are currently retreating at a rapid rate in the Himalayas and the major causal factor has been identified as climate change.

Indigenous communities in the Peruvian Andes, in altitudes of 4,000 – 5,000 metres above sea level, are experiencing periods of extreme and unprecedented cold spells. Many communities have faced great losses in their sheep and alpaca herds, which are vital for their subsistence and transportation, respectively. The extreme cold spells have also damaged and ruined potato crops, which are part of the communities' staple diet.

The Cordillera mountain region in the Philippines has lately experienced cold spells and prolonged El Niño that has seriously damaged the economy of indigenous and local highland farmers. Agriculture, which is the main source for subsistence and livelihood for indigenous communities in the Cordillera, has been seriously hit by low temperatures, droughts and typhoons. Continued climate-related problems could have severe consequences for the food security of these communities. Already certain rice varieties have been lost as the result of climate variability. These uncertainties have forced farmers to consider adaptation options, including the building of greenhouses to protect crops from future cold spells.

Climate Change, Indigenous Communities and Traditional Knowledge ... What Can Be Done?

While climate change may still be a distant threat for some people, for many indigenous and local communities, it is already a grim reality. More actions to protect indigenous and local communities, their natural environment and their traditional knowledge from the impacts of climate change are urgently needed.

Traditional Knowledge, Innovations and Practices

Indigenous and local communities' traditional knowledge, innovations and practices are an inseparable part of their culture, livelihoods, beliefs, traditions, health and their relationship to the local environment. It is the totality of all such elements that makes their knowledge, innovations and practices vital in relation to biological diversity and sustainable development.

In light of the accelerated threats caused by climate change, the knowledge, innovations and practices of indigenous and local communities must be protected and maintained.

⁶ McCarthy, J. J., O. F. Canziani, N. A. Leary, D. J. Dokken and K. S. White. 2001. Climate Change 2001: Impacts, Adaptation, and Vulnerability. IPCC, Cambridge University Press, UK.

Adaptation

Indigenous and local communities have already been forced to adjust their lives to new climate realities. However, at present, most communities have only adopted short-term coping strategies. It is crucial that future research and policies focus on possible long-term mitigation and adaptation strategies.

Some communities are already adapting and there is a need to share success stories with other communities and to build on these initiatives.

Further Research

Traditional knowledge provides important insight and accumulated knowledge about the local environment. Indigenous and local communities need to be more engaged in climate change research through collaborative projects which seek to draw upon and value both traditional knowledge and scientific expertise.

Convention on Biological Diversity

In decision VIII/5 B, paragraph 6, the Conference of the Parties (COP) to the Convention on Biological Diversity (CBD) noted the specific vulnerabilities of indigenous and local communities to the impacts of climate change and the accelerated threats to traditional knowledge, innovations and practices. It has requested that further research be conducted into highly vulnerable indigenous and local communities, with focus on causes and solutions.
