

**Economic and Social Council**Distr.: General
19 March 2008

Original: English

Permanent Forum on Indigenous Issues**Seventh session**

New York, 21 April -2 May 2008

Item 3 and 4 of the provisional agenda*

Special Theme: "Climate Change, bio-cultural diversity and livelihoods: the stewardship role of indigenous peoples and new challenges"

Implementation of the recommendations on the six mandated areas of the permanent Forum and on the Millennium Development Goals

**IMPACT OF CLIMATE CHANGE MITIGATION MEASURES ON
INDIGENOUS PEOPLES AND ON THEIR TERRITORIES AND
LANDS****Submitted by Victoria Tauli-Corpuz and Aqqaluk Lyngø**

At its Sixth Session, the UN Permanent Forum on Indigenous Issues (UNPFII) appointed the authors as *Special Rapporteurs* to investigate the impact of "climate change mitigation measures on indigenous peoples". In this paper, the authors summarize the effects of climate change on indigenous peoples, review mitigation and adaptation measures, and then analyze the impacts of these measures on indigenous peoples. This paper includes case studies of mitigation measures under the Kyoto Protocol and other voluntary measures that are affecting indigenous peoples adversely. It also includes some good practice models and identifies opportunities for indigenous peoples. The recommendations provide practical steps for the UNPFII, as well as proposals for states, the United Nations Framework on Climate Change, other United Nations bodies, programs and agencies, and multilateral bodies on climate change mitigation matters.

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I. Introduction

1. Climate change is capturing the attention of the international community in an unprecedented manner. According to the latest assessment report of the United Nations Intergovernmental Panel on Climate Change (IPCC), there is now unequivocal evidence that the earth's climate system is warming,¹ very likely due to anthropogenic greenhouse gas (GHG) emissions.² In the absence of effective mitigation strategies, the IPCC predicts that 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 cm.³ Predicted temperature increases in the Arctic are even more extreme; they are projected to rise 5 to 7 degrees by 2099.⁴

2. Since indigenous peoples have not been involved, in any significant way, in formal discussions related to the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Permanent Forum on Indigenous Issues (UNPFII), at its sixth session, adopted the special theme, "Climate change, bio-cultural diversity and livelihoods: the stewardship role of indigenous peoples and new challenges," for its seventh session in April 2008. The UNPFII appointed two special rapporteurs (UNPFII Chair, Victoria Tauli-Corpuz, and UNPFII Vice-Chair and Arctic regional representative, Aqqaluk Lyngé), to prepare a report entitled, "The impact of climate change mitigation measures on indigenous peoples and on their territories and lands," to be considered at the seventh session.

3. This report presents: an overview of the effects of climate change on indigenous peoples and their lands; a discussion of climate change mitigation and adaptation measures being undertaken at international and national levels, and the impact of these measures on indigenous peoples and their lands; examples of the ways in which indigenous peoples are contributing to mitigation efforts, and recommendations for addressing the problem of climate change in ways that take into account the needs and contributions of indigenous peoples.

II. Effects of climate change on indigenous peoples and their lands

A. Global effects

4. The latest report by the IPCC presents evidence drawn from all continents that shows increasing regional climate change.⁵ Global warming is causing changes that will likely increase exponentially if no significant shifts in policy take place. Carbon dioxide, the

¹ Summary for Policymakers of the Synthesis Report of the IPCC Fourth Assessment Report, p. 1.

² *Ibid.*, p. 5.

³ IPCC Fourth Assessment Report, Part 1.

⁴ Summary for Policymakers of the Synthesis Report of the IPCC Fourth Assessment Report, p. 8.

⁵ Intergovernmental Panel on Climate Change, *Fourth Assessment Report, Climate Change 2007: Synthesis Report Summary for Policymakers*, 1-2 (2007).

principal GHG in the atmosphere, has increased by 35 per cent since the industrial revolution. Human activity, especially in the rich and industrialized nations, has not only undermined the ecological integrity of the earth but has also made the atmosphere a dumping ground of GHGs.⁶

5. In living off the land and gaining knowledge through their relationship with the land, indigenous peoples have been observing the effects of global warming first-hand for several decades and have been developing coping strategies. They have observed changes in temperature, changes in the instances, amounts and qualities of rain and snow, and changes in seasons and phenology.⁷ The impacts of global warming on the ecosystems or landscapes they inhabit and the ways in which their lives have been affected were presented at recent side-events organized by Tebtebba⁸ and the Inuit Circumpolar Council at the Bali Conference of Parties in December 2007.⁹ Examples are below:

- (i) More diseases associated with increasing temperatures and vector-borne and water-borne diseases like cholera, malaria and dengue fever (tropical and sub-tropical areas).
- (ii) Worsening drought conditions and desertification, leading to increased numbers of forest fires that affect land use, subsistence agriculture and hunting and gathering livelihoods, and that bring about a serious loss of biodiversity (tropical and sub-tropical areas).
- (iii) Excessive rainfall and prolonged droughts, resulting in more occurrences of dust storms that damage grasslands, seedlings and other crops, including livestock of pastoralists and nomadic indigenous peoples (arid and semi-arid lands).
- (iv) Coastal and riverbank erosion and rising of rivers, caused by higher temperatures, thawing of permafrost, and melting mountain snow, glaciers and sea ice (Arctic).
- (v) Reduced populations of animal species due to warmer temperatures; new marine species due to warmer sea water; and changes in animal travel and migration routes (Arctic).
- (vi) Increase in new types of insects and lengthened life spans of endemic insects (e.g. spruce beetles), which destroy trees and other vegetation (boreal forests).
- (vii) Coastal erosion exacerbated by sea-level rise; stronger hurricanes and typhoons, leading to loss of land and property and dislocation of indigenous peoples (environmental refugees); loss of mangrove forests (coastal regions and small-island states).
- (viii) Food insecurity due to difficulty of maintaining viable fish populations; coral bleaching due to warmer sea temperature (marine ecosystems).

⁶ Greenhouse gases which are covered by the Kyoto Protocol include carbon dioxide (CO₂), nitrous oxide, methane, sulfur hexachloride, HFCs (hydro fluoro compounds) and PFCs (Perfluoro carbons).

⁷ Most indigenous peoples identify prominent phonological markers that signal the change of seasons, such as appearance of birds, blooming of flowers, etc. Changes they have observed show that these markers are occurring earlier or decoupled from the season or weather they used to come with.

⁸ Tebtebba (Indigenous Peoples' International Centre for Policy Research and Education), an international organization of indigenous peoples based in Baguio City, Philippines.

⁹ Summary of reports of side-events organized by indigenous peoples and NGOs during the Bali Climate Change Conference. Notes of Victoria Tauli-Corpuz

- (ix) Increasing human rights violations, displacements and conflicts due to expropriation of ancestral lands and forests for biofuel plantations (soya, sugar-cane, jatropa, oil-palm, corn, etc.); increasing pests (e.g. locusts, rats, spruce beetles, etc.), which damage crops; increasing costs of food due to competition with biofuels, exacerbating food insecurity.
- (x) Massive floods and strong hurricanes and typhoons, which destroy fertile soil, damage crops and cause loss of freshwater supply.
- (xi) Extreme and unprecedented cold spells, resulting in health problems, such as hypothermia, bronchitis and pneumonia, especially among old people and young children.
- (xii) Loss of indigenous peoples' traditional territories due to mitigation measures such as carbon sinks and renewable energy projects (hydropower dams, geothermal plants), taken without their free, prior and informed consent.
- (xiii) Exclusion of indigenous peoples in the processes and mechanisms related to reducing emissions through deforestation and degradation (REDD) and emissions trading.

B. Effects in the Arctic

6. Thus far, climate change has been felt most intensely in the Arctic. The average Arctic temperature has risen twice as much as the average global temperature in the past few decades.¹⁰ In summer 2007, the polar ice cap shrunk to the smallest size ever seen in satellite images, opening previously ice-jammed waterways such as the Northwest Passage for navigation.¹¹ Inuit, who are an indigenous people inhabiting mostly coastal regions in the Arctic are, therefore, especially vulnerable.

7. The Arctic has been called “the world's climate change barometer” and indigenous peoples “the mercury in that barometer.”¹² Stephen Schneider, a leading climatologist from the Nobel Prize-winning IPCC, recently stated that the peoples of the North are bearing the brunt of the onslaught of climate change, even though they are not the ones to blame for causing it.¹³

8. At this point, the effects of climate change mitigation strategies on indigenous peoples of the Arctic are minuscule compared to the effects of climate change itself. For more than twenty years, indigenous hunters and elders in the Arctic have reported changes in their environment.¹⁴ Hunters speak of thinning sea ice that makes hunting much more dangerous, changes to permafrost that alter spring run-off patterns, a northward shift in

¹⁰ ACIA, Impacts of a Warming Arctic 2004 Overview, p. 8.

¹¹ Keaten, Jamey. “Arctic Ice Melt Opens Northwest Passage.” Associated Press. September 16, 2007.

¹² Arctic Climate Impact Assessment (ACIA), Impacts of a Warming Arctic 2004 Overview, p.8: Sheila Watt Cloutier, Remarks upon receiving the Canadian Environment Awards Citation of a Lifetime Achievement, Vancouver, BC, June 5, 2006.

¹³ Stephen Schneider, “Global Warming: Do We Know Enough to Manage the Risks?” Presentation at the Institute of Arctic Studies, Dartmouth College, 22 January, 2008.

¹⁴ Sheila Watt-Cloutier, Remarks upon receiving the Canadian Environment Awards Citation of Lifetime Achievement, Vancouver, BC. June 5, 2006.

seal and fish species, and rising sea levels with more extreme tidal fluctuations.¹⁵ They report that species they rely on are disappearing and that hunting routes near shorelines have disappeared due to erosion brought on by the thawing of permafrost. Villages have experienced increased flooding in winter due to lessened or disappearing pack ice that normally protects shorelines from surging water.

9. The Arctic Climate Impact Assessment (ACIA) warns that “reductions in sea ice will drastically shrink marine habitat for polar bears, ice-inhabiting seals and some seabirds, pushing some species toward extinction.”¹⁶ Plant, animal, fish and bird species previously foreign to the Arctic are moving further north. The ACIA predicts the introduction of new diseases as new animals and insects enter the Arctic ecosystem.¹⁷

10. The issue of Arctic sovereignty, due to the opening of the Northwest Passage, may prove to be even more problematic than it was during the Cold War. Transnational corporations, with the support of UN member states, move through indigenous territories to prove that these areas belong to them, or to the international community, depending upon the country in question. Increased sea traffic through the Canadian Arctic will make the west coast of Greenland, the north slope of Alaska and northern Russia more vulnerable to environmental degradation. Increased commercial activity made possible by easier access to natural resources will bring more traffic and pollution to one of the most fragile ecosystems in the world. The health of Arctic plants and wildlife – and therefore the health of the indigenous peoples who rely on them for subsistence – is at stake.

III. Climate change mitigation and adaptation measures

A. Factors affecting mitigation and adaptation

11. Now that the IPCC has said that action on climate change must begin immediately to avoid irreversible damage, climate change has risen to the top of the global policy agenda. The IPCC has presented stabilization scenarios requiring drastic reductions in GHG emissions within the next 10 to 15 years, and the EU has adopted the position that the global temperature should not increase more than two degrees above pre-industrial levels. Another landmark report, the Stern Review¹⁸, analyzed possible measures to combat climate change and concluded that extensive adaptation strategies are of the highest priority and that the costs of preventing climate change are significantly lower than the projected costs of damage from climate change.

12. The international community, nation states, civil society and the private sector are being called upon to develop mitigation and adaptation strategies to address the effects of

¹⁵ *Sila Inuk*. Interviews conducted in Disko Bay region, Greenland. July (9-10), 2007.

¹⁶ ACIA, *Impacts of a Warming Arctic 2004 Overview*, p. 10.

¹⁷ ACIA, *Impacts of a Warming Arctic 2004 Overview*, p. 10.

¹⁸ Stern, Nicolas: *The Economics of Climate Change*; Cambridge University Press (2007) www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/sternreview_index.cfm.

climate change. Mitigation is the process whereby GHG emissions are reduced and the sinks of GHGs are enhanced. Adaptation is the process whereby ecological, social or economic systems adjust in response to actual or expected climatic stimuli and their effects or impacts.”¹⁹

13. And strategies for mitigation and adaptation must take into account not only the ecological dimensions of climate change, but also the dimensions of human rights, equity and environmental justice. Indigenous peoples, who have the smallest ecological footprints, should not be asked to carry the heavier burden of adjusting to climate change. *Article 3.1* of the UNFCCC, adopted in Rio in 1992, states:

“The Parties should protect the climate system for the benefit of present and future generations of humankind on the basis of equity and in accordance with their common but differentiated responsibilities and respective capacities. Accordingly, the Parties of developed countries should take the lead in combating climate change and the adverse effects thereof.”

14. The “polluter pays” principle is an example of differentiated responsibility. Industrialized countries, which have contributed around 80 percent of GHG emissions since the 1800s and contribute 50 percent at present, should carry the heavier burden of mitigation. They have more wealth and better and more extensive energy and economic infrastructures with which to meet the costs and challenges of large-scale climate change mitigation.

15. Industrialized countries should also help poorer countries and poorer sectors of society to adapt to climate change and to achieve sustainable development. They have the capacity to develop environmentally friendly technologies that can be transferred to the developing world. Developing countries, on the other hand, have neither the resources nor the socioeconomic infrastructure in place to use more expensive, carbon-neutral energy sources.

16. The IPCC states: “Differences in the distribution of technological, natural and financial resources among and within nations and regions, and between generations, as well as differences in mitigation costs, are often key considerations in the analysis of climate change mitigation options.”²⁰ These factors become especially relevant for most indigenous people, who have historically experienced and continue to experience overt, hidden, unintentional, and systemic discrimination and exploitation.

B. Contributions by indigenous peoples

¹⁹ Smil et. al, 2001

²⁰ IPCC, *Summary Report for Policy Makers, Climate Change 2001: Mitigation*, 3 (2001).

17. Indigenous peoples contribute significantly to the reduction of GHG emissions. Their successful struggles against deforestation, against mineral, oil and gas extraction in their ancestral territories, and against further expansion of monocrop plantations, as well as their sustainable production and consumption systems and their effective stewardship over the world's biodiversity, have kept significant amounts of carbon under the ground and in the trees. There are at least 370 million indigenous people throughout the world practicing mostly sustainable, carbon-neutral, or even carbon-negative, lifestyles, which have sustained them over thousands of years and which make a substantial contribution to the mitigation of climate change. In contrast, the United States' population of 300 million, though making up only 4 percent of the total world population, accounts for about 25 percent of world GHG emissions.

18. About 45 percent of the earth's land mass is devoted to agriculture,²¹ and agricultural practices account for 13.5 percent of all greenhouse gas emissions.²² The majority of these emissions stem from poor agro-business practices in the areas of crop and grazing land management. Indigenous practices, such as rotational farming, pastoralism, hunting and gathering, trapping, and the production of basic goods and services, often use environmentally friendly, renewable and/or recyclable resources. For example, the Igorot of the Philippines²³, the Karen of Thailand, China and Myanmar, and the Achiks of India²⁴ continue to practice traditional, rotational agriculture; this practice increases the overall health of forest and jungle ecosystems, which are critical to the mitigation of global warming.²⁵

19. Deforestation and forest degradation account for approximately 17.4 of global GHG emissions and nearly 28 percent of global CO₂ emissions.²⁶ This makes deforestation the 3rd source of GHG emissions after energy and industry related emissions. As of 2005 global forest cover was about 3,952 million ha.²⁷ Between 2000 and 2005 an estimated 7.3 percent of world forest cover was lost, a rate of 12.9 ha per year.²⁸ The proposal to reduce emissions through deforestation and degradation (REDD), if done the right way, might be an opportunity to stop deforestation and reward indigenous peoples and other forest dwellers for conserving their forests. Indigenous agroforestry practices are generally sustainable, environmentally friendly, and carbon-neutral. When the World Bank launched its Forest Carbon Partnership Facility in Bali, it received a lot of criticism from indigenous peoples, who had been excluded from the conceptualization process in spite of the fact that they are the main stakeholders where tropical and sub-tropical forests are concerned. To remedy this weakness, the World Bank will hold consultations with indigenous peoples from Asia, Latin America and Africa.

²¹*Id.* at 499.

²² IPCC, *Working Group III Report: Mitigation of Climate Change*, 105 (2007).

²³ International Working Group for Indigenous Affairs, *Indigenous Peoples of the Philippines*, <http://www.iwgia.org/sw16704.asp> (accessed December 1, 2007).

²⁴ Monisha Gangopadhyay, Conference Presentation: *Valuing Indigenous Assets for Survival Among the 'Indians' of India*, (2007).

²⁵ *Ibid.*

²⁶ IPCC, *Working Group III Report: Mitigation of Climate Change*, 105 (2007).

²⁷ *Id.* at 544-545.

²⁸ *Id.*

C. The Kyoto Protocol

20. Since climate change is a global problem, the negotiation and implementation of international treaties are critical to mitigating its effects. The questions asked by indigenous peoples are: “To what extent are the international treaties being implemented?” and “Are these international treaties effective or sufficient?” and “To what extent are we invited to be key players in the development of these international treaties?” Many indigenous peoples (including all of them in the Arctic) are united in the opinion that the relevant international treaties are not sufficient and that, with some exceptions, the signatories are not adhering to these treaties. Many indigenous peoples link the failure of these mitigation efforts to the fact that the UN, other international bodies, and UN member states did not, until recently, even pay lip service to involving indigenous peoples in processes leading to their international agreements.

21. The first international treaty addressing climate change was the 1992²⁹ United Nations Framework Convention on Climate Change (UNFCCC), which, with a 192 party membership, is nearly universal.³⁰ Based on the UNFCCC's objective to “stabilize greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system,”³¹ the 1997 Kyoto Protocol set GHG emissions targets that became fully operational in 2005.³²

22. The Kyoto Protocol called for mandatory targets for GHGs from Annex 1 countries, ranging from -8 percent to +10 percent of their 1990 emissions levels, so as to reduce overall emissions by at least 5 percent of the 1990 levels during the commitment period of 2008-2012.³³ In addition, the Protocol established three market-based mechanisms to achieve these targets.³⁴ These mechanisms are: “Emissions Trading,” “Joint Implementation,” and the “Clean Development Mechanism.”³⁵

(i) Emissions Trading (ET)

23. The Emissions Trading mechanism allows developed countries to earn and trade emissions credits through projects implemented in other developed countries or in developing countries. It also allows legal entities such as businesses and non-governmental organizations to participate as emissions traders under the responsibility of an authorizing country. Trading can occur at the intra-company, domestic and international levels.³⁶

²⁹ UNFCCC website, “Kyoto Protocol” page. http://unfccc.int/kyoto_protocol/items/2830.php.

³⁰ UNFCCC, “UN Breakthrough on climate change reached in Bali” Press Release, December 15, 2007.

³¹ UNFCCC, “UN Breakthrough on climate change reached in Bali” Press Release, December 15, 2007.

³² Kyoto Protocol to the United Nations Framework Convention on Climate Change, Art. 25 (1998);

³³ Kyoto Protocol to the United Nations Framework Convention on Climate Change, Art. 2 (1998).

³⁴ UNFCCC website, “Kyoto Protocol” page. http://unfccc.int/kyoto_protocol/items/2830.php

³⁵ UNFCCC website, Kyoto Protocol mechanism pages.

http://unfccc.int/kyoto_protocol/mechanisms/clean_development_mechanism/items/2718.php;

http://unfccc.int/kyoto_protocol/mechanisms/emissions_trading/items/2731.php;

http://unfccc.int/kyoto_protocol/mechanisms/joint_implementation/items/1674.php.

(ii) Joint Implementation (JI)

24. The Joint Implementation mechanism³⁷ allows Annex I countries to meet part of their required cuts in emissions by funding emissions-reducing projects in other Annex I countries. The country investing in the project receives emission credits that may be applied toward its own targets.

(iii) Clean Development Mechanism (CDM)

25. The Clean Development Mechanism works the same way as Joint Implementation, but applies to emissions-reducing projects in developing countries.³⁸ The CDM has two objectives: 1) to assist parties not included in Annex 1 to achieve sustainable development while contributing to the ultimate objective of the Convention; and 2) to assist parties included in Annex 1 to comply with their quantified emissions limitations and reduction commitments.

D. Exclusion of indigenous peoples

26. Indigenous peoples were not consulted in the creation of the UNFCCC or the negotiations on the Kyoto Protocol. In spite of this, the indigenous peoples of the Arctic carried out their own consultations with their hunters and with western scientists, and concluded that even if UN member states were to keep their promises and adhere to what they had signed, the mitigation efforts would not go far enough. They were already feeling the effects of climate change and called for stricter targets and for policies that deal with adaptation.³⁹ They also feared – as did others – that by not signing the Kyoto Protocol, some of the biggest polluters would severely weaken the net effect of global mitigation efforts and would provide a disincentive to those that did sign the Protocol to follow through on their commitments.

27. Because of the exclusion of indigenous peoples from UNFCCC and Kyoto negotiations, the indigenous peoples who attended the UNFCCC 8th Conference of Parties in New Delhi in 2002 made the following statement: “We indigenous peoples live in sensitive zones where effects of climate change are most devastating. Traditional lifeways are disproportionately affected by climate change, particularly in polar and arid

³⁶ IPCC, 2007: Summary for Policy Makers. In: *Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate change* [B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Yeyer (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, p. 100.

³⁷ See generally UNFCCC, Joint Implementation: Mutual Help for Countries with Emissions Targets, http://unfccc.int/kyoto_protocol/background/items/2882.php (accessed December 4, 2007); UNFCCC, *Mechanisms: Joint Implementation*, http://unfccc.int/kyoto_protocol/mechanisms/joint_implementation/items/1674.php (accessed December 4, 2007).

³⁸ UNFCCC website, Kyoto Protocol mechanism pages. http://unfccc.int/kyoto_protocol/mechanisms/clean_development_mechanism/items/2718.php; http://unfccc.int/kyoto_protocol/mechanisms/emissions_trading/items/2731.php; http://unfccc.int/kyoto_protocol/mechanisms/joint_implementation/items/1674.php.

³⁹ Lyng, Aqqaluk. Speech given in Copenhagen, Denmark 1997.

zones, forest, wetland, river and coastal areas. Our duty as indigenous peoples to Mother Earth impels us to demand that we be provided adequate opportunity to participate fully and actively at all levels of local, national, regional and international decision-making processes and mechanisms in climate change.”⁴⁰

E. The Arctic countries

28. According to the Germanwatch Climate Change Performance Index 2008⁴¹, Arctic countries, where more than 40 indigenous peoples live, are among the best and the worst performers on addressing climate change. This index combines data from a country's overall CO₂ emissions, its trend of per capita emissions compared to previous years, and its national and international climate change policies in order to rate the top 56 CO₂-emitting countries of the world. Unfortunately, the best performer, Sweden, only rates “good” on the index, so that even if the rest of the world were to adopt Sweden's approach to climate change, the level of CO₂ in the atmosphere would not be reduced sufficiently to prevent catastrophic climate change.⁴² Norway and Denmark receive a rating of “average,” Finland is said to be “poor,” and Russia, Canada and the United States are classified as “very poor.” Particularly disturbing is the fact that these “very poor” performers are among the top ten CO₂-emitters in the world.

29. Although no country in the world is taking adequate action to mitigate climate change, every Arctic country is addressing the issue in some way. Common policies include subsidies or tax incentives to businesses and individuals for installing wind or solar energy, for switching to energy-efficient or alternative-energy-powered forms of transportation, or for making energy-saving improvements to homes and factories. Most countries are also investing in international or national research and development projects on strategies for mitigating climate change.

30. Because the Arctic countries are technologically advanced and highly energy-dependent, their strategies for climate change mitigation emphasize technological solutions that enable them to continue current energy-consumption patterns. Indeed, most Arctic economies are heavily dependent on energy-intensive industries such as oil and gas, pulp and paper, and mining. They are moving in the direction of large-scale measures, such as carbon capture and storage and increased use of nuclear power plants. Finland is relying on allowances from the European Union's Emissions Trading Scheme to meet its Kyoto emissions targets. Denmark, Finland and Norway plan to supplement emissions reductions with credits from Kyoto's Clean Development Mechanism in order to meet their targets.⁴³ Russia has shown little initiative in tackling climate change, but

⁴⁰ Indigenous Peoples' Statement ; Downloaded from <http://www.klimabuendis.org/download/indigenous-peoples-statement-delhi-2002.pdf>.

⁴¹ Germanwatch, Climate Change Performance Index 2008. December 2007.

⁴² Based on premise that worldwide CO₂ emissions must be reduced by 45-60% from 1990 levels in order to prevent a temperature increase of more than two degrees by 2050.

⁴³ See Demonstrable Progress Reports for Canada (15/11/06), Denmark (30/12/05), Finland (14/02/06), Norway (16/02/06), Russia (14/02/07) and Sweden (30/12/05). See National Communication 4 (27/07/07) for United States. All can be found at

http://unfccc.int/national_reports/annex_i_natcom/submitted_natcom/items/3625.php.

foreign-sponsored projects under Kyoto's Joint Investment mechanism may compensate for this to some degree.⁴⁴

F. From Bali to Copenhagen and beyond: renewable energy

31. Negotiations are now underway for an international climate change treaty to replace the Kyoto Protocol when its first phase expires in 2012. At the UNFCCC's Bali Conference of the Parties in December 2007, 187 countries agreed to launch negotiations that will continue throughout this year and conclude at a meeting in Copenhagen in 2009.⁴⁵ In Bali, indigenous peoples were for the first time included in the process, albeit peripherally.

32. Despite the overwhelming evidence that anthropogenic climate change is occurring and will have grave consequences, the road from Bali to Copenhagen is littered with political potholes. One major hurdle is the disagreement over how the rapidly developing countries such as China and India should be incorporated into the next round of emissions targets. Particularly the United States, but also Canada and other Annex I countries, balk at setting difficult emission reduction targets for themselves while maintaining Kyoto's exemption for these high-emissions developing countries. Underlying this position is the apparent fear that reducing GHG emissions will have a negative effect on economic growth. Meanwhile, the European Union has positioned itself to take a leadership role by committing to a 20% reduction in GHG emissions (from 1990 levels) by 2020 and is urging the rest of the world to concretely adopt similar targets.⁴⁶ In all of this political wrangling, it is distressing to note that indigenous issues are virtually never mentioned, even though countries like Russia, Canada and the United States are home to substantial indigenous populations.

33. While the politicians work at their negotiations, scientists are experimenting with numerous technologies for mitigating climate change and are taking two main approaches to reducing the global level of GHGs in the atmosphere.

34. The first approach is to reduce consumption of fossil fuels by switching to alternative forms of energy and improving energy efficiency. It is estimated that 25.9 percent of GHG emissions stem from energy production, and current emissions are predicted to increase by 50 percent by 2030.⁴⁷ The IPCC has identified hydropower, solar energy, wind, geothermal energy, tides, waves and biomass as renewable energy sources.⁴⁸ Even advanced nuclear power is included, but this has been vigorously contested by environmental groups and indigenous peoples.

⁴⁴ Klomegah, Kester Kenn. "Climate Change: Russia Lags in Cutting Emissions." Interpress Service: March 19, 2007.

⁴⁵ UNFCCC, "UN Breakthrough on climate change reached in Bali" Press Release, December 15, 2007.

⁴⁶ Volkery, Carsten. "Europe Takes the Lead in Fighting Climate Change." Spiegel Online: March 9, 2007.

⁴⁷ IPCC, *Working Group III Report: Mitigation of Climate Change*, 253 (2007).

⁴⁸ IPCC, *Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change: Summary for Policy Makers*, 10 (2007).

35. Nuclear power poses special problems for many indigenous peoples, because nuclear waste is often stored in places far from large urban centers, areas inhabited by indigenous peoples. Furthermore, indigenous peoples often lack the political power to oppose such storage on their lands.⁴⁹ Rather than having to tolerate unauthorized intrusions upon their lands,⁵⁰ indigenous peoples should have the right to give or withhold prior and informed consent, and they should possess a veto power concerning nuclear waste storage projects on their territories and lands.

36. Many countries around the world are actively increasing their use of wind and solar energy, with few downsides. Wind energy projects could bring clean energy to the world and a tremendous windfall of economic development to some indigenous communities. It is estimated that the wind energy potential worldwide is 15 times the world's energy demands,⁵¹ with much of this energy potential located on indigenous lands. Using solar power to generate electricity would seem to be a perfect cultural-economic match for indigenous people seeking to participate in climate mitigation. Indigenous peoples have long shared a special affinity for the power of the sun, as evidenced in various religious and cultural practices. More solar energy from the sun strikes the earth in one hour than all the energy consumed by the planet in an entire year.⁵² Yet, solar electricity provides less than 0.1 percent of the world's electricity, and solar energy from sustainable biomass provides less than 1.5 percent.⁵³

37. The growing use of biofuels is more controversial. Of particular concern is the dramatic shift in agricultural production patterns that is taking place to meet the demand for biomass⁵⁴ and the fact that the nitrogen fertilizers used to increase biomass release such potent nitrous oxides that the net effect on GHG emissions is actually worse than if plain diesel were used instead of biofuel.⁵⁵

38. Indigenous peoples are also concerned about the massive increase in the building of large hydroelectric dams, because of the potential displacement of indigenous peoples from their ancestral territories. The International Rivers Network says that "as of November 1, 2007, 654 hydropower projects were in the CDM pipeline, comprising 25% of all CDM projects and 15% of the annual generation of CDM credits (CERs)."⁵⁶

⁴⁹ Western Shoshone Defense Project, *Who and What We Are*, <http://www.wsdp.org/who.htm> (accessed December 3, 2007).

⁵⁰ See generally Winona LaDuke, *All Our Relations: Native Struggles for Land and Life*, 97-114 (Scott End Press 2007).

⁵¹ American Wind Energy Association, *How Much Energy Can Wind Supply the World?*, http://www.awea.org/faq/wwt_potential.html#How%20much%20energy%20can%20wind%20supply%20worldwide (accessed December 3, 2007).

⁵² U.S. Department of Energy, *Basic Research Needs for Solar Energy*, iv (2005).

⁵³ *Id.*

⁵⁴ George Monbiot, "North Biofuel Appetite Causing South Starvation." *The Hindu*: November 7, 2007.

⁵⁵ Study by Paul Crutzen. Cited in George Monbiot, "North Biofuel Appetite Causing South Starvation." *The Hindu*: November 7, 2007.

⁵⁶ See Barbara Haya, *Failed Mechanism: How the CDM is subsidizing hydro developers and harming the Kyoto Protocol*. International Rivers Network . 4 (2007)

39. The second approach to reducing the level of GHGs in the atmosphere is to attempt to increase the earth's ability to absorb carbon dioxide through reforestation or other more experimental methods such as carbon capture and storage (CCS). CCS involves capturing CO₂ in the atmosphere and injecting it into geological formations deep beneath the earth's surface where it will remain for hundreds of years, if not permanently. CCS appears to be safe for the environment surrounding the capture site, but there is some risk of leakage, which could have a sudden negative effect on the climate.⁵⁷ CCS appears to be moving past the experimental stage toward implementation.⁵⁸

40. In spite of some promising results in the area of mitigation research, the global community is not yet doing enough to mitigate climate change, and the initiatives undertaken so far have not adequately considered the needs and contributions of indigenous peoples. Indigenous peoples believe that in order for global climate change mitigation efforts to be successful, they must be centrally involved as meaningful partners in these efforts, whether they involve international agreements, scientific research, or technology development. They also believe that given the woeful inadequacies of mitigation efforts to date, adaptation measures need increasing consideration.

IV. Impact of climate change mitigation measures on indigenous peoples and their lands

A. Introduction

41. The implementation of climate change mitigation measures can have adverse as well as beneficial impacts on indigenous peoples. The few case studies cited below will show both types of impact.

B. Adverse effects of mitigation

i. Vulnerabilities of indigenous peoples

42. Indigenous people share an intricate relationship with their lands, environment, territories and resources. This relationship is the very basis of their economic, social and cultural systems, their ecological knowledge, and their identities as distinct peoples. Their traditional livelihoods range from swidden agriculture to hunting and gathering, trapping, pastoralism and fishing. By virtue of these distinct characteristics, climate change affects them in a particularly adverse manner.

43. While many studies have identified human vulnerabilities with respect to climate change, and many have identified the effects of climate change on the physical

⁵⁷ CICERO. An International Regulatory Framework for Risk Governance of Carbon Capture and Storage. CICERO Policy Note 2007:01.

⁵⁸ UNFCCC, "UN Breakthrough on climate change reached in Bali" Press Release, December 15, 2007.

environment, there has been little study of the effects of climate change or climate change mitigation measures on indigenous peoples specifically. Indigenous peoples have contributed the least to GHG emissions and have the smallest ecological footprints on this earth. Yet they suffer the worst impacts of climate change and of the mitigation measures being taken. They have not benefited, in any significant manner, from climate change funds for adaptation and mitigation, or from emissions trading schemes. The mitigation measures for climate change are very much market-driven, and the non-market measures have not been given much attention. The human-rights based approach to development and the ecosystem approach, which can be useful guides for the design and implementation of mitigation measures, are virtually ignored.

ii. Indigenous Peoples of the Arctic

44. The US decision to increase biofuel usage set off an economic chain reaction that threatens to drastically increase the already high cost of food and transportation fuel in the North.⁵⁹ This will not only be a problem for indigenous people who increasingly are forced to purchase some or all of their food in the “cash economy,” but also for those who rely on hunting and gathering techniques, which today include the use of fuel-powered boats in addition to traditional dog sleds and kayaks. Furthermore, since hunting and gathering has been made more difficult by the effects of climate change on land, sea and animals, it is difficult to offset the higher costs of food by returning to traditional hunting and gathering. Food security will become a large problem for many indigenous peoples of the Arctic.

45. An additional burden has been placed upon indigenous peoples through calls by special interest groups for hunters and gatherers to curtail the harvesting of certain flora and fauna in the name of adapting to the effects of climate change on these species. One example is the polar bear, which may be changing its behavior and distribution due to the shrinking ice cover, but from most accounts is not in any danger of extinction or even threatened. Yet, the shrinking ice cover has served as an excuse for animal rights groups and conservationists to turn the polar bear into a marketing icon for their causes. These groups have called for the species to be labelled as “threatened” and have put legal pressure on the USA to do so. The point here is not whether they are correct, which by most accounts they are not, but rather that a burden is being placed upon indigenous peoples of the Arctic due to climate change. Further, a “threatened” status will affect the small sustainable hunt, but will do nothing about climate change. In a USA Senate hearing on whether or not to list the species as “threatened,” ice expert and Inupiaq Richard Glenn testified that the increase of marginal ice created by climate change has, in fact, benefits for ice seals and polar bears.⁶⁰ Mr. Glenn testified further that he is “concerned that the [proposed] listing is ... being used as a legal tool to address climate change issues well away from the Arctic, not as a means to conserve a species.”

⁵⁹ Canadian Press, “Ethanol Demand to Push Food Prices 5% Higher Next Year: Economist.” October 22, 2007.

⁶⁰ Richard Glenn testifying at the USA Senate Environment and Public Works Committee Hearing, 30 January 2008.

iii. The Benet of Mount Elgon, Uganda⁶¹

46. A signed agreement between the Forest Absorbing Carbon Dioxide Emission Foundation (FACE) of the Netherlands and the Uganda Wildlife Authority (UWA) in 1994 permitted the foundation to plant trees on the 25,000 hectares of Mount Elgon National Park of Uganda. The objective of the project was to create a plantation of eucalyptus trees which would store carbon, to offset the emissions generated by the Energy Utility companies in the Netherlands. Another Dutch company called GreenSeat also sells sequestered carbon from Mt. Elgon to people wanting to offset the emissions caused by their airplane flights.

47. While project coordinators claim that the plantation has improved the lives of the people around the park, the indigenous people themselves (the Benet) say the exact opposite.

48. After the declaration of Mount Elgon as a national park in 1993, the UWA violently forced the residents of Mount Elgon to leave the area and move to caves and mosques in neighboring villages. Park rangers killed more than 50 people in 2004. In addition, the project took away what little income the people had from their lands and crops. The villagers are not allowed to graze their cows and goats in the area or to obtain food or important traditional materials from the forest.

49. The Benet took the government to court in August 2003 to reclaim their land rights. In October 2005, Justice J.B. Katutsi ruled that the Benet people “are historical and indigenous inhabitants of the said areas which were declared a Wildlife Protected Area or National Park.” He ruled that an area of the National Park be de-gazetted and that the Benet be allowed to live on their land and continue farming it.

50. When this story was exposed, the UWA-FACE organization, GreenSeat, and other institutions engaged with the project, such as the Forest Stewardship Council, the Société Générale de Surveillance (SGS) and the clients of GreenSeat (including members of the Dutch Parliament, WWF Netherlands, Amnesty International and Body Shop) rationalized their own actions, claimed ignorance or denied any responsibility.

iv. Carbon Forestry Projects in India⁶²

51. A review of several Joint Forest Management (JFM) projects in India found that some had led to increased conflict over income disparities among communities, conflict over

⁶¹ Kevin Smith, et. al., *The Carbon Neutral Myth: Offset Indulgences for your Climate Sins*, (Imprenta Hija de J. Prats Bernadas, 2007), 32-38

⁶² Village Forest Protection Committees in Madhya Pradesh: an update and critical evaluation by: Emily Caruso of the Forest Peoples Programme and Anurag Modi, Shramik Adivasi Sangathan, October 2004. Accessed at www.forestpeoples.org/documents/asia_pacific/madhya_pradesh_04_eng.shtml-45k-

forest areas that were open for harvest, indiscriminate felling, and curtailment of customary land use and tenure practices.⁶³ A JFM project in Madhya Pradesh left a legacy of disempowerment among the Adivasi (indigenous people) and community-level divisions.⁶⁴

52. Joint Forest Management (JFM) is supposed to provide a system for forest protection and sustainable use through the establishment of Village Forest Protection Committees (VFPCs), through which government and development aid funds are channeled. JFM was designed partly to ensure that forest-dependent peoples gain benefits from protecting forests.

53. In 2001, Community Forests International (CFI) carried out two feasibility studies in Madhya Pradesh and Andhra Pradesh to “examine systems that could compensate communities for carbon sequestration and storage resulting from forest regeneration” using the mechanism of JFM. CFI concluded that the JFM projects had improved the standard of living of the Adivasi and their relationship with the Forest Department, while regenerating forests.

54. However, subsequent interviews by activists in Madhya Pradesh found that the Adivasi communities in the Harda Forest Division were not even aware of the CFI feasibility project, and that they did not know of the concept of carbon forestry. The wealth of local and written information exposing the problems with JFM in Madhya Pradesh was not cited in studies undertaken for the CFI feasibility project. The CFI conclusions did not consider the views and perspectives of the range of social groups and rights holders who had expressed large-scale opposition to the existence of VFPCs and rejected them as a basis for forestry-related schemes in Madhya Pradesh. Activists and Adivasi leaders in India fear that the impacts of implementing carbon forestry would pose a great threat to indigenous communities.

v. Oil Palm Plantation Expansion in Malaysia and Indonesia

55. The IPCC has identified the production of second generation biofuels, to be used in place of fossil fuels, as another way of mitigating climate change. A special report, which included an analysis of some of the problems related to the production of biofuels (in particular, oil palm), was presented at the 6th Session of the Forum.⁶⁵ This report highlighted how indigenous peoples in Malaysia and Indonesia have been impacted by the aggressive expansion of oil palm plantations. It has been used by AMAN (Aliansi Masyarakat Adat Nusantara, National Federation of indigenous peoples’ organizations in Indonesia) and other organizations as an Annex to their submission to the Committee on the Elimination of Racial Discrimination (CERD).

⁶³ *The Clean Development Mechanism: Issues for Adivasi Peoples in India*, 12 (2005).

⁶⁴ As documented in reports such as Sarin et al, 2003, the summary report of Jan Sunwai (Public Hearing) on Forest Rights at village Indpura, Harda District, 26 May 2001, etc.

⁶⁵ See Victoria Tauli-Corpuz and Parshuram Tamang, *Oil Palm and Other Commercial Tree Plantations, Monocropping: Impacts on Indigenous Peoples’ Land Tenure and Resource Management Systems and Livelihoods*. Available online at www.un.org/esa/socdev/unpfii/documents/6session_crp6.doc

56. The production of biofuels provides both opportunities and challenges. Given the proclivity for agricultural production among many indigenous peoples, biofuels could potentially provide great economic opportunities. However, the production of biofuels can offset potential gains in GHG emissions when forests are cleared for the production of crops such as sugar cane and soya in Brazil and Argentina or palm oil in South-east Asia. The clearing of forests for production can also lead to the violation of the land rights of indigenous peoples, as can be seen in Indonesia and Malaysia.⁶⁶ Biofuel production has increased the price of food crops, causing further food insecurity. A recent study has shown that filling the tank of an SUV with ethanol requires enough corn to feed a person for a year.⁶⁷

C. Beneficial effects of mitigation

57. Despite the problems caused by climate change mitigation strategies, there are CDM projects being implemented in indigenous peoples' territories with good results.

i. The Jepirachi Wind Power Project in Colombia⁶⁸

58. The Guajira region on Colombia's northeast Atlantic coast is one of the poorest on the South American continent, with high levels of disease and illiteracy and, prior to this project, no permanent access to water or reliable access to electricity. The government of Colombia has given the Wayuu, the indigenous people of the area, legal rights to their traditional lands.

59. As a windswept, arid, coastal region, Guajira is an ideal location for wind generation. The Jepirachi Wind Power Project, established by the World Bank through its Prototype Carbon Fund (PCF)⁶⁹ with the utility company Empresas Publicas de Medellin (EEPPM) and support from the Ministries of Mines and Energy, became operational on February 2004. The project is expected to reduce carbon emissions by 1,168,000 tons over a 21-year operational period.

60. The World Bank asserts that the Jepirachi Wind Power Project also contributes to the sustainable development of Colombia. The demonstration of the potential of wind-based energy generation at the commercial level is expected to bring investment into the country. The non-hydraulic energy contributed by the project to the national grid is

⁶⁶ Justin Bergman, *Biofuels displace indigenous people*, <http://news.mongabay.com/2007/0516-indigenous.html> (May 15, 2007).

⁶⁷ The Economist: "The end of cheap food." 6 December 2007.

http://www.economist.com/opinion/displaystory.cfm?story_id=10252015

⁶⁸ UNFCCC Reference No. 0194 accessed at <http://carbonfinance.org/Router.cfm?Page=Projport&ProjID=9605>

⁶⁹ A partnership between seventeen companies and six governments, and managed by the World Bank, the PCF became operational in April 2000. As the first carbon fund, its mission is to pioneer the market for project-based greenhouse gas emission reductions while promoting sustainable development and offering a learning-by-doing opportunity to its stakeholders. The Fund has a total capital of \$180 million (Source: www.carbonfinance.org -The World Bank's website for its Carbon Fund projects).

critical for Colombia, as it enhances the grid's reliability in the wake of the power shortages, severe drought and forced rationing of the 1990s.

61. Finally, the project will contribute to the development of the host indigenous community by financing a series of community-driven projects designed in consultation with the project sponsor. The features of the social plan include: training to facilitate direct and indirect job creation; the provision of a water desalinization plant fed by wind power; the provision of water storage depots; the rehabilitation of the cemetery; and the provision of health and educational facilities. The project has employed almost 150 indigenous individuals during its construction.

ii. San Andres de Sotavento

62. In the northern tropics of Colombia, the indigenous peoples of San Andres de Sotavento are partners in a project with CVS (Environmental Corporation of the Sinu and San Jorge Rivers), CORPOICA (Colombian National Agricultural Research Organization), and the International Center for Tropical Agriculture (CIAT).⁷⁰ This CDM project aims to regenerate degraded tropical savanna by establishing silvopastoral systems and reforested areas over 2,600 hectares. This will yield increased income and profits for landowners and a healthier ecosystem. The BioCarbon Fund acts as the broker for carbon trading and certifies the CERs.

iii. Western Arnhem Fire Management Agreement (WAFMA)⁷¹

63. Aboriginal land owners, indigenous representative organizations in North Australia, and Darwin Liquefied Natural Gas (DLNG) are partners in the Western Arnhem Fire Management Agreement. This partnership aims to implement strategic fire management practices across 28,000 square kilometers of Western Arnhem, thereby reducing fire-generated GHGs from this area and offsetting some of the GHG emissions from the Liquefied Natural Gas plant at Wickham Point in Darwin Harbour.

64. The project uses strategic, early, dry-season burning that involves a mix of patch-burning lit by people on the ground and larger-scale fire breaks lit along tracks, rivers and creeks from helicopters. This dry-season burning breaks up the landscape with firebreaks and makes it more difficult for wildfires to spread across the land later in the year.

65. This project is not gaining income from carbon trading. Instead, indigenous fire managers are being paid for fire management that produces GHG offsets. The involved parties believe, however, that this project would qualify for carbon trading in the future, should the market arise.

⁷⁰ International Center for Tropical Agriculture, *Promoting Sustainable Land Management: A Clean Development Mechanism Project in the Caribbean Savanna of Colombia*, http://www.ciat.cgiar.org/epmr_ciat/pdf/poster_45_epmr07.pdf (accessed December 4, 2007).

⁷¹ Available online at: http://savanna.ntu.edu.au/information/arnhem_fire_project.html. Accessed march 7, 2008

V. Conclusions

66. Indigenous peoples all over the world are greatly concerned about climate change, not only because they are affected by both the problem of climate change and the world's attempts to mitigate it, but more importantly, because of the contributions that they can make to mitigation and adaptation strategies. There are many strategies that can be used effectively to both mitigate climate change and facilitate adaptation to climate change – such as sustainable land and resource use, sustainable forest management, sustainable agriculture, the protection and enhancement of sinks and reservoirs of GHGs, and small-scale, community-managed renewable energy systems. If these strategies are implemented in such a way that they take into account not only the ecological dimensions of climate change, but also the dimensions of human rights, equity and environmental justice, they will also protect and conserve the territories of indigenous peoples.

67. The capacity of indigenous peoples to adapt to climate change has been highly compromised, not only because of the magnitude of the impacts of climate change, but also because support from the international community has not been forthcoming. As stewards and custodians of the world's biodiversity, cultural diversity, and traditional ecological knowledge, indigenous peoples can contribute meaningfully to the design and implementation of more appropriate and sustainable mitigation and adaptation measures.

VI. Recommendations of the Special Rapporteurs

68. The international community should take serious measures to mitigate climate change. The survival of the traditional ways of life of indigenous peoples depends in large part on the success of international negotiations in developing strong, enforceable agreements that will truly be effective in combating climate change. We concur with the main argument of the Stern Report that strong and immediate measures to curb greenhouse gas emissions now will be less costly than attempting to adapt to the widespread changes that unchecked climate change will cause in the future.

69. Policy-makers around the world should consider the broad, long-term consequences of the climate change mitigation policies they choose. While allocating their research and development funding and setting the criteria for Clean Development Mechanism projects, they must look beyond the simple question of whether a particular form of alternative energy or carbon absorption technique can provide a short-term reduction in greenhouse gases. Policy-makers should consider the long-term sustainability of any mitigation policy they choose, following the example of indigenous peoples who have been stewards of the land and seas for millennia.

71. The business community and its regulators should incorporate our rights as indigenous peoples into their plans for economic development in our territories. Let us remind governments and businesses preparing for new ventures to consider our stakeholder rights, as well as our land claims rights and our broader human rights.

72. Indigenous peoples must stand together to preserve our rights to maintain our traditional use of plants and animals for hunting and gathering. We as indigenous peoples have preserved the biodiversity of our lands for hundreds of years by caring for nature and using it only in sustainable ways. The places where we have been able to live free from so-called development are now recognized as the most biologically diverse places on earth. With such a track record, we of all people are justified in demanding that we be allowed to continue our traditional uses of plants and animals.

73. UN member states should assist indigenous peoples of the world with their adaptations to the increasingly negative impacts of climate change, while at the same time continuing, in parallel, to work on mitigation measures.

74. The Arctic, because it is an early indicator of climate change for the rest of the world, and because its coastal indigenous peoples are at this time particularly vulnerable, UN member states and agencies should designate the Arctic region as a special climate change focal point.

75. UN member states and international industry should work closely with indigenous peoples in determining positions on who has control or sovereignty over the Arctic, and they should make public declarations supporting the right of indigenous peoples to play a meaningful role in the deliberations over rights of access to the changing Arctic.

76. The social dimension of climate change needs to be considered, so that the social and cultural impacts on indigenous peoples are more visible. It is important to understand the relations formed between people and nations as they address the dumping of GHGs into the global atmosphere commons.

77. The Annex 1 countries should implement their commitments to the Kyoto Protocol by doing all they can to shift their economic systems towards low-carbon systems instead of mainly relying on the purchase of emission credits to offset their emissions. The fast-industrializing developing countries should also undertake serious efforts to cut their emissions and develop low-carbon energy systems.

78. The perpetuation of highly centralized, fossil-fuel-based energy supplies should be challenged. Old centralized electricity grids, which are not suitable for the challenges of diverse and decentralized renewable energy sources, and which are the basis of the dominance of large energy companies, need to be challenged.

79. The principles of common but differentiated responsibilities, equity, social justice and sustainable development should remain as the key principles underpinning the negotiations, policies, and programs on climate change. The human-rights based approach to development and the ecosystem approach should guide the design and implementation of national, regional and global climate policies and projects. The crucial role of indigenous women and indigenous youth in developing mitigation and adaptation measures should also be ensured.

80. The support of the World Bank and other multilateral and bilateral financial institutions for fossil-based energy projects and large-scale hydropower dams is greater than their support for renewable and decentralized systems. Increased support for restructuring and reorientation towards low-carbon, national energy policies should be provided.

81. The promotion of large-scale technologies, whether these are nuclear energy, large-scale bioenergy, or large-scale hydropower technologies, should be discouraged. Plans to build large hydro dams should take into consideration the recommendations of the World Commission on Dams.

82. Adaptation funds should be provided immediately to indigenous peoples who are affected by climate change-related disasters. Indigenous peoples whose lands have already disappeared due to sea-water rise and erosion and have become environmental refugees should be provided with appropriate relocation with the support of the international community.

83. The full and effective participation of indigenous peoples in the forthcoming negotiations for the next Kyoto Protocol commitment period should be ensured. Mechanisms on how this can be done should be brought to the negotiating table. A "Working Group on Indigenous Peoples and Climate Change" should be established within the UNFCCC.

84. Scientists, policy makers and the international community as a whole should undertake regular consultations with indigenous peoples so that their studies and decisions will be informed by indigenous peoples' traditional knowledge and experiences. The Forum can play a role in ensuring that the traditional knowledge and best practices of indigenous peoples relevant to fight climate change and its impacts will be considered in the negotiation processes leading to the Copenhagen COP and beyond. The Forum should discuss the modality for such an interaction with the UNFCCC.

85. The United Nations Declaration on the Rights of Indigenous Peoples should serve as a key framework in the formulation of plans for development and should be considered in all processes related to climate change at national, regional and global levels. The safeguard policies of the multilateral banks and the existing and future policies on indigenous peoples of United Nations bodies and other multilateral

bodies like the EC, should be implemented in all climate change-related projects and programs.

86. Indigenous peoples should be given substantial support to nurture and develop their traditional knowledge, their environment-friendly technologies, their cultural diversity and the biodiversity in their territories. Their sustainable, traditional livelihoods should be recognized and reinforced instead of being denigrated and destroyed. There is a need to reform existing laws which discriminate against indigenous land tenure systems and livelihoods. The discussions and negotiations on strengthening the links between climate change, biodiversity and cultural diversity should ensure indigenous peoples' participation.

87. Policy support, technical assistance and funds should be given to indigenous peoples who are undertaking their own mitigation measures in the areas of building small-scale energy systems, biodiversity conservation, engagement with emissions trading, keeping the oil, coal and gas in the ground and trees in the forests, etc. They should be equipped with the knowledge and tools on how to engage and benefit from the carbon market (if they choose this as an option). They should gain benefits from the environmental services derived from their territories and resources. Processes and mechanisms for the valuation of these environmental services, and methods that allow them to get adequate benefits, should be developed jointly with them.

88. Training workshops and other capacity-building activities undertaken by indigenous peoples to deepen their knowledge on climate change and design and to allow them to implement more effective and appropriate mitigation and adaptation measures should be supported. Efforts to create better documentation of good practices in mitigation and adaptation and to replicate and upscale these practices should likewise be supported.

89. The recommendations and proposals that emerged from the consultations of indigenous peoples and the World Bank on the Forest Carbon Partnership Facility and other carbon funds like the BioCarbon Fund should be implemented by the Bank and other relevant agencies. Indigenous peoples should be centrally involved in the design, implementation and evaluation of the FPCF. Displacement and exclusion of indigenous peoples from their forests, which may be triggered by FPCF-funded projects, should be avoided at all costs. Indigenous peoples, through their representatives, should have a voice and a vote on the decision-making body of the FPCF and of other climate change funds that will have impacts on them. Those who opt not to participate in REDD or in the FPCF-supported projects should be respected.

90. The Permanent Forum and the Human Rights Council Expert Mechanism on Indigenous Peoples should evaluate whether existing and proposed climate change policies and projects adhere to the standards set by the United Nations Declaration on the Rights of Indigenous Peoples, ratified in September 2007. These bodies, together with the members of the Inter-Agency Support Group for Indigenous

Issues, should collaborate with States and indigenous peoples to effectively ensure that the implementation of the Declaration is central to the design and implementation of climate change policies and programmes.

91. Indigenous peoples' organizations and the members and secretariat of the United Nations Permanent Forum on Indigenous Issues and members of the IASG should jointly develop a roadmap towards the 2009 COP in Copenhagen using the recommendations presented in this paper. The Forum welcomes the offer of the Greenland Home Rule Government to ensure indigenous peoples' participation in Copenhagen. The Forum supports the forthcoming "Global Summit on Indigenous Peoples and Climate Change" which is being organized by the Inuit Circumpolar Council with the assistance of other indigenous peoples' organizations.