The Account of Climate Change Program of WWF Nepal

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Introduction

This paper briefly provides the background general information on climate change and presents the state of initiatives taken by WWF Nepal in partnership with the democratic republic government of Nepal and other stakeholders to address the key issues at various levels.

Background

The correlation between climate change and anthropogenic activities is firmly established as stated in the fourth assessment report of Intergovernmental Panel on Climate Change (IPCC). In fact, the average global surface temperature has increased by about 0.8^0C in the past century and 0.6^0C within the last three decades (IPCC, 2007). Likewise, the CO_2 concentration which was below 300 PPM CO_2 before the pre-industrial state has now reached approximately to 384 PPM CO_2. Even though it seems possible to stabilize the global emission to the current 384 PPM CO_2 level, the global mean temperature would probably still rise between 1-3^0C and reach close to 2°C threshold of the global average temperature above the pre-industrial state (IPCC, 2007). Indeed, the 2°C global average temperature increase means:

- 60% loss of summer sea ice in the Arctic;
- Complete and irreversible melting of the Greenland ice caps;
- 25% or more decrease of the Antarctic sea-ice volume and continued retreating sea ice for about 2 degrees of latitude;
- Increase in the frequency and intensity of floods, droughts, storms, heat waves, tropical cyclones, hurricanes and other extreme events leading towards increasing economic costs and likely decreasing development opportunities;
- Substantial damage and disruption to arctic and mountain ecosystems, and the major proportion of the tundra and about half of the boreal forest area may disappear;
- 80% loss of South African Karoo, 50% loss of Kakadu (Australia) and the Sundarbans (Bangladesh) wetlands;
- Approximately 25% of species loss from current range;
- 662 million to 3 billion more people at risk of water shortage;
- Global water shortages and increased soil moisture stress, resulting in greater intensification of land use and desertification; and many more.

The above facts clearly indicate that the global average temperature needs to be well below the tipping point of 2°C to ensure the long term biodiversity conservation and sustainable development.

Nepal's global greenhouse gas (GHG) emissions are negligible compared to those of developed countries. For instance, Nepal has less than 0.4% of the world's total population and is responsible for about 0.025% of the annual GHGs emissions (SDAN, 2003). However, with an average annual increase in temperature of 0.06°C per year, Nepal is highly vulnerable to

climate change impacts as a result of its fragile ecological system and rugged geophysical structure with great elevations and steep slopes. The impacts of climate change are clearly observed on Himalayan glaciers as they are retreating rapidly and forming massive glacial lakes, with a great risk of catastrophic glacial lake outburst floods (GLOFs). The GLOFs could easily result into loss of human lives, properties and infrastructures, as well as displacement of thousands of local people.

For a country like Nepal where agriculture is the predominant livelihood option of the majority of people, even a slight change in climatic conditions can lead to devastating consequence. Indeed, various aspects of agriculture have already been disrupted, resulting in changed cropping patterns, variations in crop yield and greater pest problems owing to temperature change. Some research findings also indicate that Nepal might experience the “summit trap phenomena” due to climate change impact on biodiversity and ecological process.

Climate Change Initiatives

To address the impacts of climate change in Nepal, WWF Nepal initiated climate change and energy program in 2003 with aim to raise awareness on climate change through dissemination of information to the larger audiences. In this regard, WWF Nepal organized various school level interactions, youth campaigns and national and international media trips as well as broadcasted climate impact documentaries and witness stories. WWF Nepal also played a vital role for the establishment of coalition of fifteen civil society organizations network entitled “Climate Change Network Nepal”- CCNN in 2003. Due to continued lobbying by the CCNN, Nepal ratified the Kyoto Protocol in 2005 even in the absence of functioning parliament. Likewise, WWF Nepal has developed partnership with the Curriculum Development Center (CDC), Ministry of Education and Sports to incorporate climate change issues into formal school level (grads 1-10) education curriculum. Under the leadership of the CDC, the incorporation work of grade 5, 9 and 10 has been completed and the remaining will be accomplished by 2009.

In partnership with the Department of Hydrology and Meteorology (DHM)/Ministry of Environment, Science and Technology (MoEST), WWF Nepal has initiated a regional research project entitled “Himalayan Glaciers and River Project” being implemented in Nepal and India. The initiative aims to identify the tipping point of Dudh Koshi River Basin with its implication on the Ganga Basin and the likely consequences of this tipping point to various sectors downstream.

Through Climate Change and Energy Program, WWF Nepal has been able to develop functional working relationship with the MoEST and further strengthen the partnership with Ministry of Forest and Soil Conservation and its departments. Under the leadership of MoEST, WWF Nepal was able to bring back the issue of biogas into CDM portfolio in the Framework Convention on Climate Change (UNFCCC) process. Likewise, MoEST and WWF Nepal have been also able to draft the preliminary “National Climate Change Policy” for Nepal with strong participation of stakeholders, ranging from local people to policy makers. Since 2003, WWF Nepal has actively been engaged in the UNFCCC process together with the MoEST. Indeed, WWF Nepal has been facilitating and supporting the MoEST in negotiation training and drafting the national position paper for the UNFCCC process.

WWF Nepal has strong alternative energy program being implemented in its project sites. For instance, WWF Nepal has installed over 2,300 biogas plants in Terai Arc Landscape since 2006. This biogas program has contributed towards saving about 4,600 metric tones of fuel

wood annually. The program also contributes to the reduction of global greenhouse gases in one hand and increases the adaptation capacity of the local communities in other hand. To provide benefit to larger population and sustain the program, WWF Nepal has developed the biogas project into carbon financing project by using gold standard methodology and developing it as a WWF Network First Gold Standard Verified Emission Reduction (VER) project. With support from partners and local community, WWF Nepal has also been able to provide 100% solar lighting to the local people of Upper Dolpa residing in the Buffer Zone of Shy Phoksundo National Park, and install five community based micro-hydro schemes in Dolpo, Sarmatha and Kangchenjunga, benefiting more than 600 households. The installation of 205 kW of Micro Hydro saves about 2,930 metric tones of fuel wood annually.

Focus of WWF Nepal

Based on the emerging climate change issues and the past experience, WWF Nepal's climate change and energy program intends to focus its efforts mainly in four major areas. The four major building blocks are:

1. Global New Deal
2. Adaptation
3. Alternative Energy
4. Carbon Financing.

Under the Global New Deal for fare and equitable UN deal, WWF Nepal will work with it's worldwide network and lobby jointly with Nepal government and civil society to ensure a new equitable UN treaty enters into force in 2012 that sets the world on a course of action to reduce global GHG emissions to 80% by 2050 and establishes a global carbon market and other mechanisms to promote clean energy investment in all developing countries and support adaptation in least developed countries (LDCs) and SIDS.

WWF Nepal had already conducted some vulnerability assessment in Sagarmatha and Langtang area, and such assessment will also be carried in other project sites upon need. WWF intends to implement adaptation activities based on extensive analysis of the findings of vulnerability assessments. The adaptation will mainly focus on biodiversity, water resources and livelihoods of local people.

Under the Alternative Energy Program, WWF Nepal will extensively distribute the low carbon alternative energy technology in the project sites to reduce the pressure on natural forest that contributes toward increasing the resilience capacity of local communities and ecosystem. The proposed low carbon technologies include solar hotpots, solar home system, micro-hydro, improve cooking stoves, use of bio-fuels and other energy efficient means.

WWF Nepal will intensively engage in carbon financing portfolio. Carbon financing is the tool that helps to bring revenue from carbon business for the conservation work in Nepal. Here, WWF Nepal aims to install 40,000 biogas plants in its project sites, particularly in Terai Arch Landscape and develop it into Gold Standard VER project. WWF Nepal will also involve in Reduce Emission from Deforestation and Forest Degradation (REDD) portfolio and provide support to the Ministry of Forest and Soil Conservation to generate revenue/incentives from this principle and develop the mechanism to trickle down the benefits to local communities. WWF Nepal will implement some early action project by applying REDD Principle. In fact, WWF Nepal played active role while developing the R-PIN that was submitted to Forest Carbon Partnership Facility (FCPF) of the World Bank.

Conclusion

Even though Nepal's contribution to climate change is insignificant compared to developed and large developing countries, it impacts are clearly visible from the highest mountains to the plains. Therefore, Nepal needs to work pro-actively to benefit from adaptation projects and global sustainable financing mechanisms.

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