

## CHAPTER 8

# CLIMATE CHANGE: DEVELOPMENT, EQUITY AND SUSTAINABILITY

### 8.1. INTRODUCTION

Global development is characterized by inequities within and across countries, non-sustainable dependence on resources (such as water, forests and fossil fuels), and the degradation of local and global environments. National and global attention on environmental issues although increasing, remains inadequate, particularly with regard to environmental conservation. According to UNEP (2000), firstly, environmental issues need to be integrated into mainstream decision-making about agriculture, energy, trade, investment, infrastructure, finance, research and development. Secondly, environmental policies need to move away from a strictly sectoral approach to include broader social (equity), economic and environmental considerations in planning. Thirdly, international action to manage global environmental problems such as climate change, deforestation, loss of biodiversity and prevention of desertification (land degradation) need to be pursued with the full participation of all countries.

There is growing realization that global environmental issues, particularly climate change, cannot be addressed without considering development, equity and sustainability issues. The Climate Convention, as well as the Kyoto Protocol have taken note of these issues in drafting their Articles. Article 2 of the Climate Convention recognizes the interlinkages and states, "Stabilization of greenhouse gas concentrations should be achieved within a timeframe sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner". Further, the Convention under Article 3.1 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 capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof." Other equity related principles emphasized in Article 3 include (a) the right to promote sustainable development, (b) the need to take into account the specific needs and special circumstances of developing country and vulnerable Parties, (c) the commitment to promote a supportive and open international economic system, and (d) the adoption of precautionary measures to mitigate climate change in order to protect the rights of future generations.

According to Article 4.2 (a), all developed country Parties, including those with economies in transition, are required to take the lead in mitigating climate change. Furthermore, they are required to transfer technology and financial resources to developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting their costs of adaptation (Article 4.4).

The consideration of development, equity and sustainability issues in international literature as well as global negotiations has evolved over the years. This is particularly evident when one considers the evolution of development, equity and sustainability in IPCC reports from the First to the Third Assessment. Initially, climate change was considered primarily from the atmospheric science perspective, cost-effectiveness was an emerging focus, but social and equity issues were barely addressed. The human and social dimensions of climate change were prominently addressed in the Second Assessment Report of the IPCC (Bruce *et al.*, 1996), although they were not integrated into the main discussion on mitigation and adaptation. The Third Assessment Report of the IPCC has attempted to achieve this level of awareness by integrating social issues into global climate change mitigation and adaptation discussions (Metz *et al.*, 2001).

Notions of justice and equity, although enshrined in the UNFCCC, have not shaped the outcome of the subsequent negotiations to any significant extent. There was considerable debate on justice, allocation of rights to atmosphere, differential responsibility and other relevant issues during and immediately after the UNCED in Rio, which even led to the Working Group III Report of the IPCC Second Assessment. However, in the post-Kyoto period, the focus and discussions have shifted to short-term targets and schedules, to principles, modalities, guidelines and rules for operationalizing Kyoto Protocol flexibility mechanisms. However, all countries need to focus on ensuring equity and fairness in burden sharing and long-term actions to stabilize the greenhouse gas concentration in the atmosphere (Sagar and Banuri, 1999).

Currently, there is a large body of literature, which addresses the linkages among climate change, development, equity and sustainability issues. Some of these are the Second Assessment Report of IPCC Working Group III (Bruce *et al.*, 1996), Jepma and Munasinghe (1998), Agarwal *et al.*, (2000), and IPCC workshop meetings at Colombo (Munasinghe and Swart, 1999), The Hague (Pan *et al.*, 1999), Havana (Pichs *et al.*, 2000), and Karlsruhe (Jochem *et al.*, 2000). The development, equity and sustainability issues are very complex and perspectives often vary significantly among economists, policy makers and NGOs, as well as academics. In this Chapter, we briefly address the issues of i) differential contributions to global warming and differential impacts, ii) linkages between climate change, development, equity and sustainability and iii) options for addressing climate mitigation and adaptation in an equitable and sustainable manner.

The main purpose of considering development, equity and sustainability issues in relation to climate change mitigation is the realization that greenhouse gas concentrations cannot be stabilized in the long-term if development, equity and sustainability issues are not adequately incorporated in the development of programs and policies. The development, equity and sustainability issues are particularly critical when addressing climate change issues due to the asymmetry between the emissions of greenhouse gases and the resulting impacts of climate change, the temporal imbalance of greenhouse gas emissions contributed by the present generation (along with that of past generations) and the global action necessary for addressing climate change impacts, which will place an additional burden on the poor in all countries.