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## Article

### Dealing with Climate Change effect on human health

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#### Abstract

Climate change is not just an environmental concern any more. It has emerged as the biggest developmental challenge for the planet. Its economic impacts, particularly on the poor, make it a major governance issue as well. To dialogue, particularly from the perspective of the poor, is one of UNDP's contributions to overall development process. Industrialized countries owe their current prosperity to years of 'historical' emissions, which have accumulated in the atmosphere since the start of the industrial revolution. They still emit more to sustain this growth. Developing countries on the other hand have only recently set out on the path of industrialization. That is the reason why their per capita emissions are still comparatively low. When the Kyoto Protocol was being negotiated, the world invented the Clean Development Mechanism (CDM) to pay the poorer world to make the transition. But the mechanism was designed to fail. The obsession was to get the cheapest emission reduction options for the rich world. UNDP is committed to help India achieve the global Millennium Development Goals as well as the national objectives articulated in consecutive Five-Year Plans. The goal of the organization is to help improve the lives of the poorest women and men, the marginalized and the disadvantaged in India.

**Present Scenario:**

Today climate change is no more an environmental concern alone, but has emerged as the biggest developmental challenge for the planet. Its economic impacts, particularly on the poor, make it a major governance issue as well. The debates and discussions building up for the next conference of parties (CoP) in Copenhagen and beyond are an indicator of this. The ill-effects of climate change are borne by developing countries more, including India. Starting from an argument on a new climate deal to highlighting the importance of the small-scale industrial sector within climate change debates, some of India's best known environmentalists, economists and policy makers have put forward their concerns and convictions.

Industrialized countries have managed to de-link sulfur dioxide emissions from economic growth. In other words, emissions have fallen even as national income has risen. But they have failed to do the same with carbon dioxide (CO<sub>2</sub>) emissions. Per capita CO<sub>2</sub> emissions remain closely related to a country's level of economic development, and thus standard of living. It is evident that as long as the world economy is carbon-based – driven by energy from coal, oil, and natural gas – growth cannot be de-linked substantially from CO<sub>2</sub> emissions. The only way to avert climate change is to reduce emissions dramatically. But things are never quite this simple. The widespread use of fossil fuels is closely linked to economic growth and lifestyle. Every human being contributes to the CO<sub>2</sub> concentrations in the atmosphere. However, the person's lifestyle decides the amount that is emitted. The more prosperous a country's economy; higher is its fossil fuel consumption, resulting in higher greenhouse gas emissions.

It is the world's need for energy – to run everything from factories to cars – that is the cause of climate change. It is also a fact that after years of talk no country has been able to de-link its growth from CO<sub>2</sub> emissions. No country, as yet, has demonstrated how to build a low carbon economy. No country has been able to re-invent its pathway to growth, as yet. This is the challenge. After years of talk, the proportion of new renewable energy – wind, solar, geothermal, bio-fuels – comprises just about one percent of the world's primary energy supply in 2006. It is misleading to say that renewable sources add more electricity than nuclear power. It is old renewable – hydroelectric power – which makes the world light up. It is tragic that the world is hiding behind poverty of its people to fudge its climate mathematics. The renewable sector is made up of the biomass combustion that comprises

the firewood, cow dung or leaves and twigs used by the desperately poor as primary energy sources. It is this that is providing the world its space to breathe.

#### **Kyoto Protocol:**

When the Kyoto Protocol was being negotiated, the world invented the Clean Development Mechanism (CDM) to pay the poorer world to make the transition. But the mechanism was designed to fail. The obsession was to get the cheapest emission reduction options for the rich world. As a result the price of CERs (the Certified Emission Reduction, unit used in this transaction) has never reflected the cost of renewable and other high technology options. It is a cheap and increasingly corrupt development mechanism. It is also a convoluted development mechanism in which rules bind governments not to consider big change. In fact, current CDM provides disincentives for developing countries governments to drive policies for clean energy or production. Any such policy which is already designed is bad in the CDM portfolio. It is not additional and it will not qualify for funding.

#### **Indian Perspective:**

Over several decades India has pursued policies and publicly funded programs focused on energy conservation and deployment of renewable energy technologies. This has been backed by legislation, regulation and tariffs arrangements. Some of these are:

- a. Reforming Energy Markets (Electricity Act 2005, Tariff Policy 2003, Petroleum & Natural Gas Regulatory Board Act, 2006, etc.)
- b. New and Renewable Energy Policy, 2005: The policy promotes adoption of sustainable and renewable energy sources. It facilitates speedy deployment of renewable technology through indigenous design, development and manufacturing.
- c. Rural Electrification Policy, 2006: The policy promotes renewable energy technologies where grid connectivity is not possible or cost-effective.
- d. Biodiesel Purchase Policy: It mandates biodiesel procurement by petroleum companies.
- e. Ethanol Blending of Gasoline: The regulation mandates five percent blending of ethanol with gasoline from January 2003 in nine states and four Union Territories.
- f. Energy Conservation Act, 2001: The legislation aims to reduce specific energy consumption in different sectors. It set up the specialized Bureau of Energy Efficiency.

First, India was not a part of the climate problem, is not till now and will not be so in future. Second, India's concerns about economic growth and poverty eradication are legitimate and

must be fully respected in any global climate regime, as indeed stated unequivocally in the UNFCCC and the Bali Action Plan. Third, the cause of climate change is the unsustainable emission of developed countries. They have to take leadership to drastically reduce their emissions and this will involve modification of their lifestyles but no one is suggesting that they become poor. Fourth, the proposals made by India (and other developing countries) in respect of the future climate regime are constructive and must be given serious consideration in any discussions on global climate action.

In view of the impending threats caused by climate change, regulating the unrestrained exploitation of groundwater and aggressive pursuit of water conservation should become a national priority <sup>[1]</sup>. Drip irrigation and water sprinkler approach, mulching and bed plantation, construction of tanks and check-dams should be promoted for water harvesting and conservation. Its impact is visible in Alwar region of Rajasthan wherein barren lands were converted into lush fields. Dried up rivers got rejuvenated by making Johads, which are minimal-cost, small earthen check dams.

Forest is a natural carbon sink. A programme for massive tree plantation and control on open grazing will help in the regeneration of forests and slow down the process of desertification. Agro-forestry is the answer. For instance, trees may fertilise the soil for agricultural crops or may provide shade from sun or shelter from wind <sup>[2]</sup>. Complementary relationship between trees and crops may also be in labour use, especially when the two outputs draw labour resources at different time of a year.

With unpredictable weather in future, farmers will have to change crop management practices, grow tougher plant varieties and be prepared for constant innovation in the way they operate. One adaptive measure in changed climate to sustain wheat productivity is introduction of longer duration and one week early planting varieties. In some areas one may consider developing strategies for crop substitution that is to replace wheat with millets, tubers like potato, yams and cassava <sup>[3]</sup>.

As occurrence of flood is likely to increase in many parts of India, one needs better systems for detection and forecasting of floods and popularise rainfall tolerant and short duration varieties or shift cropping pattern to the rabi (winter crop) season by increasing access to irrigation in those months <sup>[4]</sup>. Income diversification provides a robust way of mitigating flood risks. In coastal areas aquaculture holds considerable potential if the supply chain and

marketing are improved. It should be kept in mind that the most vulnerable to climate change are the poor in India. Unfortunately their assets and livelihoods are tied to climate-sensitive factors of production. Therefore greater political and bureaucratic attention is needed to diversify their livelihoods and reduce their vulnerability. This would need investments in sectors other than crop production too. We need to have a significant increase of targeted investments in nutrition programs, clinics, disease control, irrigation, rural electrification, rural roads and other basic investments, especially in central and eastern India.

### **Conclusion**

India today needs to build administrative capacities for designing climate proof investments, such as conservation of wetlands, wastewater reclamation, equitable access and regulatory structures for basin level management. In addition, resource mobilization, promoting insurance and agri-business are other major strategies to protect against risk of production loss due to calamities caused by climate change. Greater and imaginative governmental intervention would also need an efficient and professional administration that is tuned to the emerging but uncertain crises caused by global warming and climate change. However, these new problems cannot be cracked without addressing the long term and often neglected issues afflicting India's smallholder agriculture described in the first part of this paper.

Conclusion Strategies must be evolved for long, medium and short-term policies needed for substantial involvement of women not only in terms of beneficiaries but also in their say in decision making. Climate change strategy needs to focus on supporting design of policies and action plans, promoting early adaptation as well as long-term strategies like directing investment towards low carbon technologies and practices and finally integrating climate change broadly into development assistance at the global, regional and national levels. The nexus between climate change and gender equality needs to be intensified so that the capacity of the national and local institutions can be strengthened in terms of resilience to climate change by involving wide range of stakeholders<sup>[5]</sup>. Prime Minister's Climate Change Council has proposed eight missions that cover areas such as agriculture, water, forests, sustainable habitat, solar energy and energy efficiency and strategic knowledge<sup>[6]</sup>.

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