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Tackling climate change through forestry and energy options

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Concern over global warming has resulted in an international investigation in to methods of ameliorating the greenhouse effect. We all are aware about the ability of plants fixing carbon through the process of photosynthesis; focus has been on terrestrial vegetation to facilitate carbon sequestration. Carbon is sequestered and stored in tree tissues at different rates depending on factors like tree species, growth rate, size at maturity and its life span. India's forests serve as a major sink of carbon dioxide. As per a study conducted by Ministry of Environment and Forests, New Delhi; the annual carbon dioxide removals by India's forest and tree cover (23.4 % of country's geographical area) is enough to neutralize 11.25 % of India's total GHG emissions (carbon dioxide equivalent) at 1994 levels. This is equivalent to offsetting 100 % emissions from all energy in residential and transport sectors or 40 % of total emissions from the agriculture sector. This shows the significance of India's forests in carbon mitigation for India and the world. From 1995 to 2005, the carbon stocks stored in our forests and trees have increased from 6245 million tons to 6662 million tons, registering an annual increment of 38 million tons of carbon or 138 million tons of carbon dioxide equivalent. Putting a conservative value of US $ 5 per ton of carbon dioxide locked in our forests, this huge sink of about 24000 million tons of carbon dioxide is worth US $ 120b or ₹ 6,00,000 crores. Climate change is considered to be one of the most important threats to biodiversity, and dealing with the impacts of climate change is becoming a key challenge for local policy makers. Maintaining and improving the functions of healthy forest ecosystems is a cost-effective strategy in mitigating and adapting to climate change. The Government of India is planning to double the area to be taken up for afforestation/eco-restoration in the country during next ten years, taking the total area to be afforested or eco-restored to 20 million ha over ten years. Whole idea is also to enhance the resilience of the forests/ecosystems to tackle the issue of climate change effectively.

Energy sector is the driver of economic growth and human development. It would not be possible for developing countries to sustain their growth rate without energy resources. Similarly to achieve human development targets and Millennium Development Goals, access to modern energy services, especially electricity, is absolutely essential. Addressing climate change requires a switch to renewable energy as well as a reduction in energy consumption through energy efficiency. At present, renewable energy is more costly than conventional energy from fossil fuels. The only way of achieving the goals of greenhouse gas abatement and sustainable development is through a strategy that consciously seeks to lower per unit cost of renewable energy generation and finally to bring it within reach of the people of developing countries. Developing countries have a large potential for low-cost efficiency gains as they have relatively inefficient processes and technology in industry, transport, lighting, and other appliances. Various barriers like lack of information, inadequate incentives and lack of appropriate rules/regulations are also responsible for poor energy efficiency option. A global technical assistance programme from developed countries with transfer of technology and knowledge to least developed ones is the real need of hour. It is high time that all the countries should focus on real application and implementation of a swift agenda at global level, where no sector offering avenues for mitigation and adaptation to climate change is overlooked.

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