

Background Note for One-day Seminar on
***Climate Change and Markets:
Opportunities, Challenges, and Policy Concerns***

Organized by

Takshashila Academia of Economic Research (TAER) Limited, Mumbai
&
Indian Society for Ecological Economics

Takshashila Academia of Economic Research (TAER) Limited, Mumbai, and the Indian Society for Ecological Economics (INSEE) are organizing a one-day seminar on “Climate Change and Markets: Opportunities, Challenges and Policy Concerns” at India International Centre, New Delhi, on January 28, 2011.

Climate change is a burning issue globally, despite the prevailing uncertainties about the information and knowledge base created on the science of climate change. Whether climate change is natural or anthropogenic in origin is still debatable among climatologists, meteorologists, physicists, geologists, space scientists, and others. But one thing is certain that ever since the discovery of fire by man, the end of his nomadic life, and the rise of human settlements, man has been exploiting natural resources and polluting the environment by emitting a wide variety of greenhouse gases (GHG)—an “externality” of the process of development. The fact remains that natural resource depletion, degradation, and environmental pollution have resulted in a change in the statistical distribution of weather over periods of time that range from decades to millions of years. The most alarming part of this change entails the consequent losses in ecosystem services that has been a significant (yet ignored for a long time) explanatory variable of the human well-being function. That without such anthropogenic interventions in the eco-hydrological cycles as also without the emissions, civilizations would not have emerged on the face of the earth is quite true. But it is equally true that the release of CO₂ and other pollutants, human intervention in hydrological flows, and depletion of forest resources have been damaging the environment and the ecological balance of the planet. The rapid rates of industrialization and urbanization since the nineteenth century have further aggravated the ecological scenario and accentuated climate change. It is apprehended that this will primarily have an adverse effect on agriculture, as well as on other livelihoods, threatening perhaps the future of human existence.

While the GHG emissions can be prevented by stringent penal laws, such efforts will not only be unsustainable, but might even prove counter-productive for the economy in the long run. For one thing, penal provisions to stop GHG emissions are hard to enforce, and may also lead to closure of several productive economic activities, with disastrous consequences to the growth of most economies, especially emerging economies. On the other hand, with rising world population, and almost half the world still reeling under abject poverty, it is not only absurd, but also naive to expect the world to ban productive economic activities to prevent the growth of harmful emissions. The question that has been looming large before civilizations for the last two decades, therefore, is: Development? Yes! But, at what cost?

It has often been proposed that over time, improved and fuel-efficient technologies may help to reduce, if not eliminate altogether, GHG emissions from diverse polluting industries and other economic activities. The other problem arises with natural resource use, exploitation, and depletion. As climate change modifies the rainfall cycle in various parts of the world, as also in south Asia, the problems have only compounded. Water scarcity is turning out to be a temporal problem, and water conflicts are intensifying due to increased water demand for food production and energy needs. Depletion of forest resources have only added further to the problems. The concern, therefore, cannot merely be confined to technological interventions to combat environmental problems of GHGs, water quality, and natural resource depletion. There has to be a broader institutional intervention that can help in looking at resolution mechanisms from a different perspective.

Under such circumstances, it is believed by many that a market-oriented approach may help combat the challenges of climate change that humanity faces. It has been said that a “sustainable” development path should take into consideration institutions that would be conducive for greater participation of citizens at various levels. Here comes the crucial role of market mechanism! Carbon markets have developed worldwide, and trading has been taking place successfully, thereby creating a pathway for sustainable development financing. Electronic exchanges trading emission permits are already in vogue, though there has rarely been much serious assessment of their utility to human well-being. However, an assessment of response strategies undertaken by the Millennium Ecosystem Assessment¹ highlighted the potential of market-based strategies to mitigate the degradation of ecosystem services.

There have been establishments of markets for ecosystem services, and as argued by many, payments for ecosystem services can help in rural poverty alleviation and of conservation simultaneously^{2,3}. Economists have also been instrumental in devising tools like environmental and ecosystem valuation to assess the value of the benefits that accrue to human civilization by the environment^{4,5}. This has often helped in devising rules of compensation for environmental damages that cause economic losses to backward communities⁶, as also help market creation.

¹ Millennium Ecosystem Assessment (2005): *Ecosystems and Human Wellbeing: Opportunities and Challenges for Business and Industry*, (Washington DC: World Resources Institute).

² Kumar, P. and R. Muradian (2009): *Payment for Ecosystem Services*. (New Delhi: Oxford University Press).

³ Uddhammar, E. and N. Ghosh (2009): “Development and Conservation in three protected areas in East Africa and India: Does Tourism lead to a Synthesis?”, *Decision*, 36 (3), 63-82.

⁴ Chopra, K. and S. K. Adhikari (2004): “Environment Development Linkages: Modelling a Wetland system for Ecological and Economic Value”, *Environment and Development Economics*, 9 (1), 19-45.

⁵ Costanza, R., R. d’Arge., R. de Groot, S. Farber, M. Grasso, B. Hannon, K. Limburg, S. Naeem, R. V. O’Neill, J. Paruelo, R. G. Raskin, P. Sutton, and M. van den Belt (1997): “The value of the world’s ecosystem services and natural capital”. *Nature*, 387, pp. 253-260.

⁶ Ghosh, N. and C.S. Shylajan (2005): “Coastal Mangrove Ecosystems, Fishermen’s Welfare and Anthropogenic Externalities: Compensatory Payments through Mangrove-Fishery Linkages”, in Sengupta, N. and J. Bandyopadhyay (eds.) *Biodiversity and Quality of Life*, 294-315 (New Delhi: Macmillan Publishers).

The recent expansions of markets for other environmental services suggest that they may rapidly become a central point of sustainable development financing, representing tens of billions of dollars annually within the next 10 to 15 years, and simultaneously help combat the challenges of climate change. All these moves toward markets have been triggered by two major drivers that include conscious national environmental policy movements toward market-based instruments and rising demand for environmental goods and services from public authorities, private entities, and consumers. On the one hand, there are new public regulations along with the establishment of market-based instruments, and on the other, it has become quite lucrative and fashionable for private players to show initiatives toward efforts of biodiversity protection. Consumer demand for derivatives of healthy ecosystems like organic foods, fair trade products, and eco-tourism has also increased over time. Its positive incidence on human health and overall welfare is also being steadily documented.

However, there are detractors of this hypothesis who can be categorized into two groups. One group feels that the markets are ineffective and lack the potency to create a positive change. On the other hand, there are others who feel that markets are only counter-productive, and can further aggravate environmental problems, rather than providing solutions. By creating a market for environment, it has been allegedly stated, one buys the right to pollute or degrade the environment further^{7,8}. It has been expressed that protection of environments is best served by resistance to the spread of commodity exchange and its norms and defending environmental goals through established ethical, aesthetic, political and scientific standards.

In the midst of such doubts and debates, the proposed seminar intends to look at markets as institutions for combating climate change from a normative as well as from a positive perspective. The concerns are, therefore manifold: can markets really help an economy like India to fulfil its obligations under the various environmental conventions to combat desertification, biodiversity degradation, and global climate change? Can markets further create the possibility of engaging various rural communities in formal market transactions, thereby reducing the extent and magnitude of poverty? What types of markets can do that? Can electronic exchanges on environmental products work under such circumstances? How can they be established, and what types of products can be traded there?

Thus, the seminar aims at discussing the various problems involved in developing effective and efficient mechanisms for trading in ecosystem and environment-related products that may involve clean energy and emission reduction products, natural-resource-based products as also ecotourism markets. The idea is to critically analyze and comment on the effectiveness of not merely markets as a whole, but also to comment on what form of markets might be effective to combat the problems that south Asia/ India faces with its ambient environment and natural resource use, and subsequently promote regional development. For the seminar, papers are invited on the following themes:

⁷ O'Neill, J. (1993): *Ecology, Policy and Politics: Human Well-Being and the Natural World*. (London: Routledge).

⁸ O'Neill, J. (2001): "Markets and the Environment: The Solution is the Problem", *Economic and Political Weekly*, 36 (21), 1865-73.

1. Need for developing market mechanisms for reducing environmental pollution (greenhouse gas emissions), natural resource (water and forest) depletion, and water quality degradation;
2. The problems of valuation and pricing of non-marketed environmental resources;
3. Kinds of markets and trading systems that can be developed to reduce pollutants, and mitigate natural resource scarcity—their merits and demerits;
4. Types of legislative and regulatory actions needed for developing suitable market systems for the above products;
5. Learnings from worldwide ecosystem and environmental markets (case studies on PES, RUPES, climate exchanges, and so on);
6. Political economy of climate change and market microstructure problems;
7. The suitability of establishing a climate exchange in India for trading in diverse energy, environment, and other ecosystem-related derivative products;
8. The nature, organization, management structure, and mechanisms for trading, clearing, delivery, and settlement of exchange-traded products;
9. The types of products that can be developed and traded on the proposed climate exchange to mitigate adverse impacts of climate change;
10. The drawbacks and adverse consequences of developing markets for climate change products.

These themes are indicative and not exhaustive. They will be discussed in three sessions of the seminar.

Important dates

Date of seminar: January 28, 2011

Last date of submission of papers: November 20, 2010

Intimation of accepted papers: December 5, 2010.

Call for papers

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The organizers will arrange for travel to and from Delhi (limited to domestic air travel of apex economy class), and stay at Delhi, as also reimburse local travel expenses for presenters of accepted papers. The presenters will also be paid an honorarium of Rs. 2,500.00. However, all these arrangements (travel, stay and honorarium) will be confined to only one presenter for every accepted paper.

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Completed papers should reach Mr. Sushil Kumar Sen, INSEE, at sushil@iegindia.org and/ or Ms. Vaishnavi Naik, TAER, at Vaishnavi.naik@taerindia.com on before November 20, 2010.