

# HARNESSING DEVELOPMENT TO PROTECT THE ENVIRONMENT

Chandrashekhar Dasgupta

**H**E Amb Chandrashekhar Dasgupta, a Distinguished Fellow at The Energy Research Institute (TERI), India, addresses the concerns raised worldwide about the impact of rapid economic development on the environment and the implications for the most urgent global environmental challenge of our times -- climate change. He makes a case for economic development as an enabler of environmental protection and enhancement, especially for the developing nations. *ISIS Focus* reproduces his talk delivered during an *ISIS International Affairs Forum* on 1 April 2011.

The 21st century has been hailed as the Asian Century. Asia has witnessed unparalleled rates of growth in recent decades and its share of global trade and investment flows has risen dramatically. Strong economic growth in Asia provides a stimulus to the efforts of the older economic powers -- the United States, European Union and Japan -- to free themselves from recent recessionary trends. In parallel with their economic progress, Asian states are attaining new levels of political and diplomatic influence in world affairs. The global distribution of power is undergoing a radical transformation, reflecting the ascendancy of Asia.

These hugely important changes grab media headlines around the world. Many people in our generation see Asia's rise as the defining feature of our times. But it may be asked if future generations will share this assessment. When future historians survey the 21st century from a more distant perspective, will they view the redistribution of global economic and political power as the salient feature of our times?

I think their assessment will be rather different. Viewing this century against the backdrop of history, they will perceive the shift in the global power balance as little more than a return to the patterns of the past. Through most of history, great and powerful states in Asia have had few rivals in other continents.

Viewing Asia's rise against this longer perspective, future historians will focus on a different, though related, development. They will



*Chandrashekhar Dasgupta*

celebrate the 21st century as the period in which Asia freed itself from the phenomenon of mass poverty. A few Asian states (including, of course, Malaysia) have already achieved this status and, by the latter half of this century, virtually all Asian countries will be able to provide their citizens with the basic requirements of food, shelter, health care and education. There may still be destitute individuals, but mass poverty will cease to exist for the first time in our history. Future historians surveying our times from the distance of a century or two may view the abolition of mass poverty -- rather than the shift in the global power balance -- as the defining feature of Asian history in the 21st century.

From either perspective -- Asia's economic and political ascent or the associated freedom from mass poverty -- Asia is taking a giant step forward. As we noted earlier, Asia's rise has also provided a stimulus for growth in other regions.



*The poor and homeless in Asia resort to shack dwelling or illegal squatting*

### ***An Interdependent Relationship***

Despite these facts, however, concerns have been voiced about the impact of rapid economic development on the environment – on the quality of air, soil and water. The loudest expressions of concern relate to the implications for climate change, the most urgent global environmental challenge of our times.

These concerns are largely misplaced. Economic development -- in particular, industrialization -- does, indeed, generate increased pollution, and stresses the environment. However, at the same time, it also provides the financial and technological resources needed not only to take remedial measures to counter pollution but also to improve the quality of the local environment. Indeed, development enables us to protect and enhance the environment.

When we look around us, we see that developed countries generally have cleaner water supplies, superior sanitation and waste disposal systems, and better urban air quality than poorer countries. Most industrialized countries have higher environmental standards than developing countries. The explanation stares us in the face.

Developed countries possess the resources needed to tackle pollution effectively. Developing countries lack adequate resources to protect and enhance the environment.

Some environmentalist activists take a narrow view of conservation, opposing any major human interference with 'nature.' This romantic view presupposes the existence of some past golden age when nature was 'unspoilt,' existing in all its pristine glory. The reality, of course, is that the environment has been in a state of continuous evolution ever since the planet came into existence, mainly due to the operation of natural forces. Natural forces were responsible for the cyclical onset and retreat of an Ice Age, bringing about in its wake sweeping changes in the earth's environment.

Human activities have until now played only a secondary, and relatively modest role in shaping our environment. Every step in the advance of civilisation has had an impact on the environment. The invention of fire led to the rotational clearing of forests associated with shifting cultivation. The invention of iron enabled human beings to permanently clear large tracts of forests for farming and livestock breeding. Irrigation works modified the environment. The expansion of trade led to the migration of many varieties of edible plants as well as other species of vegetation. The environmental impact of the Industrial Revolution in its early stages is bemoaned in the 19th century literary classics of all major European languages.

While not all the changes wrought by man have been beneficial for the environment, on the whole, the changes have undoubtedly been for

***Developed countries possess the resources needed to tackle pollution effectively***

the better. Men and women now live longer and healthier lives than they have in any previous age. Human existence is no longer 'nasty, brutish and short,' to quote Hobbes' description of an earlier age. The natural environment is more conducive to human life and well-being than in any imaginary 'unspoilt' age in the past. Historically speaking, there can be no question that, on the whole, economic development has benefited the environment.

At the UN Conference on the Environment, held in Stockholm in 1972, the Indian Prime Minister, Mrs. Indira Gandhi, demystified the links between development and the environment. She pointed out forcefully that the 'environment cannot be improved in conditions of poverty.' To quote her further:

*"The environmental problems of developing countries are not the side-effects of excessive industrialization but reflect the inadequacy of development. The rich countries may look upon development as the cause of environmental destruction, but to us it is one of the primary means of improving the environment for living, or providing food, water, sanitation and shelter, of making deserts green and the mountains habitable."*

Indira Gandhi was deeply conscious of the need to protect India's environmental heritage. This was reflected, for example, in her historic contributions to protecting our primeval forests and endangered species. She was also acutely conscious of the fact that only economic growth could generate the resources required to protect

***The environmental impact of the Industrial Revolution in its early stages is bemoaned in the 19th century literary classics***



*It was coal that fuelled the Industrial Revolution, forever changing the way people would live. It would not be until the early 1960s that most people would begin to realize the impact of this exponential growth on human health and ecology (Photo: University of Ireland, Galway)*

and enhance the environment. She understood clearly that development and protection of the environment were not conflicting goals but interdependent objectives.

There is an interdependent relationship between development and the environment. If we squander our environmental heritage, we will imperil long-term development. At the same time, if we fail to achieve rapid development, we will be unable to protect the environment for lack of adequate resources. In planning major development projects, we should conduct environmental impact assessments and take environmental costs into account.

An appropriate part of the profits generated by the project should be employed to remedy or offset any environmental damage. As it will not always be possible to reverse fully the changes wrought to the local environment, in such cases, compensatory or offset measures should be taken to enhance local environmental quality in other directions. The objective should be to ensure that there is no overall depletion of environmental capital.

*If all countries had the same per capita emissions as a developing country such as India, the climate change problem would not have arisen*

Let me now sum up the first part of my argument. The view of some environmental activists that development generates pollution, destroys nature and is, therefore, inimical to the environment, is entirely a romantic view, lacking a rational basis. The view that development can be reconciled with protection of the environment is not incorrect but it fails to grasp fully the interrelationship between development and the environment.

It falls short of recognising that development is a necessary condition for protecting and enhancing the environment. Development yields the resources needed to improve the quality of the environment. In combination with sensible environment impact assessments and accounting of environmental assets, development enables us to protect and improve our environment. Asia's economic rise will open the door to enhancing the quality of our local or domestic environment.

### ***Development and Climate Change***

Let us now turn from local to global environmental issues. A global environmental problem is one in which human activity in any one country causes an environmental impact that is not confined to the areas within the borders of that country or even its neighbourhood but extends to the planet as a whole. Indeed, the main environmental impacts of human activity in one region may affect other countries or regions. For this reason, global environmental problems raise complex issues of international burden-sharing and cooperation.

Climate change is undoubtedly the most pressing global environmental problem of our times. No other environmental issue has a comparable profile in the UN agenda. Let us now consider the nature of the climate change issue and the interactions between development and climate change.

Our planet has experienced several cyclical climatic changes over the ages because of the operation of the forces of nature. The current phenomenon of global warming is, however, unprecedented. Its unique feature is that it is not caused by nature, but by human activity. Its primary cause has been the ever-increasing consumption of hydrocarbon fuels – coal, petroleum and natural gas – since the beginning of the Industrial Revolution.

Combustion of increasing quantities of hydrocarbon fuels has generated a corresponding increase in emissions of carbon dioxide – the main greenhouse gas – into the atmosphere. Since carbon dioxide has a life of well over a hundred years, these emissions have led to a progressive build-up, or concentration, of greenhouse gases in the atmosphere, causing the phenomenon of climate change or, in popular parlance, global warming. Unlike the cyclical changes of past ages, the phenomenon we are confronting today has been caused by human beings.

The increased carbon dioxide emissions have originated mainly in the developed countries and have been emitted since the time of the Industrial Revolution. They are associated not only with high levels of past and present industrial and mechanised agricultural production but also with affluent lifestyles involving heavy consumption of fuel for private transportation, heating and other domestic uses. Thus per capita emissions in North America, Europe and Japan are far higher than in typical developing countries and the disparity becomes even starker when past emissions are taken into account.

If all countries had the same per capita emissions as a developing country such as India, the climate change problem would not have arisen. The problem has arisen because of excessively high levels of past and present per capita emissions in the developed countries.

Hence the UN Convention on Climate Change (1992) makes a clear distinction between the respective commitments of developed and developing countries, recognising the responsibility of the former for causing climate change, as well as their greater financial and technological capabilities for responding to the problem. It explicitly notes that the 'largest share of historical and current emissions of greenhouse gases has originated in the developed countries, that per capita emissions in developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs.'

Thus, the convention requires developed countries to stabilise and reduce their emissions in a time-bound manner. Developed countries are also required to provide 'such financial resources, including for the transfer of technology needed by the developing country Parties to meet the agreed full incremental costs of implementing [agreed] measures.'

Developing countries have a general commitment -- a commitment common to all countries -- to implement measures to mitigate and adapt to climate change. This commitment, in the case of developing countries, is conditional upon receipt of financial and technological support from developed countries. The convention states explicitly that:

*'The extent to which developing country Parties will effectively implement their commitments under the Convention will depend on the effective implementation by developed country Parties of their*

***... the largest share of historical and current emissions of greenhouse gases has originated in the developed countries...***

*commitments under the Convention related to financial resources and transfer of technology and will take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties.'*

The Convention, however, left some unfinished business. It fell short of specifying specific time-bound emission reduction targets for each developed country. This lacuna was filled by the Kyoto Protocol (1997). The protocol assigned a quantified emission reduction target to each developed country, with the aim of reducing the aggregate emissions originating in these countries by 5.2 per cent (compared to 1990 levels) in the first commitment period ending 2008-12.

Unfortunately, however, implementation of the protocol has been difficult and many developed countries are unlikely to meet their targets by next year. The United States, after successfully pressing for adoption of the protocol in Kyoto, decided to distance itself from it soon afterwards. Japan and Russia have now made it clear that they will not agree to emission reduction targets for a second commitment period under the Kyoto Protocol. Australia and Canada are also unprepared to accept such commitments unless the protocol itself is radically revised. Even the European Union is lukewarm, at best, about future commitments under the protocol.

Moreover, the developed countries are now insisting that developing countries should also take on binding emission commitments in

*... India and China have set for themselves impressive emission intensity reduction targets ...*

some quantifiable form, although this is not required by the UN convention or the Kyoto Protocol. In other words, the developed countries are determined to shift a major part of their responsibilities under the convention to the shoulders of developing countries.

Partly in order to accommodate these demands, many developing countries have announced ambitious voluntary targets to moderate their emissions. For example, India and China have set for themselves impressive emission intensity reduction targets – that is, to reduce emissions per unit of GDP.

These voluntary initiatives on the part of developing countries have so far failed to elicit an adequate response from developed countries. In many cases, even the limited commitments announced by developed countries are subject to conditions and loopholes that make them problematical. For instance, one developed country has made its commitment conditional on the passage of domestic legislation – a condition which admittedly cannot be met in the near future.

Another developed country has made its commitment conditional on passage of legislation in a neighbouring country! Even if we disregard all these conditions and assume that all the commitments pledged by the developed countries are implemented in full, the scale of aggregate emission reductions would fall far short of the minimum 25 per cent reduction target that they themselves have endorsed.

Why have the developed countries become so reluctant to honour their moral and treaty obligations in letter and in spirit?

In the first place, experience has shown that emission reductions involve substantial costs – notwithstanding the optimistic predictions of some economists. Developed countries blessed with abundant petroleum and coal deposits have been particularly reluctant to adopt, or implement, carbon emission reduction commitments since these involve reduced dependence on these fuels. However, the European Union has adopted relatively significant – though still inadequate – emission reduction commitments.

Second, recent recessionary trends in most developed countries, including the United States, European Union and Japan, have not been conducive to ambitious emission mitigation measures. Attention has been focussed on economic recovery rather than emission reductions.

Last but not least, the rise of the so-called 'emerging economies' has triggered competitiveness concerns in the developed countries. Influential industrialists and trade unionists in these countries are arguing that emission reduction policies raise their costs relative to developing countries. They fear losing domestic and export markets, as well as jobs. Not only are they reluctant to take on new emission reduction commitments, they are also pressing their governments to levy countervailing border taxes in some form on imports from developing countries. Protectionism is raising its ugly head in the developed countries.

The reluctance of the developed countries to fulfil their international obligations under the UN convention and the Kyoto Protocol in letter

*... the impacts of climate change will fall most heavily on developing countries...*



*Participants at the forum*

and in spirit poses a major dilemma for the developing countries. Though developed countries are mainly responsible for causing climate change, the impacts of climate change will be felt mostly in developing countries. Low-lying deltas, such as the Ganges-Brahmaputra and the Mekong basins, together with small islands will be the most severely affected by a rise in sea-levels.

In view of the refusal of the developed countries to accept a fair share of the burden of mitigation, should developing countries make a heroic effort to shoulder an unjust burden by moderating their greenhouse gas emissions, even at the cost of restricting their energy options and slowing down their development? Or should they focus, instead, on adaptation to climate change by building up their capacity to cope with its impacts? For a developing country, what is the most effective response to the threat of climate change?

### ***Effective Climate Change Strategy***

Developing countries are extremely vulnerable to the impacts of climate change because of their flimsy infrastructure and their inability to adopt new techniques and technologies. Dwellings, particularly in rural areas, are often so flimsy that they are unable to withstand even seasonal changes such as heavy monsoon rains or strong winds, leave alone the expected impacts of climate change. Roads, bridges and culverts, flood control and water storage infrastructure need to be greatly

upgraded and expanded in order to give a developing country even a modest capacity to cope with the extreme weather events, and changes in rainfall patterns associated with climate change.

Traditional farmers in developing countries are highly vulnerable to variations in temperature and rainfall patterns. They lack the financial resources -- and often also the skills -- required to adapt to climate change by switching over to such measures as drought resistant plant varieties, drip irrigation, large-scale water conservation measures, etc.

The point is that adaptation to climate change will require a wide range of responses, including massive construction of new physical infrastructure, watershed management, coastline protection, improved disaster management capacities, etc. Poorer countries will be unable to implement these measures on a significant scale -- unless they are able to generate the required resources through rapid development.

In the final analysis, an effective climate change strategy for a developing country must be based on rapid development. As the UN Framework Convention on Climate Change states, 'economic and social development and poverty eradication are the first and overriding priorities of the developing country parties.'

For poorer countries, slowing down development in order to contain emissions is a prescription for disaster. It would leave future generations in these countries without any significant capacity to cope with, or adapt to the impacts of climate change.

This does not mean that developing countries do not need to implement appropriate mitigation measures. There is a range of win-win mitigation measures that involve no significant additional costs and, therefore, do not result in diversion of scarce resources from development priorities. These measures can promote



*The Delhi Transport Corporation (DTC) operates the world's largest fleet of CNG-powered buses.*

development, while yielding co-benefits in terms of mitigating climate change.

The most important of these win-win measures are cost-effective, energy efficient and energy-saving programmes. These simultaneously promote our development and mitigation goals. Wasteful energy consumption retards and unnecessarily increases emission levels. Not surprisingly, countries like India and China have adopted national energy intensity reduction goals as the centrepiece of their mitigation actions.

Secondly, developing countries can explore possible synergies between their health-related social development goals and climate change mitigation. For example, the switchover from diesel to CNG in Delhi's public transportation system was primarily aimed at reducing air pollution and promoting public health but it also reduces carbon emissions. While advancing a developmental goal, it also promotes climate change mitigation as a co-benefit.

Finally, in pursuing energy security as a developmental goal, oil importing developing countries should explore cost-effective options for switching to renewable energy sources such as hydroelectric, solar and wind power. We are likely

to witness a gradual transition from hydrocarbons to renewable energy during the next several decades. We should position ourselves to derive the maximum advantage from this transition in order to promote our development and mitigation goals.

In short, while pursuing their development priorities, developing countries should seek out possible opportunities for obtaining co-benefits in the area of climate change mitigation. However, as we saw earlier, it would be folly on their part to slow down development since it would leave them without any capacity to adapt to climate change.

### **Conclusion**

Allow me to sum up my argument. Economic and social development is a prerequisite for effectively protecting and enhancing the quality of our local environment. Only through rapid development can we acquire the resources needed to repair damage and to enhance the quality of our environment.

Global -- as distinct from local -- environmental problems raise more complex issues if the countries primarily responsible for causing the problem are unwilling to accept responsibility for preventing damage or compensating the victims. Climate change is an example. Developed countries are primarily responsible for causing climate change but they are refusing to shoulder the full burden of an adequate response, posing a dilemma for the poorer countries.

Developing countries should lose no opportunity to implement development options that also yield mitigation co-benefits but it would be a flawed strategy on their part to slow down development in the interests of mitigation. Such a strategy would deprive future generations in poorer countries of any significant capacity to cope with climate change.



