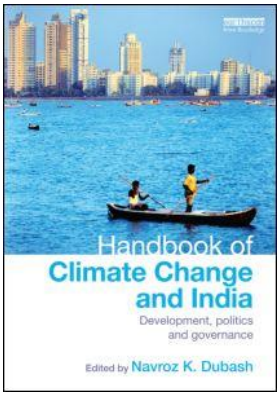

Handbook of Climate Change and India
Development, Politics and Governance

Navroz K. Dubash

Climate change debate: the rationale of India's position

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11 Climate change debate

The rationale of India's position[1]

Prodipto Ghosh

Introduction

The debate on multilateral action on climate change between the developed and developing countries has been sharply polarized for a long-time. If one may mix a metaphor with a descriptive term, India has been in the eye of this storm since the beginning of multilateral concern on climate change in the 1980s, since it has invariably and forcefully brought in the 'development' and 'poverty eradication' sides of the argument, and seems not to buy into the response from many developed countries that the concern for the preservation of the planet's present climate supersedes the former, or that aggressive climate action is consistent with maintaining, or even enhancing growth rates and poverty eradication efforts.

The positions of both sides, developed and developing, seem to have become further entrenched over time, in particular since the rejection of the Kyoto Protocol by the US Congress on the stated plea that GHG mitigation action by the USAwould be negated rapidly, unless 'key developing countries', i.e. China and India, (but also Brazil; South Africa, Mexico, and South Korea), also undertook similar actions. The US rejection, and the stated grounds for it, subsequently spawned a massive political effort by many developed countries, in particular the EU, Japan, Canada, and Australia, to reach a 'comprehensive' global arrangement that would also include the USA and these 'key developing countries'. Other developing countries are not as serious a target of these efforts.

The key feature of these 'key developing countries' distinguishing them from other developing countries, is, of course, their *size*. Brazil is slightly smaller in size in terms of land area (8.514 million sq km) and about 60 per cent population (187 million) as the USA (9.632 million sq km and 299.8 million), the largest developed country. India is slightly under 4 times the US in population (1,134.4 million), but with only about 34 per cent of its land area (3.287 million sq km – the area under crop agriculture is, however, about the same). China is more than 4 times the USA in population (1,313 million), with about the same land area (9.598 million sq km).[2] Surely, the developed country argument goes, the rapid growth of the economies of these countries, involving increasing use of energy, would lead to such massive quantities of GHG emissions, that no matter how stringent the emissions curbs in developed countries, the planet's climate would, in short order, be at severe risk.

The broad response to this argument, as of course is immediately pointed out by these very countries, is that they are all still very poor,[3] no matter that they have experienced high GDP growth rates in recent times; that their per capita energy use

(and consequently per capita GHG emissions are just a fraction of those of the developed countries; and in terms of the accumulations of GHGs in the atmosphere, which is what actually leads to climate change their responsibility is miniscule or negative[4] (depending upon the methodology employed). Moreover, endless media repetition has led to several myths in developed countries, about the alleged energy profligacy and environmental irresponsibility of these 'key developing countries'.

This chapter presents the gist of the arguments made by India, as one of the targeted 'key developing countries', and as also broadly reflecting the concerns not only of this group, but also of a much broader set of developing countries, since, apart from scale, India is in most respects pretty typical of the poorer half of the developing world.

India's development and environmental challenges

Despite several impressive technological attainments, for example in space exploration, nuclear energy, information technology, automobile engineering, and agriculture, and a thin sliver of prosperity and cosmopolitanism in its teeming metro cities, India remains one of the world's poorest countries. Of the 1 billion+ population,[5] more than 800 million people (79.9 per cent of the population), a population larger than that of North America and EU combined, still subsist on less than US$ 2 per day. Within this group, more than 450 million people, about the population of the US, live on less that US$ 1.25 per day.[6] More than 700 million people still cook on traditional cookstoves using crop waste and animal residue – a majority of this group, more than 400 million people, live without electricity. One of the enduring images of India's periodic national and state elections is that of the rural poor mobbing legislative candidates, demanding electricity, so that their children could do their school homework! Electricity enables literacy, as also health-care, immunization, safe water,

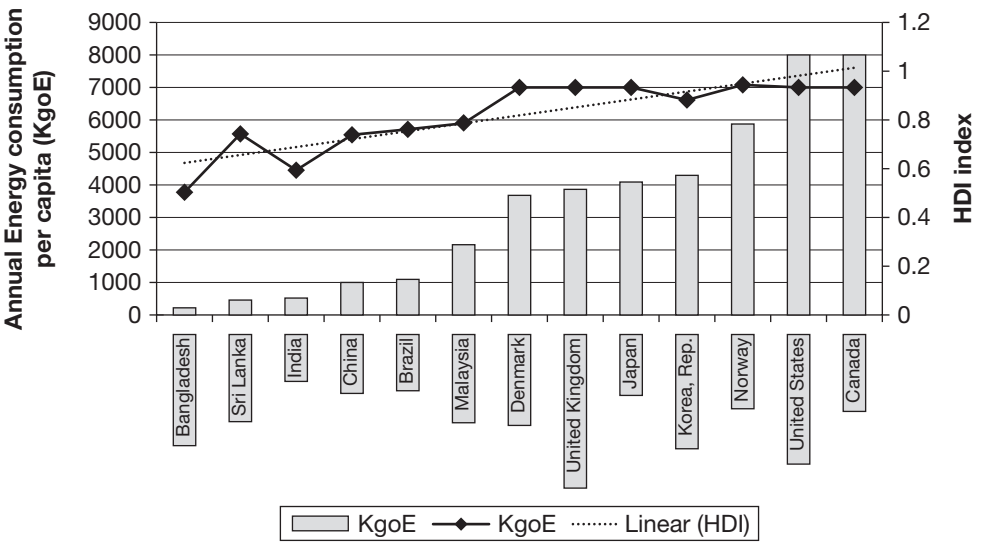

Figure 11.1 An international comparison between Human Development Index and per-capita energy consumption

Source: World Development Indicators Database

and sanitation, which would enable India to improve its human development indicators[7] (global rank: 128, HDR value: 0.610, life expectancy at birth: 63.2 years, adult literacy rate: 61.0 per cent, GDP per capita: US$ in PPP 3,452), that are next only to Sub-Saharan Africa.

No country in history has improved its level of human development without a corresponding increase in per capita use of energy. To expect India to do so would be unrealistic. At present, India's per capita energy consumption is about 20 per cent of the global average, just 4 per cent of the US, and even in relation to China, just 28 per cent.

Nevertheless, India has proactively addressed its energy use and GHG emissions, as other chapters in this volume attest. Further, India has been highly vulnerable to climate variability (floods, droughts, cyclones, ocean surges) for millennia. Not just the present-day policy-makers, but the erstwhile British administrators, and before them, successive Indian dynasties over the centuries grappled with the impacts of the fickle climate. For many decades, India has had major, publicly funded programmes to address both the direct impacts, or prevention and control, of climate risks. In addition, other major public programmes focused on creation of infrastructure, or poverty eradication, have had, as a major objective, the reduction of vulnerability to climate risks. At present, India's Central (Federal) Government, spends no less that 12 per cent of its annual budget, or 2.63 per cent of the GDP on these programmes. *In point of fact, this is more than India's annual defence expenditure!* Figure 11.2 provides some recent data on the aggregate expenditures, while Figure 11.3 shows the programme areas where the money was spent. The programme areas were identified on the basis that each included programme would have among its stated objectives, reducing vulnerability to climate variability.

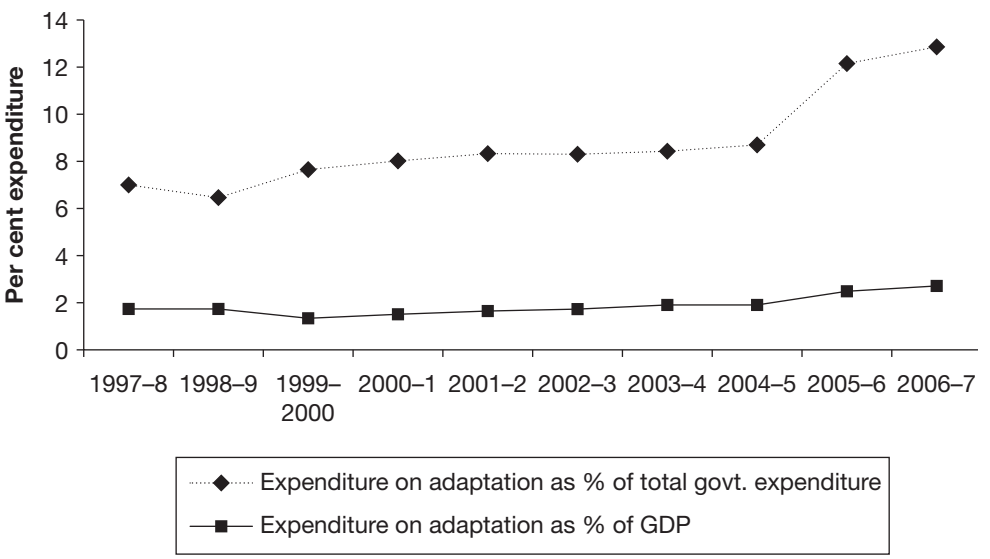

Figure 11.2 Annual central government expenditures to address climate variability, 1997–2000

Source: Data from Government of India Budget Documents, several years

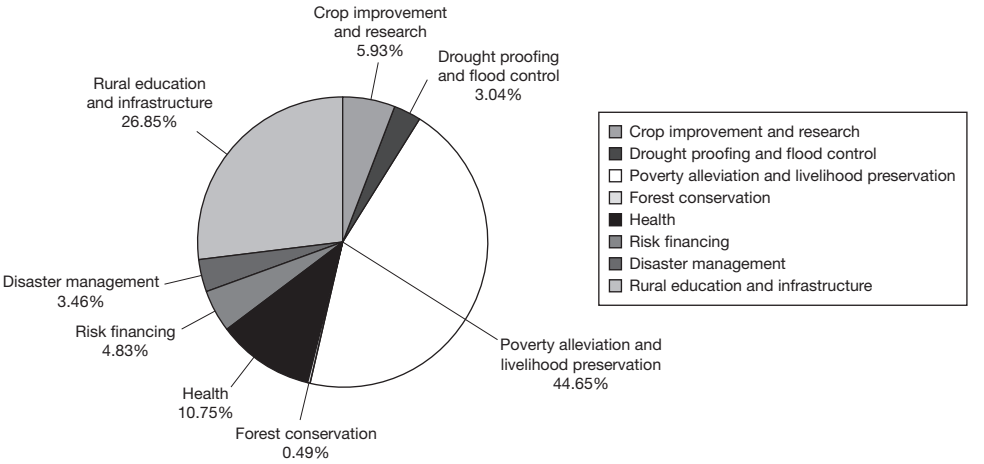

Figure 11.3 Components of adaptation expenditure, 2006–7

Source: Data from Government of India Budget Documents, 2007–8

The issue of lifestyles

A curious perception is that India's low level of current and historical responsibility for climate change simply reflects its large-scale poverty, and that as people become better off they would quickly assume the life-styles prevalent in developed countries, but without the attendant environmental safeguards. The view does not account for the strong environmental ethic, specifically, a 'waste not' mindset, and deep reverence for nature and all living forms, that is deeply embedded in the culture of the people, and which remains unchanged with increased prosperity. Nor does it reflect awareness of the comprehensive policy and regulatory structure, besides publicly funded programmes, that are in place to address environmental concerns. Some international comparisons are given below to illustrate, first, the fact that India has a strong environmental performance in terms of key sustainability parameters which are indexed to eliminate the effects of incomes; and second, the outcomes traceable to environmental interventions of the government.

In case of India and China, the CO_2 emissions from the food sector per kCal of food are an order of magnitude below that of the developed countries shown. A break-up of the emissions in each case into the respective contributions of the food production and food processing (including packaging) components shows that in the case of developed countries, the latter dominates the CO_2 emissions. Indians prefer fresh produce to processed food, and irrespective of economic status, buy fresh produce *each day*. Moreover, there is very little meat consumption (in terms of percentage of daily calories intake from meat), and this remains true even when people become richer.[8]

Figure 11.5 presents comparative data on recycling rates of municipal waste for India and three developed countries.[9] India is well-ahead of even Japan, the developed country with the most aggressive regulations to promote recycling. What accounts for the Indian performance? Very simply, India has a long, cultural tradition of recycling (as well as repair and re-use) – even wealthy households recycle everything possible – paper, metal, glass, plastic. A well-established network of non-formal sector recyclers

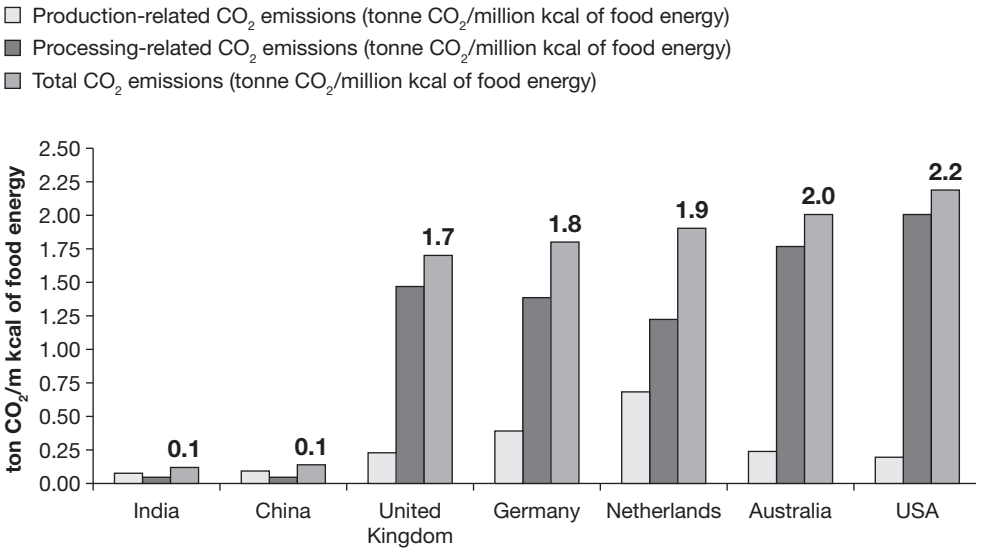

Figure 11.4 CO_2 emissions from the food sector – from field (production) to table (processed food) excluding cooking

*Sour*ce: TERI Analysis, various data sources

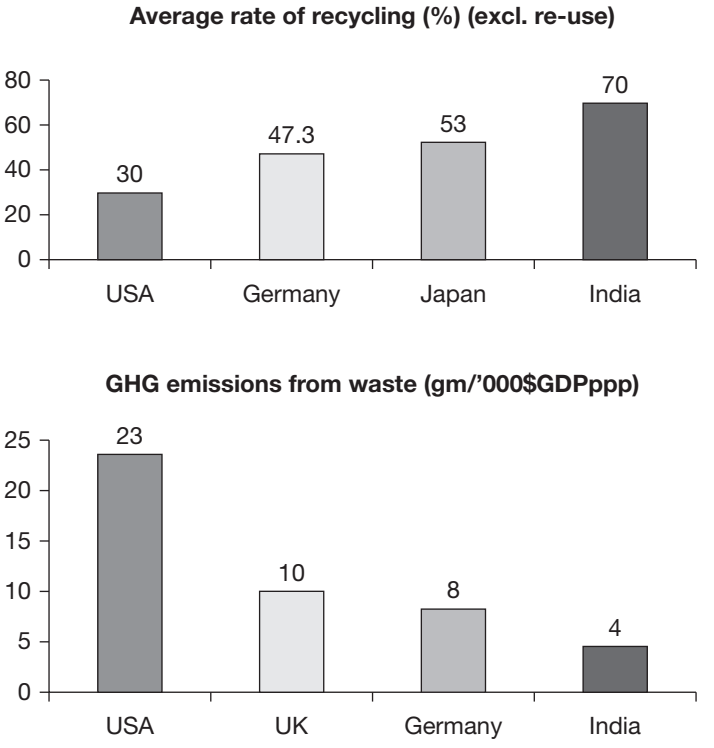

Figure 11.5 Recycling of solid waste and waste-related emissions

Source: TERI Analysis, based on national communications of different countries

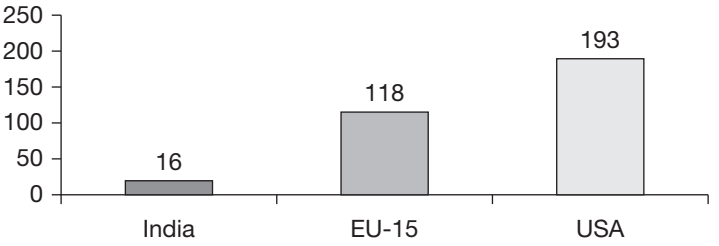

Figure 11.6
CO_2 emissions from passenger transport

Source: TERI Analysis, 2005, various data sources

visits every household at least once a month to buy the recyclables from the households. Stripped bare of recyclables, the actually disposed municipal garbage consists mainly of kitchen waste, which too is largely made into compost, rather than land-filled.

Another indicator of sustainability is CO_2 emissions from passenger transport.

A comparison is presented in Figure 11.6 of data from India, EU-15, and the USA, on CO_2 emissions per passenger-kilometre of transport use. Again, India's emissions are less than one-seventh those of EU-15, and just one-twelfth those of the USA. What accounts for this enormous difference? Notwithstanding the recent increase in ownership of private vehicles, public and mass-transport, i.e. rail and bus, account for the major share of transport demand, including the annual incremental increase. Even in respect of automobiles, there is a strong cultural preference for fuel-efficient vehicles,[10] i.e. cars and two-wheelers, and there is a rapid increase in vehicles powered by natural gas, and more recently, especially in case of two-wheelers, electric vehicles.

There are numerous other dimensions of India's culture that are conducive to sustainability. Most Indians are, in fact, not vegetarians, but almost all Indians are mostly vegetarian, signifying that only a small proportion of daily calorie intake is from foods of animal origin. Indians bathe twice a day, every day, but with a single bucket of water (25 litres). They switch off all appliances promptly when not required.[11] They do not waste food. These habits do not change when Indians become richer – they do not consume more meat, for instance. The National Geographic's Greendex, which evaluates a large set of developed and developing countries for environmental sustainability, has in May 2009, ranked India as the world's most environmentally sustainable society.[12]

A further demonstration of sustainability is provided by a comparison of the so-called 'Environmental Kuznets Curve (EKC)' of India and some other countries. The EKC reflects a near-universal phenomenon, that as countries grow, their environmental parameters at first worsen, and then improve, as higher incomes raise public environmental consciousness, and also enable public resources to be spent on environmental management. A typical turning point for developed countries in respect of several sustainability parameters is an income level of *c*.US$ (PPP) 6,000–7,000. The concept of the EKC is illustrated in Figure 11.7.

In the following tables, estimates of the turning points (in terms of per-capita incomes) of the statistically estimated EKC curves from India and several other countries by various authors are presented.

Table 11.1 presents the estimates of the EKC turning points for India and a set of 32 countries, which include both developed and other developing countries, for two key municipal wastewater parameters in the receiving waters. The estimated turning points for India by various authors are much lower than for the set of 32 countries.

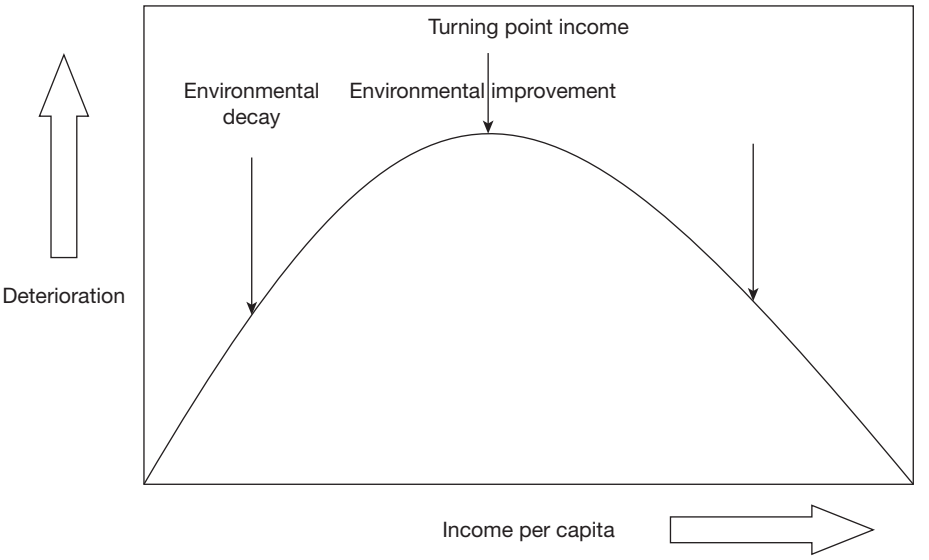

Figure 11.7 Illustration of the concept of Environmental Kuznets Curve (EKC)

Table 11.1 EKC estimates of turning points of India and a set of 32 countries (developed and developing) for wastewater treatment

	Countries	*BOD*	*COD*	*Wastewater*
MK ^	India		$523	
GK ^	Up to 32 countries	$7,623	$7,853	
CSB ^	India	$2,369		
NP ^^	India	$65 **		
Current study	India	$548 and $2,388**	$1,668**	$3,150 (CI cities) $1,694 (CII cities)

MK = Mukherjee and Kathuria (2006)
GK = Grossman and Krueger (1995)
CSB = Chandra Sahu and Bali (2006)
NP = Narayanan and Palanivel (2003)

* N shaped, ** U shaped
^ in 1985 US $
^^ in 1995 US $

For the study by MK, a composite index of pollution including 63 environmental indicators has been used as the dependent variable.

Note: 'Current study' refers to a TERI Study, 2008. 'BoD' is Biological Oxygen Demand, and 'CoD' is Chemical Oxygen Demand. 'CI' cities refers to Class I cities (5 metros), and 'CII' cities refers to Class II cities – in India cities are classified in terms of size.

Similarly, Table 11.2 gives the estimated EKC turning points for several key urban air quality parameters, i.e. sulphur dioxide (SO_2), suspended particulates (SPM), and nitrogen oxides (NOx). Once again, the estimated turning points in the case of India are much lower than for the other sets of countries.

Table 11.3 presents estimates of the EKC turning points for India and several other country groups in respect of energy intensity of the GDP. All three developing countries (Bangladesh, India, Sri Lanka) accomplished their turning points at much lower income levels than the three developed countries (Japan, Norway, Switzerland). Of all countries, the turning point in respect of India was at the lowest per capita income level.[13]

The way forward – India's perspectives

Given this background, I now look at what India's proposals are, so far, for moving forward on the key issues in the global climate change agenda.[14] For the sake of convenience, I look at India's approach in terms of the 'building blocks' and some other key elements of the Bali Action Plan (BAP).

GHG mitigation

In India's view, developed countries need to commit to deep, long-term, legally binding GHG reductions, consistent with the espoused level and time-frame of GHG

Table 11.2 Air quality: comparisons of EKC turning points for India and several other country groups

	Countries	*SO2*	*SPM*	*NO_x*
MK ^	India	$523		
CRB ^	11 OECD	$6,900	$7,300	$14,700
GK1 ^	Up to 32 countries	$4,107		
GK2 ^	Up to 32 countries	$4,053		
P1 ^		$3,000	$4,500	$5,500
P2 ^	30 developed and developing	$5,000		
SS ^	22 OECD and 8 developing	$10,700	$9,600	$21,800
S ^	31 countries	$3,670	$3,280	
Our estimates	India (industrial, transport and residential sectors)**	$1,695	$1,640*	$1,707
		$957	$1,440*	$1,413*
		$1,752	$1,840	$1,770

MK = Mukherjee and Kathuria (2006)
CRB = Cole et al. (1997)
GK1 = Grossman and Krueger (1993)
GK2 = Grossman and Krueger (1995)
P1 = Panayotou (1995)
P2 = Panayotou (1997)
SS = Selden and Song (1994)
S = Shafik and Bandhopadhya (1994)

^ in 1985 US $
* U shaped
** industrial, transport and residential sectors, respectively for the study by MK, a composite index of pollution including 63 environmental indicators has been used as the dependent variable.

Note: 'Our estimates' refers to a TERI study, 2008

Table 11.3 Energy intensity of GDP: EKC turning points for India and several other countries

	Specification	*Shape*	*Turning point*	*Current income**
Bangladesh	Quadratic	EKC	$1,377	$1,827
India	Country	EKC	$501	$3,072
Japan	Quadratic	U	$22,675	$27,817
Netherlands	Linear	Monotonically decreasing	–	$29,078
Norway	Quadratic	EKC	$10,274	$36,849
Pakistan	Linear	Monotonically decreasing	–	$2,109
Sri Lanka	Quadratic	U	$4,092	$4,088
Sweden	Linear	Monotonically decreasing	–	$28,936
Switzerland	Quadratic	EKC	$26,122	$31,701
UK	Linear	Monotonically decreasing	–	$29,571

*GDP per capita at constant 2000 international $, PPP in 2005

Note: Where the EKC curve is stated to be 'monotonically decreasing' sufficient past data has not been available to estimate the turning points.

Source: TERI Study, 2008

stabilization. GHG mitigation actions by developing countries must be enabled and compensated by financial transfers and technology from developed countries. There can be no differentiation of 'key developing countries' from other developing countries.

Without a meaningful discharge of the historical responsibility of developed countries (see other chapters in this volume), based on an explicit recognition that all humans have equal rights to the atmospheric resource, besides termination of their current unsustainable emissions levels, no climate regime would be seen to be fair, or to solve the problem. On the other hand, significant mitigation actions by developing countries beyond the efforts that they are even now making, will lead to major diversion of their resources away from development and poverty eradication, unless these are adequately compensated, and the necessary technology is provided at low cost. The development challenges of the so-called 'key developing countries', are typical of other developing countries. They cannot be penalized by abridging their development on the argument of 'size', when they have, in fact, enabled the developed countries to industrialize, and their energy or CO_2 intensities are no different from those of developed countries in general.

The Copenhagen Accord endorsed a global temperature stabilization target at 2°C (the baseline, however remains unspecified. Several Small Island Developing States (SIDS) urge a still lower level of global temperature increase at 1.5°C above pre-industrial levels. Neither target is objectionable in itself, although the practical feasibility of accomplishing the latter target is open to question. However, the issue is of how the available atmospheric space, corresponding to whichever target is eventually accepted, is to be shared across countries. India's view is that this is to be done on the basis of cumulative historical responsibility with equal per-capita entitlements from the start of the industrial revolution till the agreed date of stabilization. If this means that several developed countries would have negative emissions entitlements from now on, till stabilization, this is neither a physical impossibility (think of afforestation, biomass based power generation with carbon capture and storage, etc.), nor is it the case that the difference between the entitlements (negative) and actual emissions (positive) cannot be purchased from the global carbon market.

Sectoral targets

In India's view, sectoral emissions targets by developing countries in line with externally imposed norms will only create a market opening for technologies closely held by a few developed country firms; these may be inappropriate to the situations in developing countries and will involve high, uncompensated technology costs due to cartelization by the suppliers. In any event, no 'sector' can be defined unambiguously, after taking into account vintages, technology pathways, differences in raw materials, finished products, transport linkages, etc., and as such, sectoral norms are in practical terms, a non-starter.

Externally imposed sectoral targets are an inefficient, and impractical means of GHG mitigation. They are primarily intended to gain market access, and in any event are not permissible under the Bali Action Plan (para 1(b) (iv)), which speaks only of enhancing implementation of para 4.1(c) of the UNFCCC, which, in turn, speaks only of promotion and cooperation in development, application and diffusion of technologies, practices and process for mitigation of GHG in relevant sectors.

'Nationally Appropriate Mitigation Actions'

The Bali Action Plan requires developing countries to formulate and implement 'Nationally Appropriate Mitigation Actions' (NAMAs), supported and enabled by finance, technology, and capacity building, that are 'monitorable, verifiable, and reportable' (MRV). In India's view 'Nationally Appropriate' signifies that the plans must be prepared by the countries themselves, without external dictat or 'adjustment of ambition'.[15]

Mitigation actions by developing countries should proceed on this basis, and the actions themselves, provided these are supported by finance, technology, and capacity building, as well as the support provided are accountable in the MRV sense. Actions carried out by developing countries on their own, without international support, cannot be not subject to MRV accountability.

The Copenhagen Accord, however, provides for 'international consultations and analysis' for unsupported mitigation actions, but acknowledges that these must be under 'guidelines that respect national sovereignty'. What exactly such guidelines would be is a focus of the post-Copenhagen negotiations. While responsible countries should respond positively to requirements of 'transparency' of their actions, it is important the such 'consultations' do not become a forum for international dictat of developing countries' growth and poverty eradication policies, or a means of review of the adequacy of implementation by them of their voluntary actions, or of the adequacy of their 'levels of ambition'.

Financing

In India's view, financial support for NAMAs, or adaptation action plans of developing countries is not 'aid', but a discharge of responsibility by developed countries, scaled both by their historical responsibilities for climate change, and the capabilities they have acquired thereby.

The 'aid' paradigm involves discretion by 'donors' as regards volume of resources, the purposes or actions for which they may be used, the sources of skills, equipment and technologies to which the aid may be applied, the countries and organizations

within them that may receive the 'aid', and the institutions through which the 'aid' may be provided.

The responsibility-based approach, on the other hand, signifies that the resources must be 'new and additional' (i.e. not diverted from 'aid'), assessed and not discretionary, and must be administered by a financial mechanism answerable to the Conference of Parties serving as the Meeting of Parties to the Kyoto Protocol (CMP), with a unique governance structure. Financial resources amounting to 0.5–1 per cent of aggregate GDP of developed countries are necessary to address GHG mitigation in developing countries. The amount foreseen in the Copenhagen Accord, i.e. a total of $ 30 billion till 2012, and scaling up to an annual level of $ 100 billion a year by 2020 is a start, but, given the estimates of developing country GHG mitigation costs by responsible international agencies such as the World Bank and UNFCCC it is inadequate.[16]

Technology

In India's view, *technology is the key* to addressing climate change in both the aspects of mitigation as well as adaptation. It comprises three elements:

1 A global effort on R&D, including adaptive R&D to enable the deployment of available technologies in developing countries, as well as the development of new, cost-effective, clean technologies. This will involve significantly stepped-up public as well as corporate financing on R&D in developed countries. In addition, R&D efforts should involve partnerships between institutions in developed and developing countries, with sharing of intellectual property rights (IPRs), and these collaborative R&D efforts may be financed through the financial mechanism of the UNFCCC.
2 Available and new clean technologies must be available to developing countries for their climate change actions on non-commercial terms. This signifies that (a) the existing social contract on IPRs must be tempered to balance the rewards to the innovator with addressing the global imperative of saving the climate, involving negotiated or regulated,[17] rather than monopolistic licence fees, as indeed the international community has agreed in case of drugs needed for HIV/AIDS; and (b) that where particular clean technologies are of wide applicability in developing countries, the financial mechanism may purchase the technology rights for their use in the context of their climate change actions.
3 A network of regional technology innovation centres should be set up in developing countries to catalyse collaborative R&D, provide reliable information on available technologies, their costs and performance, and enable capacity building on deployment of clean technologies and their further innovation.

Adaptation

Adaptation has been the Cinderella of the climate change regime. It is clear from various studies, as well as country experience, for example India's experience discussed above, that the resource, and technology needs for adaptation are of the same order of magnitude as for mitigation. 'Mainstreaming' adaptation actions into development programmes must not involve a diversion of development resources to adaptation, whether the country's own, or externally provided. All vulnerable regions, and not

only the least-developed or small-islands must receive adaptation funding from the Financial Mechanism, as indeed the UNFCCC and Bali Action Plan contemplate, even though LDCs, Africa, and SIDS should have priority (as the Copenhagen Accord provides).

Sustainable production and consumption

High per-capita GHG emissions in developed countries are the inevitable outcome of unsustainable lifestyles, comprising unsustainable patterns of production and consumption. These need to be addressed in the future climate change arrangements, and it must be recognized, on the one hand, that human well-being is not conditional on unsustainable life-styles,[18] and on other that an argument that the present life-styles of certain countries are sacrosanct, is untenable.

Conclusion

I hope that the above narrative will persuade the reader of three things:

First, that India's (and all developing countries') 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, the Bali Action Plan, and the Copenhagen Accord.

Second, that the cause of climate change, and one which is continuing, is the unsustainable emissions of developed countries. They have to take leadership to drastically reduce their emissions, and this will involve modification of their life-styles, but no one is suggesting that they become poor.

Third, that 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 future discussions on global climate action.

Notes

1 The views expressed in this chapter are the author's own.
2 Data sources: Population: Human Development Report 2007–08; area: World Development Report, 2009.
3 HDI ranks Brazil: 70; China: 81; India: 128; South Africa: 121. Source: HDR 2007–8.
4 Signifying that they have lived within a morally defensible allocation of environmental space, making the surplus available to others who have exceeded their environmental space.
5 Population in 2007: 1,123 million.
6 The latest official estimates of poverty following broadly the Expert Group (1993) method, based on calorie intake norms, and using the uniform reference period (URP) of 30 days, indicate that below poverty line (BPL for short) population was 28.3 per cent of the rural population (described as headcount ratio or poverty ratio) and 25.7 per cent of the urban population in 2004–5. These official estimates released by the Planning Commission are based on: (a) the 1973–4 rural and urban poverty line baskets originally at 1973–4 prices adjusted for price changes between 1973–4 and 2004–5; (b) a uniform reference period (URP for short) of 30-days for canvassing consumption of all items of current household consumption in NSS; and (c) rural and urban size distributions of per capita total consumer expenditure (PCTE for short) data collected during the 61st (quinquennial large sample) round (July 2004 to June 2005) on household consumer expenditure of the National Sample Surveys (NSS) (*Source: Planning Commission*). Other estimates are: (i) Arjun Sengupta (estimated on 2004–5 data) based on monetary value of per capita daily consumption: 'Below Poverty Line' (Rs 11.6 pcpd): 21.8 per cent of total population; 'Poor and vulnerable'

(*c.*$2 per day), 77 per cent of total population (i.e. 836 million); (ii) Tendulkar Committee (estimated on 2004-5 data). Based on the urban poverty line basket for household goods and services consumed: 25.7 per cent urban and 41.8 per cent rural; (iii) World Bank. For 2005 based on international poverty line of consumption levels of $ 1.25 pcpd and $2 pcpd: 456 million and 828 million respectively. These have been criticized by, among others, Surjit Bhalla.

7 Source: *Human Development Report*, 2007–8.

8 Each calorie of food of animal origin requires *c.*10 times the energy required for producing the calorific equivalent of plant-based food.

9 Repair and re-use is not included in the data presented.

10 This may be seen in advertisements for cars and two-wheelers. Even luxury vehicle manufacturers are careful to point out the fuel mileage of the vehicles.

11 Visitors to India observe that at night there are virtually no lights left on in office and commercial buildings. This contrasts with what one observes in almost all developed countries.

12 The first edition of the Greendex, in 2008, jointly placed India and Brazil as the world's most environmentally sustainable societies.

13 Sufficient past data was not available to estimate the turning points in respect of the other countries studied (Netherlands, Pakistan, Sweden, UK).

14 In fact, India's approach to the global regime is entirely consistent with the UNFCCC, the Kyoto Protocol, and the Bali Action Plan. Most elements also have the endorsement of the group of G77 and China.

15 It is sometimes argued by developed country policymakers that without such external oversight, a developing country's supported NAMA actions may be negated by actions outside the supported NAMAs. This demand is unreasonable on three counts. First, a country's public policies, legislations, regulations and budgets are always public knowledge. Second, it would be irrational for a developing country to deviate from a baseline action to an economically suboptimal action *outside* the supported NAMAs. Third, would any developed country accept such external oversight in respect of its own policies, legislation, regulations and budget?

16 For example, the World Bank's 'Economics of Adaptation to Climate Change' (EACC) study, 2009, estimated the costs of Adaptation in developing countries as *c.* $80–100 billion a year. Costs of GHG mitigation, which would be additional, are variously estimated at $200–500 billion a year.

17 There is a widespread misconception that developing countries are asking for technology to be provided 'free'. A regulated licence would be no more free, nor provide insufficient incentive to the innovator (entrepreneur), than regulated tariffs for any natural monopoly, say, electricity.

18 For example, the assertion that commuting to work every day in an SUV with single occupancy, facing traffic congestion arising from everybody else doing the same, as opposed to commuting by safe and efficient mass transport, enhances well-being, is risible.