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India's Turn in Climate Policy: Assessing the Interplay of Domestic and International Policy Change

Joachim Betz

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WP Coordination: Melissa Nelson

English-language Copy Editing: Meenakshi Preisser

Editorial Assistance and Production: Silvia Bücke

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GIGA German Institute of Global and Area Studies
Leibniz-Institut für Globale und Regionale Studien
Neuer Jungfernstieg 21
20354 Hamburg
Germany
E-mail: <info@giga-hamburg.de>
Website: <www.giga-hamburg.de>

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Abstract

India has long been regarded as a deal-breaker in international climate negotiations; it was at the summit in Copenhagen that India first abandoned its old strategic line and made a commitment to reduce carbon emissions voluntarily. This shift was accompanied by a proliferation of domestic initiatives to save energy, to develop regenerative energies, etc. Traditional IR approaches remain insufficient to explain this policy shift – which is the aim of this paper – insofar as they fail to adequately take into account the fact that climate policies have to confront two audiences: a domestic and an international one, each presenting different tactical necessities for official reaction. On the international front, we argue that globally, India intended to be perceived as a responsible actor, one deserving of a greater say in global governance matters. On the domestic level, shrinking national energy reserves and mounting import dependence made the co-benefit of energy saving in reducing greenhouse gas emissions evident. The shift was made easier because important business associations aligned with a more eco-friendly development perspective and because the reduction commitments made by the Indian government on an international stage did not demand very stringent domestic emission reductions.

Keywords: India, climate policies, greenhouse gas emissions, international climate summits, strategy shift, energy saving

Prof. Dr. Joachim Betz

was Principal Research Fellow at the GIGA Institute of Asian Studies. Since his retirement in 2011, he has been working on a contract basis for the GIGA. He is also a professor of political science at the University of Hamburg.

Contact: <betz@giga-hamburg.de>

Website: <<http://staff.en.giga-hamburg.de/betz>>

India's Turn in Climate Policy: Assessing the Interplay of Domestic and International Policy Change

Joachim Betz

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1 Introduction

India is perceived as one of the most obdurate opponents of an effective global climate regime that would also impose responsibilities for early mitigation efforts on emerging economies. The government has untiringly repeated the mantra of “common, but differentiated responsibilities” (for reductions of greenhouse gas emissions) and it has also talked of the necessary transfer of new and additional financial resources and technology on concessionary terms if cooperation on emission abatement was to be expected from it and from other developing countries. This hardline stance has come under increasing attack, especially since the Copenhagen summit in late 2009. Opposition was articulated not only by developed

countries, most prominently from European Union member states and the United States, but also by poorer, developing and island states as well as interest groups and social movements inside India. As a result, the country's staunch opposition to compromise on the international level has slightly eroded; India offered voluntary mitigation commitments for the first time (at Copenhagen), much to the chagrin of leftist and ultra-nationalist forces in the country. An even sharper turn taken by the Indian government is manifested in the domestic initiatives it has made to reduce India's carbon footprint by formulating new pro-active climate change strategies, including efforts to

- 1) lower the energy intensity of industrial production and of household appliances and buildings;
- 2) increase the share of renewable energies in total energy consumption; and
- 3) scale up afforestation rates (see below).

This is accompanied by the proliferation of new environmental acts, the launching of official missions and institutions at every political level, and juridical activism in environmental matters, most prominently on the part of the Supreme and Higher Courts. If we simply took a head-count of new legislative actions and institutional innovations since about 2006, India would count among the countries most concerned about the state of the environment (see below).

This change of tack with regard to international climate policy and the big shift with regard to eco-friendly domestic policies can be explained by learning effects – namely, a serious reappraisal of official strategies through the acknowledgement, in stages, that India will be harder hit by global warming than most other economies and will have to save energy anyway because of mounting shortages and growing import dependence. These learning effects may have been strengthened by

- 1) discussions with partners from emerging economies and other developing countries in the last three climate summits;
- 2) the desire to be perceived as a responsible global power by the international community, deserving therefore better representation and a greater say in international organizations, reinforced by the feeling of progressive isolation in the negotiation process;
- 3) the strengthening of environmentally friendly groups within India.

Yet, this shift may,

- 4) alternatively be characterized at least partly as a kind of symbolic politics: international commitments and domestic actions were not too ambitious, achieving less than they could have by using existing technologies and continuing with business-as-usual mitigation efforts. The government may also have been aware that in India, achievements in changing the energy mix and other climate-friendly actions were traditionally trailing so much behind schedule that start-up costs of a policy shift are quite modest. This argument would, however, assume a dose of political cynicism on the part of the Indian government.

Before I enter into the analysis, it is necessary to present a brief recapitulation of the official position of the Indian government with regard to climate mitigation responsibilities and its empirical foundation. This will help us understand why India's previous hardline position lost adherents and it will also assist us in gauging the extent to which the Indian government has moved toward a more climate-friendly position. Then we will review the slow erosion of this position with regard to international commitments and analyze the initiatives and actions the government has taken on the domestic front, thereby also confronting the remaining shortcomings and deficiencies in implementation of legislative and institutional activism. Finally, we will enumerate and assess the weight of causes for

- 1) the relative shift in India's position on global greenhouse gas (GHG) emissions from the Copenhagen summit onwards and
- 2) the more pronounced domestic activism. This will include speculations about the remaining roadblocks for even more proactive climate policies.

2 India's Official Position in International Climate Negotiations

India's long-held position in international climate negotiations was based on a mixture of principled, equity-based, and pragmatic considerations: according to official Indian statements, accumulated greenhouse gases (GHG) in the atmosphere, emitted primarily (nearly 75 percent) by developed countries, are responsible for climate change (Prasad and Kochher 2009; Saran 2009). These countries therefore have the duty to act first – in line with the stipulations of the Kyoto Protocol – before commitments from other, less developed countries can be expected. Industrialized countries also have a duty to support poorer countries in their mitigation efforts by transferring relevant technologies and financial assistance. Global equity would demand that each person has the right to emit the same amount of carbon into the atmosphere. India's foremost aims have been to eradicate poverty within the next two decades by maintaining economic growth rates of 8 or 9 percent per annum (these are the official targets repeated in numerous documents) and – with special emphasis on energy – to provide every citizen with a lifeline of safe, clean, and convenient forms of energy (e.g. Government of India 2006a). Taking into account India's sustained growth and its need to connect the remaining nearly 40 percent of the population to the power grid, power consumption and GHG emissions will have to increase markedly, but not indefinitely: "Despite this, India has already declared that even as it pursues its social and economic development objectives, it will not allow its per capita greenhouse gas emissions to exceed the average per capita emissions of the developed countries" (Government of India 2009a). The long-term convergence of per capita emissions is seen as the only equitable basis for a global compact on climate change (Government of India 2009b).

Legally, the United Nations Framework Convention on Climate Change and the related Kyoto Protocol do not require developing countries to commit to reducing GHG. As there is no new binding agreement, the international community must stick to the UNFCCC and the Kyoto Protocol and should not allow certain countries to insert a new, unratified formula for sharing of responsibilities (i.e. what Australia and the United States were trying to do during the Copenhagen summit) (Ministry of External Affairs 2009a). This argument is supported by the fact that Annex I (developed countries) failed to honor their reduction commitments under the Kyoto Protocol.

As far as GHG impact is concerned, India must still be regarded as a minor polluter on the world scale: it ranks only fifth in aggregate emissions of GHG behind the United States, China, the European Union (taken in this argument as one bloc) and Russia (Government of India 2010a); it ranks fourth if only individual countries in Europe are counted. India contributes only 5 percent to the actual emission of GHG and has added only 2.3 percent to the stock of GHG in the atmosphere (Dubash 2009a). India is also still a poor country. Efforts to promote sustainable development have to be subordinate to efforts to improve the lot of the masses (Mukherjee 2008) – or at least, “efforts to address climate change [...] should not take away resources from the core development needs and growth objectives of the developing countries” (Prasad and Kocher 2009). As a consequence of poverty, a significant share of the population is not at all connected to the electricity grid, whereas the rest is consuming very little per capita and is in addition plagued by unscheduled outages and fluctuating voltage. Emission-intensive consumption habits and individual car ownership are rare (Government of India 2006a). Therefore, the argument made sometimes by Western media and governments that India is hiding behind the poor is unfounded; the so-called “middle class” in India is still very small (Dubash 2009a).¹

For the following reasons, the arguments enumerated above are only partly convincing:

First, there is no collective legal obligation on the part of developed countries (or of any other sovereign actor) to compensate for past wrongdoings in general, and therefore no legal obligation to make extra efforts to protect the world environment by contributing alone or more than others to the global common good. This Indian compensation argument is thus strictly a moral argument, though not without persuasive power and influence. The argument also sounds less convincing if we consider the (already heavy) current emissions of India (and of emerging economies in general) instead of their contribution to the stock (of emissions). And the arguments sounds even less convincing if we consider the growth of emissions of these countries over the last few years, which will increase in the foreseeable future (if eco-

1 Yet, in spite of not being obliged to make any mitigation commitment, efforts to reduce greenhouse gas emissions have already been taken in India: the emission intensity of India's Gross Domestic Product declined by more than 30 percent during the period from 1994 to 2007 due to private and public domestic efforts (Government of India 2010a). The energy intensity of India's industry was lower than that of comparable countries (China) and even the United States, and only slightly above the level in the European Union.

nomic growth stays buoyant). India's emissions will increase by at least triple by 2035 (without major abatement efforts), as the declining energy intensity of production will be over-compensated for by rapid growth (IEA 2010). India will by then be contributing 9.6 percent to global GHG emissions (up from approximately 4.8 percent today) and be the third-largest emitter, after China and only slightly behind the United States. As long as global warming does not increase by more than 2 degrees centigrade per year on average, the remaining atmospheric carbon space will be very limited (approximately one-quarter of already accumulated emissions). Global warming can therefore not be limited to that extent if emerging economies do not contribute to emission reduction efforts very soon, regardless of relative achievements of developed countries in that respect. In addition, mitigation efforts are cheaper in poorer countries, and they become successively more expensive as a country approaches the technological frontier for mitigation efforts (see World Bank 2010). Finally, India could lower its carbon footprint by approximately one third simply by using the existing technologies, without enduring undue hardship in terms of financial expenditures and fore-gone growth (see below). So India simply "free-riding" is not a good option from an efficiency point of view.

Moreover, the Indian government is indeed to some extent hiding behind the poverty of other developing countries with lower growth per capita, less export dynamism, far lower foreign exchange reserves, and nonexistent industrial sectors for regenerative energies. This has not gone unnoticed by some groups of poorer (e.g. the island) countries, who demanded more compromises from India and other emerging powers during the more recent climate summits (especially at Cancún in late 2010). The Indian government is also hiding behind its own poor. The carbon footprint of the richest 1 percent of the population (and to a lesser extent also of the next four income classes) is no different from that of the rich in developed countries and it is certainly unsustainable from a global point of view (Greenpeace India 2007). The middle class, whose size is often exaggerated in Indian PR publications for foreign investors, has suddenly shrunk when it comes to GHG emissions. But every forecast of India's future growth trajectory predicts a massive growth of this class and a convergence of their consumption habits to those prevalent in developed countries (see, for example, Asian Development Bank 2011). It is also not true that any investment for a greener future always takes resources away from development and poverty eradication, as some experts in India claim (e.g. Gautam 2007). First of all, India is already a big supplier of wind and solar energy installments – so much so that a shift in India and elsewhere towards regenerative energies will bring the country significant economic benefits. Next, there are strong synergy effects between green technology change and general technological progress (Ellis et al. 2009). Finally, there are massive co-benefits for India if it conserves and better handles its energy supply: a reduction in transmission losses, theft, and waste (encouraged by extremely low tariffs for poor consumers and farmers). Last but not least, India is and will remain among the countries profiting most from new financing mechanisms (like the Clean Development Mecha-

nism, of which India is the second-largest beneficiary after China), as its economy presents a host of low-cost mitigation opportunities.

While the energy intensity of India's growth is currently lower than it was in the 1980s and 1990s – coming closer to the average OECD level – the following factors need to be considered:

- 1) The emission intensity has not fallen as far as the energy intensity, as energy production still relies predominantly on fossil fuels, especially coal (which is responsible for more than 50 percent of total energy demand) with a high ash content (Planning Commission 2008; IEA 2011).
- 2) The decline in energy intensity has to be considered against the backdrop of three aspects:
 - a) the still rather minuscule industrial sector in India (which accounts for approximately 18 percent of GDP), which will certainly grow in the next few decades;
 - b) the massive contribution of the low-energy-consuming service sector to overall growth since the 1990s; and
 - c) the still moderate but rapidly increasing energy intensity of consumption in India if prosperity (and therefore car ownership) spreads to larger groups of the middle class like it has in China.
- 3) Last but not least, the actual energy intensity of growth in official publications is always calculated using GDP adjusted by PPP (instead of using the nominal exchange rate), thereby considerably deflating intensity. If nominal parity is used instead, energy intensity of production in India increases to about four times the level of the United States (Subramanian et al. 2009).

So in sum, the arguments advanced by environmentally conservative circles in India (representative of traditional industrial sectors, the Ministry of External Affairs, etc.) are as self-serving as those made by other actors. Social movements and environmental groups within India are increasingly criticizing this line of thinking (see Rajamani 2007; Dubash 2009). No wonder these arguments have found fewer adherents internationally. However, it was not the intellectual flaws in the official statements that led to the gradual and unfortunately still vacillating shift in India's position on climate change.

3 The Policy Shift Before and After Copenhagen

India distanced itself from its traditional international hardline position somewhat during (and before) the Copenhagen summit (in December 2009), where a possible successor to the Kyoto Protocol was discussed and negotiated. As the United States was still unwilling to make binding reduction commitments, Australia proposed a weaker version of a follow-up treaty, removing the differences between Annex I countries and the rest by calling for indi-

vidual commitments by every emitter and promising in exchange generous mitigation and adaptation assistance. The proposal obviously aimed to engage the United States, which was keen to break up the common front of the G77 countries, who were insisting on commitments only from developed countries. In spite of having signed a Memorandum of Understanding with China, which stressed the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol as adequate tools to solve the global climate problem and which led the two countries to agree on cooperating more closely with each other (also in formulating a common negotiation position),² and in spite of the promise to stick with the camp of developing countries during the summit, the Indian prime minister announced days before the summit that India was prepared to voluntarily "reduce the emissions intensity of [its] growth by 20 to 25 per cent in 2020 as compared to 2005" (Ministry of External Affairs 2009b). As this unilateral commitment was accompanied or preceded by similar promises by other emerging economies (Brazil, China, Indonesia and South Africa) that also wanted to avoid the stigma of being a deal-breaker, it was not too difficult for the U.S. government to arrange a final deal (behind closed doors) with the delegations of these countries, resulting in India coming very close to its original intentions. Commentators within India deplored India's leaving the camp of developing countries and making concessions without asking for reciprocity (Jayaraman 2009).

India's representative at the Cancún summit, Minister of the Environment Jairam Ramesh, went even further in accommodating demands for a more proactive Indian climate position. He argued at the conference that every country should accept "binding emission reduction commitments in an appropriate legal form" and that there should be international consultation and analysis of developing country actions in a non-intrusive and non-punitive manner (Pande 2011). This came very close to the demand of developed countries for a legally binding commitment by emerging economies, subject to international verification. Under attack at home from the opposition parties and some "Third Worldist" NGOs (like the Centre for Science and the Environment), Minister Ramesh had to clarify that he was only "nuancing" the known position of the Indian government at the conference and that India would not accept internationally binding cuts "at this stage."³ Minister Ramesh, while hailed by other representatives at the conference for his bridge-building role, was at a later cabinet reshuffle replaced by Jayanthi Natarajan, environmentally more conservative than her predecessor.⁴ She guided India back to being a deal-breaker (supported by the Chinese delegation), insisting before and at the Durban summit of late 2011 on the enduring importance of the Kyoto Protocol,⁵ therefore rejecting legally binding agreements for developing countries. From India's perspective, the argument that the world has changed since the Kyoto Protocol

2 Cf. *The Hindu*, 22 October 2009.

3 Cf. *Express India*, 10 December 2010.

4 Cf. <www.dw-world.de/popup_printcontent/0,,6570200.00.html> (12 July 2011).

5 Cf. *The Hindu*, 6 December 2011.

was agreed upon in 1997, as representatives of developed countries have argued, and that emerging economies therefore would have to shoulder greater responsibilities, did not apply.⁶

The forward and backward posturing of the Indian government on the international level was, however, preceded by a more proactive domestic energy and climate policy. This does not mean that environmental initiatives had been completely absent before. India is one of the very few states where the protection of the environment is a duty of the state and its citizens (Sims 2003); this constitutional provision is supplemented by specific laws, ordinances and regulations, prescribing environmental clearance for every major project, and the provision also lays out a multi-tiered institutional framework of central and state ministries for the environment, pollution boards, and other regulatory bodies. By any benchmark, India had an extensive environmental management system to implement and enforce the respective policy objectives even before the onset of a new wave of activism that started around 2006. The armada of newly introduced laws and institutions combined with former ones was absolutely comparable to those adopted in developed economies (World Bank 2008):

- The National Environmental Policy, 2006, provides the basis for the integration of environmental considerations into all public development activities and serves as a guide to action in regulatory reform, programs for conservation, and enactment of legislation. The new policy promises, among other things, to streamline and decentralize environmental clearances; to revisit coastal regulation zones; to create "Environmentally Sensitive Zones;" to better monitor environmental compliance; to promote standardized environmental accounting practices (inclusive of the introduction of fees for access to specified natural resources); to increase forest and tree cover to one-third of the country's land area by 2012; to expand wildlife conservation areas; to encourage the efficient use of groundwater (supported by revised electricity tariffs); to specially protect the mountain ecosystems; to abate air, soil and water pollution; to promote energy efficiency; to introduce environmental management systems in large enterprises; to use eco-labeling and certification of industrial products; and finally, to provide financial support to promote shifts to clean technologies (Government of India 2006a).

Stakeholders from quite a few sections of society participated in the framing of the National Environmental Policy, which will be examined for revision every three years by a group of researchers, industry associations, and community-based and voluntary organizations. There is now also a National Committee to Assess the Impacts of Climate Change, comprised of climate experts, hydrologists, energy economists, and representatives of key ministries. This committee is also assessing options for mitigating climate risks. At the national level, the integration of climate change into national development is being guided by the Prime Minister's Council on Climate Change, comprising ministers, scientific experts, and representatives of the industry associations and the media (Government of India 2006a and 2007a).

⁶ *Klimaretter.info*, 7 December 2011.

- The National Action Plan on Climate Change (2008) is based on the New Environmental Policy, but is more explicit in that it asks for a national focus in combating climate change and is more oriented towards implementation. Eight National Missions form the core of the Action Plan, two of them (the National Solar Mission and the National Mission for Enhanced Energy Efficiency) have become active and have already launched specific programs. Representatives from academia, industry experts and civil society have been co-opted into these missions (Government of India 2008).
- The Integrated Energy Policy was adopted in 2006. Some of its key provisions are the promotion of energy efficiency in all sectors of the economy, an emphasis on mass transportation and on producing biofuels on a far larger scale, the accelerated development of nuclear and hydropower, and the increase of public funding for R&D on several clean, energy-related technologies. In the aftermath of the submission of the New Integrated Energy Policy, a new codex for energy conservation in official commercial buildings was introduced (2007). Large firms are required to prepare energy audits (Government of India 2007).
- The National Urban Transport Policy stresses a shift towards broad-based public transportation facilities and away from motorized modes of individual transport. The government intends to allocate road space on an equitable basis, with people at its focus. The shift to public transport by municipalities will be supported by contributions from the central government. The expansion of the metro rail and bus systems in Delhi and Bangalore are steps in its implementation (Government of India 2006c).
- An energy-labeling program for appliances was launched in 2006; labeling has been introduced for fluorescent tube lights, air conditioners, and distribution transformers.
- An energy conservation building code was launched in May 2007 for new large commercial buildings that aims to optimize the building's energy demand.
- Energy audits were made mandatory in large energy-consuming units in nine industrial sectors (2007). The companies covered must employ certified energy managers, report energy conservation data annually, and adhere to energy consumption norms specified by the government. Less efficient energy consumers have to make a greater effort. A Perform Achieve Trade (PAT) mechanism has been introduced, allowing firms that go above and beyond targets to sell savings certificates to others. Fiscal incentives for energy-saving investments were implemented to reduce risks, these incentives being covered by the Credit Guarantee Trust of India, who will also function as a venture capital provider for those investments (Government of India 2007a, b and 2008).
- The percentage of electricity that electricity-distribution companies must procure from renewable sources at preferential prices was raised in 2006. New power plants were encouraged to adopt more efficient, supercritical technologies.

- An Expert Group of the Planning Commission of India prepared a relatively detailed (provisional) plan of low-carbon strategies for specific industrial sectors (steel and cement) and appliances (bulbs, air conditioners, refrigerators, etc.), along with a shift to non-motorized and public transport in cities, sufficient to reduce India's CO₂ emissions by as much as 35 percent by 2020 (Government of India 2011).

This is an impressive list, one that could even be extended. But there is no reason to become overly enthusiastic if we take the fate of past efforts as a yardstick for the future:

First, the central Ministry of Environment and Forests is still rather weak, although it was until recently headed by a rather senior politician. Unfortunately, Minister Ramesh has been replaced by a weaker, less flexible personality. Several other ministries are implied in the protection of the environment without provision of any cross-cutting coordination mechanism. Institutional fragmentation also characterizes India's energy and energy-saving policies: At the moment, four different ministries are directly involved in the energy sector. A co-ordination mechanism was created in 2005, encompassing all the relevant ministries and agencies (Betz and Hanif 2010).

Second, the aim of starting new eco-friendly initiatives in India is often more to save energy than to protect the environment or to protect the global climate. This is not inherently bad if win-win solutions are possible. In cases of severe contradiction of these two goals, however, energy security takes precedence (Chikkatur and Sager 2009). Reliance on coal (in India coal has a high ash content) as the principal energy source, for example, is projected to last far into the future; the generation of nuclear energy will also be vastly expanded, interrupted only for short periods of time by events like the Fukushima disaster.

Third, up until 2010, the domestic ecosystem was protected through the command-and-control method alone, with rather blunt instruments at the disposal of the respective agencies like, for example, threatening to close down overly polluting industrial units by court order. This method trumped the incentives method, whereby tradable certificates and tax rebates/subsidies would be introduced for mitigation efforts or through which the participation of civil society in abatement efforts (as watchdog or awareness-raiser) would be encouraged. This has changed, albeit only to some degree: the certification process just started, and participants of national missions from civil society are still hand-picked (OECD 2007).⁷

Fourth, environmental regulations were not enforced strictly in India; of all the companies regulated by pollution boards, 50 percent did not comply with regulations. In addition, only larger factories were monitored, even though medium and smaller units are responsible for 70 percent of industrial emissions. Sanctioning for flouting rules could have taken only two forms in India – the units are either put on trial (pollution boards cannot prosecute violations on their own), or closed. Closure is a rather blunt instrument in a country with few attractive

⁷ This can be demonstrated by taking a simple head-count of members in committees for climate and energy policies, where state representatives dominate, followed by representatives of employers' federations and state-sponsored think tanks. A few of the remaining seats are taken by civil society organizations.

jobs and poor networks for social protection; chargesheeting these units also makes no sense, as Indian courts are notoriously overburdened and therefore extremely slow to settle cases. Therefore, regulating bodies often preferred to do nothing. Further, bodies for monitoring environmental regulations are inadequately staffed and financed, their employees insufficiently trained and legally not well versed (World Bank 2008).

Fifth, programs' targets for the replacement of fossil fuels by renewable energy sources, for energy saving, reforestation, etc., were not very ambitious if we compare them with their Chinese counterparts. To give only one example, the Planning Commission (2008) projected the share of regenerative energies in the energy mix to rise only to 5 or 6 percent by 2032, less than half of China's target. In addition, achievements have often trailed far behind schedule, especially with regard to the development of hydro- and nuclear power, the reduction of transmission losses in electricity, and decreasing the higher international oil and gas prices to Indian consumers (Group Centennial 2009f.; Ramana 2010; Planning Commission 2011). Some of the new initiatives simply remained stuck; from the eight missions envisaged in the National Action Plan on Climate Change (of 2008), only two – the National Solar Mission and the Mission for Enhanced Energy – became really operational by 2011. Delays were explained by the lack of a strong agency in charge of renewable energies; multiple and overlapping incentives; uncoordinated state policies; protests by environmental organizations and affected groups in the case of hydropower; and overly cumbersome clearances for new projects (Alagh 2009; Group Centennial 2009f.; World Bank 2010; Planning Commission 2011a).

Therefore the rhetorical ambition of the Indian government with regard to its environmental and climate strategy has to be qualified by the lower actual achievements and the institutional deficiencies, which cannot be cured so easily. Therefore, we should not expect that the new programs will have a quick and drastic effect on the outcome (lower emissions). If we assume (as we should) that official circles are aware of the usual Indian implementation gaps, the rhetorically sharp policy shift transforms into a more incremental change. We may nevertheless wonder why the government launched these multiple initiatives domestically and why it was showing at least some flexibility in international climate negotiations where it was long regarded as one the principal deal-breakers. We may also ask why the new stance was not maintained consistently but questioned by the government after the first domestic resistance during the last climate summit. These are not easy questions to answer.

4 Causes of the Shift in Climate Policy

Summing up the position of the Indian government with regard to climate change, there was a shift from a "growth-first" stance to a "progressive-realist" view (Dubash 2009). It is not so easy to spot the root causes of India's shift in climate policies, as political actors like the national parties remain rather silent on this issue (see below) and as only few civil society associations publish their environmental positions (due to financial constraints). Their influence

on the policies of the Indian government is, in addition, difficult to assess. The slow erosion of the official position on the climate can also be explained rather well by using one of the traditional theoretical approaches to international relations in isolation. A neorealist position would have to clarify why India, which is becoming a stronger economic and military power, and which is not fully satisfied with its status in the international pecking order, should agree to compromises, especially when the strongest polluter and lone but slightly declining superpower (the United States) stood stubbornly aloof regarding the Kyoto-Protocol and was therefore in a weak position to demand flexibility from other powers. An institutionalist approach with regard to India's climate policies would suffer from the fact that India has become far more integrated into the world market, has been granted a better position and greater say in international forums and institutions (most notably in the classical Bretton Woods Institutions), and has been co-opted into the core negotiating circles in international climate, trade and finance policies – for example, the G8 and G20 – and the core negotiating groups of the Doha Round. India could have developed a more pronounced global outlook and have been prepared to shoulder a larger burden for the provision of global goods. So why did India not compromise earlier and more consistently on climate policies? A liberal approach has to struggle with the still modest (but growing) influence of environmental and other interest groups on the technical aspects of India's climate policies and the opposition of most of them to any Indian compromise on the question of internationally binding commitments (see above). Last but not least, a constructivist approach would be justified by the acceptance of the core beliefs of international climate expertise (climate change is man-made, will have severe repercussions for agricultural production, poverty, etc.). But it would not necessarily imply a voluntary shouldering of greater climate mitigation and adaptation costs not required by the Kyoto Protocol.

A common problem of these approaches is that they deal with only one part of the political equation – namely, the international front, where the country has to deal with a more or less powerful coalition of other states backing or opposing its policies, a coalition that, in addition, does not remain stable or always similarly united. The other and most often neglected part of the equation is the domestic front, where the composition and relative strength of veto powers is different from those on the international scene. It is obvious that on this front the government was able to implement a host of energy-saving and eco-friendly measures, although progressive rhetoric and planning was more advanced than actual implementation, and some difficult structural reforms (e.g. energy pricing and subsidies) were hardly tackled. It is nevertheless obvious that domestic actions were bolder than international concessions the Indian government had to offer. The country's climate policies therefore have to be analyzed using a two-level approach (Putnam 1988) and by splitting climate-related reforms into more and less controversial ones.

One reason the government's negotiating position in international forums changed is because its traditional stance found fewer adherents than before, especially among its fellow

developing partners. In view of the serious deterioration of the global climate situation (or at least the perception of it) and the shrinking global carbon space, emission reduction goals slowly took precedence over equity considerations in the international debate, these considerations (equal emission rights per capita for every global citizen) being most cherished by India (Subramanian et al. 2009). The government realized that its corresponding rhetoric lost credibility in the face of India's growing prosperity (also in the face of the unequal internal distribution of carbon space) and its rapidly expanding emissions and only served as a pretext for Annex I (the developed) countries to hide behind "deal-breaking" India and other emerging economies. This strategy was followed most prominently by the U.S. government during the Copenhagen and Cancún summits. It became increasingly clear that by offering a pretext for recalcitrance to others, nothing at all would be achieved. As other emerging powers, especially China, came forward with voluntary reduction commitments for GHG emissions, and as partners in the BASIC group (Brazil, China, India and South Africa) left the common front – Brazil and South Africa became supportive of a legally binding agreement from the Cancún summit onwards⁸ – and finally, as India and the other emerging powers came under attack from the Alliance of Small Island States (AOSIS, comprising 43 member states), a group of African countries, and even the neighbors (Bangladesh, Bhutan, Maldives and Nepal) for their obstinacy, India could not maintain its traditional stance for fear of progressive international isolation: "We are not the bad guys, [it's] very important for India not to be isolated in any of these international forums and we have a larger stake in the world economy today than we had perhaps 25 years ago," the environment minister was quoted as saying.⁹

Another cause of India's flexibility at the international level is the desire of the Indian government to be perceived as a responsible member of the international community. This has been articulated with increasing frequency by its representatives over the last couple of years (e.g. Ministry of External Affairs 2009b). Special instances where responsibility was stressed were: the conclusion of the U.S.-India Civil Nuclear Cooperation Agreement (2005/2008), which led to the de facto admission of India to the nuclear club; India's participation in the creation and growing weight of the G20 during the global financial crisis in 2008/2009; and occasions when India criticized the missing representativeness of the U.N. Security Council and the distribution of voting rights within the Bretton Woods Institutions. With power and admission to the inner power circle comes responsibility, especially the preparedness to pay the price for admission (Atteridge 2010; Rastogi 2011). Responsibility with regard to international climate policy would first imply that India is already a major emitter and should therefore shoulder a greater burden of mitigation and, second, as the country is becoming more prosperous, that it would not need any financial support from the international community to undertake these activities. This implies that India is already a special case, not to be mixed up with poorer developing countries, which should also be left with

⁸ Cf. *The Hindu*, 10 December 2010.

⁹ Cf. *Express India*, 10 December 2010.

some remaining carbon space. This is, however, a conclusion the Indian government does not like to draw, as one of its traditional foreign policy trademarks is that India is part of the large group of poorer countries that should be privileged (meaning that no contributions should be asked of them and that exemptions should be granted them) because of former colonial hardship. The loss of this status and of allies from the mass of other developing countries would most probably weaken its resistance when put under pressure by the major developed countries in future climate talks to make even more demanding commitments.

A part of the international puzzle is also explained by the fact that India did not promise too much in announcing its willingness to reduce the emission intensity of growth by 20 to 25 percent by 2020 during and after the Copenhagen summit. If actual growth rates in India can be maintained, this would nevertheless imply that total emissions will double by 2020 and triple by 2035 (Rai and Victor 2009; IEA 2011). The aforementioned 20–25 percent target can be reached if all the various departments and ministries simply continue their business-as-usual strategies (Dutt 2010). If, however, the efficiency of power plants and fuel consumption of vehicles in India rises to the international average, if transmission losses can be curtailed to the best practice of Indian states, if the share of public transport is increased and some other (cost-efficient) measures implying no international transfer of technologies are implemented, emissions from India could be cut by 35 percent, according to the calculations of the government (Government of India 2007). So it would also have been possible to promise more in Copenhagen and afterwards without sacrificing growth unduly. The gap between international commitments and domestic capabilities can also be demonstrated by first looking at the historical development of emission intensity in India: it did decline by 17.6 percent from 1990 to 2005 without any special action program operating. If this ratio of emissions to growth is maintained, the emission intensity will decline by a further 17.3 percent by 2020 over the 2005 base (Planning Commission 2011a). Similarly, if only modest efforts are made to increase the energy efficiency of industrial production, household appliances, and waste management, the emission intensity can be reduced by 25 percent by 2010 and by 35 percent if more aggressive efforts are taken (Planning Commission 2011b) – efforts whose scope and depth were termed still rather unambitious by independent observers (CSE 2011).

In conclusion, the Indian government is committing less in international negotiations than it is willing to push through domestically, and far less than what would be in reach if a determined effort were made. This is, however, not an India-specific idiosyncrasy. The other main emitters in the less developed world are acting more or less the same. The reason is very simple: by promising less than what could be achieved, countries have more leeway stored up to respond to potential further international demands. And domestically there will also be some slack left over to use in reaction to the potential protests of affected interest groups or to balance out unmet goals.

There was a dwindling hope (upheld by the Indian government until the Copenhagen summit) that a solution to India's environmental and climate problems could be achieved by

major concessions and commitments on the part of established economies (mitigation efforts of poorer countries plus transfers of concessionary capital and technology). India already benefits disproportionately from the Clean Development Mechanism (financing emissions-reducing projects in developing countries) and cannot expect to be a major recipient of the Green Climate Fund agreed upon during the Cancún summit in 2010. This fund, in addition, will also not be operational in a meaningful sense before 2020 – after the date where decisive actions would keep global warming below two degrees centigrade. It is also still unclear who will provide the necessary means (of 100 billion USD annually) agreed upon. Consequently, major self-help actions are being called for by India and other emerging economies themselves.

Moving to the domestic level, the Indian government and major and/or influential social groups do acknowledge – at least since a couple of years ago – that India will be among the countries most severely hurt by climate change. After long denying or at least playing down the impact of global warming on its own country (even the melting of the Himalayan glaciers was disputed), the government today admits, “India has a vital stake in the success of the negotiations [in Copenhagen] as we are among the countries most likely to be severely impacted by climate change. We have therefore adopted and started to implement a major National Action Plan on Climate Change, relying upon our own resources” (Ministry of External Affairs 2009a). India is indeed highly vulnerable to climate-related events. More droughts and flooding will affect agriculture, which supports the livelihood of approximately 60 percent of the population. The melting of the Himalayan glaciers will affect water supply, and with the mounting water table of the oceans, parts of coastal India will be submerged, leading to a massive loss of habitat (Fujiwara and Egenhofer 2010). The worst hit by climate change will be the poor, first of all because of the fall in agricultural productivity, only partly offset by higher cereal prices, which, however, will affect the urban poor. A scenario developed by some World Bank experts foresees an increase of the national poverty rate by 3 to 4 percent by 2040 compared to the counterfactual of zero warming (Jacoby et al. 2011).

Next, India’s energy supply is anything but guaranteed. If economic growth follows the trajectory of the last few years, energy demand will increase fivefold by 2030–31. Currently, India’s energy demand is met predominantly by domestic coal reserves but increasingly by oil and gas imports. Other rapidly growing economies, emerging and established, are competing for the slowly increasing supplies of oil and gas which will have reached their peak in a decade (IEA 2010 and 2011). Therefore, India has to save energy at any cost:

Needless to say, even if there were no climate change arguments, considerations of energy security alone would require a medium- to long-term strategy of implementing a strategic shift from fossil fuels to non-fossil fuels [...]. It is because we recognize the linkages between climate change and energy security that we have adopted a National Action Plan on Climate Change.

(Ministry of External Affairs 2008a)

India must also develop other energy sources, although coal will remain the mainstay of the economy for the foreseeable future (Rastogi 2011). Hydro-, wind, solar, nuclear power and the use of biomass are the most obvious candidates to replace fossil fuels. Their greater use will necessarily lower emissions. Climate-friendly policies will therefore be to a greater extent the by-product of

- 1) policies that attempt to ensure India's energy security, and
- 2) the development of an internationally competitive supplier industry for non-conventional energy appliances (Wheeler and Shome 2010).

This also explains the remarkable shift in the climate stance of Indian business associations, which, not long ago, were also staunch opponents of any sacrifice of growth for the benefit of the environment. There are still some associations (most notably the Federation of Indian Chambers of Commerce and Industry, FICCI) that oppose any compromises (meaning, binding international reduction commitments), but 85 percent of companies interviewed by the more progressive business association (the Confederation of Indian Industry) were in favor of absolute emission reductions by India; two-thirds of company representatives did not agree with the government's stance in international negotiations (FICCI 2009; CII 2009b). More than 90 percent of companies surveyed by an American Consulting Firm were already engaged in green initiatives, moved by regulatory compulsions or the desire to build a stronger brand with consumers (Bhattacharya et al. 2011). In addition to private companies asking for a more responsible attitude by the government – certainly also motivated by realizing attractive business opportunities as India is becoming a more competitive supplier of technologies for renewable energies – a host of eco-friendly NGOs has sprung up in India, opposing environmentally unsound projects, deforestation, “land-grabbing” for infrastructural programs, mining and industrial sites, and damage to biodiversity. They are supported by a pro-active judiciary that enforces environmental regulations even by administering the closure of factories (Dubash 2009). Regarding business opportunities, we have to bear in mind that India's wind power capacity already ranks fourth globally and is expected to grow fourfold by 2030. India also has a sizeable capacity for photovoltaic cells and is endowed with vast solar energy potential (Group Centennial 2009f; CII/Ernest & Young 2010). The objective of the government is to establish India as a global leader in solar energy, by creating the policy conditions for its diffusion across the country, although unit costs of solar energy are still very high compared to those of conventional sources (Government of India 2009b). To conclude with the words of the Confederation of Indian Industry: “Green has moved from being a ‘necessary evil’ to being seen as ‘good business’” (CII/BCG 2011).

The shifting domestic balance on environmental issues has already led to a modest impact on the platforms of political parties. The environment was formerly not an important issue for political parties. It appeared more prominently in the election manifestos of national parties for the first time in 2009. The weakest effort was made by the Congress Party, where the state of the environment and climate problems were dealt with on half a page (of their

21-page manifesto). In the BJP manifesto, environmental issues had a slightly more prominent place (1.25 of 48 pages); this publication and the manifesto of the Communist Party (Marxist) both promised to reduce GHG emissions, support renewable energies, increase energy efficiency, and even (in the BJP manifesto) reduce fertilizer subsidies.

There is also a growing recognition within the government and Indian society that quite a few environmental problems are induced by unsound domestic policies. At one time, it would have been unthinkable to have found the following paragraph in official publications:

The proximate drivers of environmental degradation are population growth, inappropriate technology and consumption choices, and poverty [...] leading to development activities such as intensive agriculture pollution industry, and unplanned urbanisation. However, these factors give rise to environmental degradation only through deeper causal linkages, in particular, institutional failures, resulting in lack of clarity or enforcement of rights of access and use of environmental resources, policies which provide disincentives for environmental conservation (and which may have origins in the fiscal regime), market failures (which may be linked to shortcomings in regulatory regimes), and governance constraints.

(Government of India 2006)

These shortcomings are later specified as subsidies for water, power, fertilizer and pesticides, overgenerous support prices for water-intensive crops, insufficient empowerment of local institutions, insufficient incentives for forest conservation, etc. (*ibid.*).

It is indeed no secret that transmission losses in electricity supply amount to 34–40 percent of power generation (Planning Commission 2011) and that a good part of these losses is caused by simple theft, deficient metering, and defunct transmission lines. In addition, tariffs for farmers are set so low that they have few incentives to save energy and instead install bigger pumps on their fields, thereby depleting the water table, which contributes to waterlogging and salinization. Low tariffs for farmers and poor consumers are only partly compensated by much higher ones for private enterprises. Consequently, state electricity boards are virtually insolvent, unable to finance maintenance or the extension of grids, and this in turn deters investments in power generation. India is the country with the highest net energy subsidies worldwide (21 billion USD per year). Slashing subsidies would have a substantial effect on the country's CO₂ emissions (2010a) without negatively affecting income distribution, as well-off farmers are the main beneficiaries. A similar story could be told about the effects of water and fertilizer subsidies on the environment. So a good part of energy waste, ecological degradation, and unnecessary GHG emissions is caused by populist policies, whose declared aim – protecting the poor – has more of an alibi function.

This does not mean that these policies are therefore easier to abandon. Quite to the contrary, farmers in general and the more prosperous among them are a decisive vote bank. Their political representatives – the regional parties – have become indispensable partners in

the coalition governments during the last 1.5 decades at the center. As small partners of a dominant party (either the Congress or the BJP), they have no real stake in any deal on global emission cuts, but a large one in maintaining entitlements for the groups they represent. Second, we all know that it is far easier to introduce subsidies than to abolish them – more so if there is a long-standing tradition of providing such benefits. This might partly explain why India's international climate stance was less than straightforward. A second reason for the meandering course may be the traditional foreign policy baggage of India defending its hard-won sovereignty, resisting the pressure of established powers, and aligning itself with the poorer countries (cf. Narlikar 2010). Although this position is finding successively fewer takers, it is still of some use when it comes to international burden-sharing. How long this position can be upheld in international climate negotiations remains to be seen.

5 Conclusion

There was indeed a shift in India's climate policies, far more pronounced at the domestic level than internationally. This testifies to the idea that one must simultaneously consider the domestic and international political exigencies when trying to explain a country's international climate policies (and probably other policies, as well). We can also identify a certain softening of India's position in international negotiations. While traditionally resisting the international community's demand for any commitments to be made by poorer countries, India in 2009 approved the Copenhagen Accord, which required all the major developing countries to implement nationally appropriate mitigation actions. India later even implicitly accepted "binding reduction commitments in appropriate form" monitored by joint bodies. This more compromising attitude was furthered by a mixture of motivations – namely,

- 1) the growing international isolation of India in climate negotiations coupled with its desire to be regarded as a responsible power that deserves to have more influence over global governance matters, and
- 2) the realization that its traditional stance not only found fewer adherents than before but would also present an alibi for other major emitters to do nothing and thereby render India even more vulnerable to climate change.

There will hardly be a chance for India's government to move away completely from its newly found pragmatism unless the other emerging powers (especially China) also do so and unless developed countries do not honor their commitments. Unfortunately, this backtracking has already happened to some degree, as we witnessed during and after the Durban conference in late 2011. The best theory to explain India's position in international climate negotiations would therefore be some kind of rational-choice realism, equipped with a long timeline and taking into account the repercussions of climate policies on India's overall standing.

This approach, however, has to be turned around when it comes to India's domestic energy and climate policies. We must first notice that India was making fewer wide-ranging

concessions on climate mitigation efforts in international conferences than would have been possible with regard to the likely mitigation effects of its already launched domestic programs for energy-saving, afforestation, etc. A possible explanation in accordance with the two-level analysis (Putnam 1988) is that the government wanted to keep enough leeway for economic growth, the traditionally slow implementation of policies on the ground, and the potential resistance of interest groups. In fact, the still somewhat rigid but in total more flexible international position is being accompanied by unprecedented and serious domestic efforts to reduce the energy intensity of industrial production and of home appliances and office buildings, to improve the efficiency of power generation and transmission, to push the supply of renewable energy, and to make agriculture, mass consumption and passenger-car traffic more eco-friendly.

It would not be too difficult to explain this domestic activism by the threat of growing energy shortages, growing dependence on unstable foreign energy suppliers, and the impact of global warming on India. We must, however, note that the bright picture of new climate initiatives within India is negatively affected by

- 1) slow and intermittent progress in reducing energy, water and fertilizer subsidies that have a considerable negative effect on the amount of India's GHG emissions and
- 2) significant under-achievements in some climate-related policy fields.

These deficiencies have less to do with the resistance of Indian industry associations – which have become more enthusiastic about eco-friendly policies because of their profit potential – and more with the decisive weight of voter groups likely to be negatively affected by ecologically sound policies. To sum up, a mixture of a liberal and a rational choice (realist) approach would perhaps best explain the uneven picture of domestic climate policies.

The treatment of India's climate policies as a two-level game makes sense not only because of the differing strength and composition of forces at the top levels opposing or backing a policy shift, but also because of the diverging pay-offs on India's actions at these levels. Domestic initiatives can be started by the country alone, and their benefits could be reaped directly by India, although there would be positive spill-over for other countries. Last but not least, and strengthening the case for splitting the climate game into domestic and international parts, the relative autonomy the government enjoys in international negotiations from undue interference by domestic interest groups applies less to policies with a predominantly national reach. Taken together, the aforementioned arguments may explain not only India's stronger ambition with regard to domestic climate-related actions but also the government's greater resistance when asked to implement programs with immediate negative effects on the welfare of large constituencies.

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