The Hiding Behind the Poor Debate: A Synthetic Overview

Shoibal Chakravarty and M. V. Ramana

Princeton University

To be Published in

A Handbook on Climate Change and India:

Development, Governance, and Climate Change

Editor: Navroz K. Dubash

Introduction

In October 2007, the Indian branch of the international environmental organization, Greenpeace, came out with a report entitled Hiding Behind the Poor (Ananthapadmanabhan et al., 2007) Based on a survey of 819 individuals divided into seven income classes, the report tried to assess CO_2 emission levels amongst different income classes in India. The report was produced just prior to the Bali Conference of Parties to the United Nations Framework Convention on Climate Change (UNFCCC), which was expected to be crucial in setting the stage for an agreement to follow the Kyoto Protocol.

Though not without its problems (that we discuss below) the Greenpeace report was an important intervention in the Indian climate debate, representing one of the few attempts at examining how emissions are distributed among different income classes. The oldest of such studies that we have been able to identify is from 1997 by Jyoti Parikh and her collaborators (Parikh et al., 1997; Murthy et al., 1997). Parikh and her collaborators have produced a more recent attempt in 2009 at quantifying the "differential emission effects of consumption pattern of different income classes in India" (Parikh et al. 2009). An indirect handle on the same question is provided by S. Pachauri, who has produced a series of papers and a book that examine the energy consumption patterns of various income classes in India (Pachauri 2004; Pachauri and Spreng, 2002; Pachauri, 2007; Pachauri and Jiang, 2008). However, since these works do not explicitly calculate emissions, we will discuss them in brief, only in the context of access to modern energy sources. And, finally, in 2009, the Centre for Science and Environment produced an analysis that attempted to calculate how emissions vary with income based on assumed income-elasticity of emissions (CSE, 2009).

These studies raise a number of questions about domestic and international justice in the climate and other arenas. These questions are likely to become harder to address in the future, as global emissions rise and leave less ecological space to be shared by a larger number of people. We first describe the contexts in which these studies were produced and circulated, before turning to the methodologies they used and their results. Finally, we do a simple projection into the future to show how the continuation of current trends will be unsustainable.

Contexts

In motivating the report, Greenpeace argued: "While [the Bali] international meeting sets the debate for 'climate justice' at a global level this study aims at raising the same debate within the country. It asks the question – Is there climate injustice happening in India?" and claimed to present "a case for the

Indian government to implement the principle of 'common but differentiated responsibilities' amongst the various socio economic groups in the country." Others in India also endorse this call for uniformity in applying climate justice internally and externally. The activist journalist Praful Bidwai, for example, has argued that the "per capita norm is a shield that enables India's elite to hide behind the poor while indulging in profligate consumption and evading its responsibility towards the underprivileged in its own society—an overwhelmingly important imperative, to which it only pays rhetorical obeisance" (Bidwai, 2009).

Though Greenpeace's motivation might have been to move the domestic debate, the impact of the study, at least of the issues it raised, was greater at the global level. Around the period when Greenpeace embarked on the survey, the Indian government's position, in essence, was that until there was an international agreement on an equity based sharing of emission rights, it would not take on any commitments.[1] This was widely seen as obstructing the progress of climate negotiations, a sentiment captured by *The Economist* magazine: "India has acquired an ugly reputation on the global front against climate change. Among big countries, perhaps only America and Russia are considered more obdurate."(The Economist, 2008).

At the same time, industrialized countries, especially the United States under President George Bush, were using rapid economic growth and consequent increase in emissions in India and China as a way of not fulfilling their commitments under climate agreements.[2] One argument that was commonly deployed was that even though India as a whole may have low per capita emissions, the middle classes and rich did not fit in that category (Myers and Kent, 2003; Prins and Rayner, 2007), what with their cars, household appliances, and aeroplane flights, and hence India would have to commit to emission reductions.[3] This argument was amplified after the release of the Tata Nano car and one might be justified in calling this concern about growing Indian emissions the *Nano effect*. For example, a spokesperson from Friends of the Earth UK was reported as saying, "The Tata Nano makes motoring cheaper and growing car sales in India will lead to big rises in carbon dioxide emissions. This is another blow to efforts to tackle global climate change" (Buncombe, 2008).[4] Inflated estimates of the Indian middle class have contributed to this impression.[5]

Therefore, all these studies on emission distribution in India, also considered the question: how did the emission profile of the rich in India compare to emissions in Western countries, especially the United States. Thus, even though (Parikh et al., 2009) deals entirely with emissions of different income classes in India, the last line in its conclusion is "The CO_2 emissions embodied in the consumption basket of

---

1 At the Bali Conference of Parties, for example, Indian diplomats played an important role in making sure that any mitigation actions taken by India, or other developing countries, that are "measurable, reportable, and verifiable" should be supported by international funding.

2 In his March 2001 letter to the U.S. Senate, for example, President George W. Bush wrote: "I oppose the Kyoto Protocol because it exempts 80 percent of the world, including major population centres such as China and India, from compliance, and would cause serious harm to the U.S. Economy".

3 This argument is more often heard during coffee breaks at conferences and on the corridors of climate related meetings than in formal statements and papers.

4 But he went on to balancing that statement with "[the] per-person emissions will still be much higher in the West. Our priority must be to increase efforts to cut our own emissions and to show the rest of the world how to develop a low-carbon economy".

5 Estimates of the number of the Indian middle class are in the range of 200-300 million. While large in magnitude these numbers refer to the people whose incomes would mostly fall under the poverty line of most developed countries. A recent study, (ADB Key Indicators 2010) , defined the 'Asian middle class' as those making $2-$20 (2005, PPP dollars) per day. $20 per day is roughly the poverty line in Italy, (about Rs. 300/day using a PPP exchange rate of about 15 in 2005). The study estimates that 380 million are in $2-$10 category (Rs. 30-150), 39 million in $10-$20 (Rs 150-300) and only 26 million earn more that $20/day (See Table 2.5 of ADB Key Indicators 2010). On the other hand, 90% of the developed world is above $20/day.

the top 10% of the population in urban India is one-fifth the per capita emission generated in the US". The CSE analysis focused entirely on this latter question.[6] At no point does it discuss the intra-country disparities in emissions even though these differences were implicit in their results. Even Greenpeace noted that the CO_2 emissions of the richest income class in their survey "are a shade lower than the average global emissions of about 5 tonnes per person. This is less than half of the EU-25 states, given as 10.5 tonnes, and 4.6 times smaller than the average emissions of the USA".

Greenpeace, however, dismissed, in effect, the comparison with the United States by arguing "that the global distribution of CO_2 emissions needs not only to be equitable, but also sustainable. Today's CO_2 emissions already lead to a steady increase of global temperature, and with a global population still rising, an average CO_2 emission of 5 tonnes would drive the planet into a state of climate crisis". At the same time, Greenpeace did not argue that India should agree to fixed emission targets or that the United States and others did not have to act till India agreed to such targets. Rather, it argued that "the industrialized world [owed] a debt to the developing world for its historical emissions" (Kennedy, 2009).

Methodological aspects of measuring emissions

The Greenpeace report, as mentioned earlier, was based on a survey. 819 households, spread across representative income classes covering metros, other cities, towns and rural areas, were interviewed to estimate CO_2 emissions from household electricity and fuel consumption, and emissions from transportation (also called direct energy use emissions). The emissions estimates were validated by independently estimating household consumption from appliances and cooking.

For international comparisons, the survey results were scaled up by a factor of 3.3 to equate the survey average emissions to the national per capita emissions (1.67 tCO_2e) to account for emissions "generated from food and non food consumption and additional overheads due to public consumption" (Ananthapadmanabhan, et al., 2007)

Though this method provides an indicative emission profile it overestimates the emissions of low-income households. A major source of error is because emissions embodied in manufactured goods and services do not scale with income the same way as emissions from direct energy use (Parikh et al., 2009). In most countries, direct emissions from transportation, especially flying, and indirect emissions from the consumption of manufactured goods keep rising while emissions from food, heating, and other direct energy use categories tend to saturate with rising income. The situation in India is more complicated as a significant part of the direct energy needs of the poor are met by biomass which is not counted in energy use statistics, Finally, the figure of 1.67 tCO_2e also involve about 0.5 tCO_2e from agriculture, wastes, and other greenhouse gases which are difficult to attribute to private consumption. In a rapidly growing economy like India's, only 60% of the emissions come from households; the rest are due to capital investments, infrastructure development, and public or government consumption. There is no well-agreed mechanism to allocate these emissions to households. Indeed, this allocation problem is difficult and the two methodologies described below also suffer from it. As far as possible, we report both the distribution of household emissions and emissions scaled up to the national average if the study provides these numbers or if we can calculate them. These scaled up numbers can, at best, be used for rough comparison with per capita emissions of other nations.

A proper accounting for direct and indirect emissions in consumption should essentially account for the flow of emissions in the entire economy. One standard method for doing so is through the Input-Output

[6] Indeed, the CSE report's first line was definitive: the "richest 10 per cent of Indians emit no more greenhouse gases per person than the poorest 10 per cent of Americans ".

tables (IO) tables. The idea was developed by the economist Wassily Leontief to account for (the monetary value of) the flow or distribution of goods and services between various components of the economy - households, government, industries, and so on. In its most basic form each row in the table is a linear equation accounting for the flow of a good to various parts of the economy. This monetary flow can be converted to an equivalent energy or emissions flow and the average energy or emissions intensity of various goods and services in the economy can be calculated (Bullard and Herendeen, 1975). Combining this information with detailed consumption data from national or regional household surveys provide a consistent account of the emissions, both direct and indirect, produced by household income and size, a technique first developed by (Herendeen and Tanaka, 1976). This approach is used in (Pachauri, 2007) for estimating energy consumption and in (Parikh et al., 1997) for estimating emissions. In (Parikh et al., 2009), a social accounting matrix (SAM) is used. The SAM is an extension of the I-O table that tracks taxes, capital, labour, government savings and consumption, and savings of representative households categorized into urban and rural expenditure classes (Saluja and Yadav, 2006).

The I-O table and household survey based method for estimating emissions from private consumption comes with its own set of problems regarding data quality, methodology and the time required in these data intensive studies. The I-O table involves collection and analysis of vast amounts of data and are usually produced every 5 years by the Central Statistical Organisation (CSO). The most important source of household expenditure surveys is the National Sample Survey Organisation (NSSO).[7] NSSO conducts annual surveys but it is the detailed survey conducted every five years that is used in these studies. Consequently, papers based on these data report emission numbers that are a few years out of date.[8] NSSO surveys and I-O tables from CSO have data consistency problems: estimates of total consumption in all households from the NSSO surveys often differ significantly from estimates derived from National Account Statistics of the CSO. Finally, it is likely that the surveys are unable to fully capture the consumption patterns of the very rich. Studies have found that NSSO surveys underestimate non-food goods and services that are consumed by the upper income classes when compared to National Accounts Statistics (Sundaram and Tendulkar, 2001; NSSO-CSO, 2005).

Finally, CSE's analysis is based on a simple model in which per capita emissions (E) vary with income (Y) through a power law relationship ($E \approx (Y)^{e)}$, where *e* is called the income elasticity of emissions) (CSE, 2009). The parameter *e* is assumed to range between 0.7 and 1, corresponding to a range of emission elasticities from empirical studies, as tabulated in (Chakravarty et al., 2009). This is a simple and popular model but it may not hold for very high incomes.[9]

Survey of results

The key results of the Greenpeace report, the Parikh studies, and the CSE study are shown in the tables and figure below. These span the period 1989-90 to 2009. We tabulate separate rural (R) and urban (U) columns if the study reports these. Finally, we also report annual emissions, direct energy use emissions, total household emissions, and total emissions scaled up to the national average CO_2 and

[7] Both the CSO and NSSO are part of the Ministry of Statistics and Program Implementation, Government of India.

[8] For example, the (Parikh et al., 2009) paper is based on the 2003-04 SAM where the "I-O table for 1998-99 has been, first, updated to 2003-04 and then extended into various directions. The distribution of income is based on the data obtained from the MIMAP-India Household survey conducted by the NCAER for the year 1994-95" and the "distribution of expenditure is based on the NSS survey on consumption expenditure for 1999-2000" (Saluja and Yadav, 2006, p. 23).

[9] It is difficult to have good estimates of the number of people at high incomes without additional sources like tax data, for example. The income distribution used in this study is based on surveys that usually undercount the rich The assumption of constant income elasticity of emissions might also not hold (for example, for the richest 1%-2% of a country).

CO_2e (CO_2 equivalent numbers that also account for other greenhouse gases) for different income categories. Emissions numbers for other countries which are quoted for comparison are from Climate Analysis Indicators Tool maintained by the World Resources Institute (http://cait.wri.org).

Table 1 1989-90

Expenditure class	Population (millions)		Total emissions from household consumption (tCO_2)		Total emissions scaled to national average (tCO_2)	
	R	**U**	**R**	**U**	**R**	**U**
Bottom 50%	303.6.	102.0	0.22	0.38	0.36	0.63
40%	242.5	81.8	0.37	0.90	0.62	1.51
Top 10%	60.5	**20.5**	0.78	**3.20**	1.30	**5.36**
Total	606.6	204.4	0.33	0.87	0.56	1.46
National		811		0.47		0.78

Source: (Murthy et al., 1997), based on 1998-99 I-O tables and consumption data from NSSO 1987-88 survey and NCAER Market Information Survey of Households (various years).

Table 2 2003-04

Expenditure class	Population (millions)		Emissions from direct energy use (tCO_2)		Total emissions from household consumption (tCO_2)		Total emissions scaled to national average (tCO_2)	
	R	**U**	**R**	**U**	**R**	**U**	**R**	**U**
Bottom 10%	77.2	30.0	0.01	0.06	0.15	0.27	0.26	0.47
20%	154.4	60.0	0.01	0.10	0.22	0.43	0.37	0.74
40%	308.7	120.1	0.02	0.14	0.34	0.81	0.58	1.39
20%	154.4	60.0	0.04	0.22	0.68	1.57	1.17	2.70
Top 10%	77.2	**30.0**	0.13	**0.68**	1.37	**4.10**	2.35	**7.06**
Total	771.9	300.1			0.46	1.16	0.80	2.00
National		1072				0.66		1.14

Source: (Parikh et al., 2009), based on 2003-04 SAM, and expenditure classes from NSSO 1999-2000 surveys.

Table 3 2007

Income class	Population (millions)	Emissions from direct energy use (tCO_2)	Total emissions scaled to national average (tCO_2)	Total emissions scaled to national average (tCO_2e)
Bottom 38%	432	0.34	0.80	1.11
35%	391	0.47	1.11	1.55
14%	156	0.69	1.64	2.28
6%	69	0.82	1.96	2.73
5%	53	0.83	1.98	2.75
2%	19	0.94	2.24	3.12
Top 1%	**10**	**1.49**	**3.58**	**4.97**
Total	1130	0.50	1.20	1.67

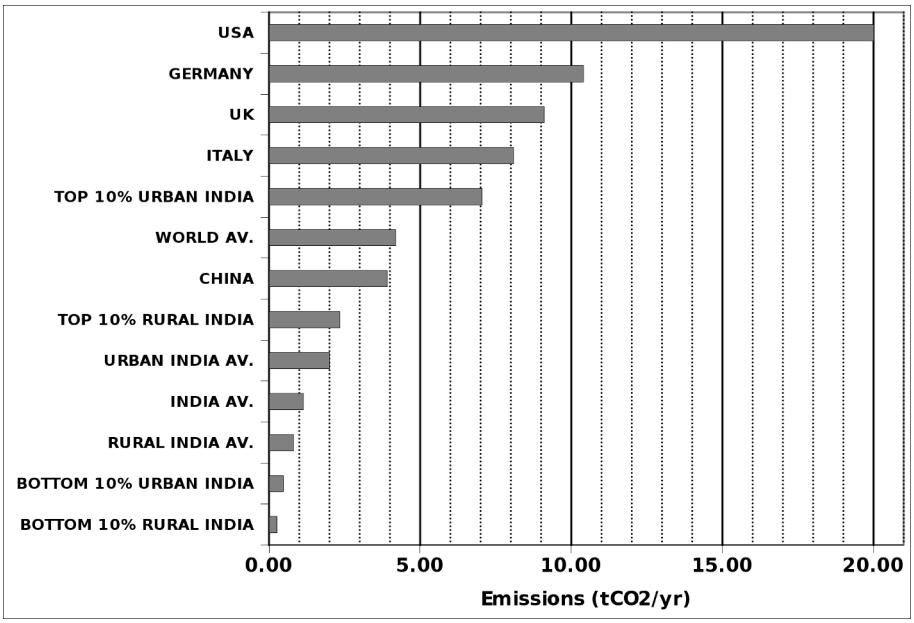
Source: (Ananthapadmanabhan et al., 2007), based on survey conducted in 2007.

Table 4 2009

Country	Per capita emissions (tCO_2e)

	India	USA
Poorest 10%	0.4–0.8	4.3–8.0
Richest 10%	**3.4–5.1**	52–69
Richest 2%	**4.6–6.8**	73–111
National average	1.6	22.1

Source: (CSE, 2009), based on an income elasticity of emissions model.



Source: Parikh et al. 2009, and WRI CAIT (http://cait.wri.org).

Figure 1: A comparison of the estimated emissions of various rural and urban income classes in 2004 with the average emissions of select countries of the world.(Parikh et al.,2009). Note that the household emissions calculated in (Parikh et al., 2009) are scaled up to national average emissions for the purpose of this comparison (see the section "Methodological aspects of measuring emissions" for a discussion on this issue).

We consider the two Parikh et al. studies first as they provide a useful comparison over the first decade of the liberalization era. These show evidence of:

1. Significant rural-urban disparity in emissions – average urban emissions per capita are about 2.5 times rural emissions.
2. Extremely low emissions of the poorest expenditure classes, especially the poorest 50%-60% of rural India and the poorest 30% of urban India.
3. A higher inequality in emission in urban India as compared to rural India.[10]
4. Significant disparity in emissions between the top 10% expenditure class in urban India and the rest of the population, especially the bottom 10% of urban and rural India.

One caveat is that rural India, especially the poorer half, depends on biomass for its energy needs, whereas the surveys that the Parikh et al. studies are based on, only account for commercial energy sources.[11] Thus, emissions from these sources are not included. The low emission numbers for rural

[10] India as a whole has the highest inequality because it also includes the rural-urban disparity.

[11] These studies do not account for CO_2 emissions from biomass as they implicitly assume that it is sustainably used.

India reflect the lack of access to modern sources of energy like electricity and LPG (Pachauri, 2007; Pachauri and Jiang, 2008) .[12]

Coming to the top 10% of urban India (roughly 30 million people), in 2003-04 their emissions were about 15 times the bottom 10% of urban India, and about 27 times the emissions of the bottom 10% of rural India. Just the household emissions puts the top 10% of urban India close to the world average (4.2 tCO_2), and between France (6.5 tCO_2) and Italy (8.1 tCO_2) when scaled up to the national average. Because of the problems with survey data of the rich mentioned earlier, it is likely that these figures might underestimate the emissions of the rich, thereby making these groups closer to the Italian average.

A comparison between the two studies does show some interesting temporal trends. Rural India's household emissions have grown slightly faster than urban India's (40% vs. 33%), with the emission of the top 10% of rural India (76%), an indication that the rural rich are moving toward modern energy sources and changing consumption patterns.

The Greenpeace study provides a detailed picture of direct energy use in households but shows significantly less inequality in direct emissions when compared to the (Parikh et al., 2009) study. The emissions of the lowest income group seem high when compared to similar expenditure classes in the (Parikh et al., 2009) study, perhaps an issue related to small sample size and insufficient coverage of rural India. It is likely that the Greenpeace study has better coverage of high income groups and reports finer detail there. Finally, we emphasize that scaling up direct energy use emissions to national average values might end up underestimating the emissions of the rich.

The CSE study likely overestimates the emissions of India's poor, especially the rural poor. The problem is that the simple income elasticity of emissions model is unable the reality of the India's energy economy: the rural poor obtain most of their direct energy needs from non-commercial energy sources like biomass which are not part of the emissions statistics.

Future

The studies on emission profiles show that there are significant inequalities amongst different income groups and that the emissions of the richest sections of society are reaching levels corresponding to averages in some industrialized countries. Given the current state of climate debate in India, the implications of these results for the questions of whether India should undertake unilateral climate actions and whether it should accept emission targets, and so on is contentious. However, the basis for action to reduce these inequalities and stronger climate mitigation will likely increase in the future if present trends continue. To see why, consider some simple projections of emission-income profiles.

As the basis for our projections, we used a 2009 report commissioned and published by the Ministry of Environment and Forests that projected India's per capita emissions in 2030 to be between 2.77 tCO_2e

[12]The use of these energy sources is also associated with indoor pollution and respiratory diseases. Approximately 400 million Indians, especially in rural India, also lack any access to electricity and a large number of Indians in rural India and small town India have unreliable sources of electricity even if they have power connections. The low emission numbers, especially low direct energy use emissions, reflect the prevalence of energy poverty, and lack of access to modern sources of energy. This lack of access is a combination of both extreme poverty and limited availability of these energy sources (esp. electricity and LPG) in rural India.

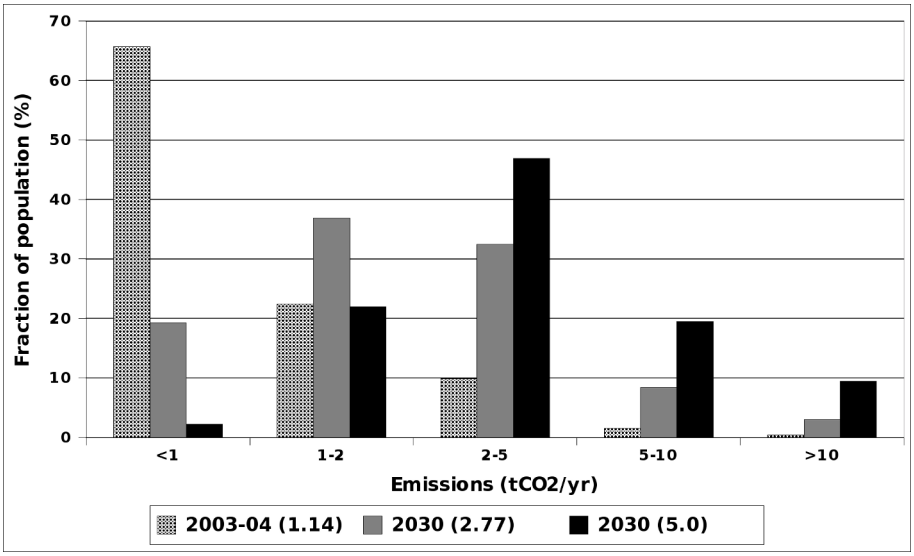
and 5.00 tCO_2e (India GHG Report, 2009).[13] We combined the results of this projection with the emissions distribution[14] of (Parikh et al., 2009) along with some simplifying assumptions:

1. We consider two cases a. same emissions inequality for India as a whole (Gini coefficient of 0.46) as in 2003-04 and b. emissions inequality of rural India (which is lower at 0.38).[15]
2. We project the emissions with the assumption that the average emission level is equal to the per capita numbers from the report. We also assume that these are CO_2 emissions not CO_2 equivalent (i.e., all greenhouse gases).
3. We use household emissions per capita scaled up to the national average in 2004-05 for comparison with the projections.

Table 5 Projection of 2003-04 emission distribution to 2030

Scenario »	2003-04 1.14 tCO_2		2030 2.77tCO_2		2030 3.9 tCO_2		2030 5tCO_2	
emission level (tCO_2)	I	R	I	R	I	R	I	
<1	*65.7*	8.9	19.3	1.8	6.8	0.3	2.2	
1-2	*22.4*	38.9	36.9	23.9	30.8	12.5	22.0	
2-5	*9.9*	42.0	32.5	53.7	42.4	54.9	46.9	
5-10	*1.5*	8.3	8.4	16.2	14.1	24.2	19.4	
>10	*0.4*	1.9	3.0	4.5	5.9	8.1	9.5	

Authors' calculations. Columns labelled I and R refer to scenarios with the emissions inequality of India (higher) and rural India (lower) in 2003-04. The columns show the fraction (in percentage) of people within the specified emission slab.



Source: Parikh et al., 2009, and authors' calculations.

Figure 2: Projected evolution of the emission distribution of India, assuming that inequality in

[13] This would still place India's per capita emissions below today's global average.

[14] We fit Beta-2 distributions to the rural and urban emissions tabulated in (Parikh et. al. 2009) as described in (Chotikapanich et al., 2007).

[15] The Gini coefficient is a standard measure of inequality and ranges from 0 to 1. The Gini is equal to 0 with perfect equality, and 1 with perfect inequality.

emissions stays the same as in 2003-04 (Parikh et al., 2009). The two 2030 per capita annual emissions used in this scenario (2.77 tCO_2 and 5.0 tCO_2) are the highest and the lowest emission projections given in the (India GHG Report, 2009).

This exercise is not meant to be a realistic estimate of future emissions, but a projection that provides some insight into the scale of emissions that one might expect under the specified circumstances. Nevertheless, it shows that assuming the same level of inequality as today we can expect most Indians to emit more than 1tCO_2 per capita in 2030, and that about 30-130 million Indians will have emissions above 10 tCO_2 (assuming a 2030 population of 1.4 billion).

This conclusion, however, might underestimate the fraction of Indians with high emission levels in the future. This is because a significant trend since the 1990s has been an increase in inequality in general (Sen and Himanshu, 2005; ADB Key Indicators, 2007; Debroy and Bhandari, 2007). Though the All-India Gini coefficient is still low compared to most developing countries, it has increased from 0.32 in 1993-04 to 0.36 in 2004-05. The rise in urban - rural disparity, rapid rise in income inequality in many states, especially in urban areas, divergence in growth rates between states, and disparity in education levels have contributed to this. There is evidence that an increasing share of the benefits of India's growth are going to the top 10% of the population, especially the top 1% of India's population (Banerjee and Piketty, 2005; ADB Key Indicators, 2007)

Further, income inequality is likely to be less than, say, inequalities in electricity consumption and emission levels (Bhattacharyya, 2006) This is true in other countries that are going through a transition from biomass to modern energy services. Therefore, income inequality, if it continues to exacerbate, might indeed produce a significant number of high emitting rich (high by global standards) in a couple of decades.

Conclusion

Political choices underlie just about everything in this debate. Greenpeace's choice of comparing the emissions of the Indian rich to what they term a sustainable 2 tonne per capita level hides implicit assumptions and choices, for example, about the time at which the average value might or might not be achieved, the pathway between now and then, and how to deal with past emissions. In the same vein, the choice about whether one is comparing to the U.S. average or the average of developed countries is also a political choice. So are choices about whether to compare emission intensities between different countries: those that use a market exchange rate will typically result in the developed countries appearing more efficient, whereas those that use a rate based on purchasing power parities will typically result in India looking as good as Germany or Japan. Greenpeace's report has an entire section on policy prescriptions at the end that seem fairly independent of the results of their survey.

Given this political nature of the debate, it is not surprising that the interpretation of the Greenpeace survey has been contentious. Though motivated by domestic considerations, the implications of this survey have been explored both in the domestic and international arenas. In the international arena, Greenpeace's results fed into a growing focus including in climate diplomacy circles, on growing consumption in developing countries, in part as a way to avoid discussing the absence of significant climate mitigation in the developed world. CSE, being an active participant in these international debates, was perhaps reacting to this current when it produced its analysis. This might explain its complete focus on international inequity and total avoidance of the question of domestic inequity or its implications. In this problematic international context, one natural view has been that the issue of

internal inequalities should *not* be allowed to lead to an international explicit scrutiny nor implicit counter-reaction that might weaken the ability of Indian diplomats to invoke equity. Others argue that our moral authority is weakened if we fail to take internal inequity seriously. Similar difference of opinion can also be found in other areas such as child labour and untouchability.

Domestically, there are two implications of the studies by Greenpeace and Parikh et al. worth highlighting. First, a large fraction of the population of the country has very low emissions because they are deprived of access to modern energy services in absolute terms. The imperative of remedying this situation as rapidly as possible has been widely stressed. The second implication is what we have been discussing all along, the growing emissions of the richest 10 percent of the population. The inequality inherent in the difference between the two ends of the spectrum has not been the subject of much domestic debate.

An important reason for this silence was laid out in the article on the report in *Frontline* magazine: "It is a truism and so does not require detailed surveys to drive home its point: in India the disparities in living standards and consumption patterns, in particular of energy, between the rich and the poor are vast" (Ramachandran, 2007). In other words, the inequalities in emissions was only the latest manifestation of longstanding debates over India's development path.

This is, of course, not the place to recount the debates over development. But we might demarcate three broad categories. There are those who seem broadly comfortable with India's current path, and endorse continuing along a Business as Usual development path. For them, the presence of domestic inequality is only a sign that development as practiced in India is an unfinished story and will eventually be addressed. The second category includes people who do not agree with the first on the development path, but agree that this subject should not be allowed to distract from the lack of action on the part of the United States and other industrialized countries, as well as the current trends in climate diplomacy, which are seen as moving away from the "differentiated responsibilities" enshrined in the UNFCCC. Finally, there are those who feel that the current development path is wrong for other reasons, and for them the intra country inequalities suggest that the country should move away from current trends to a more equitable and environmentally sustainable path. The debate between these positions is likely to intensify in the future – and it should. Our simple projection of emission trends suggests, if present patterns of inequalities continue, then 'Hiding behind the poor' might become a reality.

References

India's GHG Emissions Profile: Results of Five Climate Modelling Studies, New Delhi: Ministry of Environments and Forests. Available at: http://moef.nic.in/downloads/home/GHG-report.pdf. [Accessed August 28, 2010].

Key Indicators 2010: The Rise of Asia's Middle Class - ADB.org. Available at: http://www.adb.org/Documents/Books/Key_Indicators/2010/default.asp [Accessed August 28, 2010].

Key Indicators 2007: Inequality in Asia – ADB.org. Available at: http://www.adb.org/Documents/Books/Key_Indicators/2007/default.asp.[Accessed August 28, 2010].

"China, India and climate change: Melting Asia", *The Economist,* June 5 2008.

Ananthapadmanabhan, G., Srinivas, K. & Gopal, V., 2007. *Hiding behind the poor: A report on climate injustice*, Bangalore: Greenpeace India Society.

Bhattacharyya, S. C. 2006. Energy access problem of the poor in India: Is rural electrification a remedy? *Energy Policy* 34, no. 18 (12): 3387-3397.

Bidwai, P, 2009. *An India That Can Say Yes: A Climate-Responsible Development Agenda for Copenhagen and Beyond*, Heinrich Boll Stiftung, New Delhi.

Bullard, C. & Herendeen, R.A., 1975. The energy cost of goods and services. *Energy Policy*, 3(4), 268-278.

Buncombe, A., 2008. "Can the world afford the Tata Nano?", *The Independent* (11 Jan., 2008).

Chakravarty, S. et al., 2009. Sharing global CO2 emission reductions among one billion high emitters. *Proceedings of the National Academy of Sciences*, 106(29), 11884-11888.

Chotikapanich, D., Griffiths, W.E. & Rao, D.S.P., 2007. Estimating and Combining National Income Distributions Using Limited Data. *Journal of Business and Economic Statistics*, 25(1), 97-109.

CSE, 2009. *Richest Indians emit less than poorest Americans*, Centre for Science and Environment. Available at: http://www.indiaenvironmentportal.org.in/node/290547 [Accessed September 3, 2010].

Debroy, B, and Bhandari, L., 2007 Exclusive Growth - Inclusive Inequality. *Economic Developments In India : Volume - 116,* Ed., Kapila, A., and Kapila, U., New Delhi, Academic Foundation.

Herendeen, R. & Tanaka, J., 1976. Energy cost of living. *Energy*, 1(2), 165-178.

Kennedy, M., 2009. "In Delhi, doing as we do, not as we say", *Washington Post*, 22 Nov., 2009

Murthy, N., Panda, M. & Parikh, J., 1997. Economic growth, energy demand and carbon dioxide emissions in India: 1990-2020. *Environment and Development Economics*, 2(2), 173-193.

Myers, N. & Kent, J., 2003. New consumers: The influence of affluence on the environment. *Proceedings of the National Academy of Sciences*, 100(8), 4963-4968.

NSSO-CSO, 2005. Report on Cross-Validation Study of Estimates of Private Consumption Expenditure Available from Household Survey and National Accounts. *Sarvekshana*, XXV No. 4 and XXVI No.1(88). Available at: http://www.mospi.nic.in/servakshana_report.htm [Accessed September 5, 2010].

Pachauri, S., 2004. An analysis of cross-sectional variations in total household energy requirements in India using micro survey data. *Energy Policy*, 32(15), 1723-1735.

Pachauri, S., 2007. *An energy analysis of household consumption : changing patterns of direct and indirect use in India*, Dordrecht: Springer.

Pachauri, S. & Jiang, L., 2008. The household energy transition in India and China. *Energy Policy*, 36(11), 4022-4035.

Pachauri, S. & Spreng, D., 2002. Direct and indirect energy requirements of households in India. *Energy Policy*, 30(6), 511-523.

Parikh, J., Panda, M. & Murthy, N.S., 1997. Consumption patterns by income classes and carbon-dioxide implications for India: 1990–2010. *International Journal of Global Energy Issues*, 9(4-5).

Parikh, J. et al., 2009. CO2 emissions structure of Indian economy. *Energy*, 34(8), 1024-1031.

Prins, G. and Rayner, S., 2007. The wrong Trousers: Radically Rethinking Climate Policy. Discussion Paper, Institute for Science, Innovation and Society. Available at: http://eureka.sbs.ox.ac.uk/66/ [Accessed Oct. 31, 2010]

Ramachandran, R., 2007. Class Injustice, *Frontline*, Vol. 24, Issue 24, Dec 08-21, 2007.

Saluja, M.R. & Yadav, B., 2006. *Social Accounting Matrix for India 2003-04*, India Development Foundation. Available at: planningcommission.nic.in/reports/sereport/ser/sr_sam.pdf. [Accessed Aug. 28, 2010]

Sen, A. and Himanshu. 2005. Poverty and inequality in India: Getting closer to the truth. In *The great Indian poverty debate*, Ed. Deaton, A., and Kozel, V. Delhi: Macmillan. Also available at: http://www.networkideas.org/featart/may2004/Poverty_WC.pdf.

Sundaram, K. & Tendulkar, S.D., 2001. NAS-NSS estimates of private consumption for poverty estimation a disaggregated comparison for 1993-94. *Economic and Political Weekly*, 36(2), 119-129.

Hiding Behind the Poor - Free download as PDF File (.pdf), Text File (.txt) or read online for free. uuyhhj.Â While this international meeting sets the debate for climate justice at a global level this study aims at raising the same debate within the country. It asks the question Is there climate injustice happening in India? It presents a case for the Indian government to implement the principle of common but differentiated responsibilities amongst the various socio economic groups in the country.