

Global Warming in an Unequal World*

A Case of Environmental Colonialism

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The idea that developing countries like India and China must share the blame for heating up the earth and destabilizing its climate, as espoused in a recent study published in the United States (US) by the World Resources Institute (WRI) in collaboration with the United Nations, is an excellent example of environmental colonialism.

The report of the WRI, a Washington-based private research group, is based less on science and more on politically motivated and mathematical jugglery (WRI 1990). Its main intention seems to be to blame developing countries for global warming and perpetuate the current global inequality in the use of the earth's environment and its resources.

A detailed look at the data presented by WRI itself leads to the conclusion that India and China cannot be held responsible even for

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a single kg of carbon dioxide (CO₂) or methane that is accumulating in the earth's atmosphere. Carbon dioxide and methane are two of the most important gases contributing to global warming. The accumulation in the earth's atmosphere of these gases is mainly the result of the gargantuan consumption of the developed countries, particularly the US. ...

WRI's Calculations: Faulty and Prejudiced

The figures used by WRI to calculate the quantity of CO₂ and methane produced by each country are extremely questionable. Heavy emphasis has been placed on CO₂ production due to deforestation and methane production from rice fields and livestock, as compared to CO₂ production from the use of fossil fuels like oil and coal. Since developing countries are more responsible for the former, the heavy emphasis on deforestation and methane generation tends to overplay their contribution, while underplaying that of the developed countries.

Brazil, for instance, is a clear case where deforestation estimates have been overstated. Even though Brazil's deforestation did peak in 1987, several Brazilian sources point out that they have reduced substantially since then. Its CO₂ emissions since 1987, and on average during the 1980s, are much lower than those taken by WRI to calculate CO₂ emissions. Similarly, in India, deforestation rates do not seem to be the same as that of the 1970s, that is, 1.5 million hectares a year—the figure taken as the yearly average by WRI for the 1980s. ... For other developing countries also, the accuracy of the forest loss estimates used by WRI to calculate CO₂ levels are very shaky. ...

The fact remains that forest loss data in the world is still extremely poor and it is difficult to use it for any set of calculations of carbon emissions to the same level of precision as fossil fuel use data.

The methane issue raises further questions of justice and morality. Can we really equate the CO₂ contributions of gas-guzzling automobiles in Europe and North America or, for that matter, anywhere in the Third World with the methane emissions of draught cattle and rice fields of subsistence farmers in West Bengal or Thailand? Do these people not have a right to live? But no effort has been made in WRI's report to separate out the 'survival emissions' of the poor, from the 'luxury emissions' of

the rich. Just what kind of politics or morality is this which masquerades in the name of 'one worldism' and 'high minded internationalism'?

Centre for Science and Environment's (CSE) Calculations

The CSE's analysis presented in this report does not question the data that WRI has used to calculate each country's production of CO₂ and methane, even though, as argued above, they definitely can be questioned. Yet, CSE's analysis shows India and China cannot be blamed for any of the methane or CO₂ that is appearing in the atmosphere.

As a senior United Nations Environment Programme (UNEP) official has put it, nature serves two major economic functions—one, as a source of raw materials and, two, as a sink for absorbing wastes (Ahmad 1990).

Ideally, the approach should have been to prepare each nation's budget of greenhouse gas (GHG) emissions by taking into account each nation's sources of emissions and its terrestrial sinks, that is, its forests, other vegetation, and soils. This exercise would have given an idea of the true emissions of each nation. These emissions would have to be further matched with each nation's just and fair share of the oceanic and tropospheric sinks—a common heritage of humankind. Only then the net emissions of a nation that are accumulating in the atmosphere could be calculated. But nothing of this sort has been attempted by WRI.

The earth's environment has a considerable ability to absorb wastes. The ocean is an important sink for absorbing CO₂ produced through human activity. According to the estimates of the Intergovernmental Panel on Climate Change, the ocean absorbed, during the 1980s, CO₂ to the tune of 1,200–2,800 million tonnes of carbon equivalent every year. There could also be terrestrial sinks for CO₂ but scientific knowledge about them is still uncertain. The various models prepared world-wide for estimating the accumulation of CO₂ in the atmosphere reveal a substantial 'missing sink', which scientists now believe could be a terrestrial sink. The predicted amount of CO₂ increase in the atmosphere should be ideally equal to the amount of CO₂ emitted by human-made sources less the amount absorbed by the oceanic sinks. But models find that instead

the predicted amount is more than what is actually accumulating in the atmosphere, indicating the presence of yet another cleansing mechanism in the world. There is a growing belief that various land processes like vegetation and soil could possibly account for this surplus. Some preliminary models even suggest that these terrestrial sinks could be possibly even larger than the oceanic sinks. But much of this is still unknown.

Sink for methane is primarily removed by a reaction with hydroxyl radicals (OH) in the troposphere. This reaction represents a sink of about 400–600 million tonnes per year. Soils may also be contributing in removing methane to the tune of 15–54 million tonnes each year (Figure 5.1).

The WRI's legerdemain actually lies in the manner that the earth's ability to clean up the two GHGs of CO₂ and methane—a global common of extreme importance—has been unfairly allocated to different countries. According to WRI figures, the world produces every year 31,100 million tonnes of CO₂ and 255 million tonnes of methane. But in reality, the increase in the atmosphere every year is only 13,600 million tonnes of CO₂ and 43 million tonnes of methane. In other words, the earth's ecological systems—its vegetation and its oceans—absorb 17,500 million tonnes of CO₂ and 212 million tonnes of methane every year. Global warming is caused by over exceeding this cleansing capacity of the earth's ecological systems. The WRI report makes no distinction between those countries which have eaten up this ecological capital by exceeding the world's absorptive capacity and those countries which have emitted gases well within the world's cleansing capacity. India, for instance, has been ranked as the fifth-largest contributor of GHGs in the world.

But compared to its population—16.2 per cent of the world's in 1990—India's total production of CO₂ and methane amounted to only six per cent and 14.4 per cent, respectively, of the amount that is absorbed by the earth's ecological systems. How can, therefore, India and other such countries be blamed even for single kg of the filth that is accumulating in the atmosphere on a global scale and threatening the world's people with a climatic cataclysm? In fact, India can double its total CO₂ emissions without threatening the world's climate. And if it controls its deforestation, then it can increase its CO₂ emissions from fossil fuels several times.

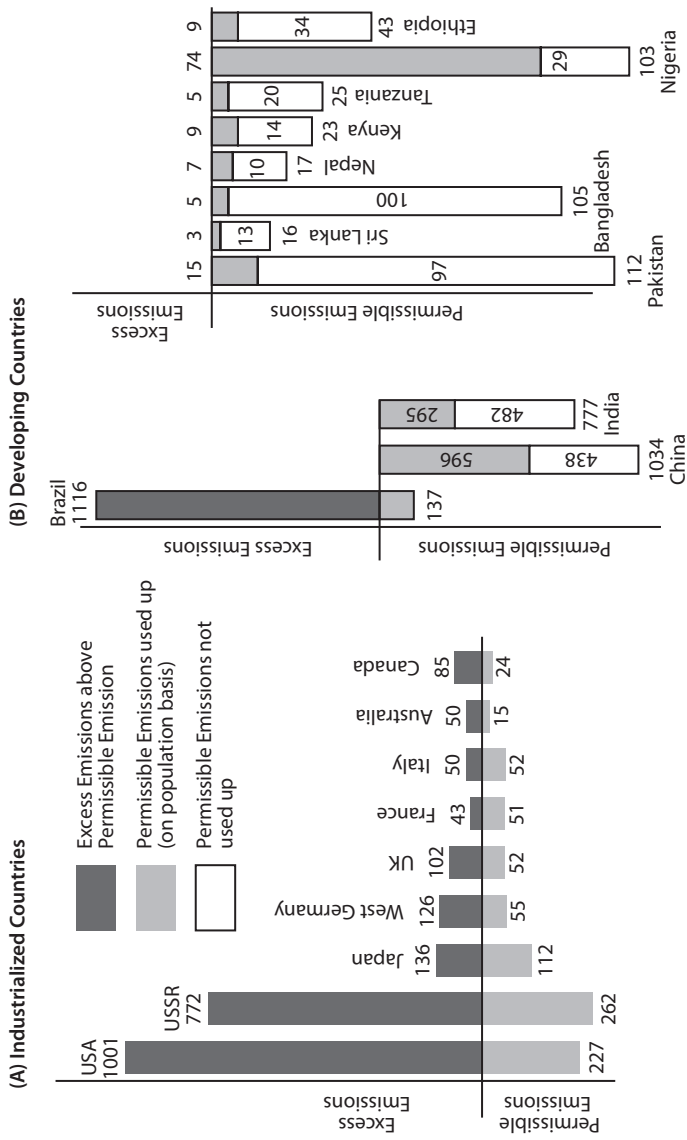


Figure 5.1 Permissible Emissions versus Total Emissions of CO₂ of Select Countries on the Basis of Population (in million tonnes of carbon equivalent) as Calculated by CSE
Note: This is Figure 2 in original text.

Source: Authors.

On the contrary, the US, with only 4.73 per cent of the world's population, emits as much as 26 per cent of the CO₂ and 20 per cent of the methane that is absorbed every year. It is the production of CO₂ and methane by countries like the US and Japan—totally out of proportion to their populations and that of the world's absorptive capacity—which is entirely responsible for the accumulation of unabsorbed CO₂ and methane in the atmosphere. In addition, these countries emit large quantities of chlorofluorocarbons (CFCs)—chemicals which do not get absorbed at all. Japan accounts for 7.4 per cent and the US for 25.8 per cent of the world's consumption of CFCs.

Not even one tonne of CFCs released into the atmosphere can get absorbed because there is no natural sink for them. As concerned environmentalists, we should propose that no country should be 'allowed' to produce such chemicals which the atmosphere has no ability to cleanse naturally, and all production of such chemicals should be added to the net emissions of the individual countries.

But the WRI report does not take countries like the US or Japan to task. On the contrary, it adopts a mathematical technique which puts the blame on several poor countries. The WRI has calculated the proportion of the world's GHGs produced by a country like India and has then used this proportion to calculate India's share in the quantity of gases that are accumulating in the atmosphere. ...

Sharing a Crucial Global Common

How can we calculate each country's share of responsibility for the accumulation of gases like CO₂ and methane in the earth's atmosphere?

It is obvious that the concept of sustainable development demands that human beings collectively do not produce more CO₂ and methane than the earth's environment can absorb. The question is how should this global common—the global CO₂ and methane sinks—be shared amongst the people of the world?

Several studies on the global warming problem have argued, and we argue ourselves, that in a world that aspires to such lofty ideals like global justice, equity, and sustainability, this vital global common should be shared equally on a per capita basis.

Using this principle, CSE has adopted the following methodology to ascertain the net emissions which are posing a threat to the world's climate (Figure 5.2):

1. The natural sinks for CO₂ and methane have been allocated to each nation on a population basis. These quantities then constitute the permissible emissions of each country. As no natural sinks exist for CFCs, no permissible shares for CFCs have been calculated.
2. The total emissions of each country of CO₂ and methane (as calculated by WRI) have then been compared with its permissible emissions (as calculated by CSE) to ascertain the quantity of emissions that are in excess of the permissible emissions.
3. The unused permissible emissions of countries like India and China have been traded with the excess emitters on a population basis.
4. The permissible emissions, traded from low-emitting countries, have been subtracted from the excess emissions of each country to obtain the quantity of each country's net emissions to the atmosphere of CO₂ and methane.
5. The total GHG emissions have been obtained by adding the net emissions of methane and CO₂ (as obtained by CSE) with the total emissions of CFCs (as given by WRI).

The CSE's calculations clearly show that there is one set of nations in the world which is emitting GHGs well within its share (or, in other words, its permissible limits), whereas there is another set of countries which is exceeding its permissible limits by leaps and bounds (Figure 5.3). ...

Lack of Third World Research

The entire episode also emphasizes the fact that Third World nations must undertake their own research in this crucial area. They cannot depend on Western institutions to present a true picture of the global situation and safeguard their interests. The manner in which the methane and CO₂ emissions of several developing countries have been calculated is itself open to questions. The database on

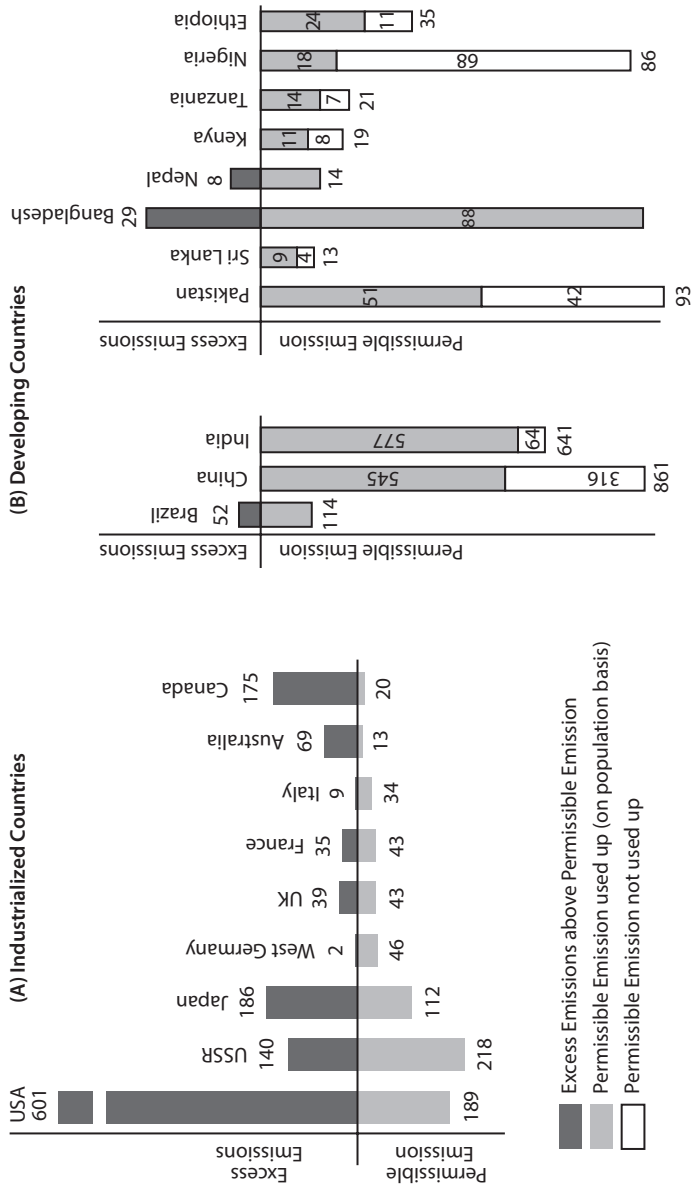


Figure 5.2 Permissible Emissions versus Total Emissions of Methane of Select Countries on the Basis of Population (in million tonnes of carbon equivalent) as Calculated by CSE
Note: This is Figure 3 in original text.
Source: Authors.

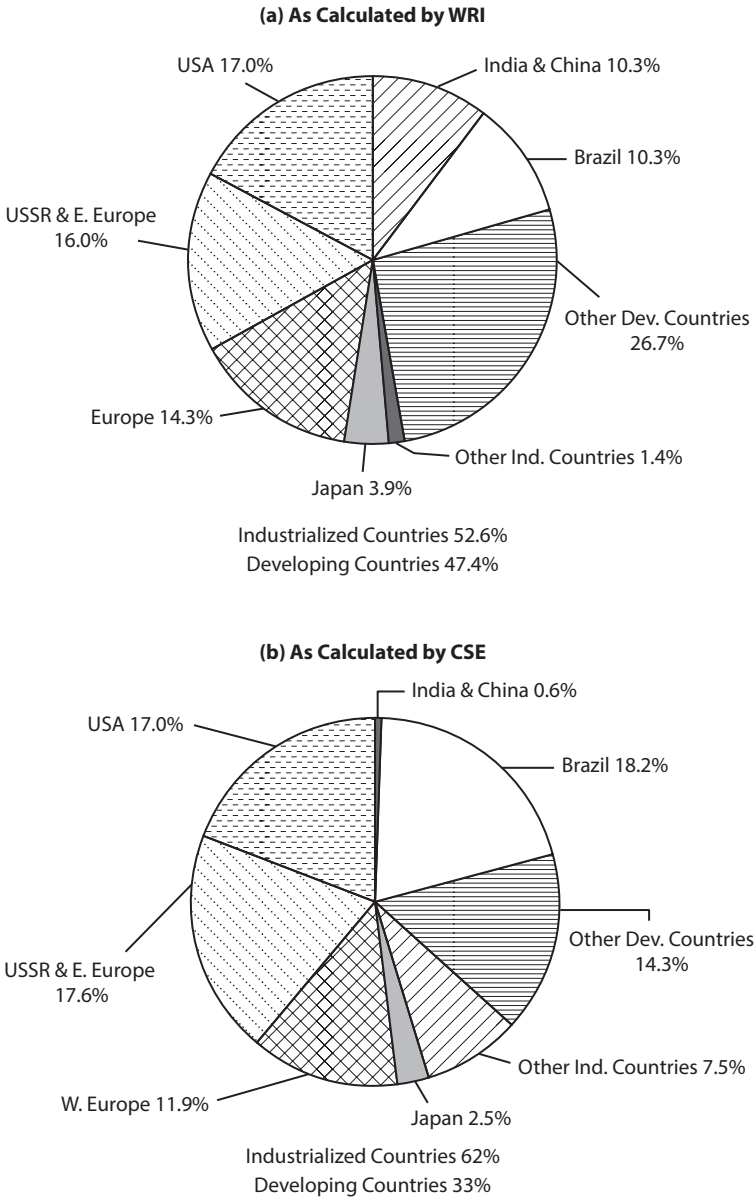


Figure 5.3 Percentage Distribution of Net Emissions of GHGs by Industrialized and Developing Countries

Note: This is Figure 5 in original text.

Source: Authors.

contributions from deforestation, irrigated rice farming, and livestock management is still poor. It is vital that a reliable system of measuring deforestation annually on a global and national basis is developed urgently. ...

Action in India

None of this means that India should not regenerate its environment or that it should not be efficient in its use of energy. This will also be our best defense against any possible impact of global warming. As only if the diverse ecosystems of India are functioning at the optimum levels of productivity, the effects of the expected changes in the global climate will become somewhat manageable. But if, as today, our land and water resource base remains highly stressed and degraded and even normal conditions constitute a near-crisis situation, climatic perturbations will throw the society into a state of total emergency.

But to carry out this strategy to improve land productivity and meet people's survival needs, development strategies will have to be ecosystem specific and holistic. It would be necessary to plan for each component of the village ecosystem and not just trees—from grasslands, forest lands, and crop lands to water. To do this, the country will need much more than just glib words about people's participation or wasteland development. It will demand bold and imaginative steps to strengthen and deepen local democracy by creating and empowering democratic and open village institutions. Only then will the people get involved in managing their environment. It will mean dismantling the inefficient and oppressive government apparatus and changing laws so that people can act without waiting for a good bureaucrat to come along. As laws exist, planting trees on government wastelands can land villagers in jail. The government is the biggest and the worst land and water owner in the country.

Those who talk about global warming should concentrate on what ought to be done at home. The challenge for India is thus to get on with the job at hand, and leave the business of dirty tricks and dirtying up the world to others. In this process, we will help ourselves, and maybe even the rest of the world.

References

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