

India's meteoric **economic rise** in the last two decades has been impressive. There is however a **dark side** to it, hidden or ignored. Well over half its **people** have been left behind or **negatively impacted**; and there have been **irreversible blows** to the natural **environment**. Globalised **development** as it is today is neither ecologically **sustainable** nor socially **equitable**, and is leading India to further **conflict** and **suffering**. There are, however, a range of **alternative** approaches and practices, forerunners of a **Radical Ecological Democracy** that can take us all to higher levels of **well-being**, while sustaining the earth and creating greater **equity**.

This publication begins with some key facts on the economic, social, and environmental aspects of economic globalisation in India, then provides a more detailed assessment of the environmental impacts and of alternative paths to well-being.

Globalisation in India

Impacts and Alternatives

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Economy, Society and Environment in the Era of Globalisation: Some Facts

State of the economy

- The Indian economy recorded the most impressive growth rates in its history during 2003-08, averaging 8-9% per annum. However, this performance was adversely affected by the great financial crisis that began in the West in 2007-08. During 2008-12, India's GDP growth rate fluctuated between 6.7-8.4% p.a. After the Eurozone crisis of 2012, and partly also on account of the stagnation in manufacturing and agriculture within the Indian economy, growth rates have fallen to even lower levels. It slipped to 5.3 per cent in the fourth quarter of 2011-12, lowest in nearly 9 years. During the quarter ending March 31, growth in the manufacturing sector contracted to 0.3 per cent, from 7.3 per cent in the corresponding period of 2010-11. Farm output also exhibited a similar trend and expanded by just 1.7 per cent during the quarter, compared to 7.5 per cent in the Q4, 2010-11. The outlook for the future is uncertain and highly contingent on the performance of the crisis-ridden world economy.¹
- Since 1991, industrial production has trebled, while the production of electricity has more than doubled. There has also been an impressive growth of infrastructure, as seen for instance in the expansion and great improvements in the quality of communications and of air, rail and road transport.²
- As of 2009, there are over 2700 transnational corporations operating in India.³
- With an increasingly externally oriented economy, India's foreign debt has to be constantly squared up with its foreign exchange reserves. External debt grew from \$83 billion in 1991 to \$224 billion in 2008, still about 20% of GDP. It has increased even more sharply in recent years, from \$306 billion to \$345 billion between March 2011 and March 2012 alone. This may be compared with foreign exchange reserves, which have gone up from almost zero in 1991 to \$287 billion in 2012. They have been falling recently, thanks to capital flight away from India. They fell from \$314 billion in July 2011 to \$287 billion a year later.⁴
- India's trade deficit (the gap between import and export of goods) has been widening rapidly since the early 1990s. Though partially made up for by the trade in services, this gap shows in the worsening of the country's external account. On the current account the deficit grew from 0.4% of GDP in 2004-05 to 3.6% of GDP in 2011-12.⁵
- In 2011-12, debt servicing accounted for 30% of the expenses of the Government of India's budgetary expenditure, constituting the largest fraction of expenses from it. While defence accounted for 8%, health and education together amounted to less than 2%.⁶
- During the global recession which began in 2007-

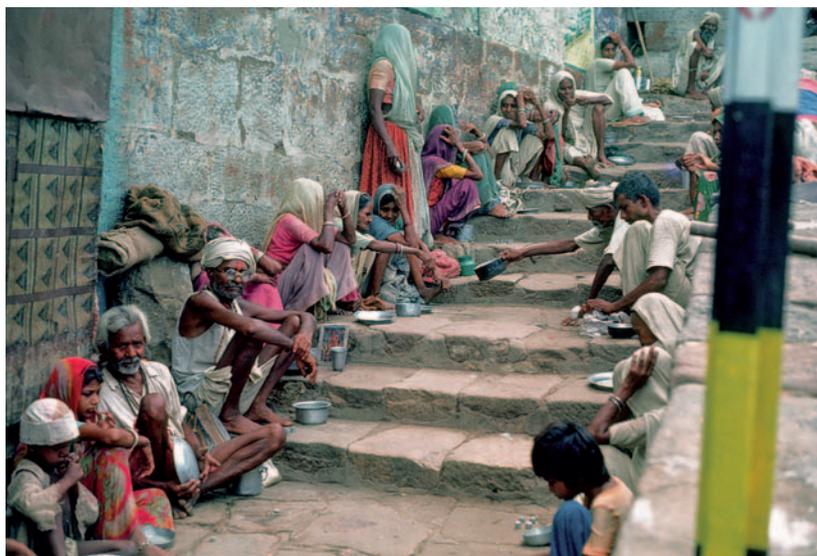
08, the Indian government has had to intervene in the economy in a massive way in order to reduce the impact of the collapse of markets after September 2008. In 2008-09, the total fiscal stimulus administered to the economy by the government was Rs.1200 billion (\$27 billion), over 2% of the GDP.⁷

State of the society

The haves, the have-nots, the have-lots.

- London-based New Economics Foundation (NEF), using World Bank data, estimates that between 1990 and 2001, for every \$100 worth of growth in the world's income per person, just \$0.60 found its target and contributed to reducing poverty below the \$1-a-day line. This means that to reduce poverty by \$1 involved paying the non-poor an additional \$165.⁸
- When the reforms began in 1991 India was ranked 123rd among countries around the world in terms of the Human Development Index (which takes account of literacy, life expectancy and per capita income). In 2009, it had slipped to 134th place.⁹
- According to the Arjun Sengupta committee on the unorganised sector set up by the Government of India, 77% of India (836 million people) in 2007 lived on less than Rs. 20 a day. This amounts to a poor population which is almost two-and-a-half times what the entire Indian population was at the time of independence in 1947.¹⁰
- According to the Tendulkar Committee on poverty estimation, which submitted its report to the Planning Commission in 2009, the proportion of people who were poor in India in 2004-05 was 41.8% in rural areas and 25.7% in urban areas. The poverty lines used to reach these numbers were Rs.15 per capita a day in villages and a bit less than Rs.20 a day in towns and cities.¹¹
- Over 80% of Indians live below its current per capita income of Rs.150 a day.¹²
- India has the world's largest number of undernourished people, more than all of sub-Saharan Africa's countries put together. FAO's estimate for the period 2004-06 is 251 million, a fourth of the country's population. This is only partly caused by increases in population and a rise in life expectancy.

Globalisation has had little impact on abject poverty



There is still plenty of food available, with foodgrain stocks of the FCI remaining consistently high, and yet over 200 million people go to bed hungry, and 50 million are on the verge of starvation.¹³

- Gujarat has experienced the fastest rate of (double-digit) growth among the different states in the country during 2005-10. According to government data, the proportion of stunted children (under age 3) in the state was 44% in 1992-93, and has remained at 42% in 2005-06 (more recent data is not available). The proportion of underweight children has also remained about the same during the reform period (47-48%).¹⁴
- The number of physically displaced and project-affected people, as a consequence of 'development' projects in India, is estimated to be about 60 million since 1947. According to the Planning Commission, in an assessment of about 21 million of these displaced persons, over 40% are adivasis (tribal), even though adivasis constitute only 8% of India's total population.¹⁵
- There were 49,000 slums in Indian cities, according to NSS surveys done during 2008-09. A 2003 UN study shows that over half of India's urban population lives in slums (including resettlement colonies). Across the world one in three people live in a slum.¹⁶
- Employment in the formal (organized) sector of the Indian economy has remained virtually stagnant around 27 million workers between 1991 and 2007. They constitute less than 6% of India's overall labour force.¹⁷
- The daily per capita availability of cereals and pulses fell from 510 grams in 1991 to 443 grams in 2007.¹⁸
- In April 2009, there were 403 million mobile users in India. About 46% of them, or 187 million, did not have bank accounts. Only 5.2% of India's 600,000 villages even have bank branches, leaving most farmers in the clutches of moneylenders.¹⁹
- 200,000 farmers committed suicide in India during 1997-2008, as a consequence of being trapped in debt (which has risen dramatically since reforms began). On average an Indian farmer has killed himself (much more rarely, herself) every 30 minutes during these ten years.²⁰
- According to the 2009 Nielsen survey, 2.5 million of 220 million households in India owned both a car and a computer. Only 0.1 million of the households

could also afford a holiday abroad.²¹

- Almost 60% of Indians do not yet have proper sanitation facilities. According to UNICEF, improved drinking water sources are available to 88% of the population (compared to 72% in 1990).²²
- A high-net-worth-individual (HNWI) is a millionaire, someone with net investible assets (other than owned homes, land and/or property) of at least \$ 1 million (Rs.4.5 crores). According to Merrill Lynch, in India there were 126,700 such people in 2010. Though they make up only about 0.01% of the country's population they are worth about a third of its GDP.²³
- According to a survey by National Election Watch (NEW) the number of dollar millionaires (worth over Rs.4.5 crores) in the present Lok Sabha has almost doubled to 300 (out of 543 members) since the last General Election in 2004. The 543 MPs are worth close to Rs. 2800 crores (\$560 million), making the average MP a dollar millionaire. The 64 union cabinet ministers account for \$100 million.²⁴
- Privatization is increasingly being extended to natural resources also. Long sections of rivers, such as the Sheonath, Kelu and Kukrut rivers in Chhattisgarh, have been commodified and sold to corporate buyers in different parts of India.²⁵

State of the environment

- According to a recent report, India has the world's 3rd largest ecological footprint, after the USA and China. Indians are using almost twice the sustainable level of natural resources that the country can provide. The capacity of nature to sustain humans has declined sharply, by almost half, in the last four decades or so.²⁶
- The per capita ecological footprint of the wealthiest Indians (top 0.01%) is 330 times that of the poorest 40% of India's population. It is over 12 times that of the footprint of the average citizen in an industrialized, high-income country. The footprint of the richest 1% (inclusive of the wealthiest) of Indians is two-thirds that of the average citizen of a rich country and over 17 times that of the poorest 40% of people in India. Thus, a person who owns a car and a laptop in India consumes roughly the same resources as 17 poor Indians. Such a person consumes roughly the same resources as 2.3 average "world citizens" (the world per capita income being about \$10,000 per annum in 2007).²⁷
- According to the MoEF *State of Environment Report 2009* the "food security of India may be at risk in the future due to the threat of climate change leading to an increase in the frequency and intensity of droughts and floods, thereby affecting production of small and marginal farms." A significant decrease in crop yields is expected across the country.²⁸
- While India's present share of global carbon emissions is about 8%, as a rapidly growing economy it is rising every year. India's per capita



Wildlife habitats have been severely damaged across India

- emissions are expected to triple by 2030 if present trends continue.²⁹
- India derives more than half its energy from coal. According to Coal India, which handles most of India's coal mines, our usable coal reserves are not as large as was previously believed. At current rates of growth these are likely to last about 80 years. At projected rates of growth they will finish in just 3-4 decades.³⁰ And yet the budget for non-conventional energy sources in India is only 1.28% of the total energy budget.³¹
 - Chronic water shortages are affecting ever more regions of the country. India has the highest volume of annual groundwater overuse in the world. Water mining is taking place at twice the rate of natural recharge in many parts of the country. As aquifers have begun to dry up, water-tables have dropped, sometimes (as in Punjab) at the rate of 3-10 feet per year! As temperatures rise on account of climate change, the per capita availability of water in India is expected to fall from 1820 cubic metres per annum in 2001 to 1140 cubic metres per annum in 2050. The number of rainy days every season could fall by 15, even as the intensity of rain increases on the rainy days.³²
 - 2009 was one of the worst drought years in India in the past several decades. The overall shortfall of monsoon rains was over 20%, and significantly more in some of the agricultural regions of the country like Western UP and Punjab. This has had significant consequences for agriculture.³³
 - Topsoil is critical to agricultural productivity. According to the Indian Council of Agricultural Research (ICAR), 16 tons of topsoil per hectare are being lost annually, or about 5 billion tons across the country. It takes millennia for the topsoil to form. Drought-stricken farmers in villages around Bangalore, threatened by starvation, have begun extracting about 1000 truckloads of topsoil every day from agricultural fields and village tanks to sell it as sand for construction in metropolitan Bangalore.³⁴
 - Between 1990 and 2000 the annual rate of re-forestation was 0.57% every year. This fell to 0.05% between 2000 and 2005. Less than 12% of India's land mass is under "dense" or "moderately dense" forest. An equal area is "open forest" or "scrub".³⁵
 - Of the total forest land diversion that has taken place since 1980-81, about 55% has been after 2001; about 70% of the forest land diverted for mining since 1980-81, came between 1997 and 2007. Globalization has once again led to rapid deforestation and land degradation, phenomena that were more under control in the 1980s.³⁶
 - India is one of the most bio-diverse parts of the world, with over 130,000 plant and animal species, and immense diversity in crops and livestock. According to the MoEF, at least 10% of both flora and fauna in the country find themselves on the list of "threatened species", without taking account of climate change. But if a 2°C warming happens, India will lose 15-40% of its species. "The creation of valley bottom reservoirs in wilderness areas has brought on the destruction of some of finest forests and biodiverse-rich unique ecosystems. Deforestation due to hydropower and mining projects is perhaps the greatest threat to biodiversity in India." Many of the country's numerous sacred groves, or other community conserved areas, protected traditionally by rural communities have come under threat because of the onslaught of economic growth.³⁷
 - Around 70% of the Indian population depends on land-based occupations, forests, wetlands and marine habitats and are thus directly dependent on local ecosystems for their basic subsistence requirements with regard to water, food, fuel, housing, fodder and medicine. Around 10,000 species of plants and a few hundred animal species are involved in this direct relationship of biodiversity and livelihood. 275 million people depend on non-timber forest products (NTFP) for their livelihood. Ecological destruction directly affects these people's lives and livelihoods.³⁸
 - India's 7500-km-long coastline has 12 major and 185 minor ports, and dozens of oil refineries and petrochemical or other hazardous industries along the coast. Many more are in the pipeline, with consequences for marine ecosystems and beaches.³⁹
 - According to the Central Pollution Control Board the 187 coastal towns and cities release 5.5 billion litres of waste-water into the ocean every day. 250 million people live along the Indian coastline, many of them in fishing villages which number 3600. There are also over 4000 sq. kms of mangrove forests, crucial in protection against cyclones. Traditional livelihoods like fishing and sensitive marine ecosystems are both coming under severe threat as India's economic growth makes ever greater demands on resources.⁴⁰
 - In 2005 India generated 146,000 tons of electronic waste. By 2012 this is expected to reach 800,000 tons. In line with the Basel Convention of 1992, the Supreme Court issued an order in 1997 banning the import of hazardous waste into the country. But toxic e-waste still finds its way into the country under the garb of "recyclable" materials. Over the last few years the MoEF has issued permits to several companies to import thousands of tons of toxic e-waste into India.⁴¹
 - Import of several kinds of hazardous and toxic wastes has risen phenomenally in the globalization phase. Plastic wastes, for instance, jumped from 101,312 tonnes in 2003-04 to 465,921 tonnes in 2008-09. Thousands of tonnes of metal waste imported into the country includes the remains of wars in Africa and west Asia, with unexploded devices blowing up every once in a while in recycling units.⁴²
 - According to the Environmental Action Group Kalpavriksh, the Indian government clears 3 mining, industrial or infrastructure projects a day! Besides, at the time of writing, it has over 6000 projects

to monitor through 6 regional offices and a staff of 2-4 officers per office for the task. Projects granted environment clearances are monitored once in 3-4 years. All this makes compliance with necessary environmental laws all too rare. And to make clearances easier, there have been over 30 changes (mostly dilutions) of relevant notifications (Environment Impact Assessment, and Coastal Regulation Zone, both under the Environment Protection Act) in the last decade or so.⁴³

- Despite impressive growth of several sectors in India, the share of the country's budget going directly into environmental work and regulation has remained extremely low (well below 1%, with the 2009-10 allocation being the smallest ever share of the budget).⁴⁴

The Search for Alternatives

- India is witnessing a rapid rise in social and environmental consciousness, and growing action by communities and citizens marginalised by the dominant 'development' process. Thousands of grassroots alternatives already exist, in sustainable farming, decentralised water-harvesting, rural industrialization, renewable energy, relevant education, public health, sustainable urban living, community self-governance and landscape level or bioregional planning, community media, democratisation of markets and production processes, and so on.
- Resistance movements around the country have challenged destructive 'development' projects and processes, stopping or delaying several proposed SEZs, dams, mines, and so on. The 'not in my backyard' syndrome is becoming widespread, coupled with an active civil society demanding 'not in their backyard either'.
- Responding to civil society demands, and against the general tide, the government too has come up some progressive policies, laws and schemes, such as the Right to Information Act, the National Rural Employment Guarantee Act (and scheme), and the Forest Rights Act.



Environmental Impacts

Introduction: Globalisation and environment

In 1992, soon after heralding in the new economic policies constituting globalization, the then Finance Minister of India (now its Prime Minister) Manmohan Singh delivered a lecture on environmental aspects of the reforms in Delhi. His main argument was that environmental protection requires resources, which would be created by the new policies. Two decades later, has his prescription worked?

Broadly, economic globalisation since 1991 has had the following impacts:

- Rapid growth of the economy has required a major expansion of infrastructure and resource extraction, and encouragement to wasteful consumption by the rich. The economy has tended to be demand-led, with no thought given to how much demand (and for what purpose) is to be considered legitimate and desirable, and what its impacts are.
- Liberalization of trade (exports and imports) has had two consequences: rapid increase in exploitation of natural resources to earn foreign exchange, and a massive inflow of consumer goods and waste into India (adding to a rapidly rising domestic production). This has created serious disposal and health problems, and affected traditional livelihoods in forestry, fisheries, pastoralism, agriculture, health, and handicrafts.
- Environmental standards and regulations have been relaxed, or allowed to be ignored, in the bid to make the investment climate friendlier to both domestic and foreign corporations.
- The opening up of the economy to foreign investment is bringing in companies with notorious track records on environment (and/or social issues), with demands to further relax environmental and social equity measures. Domestic corporations have also grown considerably in size and power, and now make the same demands.
- Privatisation of various sectors, while bringing in certain efficiencies, is encouraging the violation or dilution of environmental standards.

Had Manmohan Singh's assertion worked, by now we should have seen a spate of measures and programmes to protect India's environment. But the ecological crisis has only intensified. This, we show below, is an inherent and inevitable outcome of the globalization process. Just as the trickle-down theory does not work for the poor, so too the 'having the resources to invest' assertion does not work for the environment.

We should clarify here that criticism of a number of sectors and activities below, does not mean we are per se against them. We are not saying there should be no mining, no floriculture, no fishing, no exports and imports, and so on. What is crucial is to ask not only whether we need these, but to what extent, for what purpose, and under what conditions, questions that are currently shoved under the carpet. Second, many of the

Anti-dam rally in Hemalkasa, Maharashtra

Coal mining adjacent to Tadoba Tiger Reserve, Maharashtra

trends described below, are not necessarily a product of current globalization. Many of them have roots in the model of 'development' we have adopted in the last five-odd decades, and/or in underlying problems of governance, socio-economic inequities, and others. However, the phase of globalization has not only greatly intensified these trends, it has also brought in new elements that considerably enhance the dangers of this model to India's environment and people.

Infrastructure and materials: Demand is the god

With a single-minded pursuit of a double-digit economic growth rate, demand achieves the status of a god that cannot be questioned. The need for infrastructure or raw materials or commercial energy is determined not by the imperatives of human welfare and equity, but by economic growth rate targets, even where, growth rates may have no necessary co-relation with human welfare.

The last couple of decades have therefore seen a massive increase in new infrastructure creation (highways, ports and airports, urban infrastructure, and power stations). This has meant increasing diversion of land, mostly natural ecosystems like forests and coasts, or farms and pastures.

Between 1993-94 and 2008-09 mineral production in India has risen by 75%. This is manifested in a rapid rise in forest land diverted for mining. If the nearly 15 lakh ha. of forest land diverted for mining since 1981 (when it became mandatory for non-forest use of forest land to be cleared by the central government):

1981-92: 13,000 ha. (8.7%)

1992-2002: 57,000 ha. (38.2%)

2002-2011: 79,000 ha. (53%)

The ecological and social impacts have been horrifying. The blasted limestone and marble hills of the Aravalli and Shivalik Ranges, the cratered iron ore or bauxite plateaux of Goa, Madhya Pradesh, and Odisha, the charred coal landscapes of eastern India, and the radioactive uranium belt of Jharkhand, are all witness to the worst that economic 'development' can do.

Since 1991, some of the world's largest mining companies are investing in India. This includes Rio Tinto Zinc (UK), BHP (Australia), Alcan (Canada), Norsk Hydro (Norway) Meridian (Canada), De Beers (South Africa), Raytheon (USA), and Phelps Dodge (USA). Many of these have as bad or worse environmental and social



records as India's own mining companies.

The direction of policy change has been towards making life much easier for mining companies, e.g. by increasing the area that can be leased out (from 25 sq km in 1996, to 5000 sq km!), exempting larger areas from public hearing requirements, and so on. The 2008 National Mineral Policy even suggests that environmental regulations become voluntary!

The lack of regulation in the mining sector, an inevitable consequence of a demand-driven economy that is trying to meet the greed of India and the world, is clearly indicated in the spate of exposes regarding illegal. In Karnataka alone, 11,896 cases of illegal mining were detected between 2006 and 2009; in Andhra, 35,411 cases.

Exports: Selling our future

Spurred on by active governmental encouragement, India's exports grew at an annual rate of over 25% from 2003-04 onwards, reaching US\$300 billion in 2011-12. Assuming that some level of exports is desirable or necessary, a responsible policy would have at least the following key principles:

- Access of the country's citizens to the products being considered for export is not jeopardized by reduced physical availability or increased costs;
- Extraction or manufacture of these products is ecologically sustainable;
- Rights of local communities from whose areas the resources are being extracted are respected; and
- These communities are the primary beneficiaries.

Unfortunately, exports under globalization have violated each of these principles. Like mining, marine fisheries have been a key target. Exports of marine products have risen from 139,419 tonnes in 1990-91, to 602,835 tonnes in 2008-09. From a handful of products being sent to about a dozen countries, we now export about 475 items to 90 countries. India is now the 2nd largest aquaculture producer (in quantity and value) in the world.

Sounds good, but at what cost?

One study showed that in the states of Andhra Pradesh and Tamil Nadu, the social and environmental costs of shrimp aquaculture were 3.5 times the earnings (annual losses: Rs. 67280 million; annual earnings: Rs. 17780 million). As areas get converted to shrimp farming, local fish that are the staple food of local communities, like mullets (*Mugilidae*) and pearl spot (*Etroplus suratensis*), are eliminated. As marine capture fisheries have also grown to about 3 million tonnes in 2008, there is evidence of over-fishing in the territorial waters (though not in the deeper seas), and overharvesting of several species. This, according to the Report of the Working Group on Fisheries for the 10th 5-Year Plan, is mainly due to the use of the seas as 'open access' with no tenurial rights given to traditional fishing communities. Technologies have also changed.

The government claims that big operators under

the new policies will be allowed to fish only in deep waters, where traditional fisherfolk do not go. But past experience has shown that trawler owners find it convenient and cheaper to fish closer to shore. Also, trawlers continue to be illegally used in the fish-breeding season. Physical clashes between trawler owners and local fisherfolk remain common.

Import liberalization: India as dumping ground

The last decade or so has also seen India emerging as a major importer of hazardous and toxic wastes from the industrial countries. We now import over 100 broad kinds of wastes, of which a few dozen are hazardous. Import of metal wastes is now in several millions of tonnes annually. Import of waste parings and PCV scrap shot up from about 33 tonnes in 1996-97 to 12,224 tonnes in 2008-09. Plastic wastes as a whole more than quadrupled from 101,312 tonnes in 2003-04 to 465,921 tonnes in 2008-09. Corporate giants like Pepsico and Hindustan Lever are often the culprits.

A growing proportion of the imported waste is from the computer and electronic industry. According to an investigation by Toxics Link, an NGO working on waste issues, about 70% of e-wastes found in recycling units of Delhi were those dumped by industrial countries into India.

Consumerism and waste

India's current wave of ostentatious consumerism has its roots in a thirst for foreign consumer products amongst an elite minority. In the 1980s the then Prime Minister Rajiv Gandhi began opening up the import sector, but the biggest thrust to consumerism has come after the economic 'reforms' began.

The rapid rise in production of luxury goods has major ecological consequences from resource extraction (mining, tree-felling, etc.) to production (pollution, working hazards, etc.). The Energy Research Institute (TERI) has documented the rapid rise in the use of non-renewable materials (like minerals), manufactured consumer goods (including those with direct environmental impact like refrigerators and air-conditioners using CFCs), transport vehicles, and so on. This is not just a result of rising populations, but perhaps more due to changing lifestyles. For instance, consumer preferences are changing from non-packaged goods to packaged ones – TERI estimates that consumption of packaged paper will rise from 2.7 kg per person per year in 1997 to 13.5 kg per person per year by 2047. Electronic waste, a phenomenon purely of the last couple of decades, was estimated at 146,180 tonnes in 2005, and likely to go up to 800,000 tonnes by 2012.

Plastics have penetrated the life of Indians in ways no-one would have predicted even two decades back. Since 1991, production capacity of various forms of plastics in the country has shot up from less than 1 million tonnes, to well over 5 million. By 2000-01, India was producing 5400 tonnes of plastics waste per day, about 2 million tonnes per annum (more recent figures not available).

Consumption inequities

In 2007, Greenpeace India produced a report on climate change issues in India, showing that a tiny percentage of India's population was responsible for an inordinate amount of carbon emissions, but this was hidden by the fact that a huge number of low-emission Indians reduced the per capita figures. It found that the richest (those with income above Rs. 30,000 a month) emit 4.5 times (per person) more than the poorest (income below Rs. 3000 a month, well over half of India's population). All 150 million Indians who earn above Rs. 8000 per month are already above the global limit of 2.5 tonnes per capita that scientists consider is necessary if we want to restrict the temperature rise to below 2°C. While general lighting, fans, and TVs are common to all classes (though much more in use by the rich), several appliances were found only or predominantly in rich households... air conditioners, electric geysers, washing machines, electric or electronic kitchen appliances, DVD players, computers, and the like. Secondly, much greater use of transportation using fossil fuels, including gas-guzzling cars and airplanes, characterised the consumption of the rich.

Carbon emissions are only one indicator of consumption inequities. If one adds all the products and services that the richest classes consume, and the wastes they throw out, it is very likely that their overall ecological impact is even more skewed vis-à-vis the poorest classes.

Internal liberalization: Towards a free-for-all?

All industrial countries of the world have gone through a process of tightening environmental standards and controls over industrial and development projects, for the simple reason that project authorities and corporate houses on their own have not shown environmental and social responsibility. In India, there is a reverse process going on.

In 1994 a notification was brought in, under the Environment Protection Act 1986, making it compulsory for environmental impact assessments (EIAs) to be conducted for specified projects. While this notification was weak, and subject to various kinds of implementational failures, it nevertheless injected some degree of environmental sensitivity in development planning. However, it continued to be seen as a nuisance by industrialists, politicians, and many development economists. A committee set up by the Indian government pointed to the need to reduce the environmental hurdle, and a World Bank-funded process to assess environmental governance, also suggested reforms (read: weakening) of this and other regulatory measures. Thus in 2006, despite considerable civil society opposition, the government changed the notification, making it much easier for industries and development projects to obtain permission, and weakening the provisions for compulsory public hearings. The notification also took tourism off the list of projects needing environmental clearance, despite evidence that in many places this was a sector out of control.

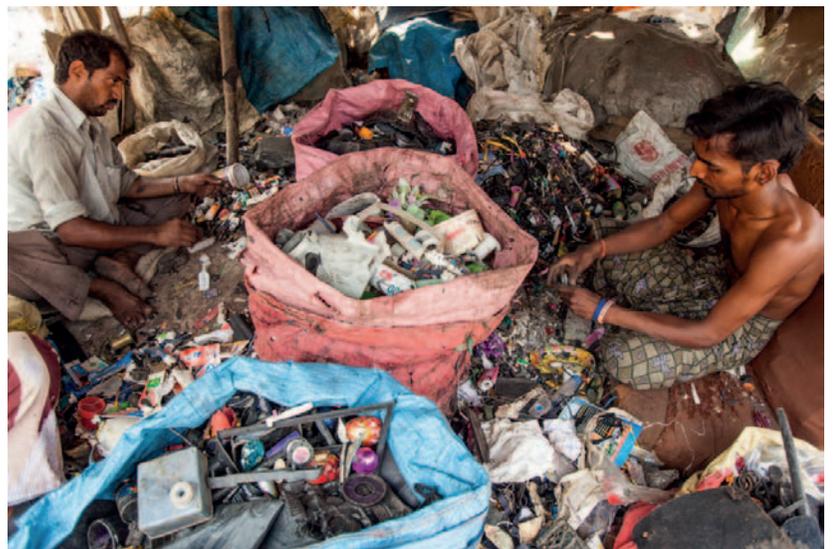
India's rich produce copious amounts of waste

The net result of these changes (and others outlined in this chapter) has been a sharp increase in the number of projects that are seeking and getting environmental clearance, making it impossible for the central Ministry of Environment and Forests (MoEF) to properly scrutinize their implications, or monitor their impacts. As of early 2009, MoEF had over 6000 projects to monitor, with about 20 personnel; projects granted environmental clearance are monitored only once in 3 to 4 years.

The impact of globalization on environmental regulations is nowhere clearer than when examining how the Forest Conservation Act 1980 (under which all proposals for non-forest use of forest land have to get central government permission), has become a Forest Clearance Act. As in the case of mining pointed out above, diversion of forest land has steadily gone up in the globalisation phase. Out of the total forest land diversion that has taken place since 1980-81, about half has been after 2001-02.

In 1991, the Coastal Regulation Zone (CRZ) notification was promulgated under the Environment Protection Act 1986, as a means to regulate activities that could be detrimental to ecological and livelihood interests. Though by no means perfect, and despite indifferent implementation by most states, the notification helped protect many coastal areas and the fishing communities living in them. But for the same reason it became a thorn in the flesh of industrial and commercial interests, and their pressure on the government resulted in about 20 relaxations to the original notification. Then in 2005-6 the government initiated a move to change the notification altogether, proposing a system in which state governments can determine what should and should not be allowed in various zones along the coast. Civil society organizations and fisher communities (through networks like the National Fishworkers' Forum) have severely criticized the proposal for being a sell-out to commercial and industrial interests.

Tourism has received a major boost in the globalization era. From about 140 million domestic tourists in 1996, the figure almost quadrupled to 527 million in 2007; in the same period, foreign visitors increased from 2.29 million to 5.08 million. Several parts of India previously restricted to visitation, have been opened up for tourism in the last few years. This includes ecologically, culturally and strategically sensitive areas like Ladakh, Andaman and Nicobar Islands, Lakshadweep, and many parts of north-eastern India. Other areas, already open before



globalization, are groaning under mass, unregulated tourism activity. Hundreds of cases of violations of the law, e.g. of the CRZ notification by tourist resorts on the coast, have been reported in the last few years (over 1500 cases from Kovalam beach area in Kerala alone). Tiger reserves and other protected areas like Kanha, Bandhavgarh, Corbett, Periyar, Ranthambhor, Bandipur, and Nagarhole, are ringed by resorts that put enormous pressure on the staff and facilities of the reserves, repeatedly violate both the letter and spirit of regulations meant to minimize tourism impact, and contribute virtually nothing to the upkeep of the reserves.

Massive chunks of land in the heart of tribal India, home to some of country's most sensitive communities and some of its best forests, have been (or propose to be) leased to industrial houses for mining, steel plants, and other industries. Finding however that both Adivasi resistance and the hold of the so-called Naxal or Maoist groups⁴⁵ is not allowing any of these plans to materialize, the state government in the name of fighting Naxalism, has armed some Adivasis to turn against their own kind. Termed *Salwa Judum* (peaceful hunt), this has created a civil war like situation, in which hundreds of villages have been forcibly evicted or forced to flee. A high-level committee set up by the Union Ministry of Rural Development, in its draft report had indicted corporate houses like Essar and Tata, in what it called "the biggest

grab of tribal lands after Columbus"; but both this phrase and references to specific corporate houses were removed from its final report. Meanwhile, a report on 'national security and terrorism' by the Federation of Indian Chambers of Commerce and Industry (FICCI), released in November 2009, is a thinly veiled argument to open up central India for exploitation by corporations. (FICCI 2009). It argues that "the growing Maoist insurgency over large swathes of mineral-rich countryside could soon hurt some industrial investment plans" "just when India needs to ramp up its industrial machine to lock in growth and just when foreign companies are joining the party, the Naxalites are clashing with the mining and steel companies essential for India's long-term success." "The other reason for sounding the alarm stems from the increasingly close proximity between the corporate world and the forest domain of the Naxalites.....India's affluent urban consumers have started buying autos, appliances, and homes, and they're demanding improvements in the country's roads, bridges and railroads. To stoke Indian manufacturing and satisfy consumers, the country needs cement, steel, and electric power in record amounts....There is a need for a suitable social and economic environment to meet this national challenge. Yet there's a collision with the Naxalites....Chhattisgarh, a hotbed of Naxalite activity, has 23 per cent of India's iron ore deposits and abundant coal. It has signed memoranda of understanding and other agreements worth billions with Tata Steel and Arcelor Mittal (MT), De Beers Consolidated Mines, BHP Billiton (BHP), and Rio Tinto (RTP). Other states also have similar deals. And US companies such as Caterpillar (CAT) want to sell equipment to the mining companies now digging in eastern India".

Headlong into unsustainability?

Given the way India has treated its environment in the last few decades, environmentalists and social activists have been warning that we are on an unsustainable path of 'development'. This conclusion, born out of observation and experience, was confirmed in a report produced by the Global Footprint Network (GFN) and the Confederation of Indian Industries (CII) (GFN 2008). Released in 2008, this document said that:

- India has the world's 3rd largest ecological footprint, after the USA and China;
- Indians are using almost two times what the natural resources within the country can sustain (or twice its 'biocapacity');
- The capacity of nature to sustain Indians has declined sharply by almost half, in the last four decades or so.

TERI in a study in the late 1990s, concluded that environmental costs in India exceed 10% of the GDP as a result of loss in agricultural productivity, loss in timber value due to degradation of forests, health costs due to polluted water and air and costs due to depleted water resources. Further, the economic loss due to soil degradation resulted in an annual loss of 11-26% of the agricultural output.



Lower Subansiri hydro-project devastating river ecosystem, Arunachal Pradesh

A report on energy scenarios for India has a somewhat positive analysis: "The Indian economy exhibits some robust features of low carbon growth that makes its overall energy and CO2 intensity lower than that of China and comparable to that of the US." Nevertheless, the Report concludes that: "Notwithstanding these signs of optimism, India is by no means on an optimal path towards sustainable development." This is because growth has been very uneven, leaving behind a huge section of the population; and because carbon intensity of the energy sector, relying as it does on inefficient coal technologies and distribution systems, is still one of the highest in the world.

Climate change impact and response

The period since the 1980s, when economic globalisation started being imposed on countries of the South, has seen the greatest rise in emissions leading to warming and climate change. There are several scenarios of the impacts India will face. A rise of one metre in sea levels, which could occur by the early 22nd century, could inundate about 5764 sq.km, displacing over 7 million people. Changes in rainfall patterns, with overall amount increasing, but a decrease in both amount and number of rainy days in many areas, will cause worse droughts and floods than so far experienced. This and increased temperatures could, according to most assessments, reduce foodgrains production (by upto 20% for some crops). Changes in marine water temperatures will affect the productivity of the seas, cause rich coral systems to start dying, and change fish movement patterns in ways that fisherfolk will find difficult to cope with.

While India's global position has justifiably been one of demanding accountability and action from the Northern countries, its domestic policy remains weak and vascillating. In 2009 a National Action Plan on Climate Change (NAPCC) was released. There are some good elements, such as a significant focus on solar power and energy efficiency through dedicated missions. But even these have conceptual and implementational problems (e.g. a focus only on solar and none on other renewables, little emphasis on decentralised energy generation, and several missing sectors in energy efficiency). Many of the other elements (e.g. missions on sustainable agriculture, and water) remain stuck in tired, outmoded strategies with little bold, out-of-the-box thinking. The water mission includes a continuing dependence on big dams, completely ignoring their immense ecological and social costs. In agriculture a major chance to shift away from chemical fertilizers (responsible for about 6% of climate emissions in India) to organic inputs, has so far been missed (the Mission is still under development). There is little or no mention of inequities in how much climate space is occupied by different sections of India's population, and the obscene consumerism of the ultra-rich. The NAPCC has been drafted, and continues to be worked on through its individual missions, with minimal public input and transparency.

Multiple crises: food, water, livelihoods

A very large section of India's population is going through severe and multiple crises: food insecurity, water shortages, inadequate fuel availability, and dislocation of livelihoods with limited alternative options. These have all existed prior to the current phase of globalisation, and even prior to modern forms of 'development'. But they are precisely what 'development' and globalisation is meant to have alleviated; on the contrary, they have been exacerbated, or stayed as severe, for many people and regions.

Take food insecurity. The percentage of the population going hungry has declined from 24 at the start of the 1990s to 22 in 2004-06, a marginal decrease. More tellingly, India has the world's largest number of undernourished people: the Food and Agriculture Organisation (FAO) estimate for the period 2004-06 is 251 million, a little less than a fourth of the country's population. There is still plenty of food available, with foodgrain stocks of the Food Corporation of India (FCI) remaining consistently high, and yet a fourth of Indians go to bed hungry. These are people who simply can't afford to buy the grains, and who are not being reached by the government's welfare schemes; a situation made much worse by the alarming inflation in food prices India has seen at the end of the first of the third millennium. As millions of people get pushed out of ecosystem and small-agriculture based subsistence livelihoods, into the market economy, food can only be obtained with cash, which is a scarce resource for them. Crucial sources of nutrition such as traditional cereals (e.g millets) and pulses, or wild and semi-wild foods from forests and wetlands, have declined both in availability and affordability (e.g. a 26% decline in per capita availability of pulses since the early 1990s).

Water insecurity is as serious. For several million people in both rural and urban areas, access to adequate potable water even for drinking is a struggle. Proximate causes include mismanagement of surface wetlands and subsurface aquifers, degradation of catchment areas that trap rainwater, repeated droughts, excessive concentration of population (in cities), pollution of surface and groundwater sources. At the root of these lie policy failures (relating to wetland and groundwater conservation and management, pollution, and pricing of water), and appropriation by powerful corporations

An example of corporate India's attitude to the environment



and elites (for instance, Coca Cola's bottling plants in many parts of India have deprived local communities of safe groundwater).

Of particular concern is groundwater. Its exploitation for agricultural, industrial and urban purposes, has in many parts of India reached levels where aquifers are dropping alarmingly. Over half the groundwater blocks in rural India are not recharging as fast as withdrawal. In a reply to a question in parliament, the government has stated that in one-third of the country's districts, groundwater is not fit for drinking, due to high levels of iron, fluoride, arsenic, and salinity.

Total use of water in India (at about 750 billion cubic metres) is still well within the water available (about 1869 bcm), but it is projected to level off soon after 2025 and then overshoot by 2050. This, of course, is if we only consider human use; if we need to account for all other functions of water for natural ecosystems and for other species, we realize we are already in a crisis situation.

And finally, there is the crisis of livelihoods, or employment. As ecosystem disruption and land/water degradation intensifies, or as access to natural resources and traditional consumers declines, communities who have been traditionally self-employed (as farmers, hunter-gatherers, fishers, pastoralists, craftspersons, etc), are increasingly impacted. There is no comprehensive estimate of the loss of livelihoods and employment that has taken place so far, itself an indication of how neglected this issue is.

Particularly badly hit are nomadic groups, their migratory routes disrupted, their lifestyles and cultures marginalized, misunderstood or denigrated, and their own younger generations turning away under myriad influences. The Anthropological Survey of

India estimated that there were at least 276 non-pastoral nomadic occupations (hunter-gatherers and trappers, fishers, craftspersons, entertainers and storytellers, healers, spiritual and religious performers or practitioners, traders, and so on). Most of these are threatened, some already extinct or dying, and the people displaced from these livelihoods are either getting absorbed into insecure, undignified, low-paid, and exploitative sector of unorganized labour, or left simply unemployed. The same holds for many of the 40-million pastoral nomads of the country.

Has environment been mainstreamed into national planning?

To return to Manmohan Singh's assertion. Quite apart from the fundamental issue of whether one can bring back what has already been destroyed (e.g. the several hundred thousand hectares of natural forest that have been submerged under dams or mined out or chopped for industry), one can ask: has funding for environmental protection substantially increased in proportion to the problems that globalised 'development' has caused? And has environment become a central part of the planning process?

While the central government allocation to the MoEF has steadily gone up since the early 1990s (from about Rs. 3700 million in 1995-96 to 15000 million in 2009-10⁴⁶), its share of the total budget has remained well under 1% of the total budget. Indeed, it has steadily declined as a share of the total budget, since 2004-05., reaching an all-time low of 0.36% in 2009-10. While the total budget has risen over 5 times in this period (1995-96 to 2009-10), the MoEF budget has risen only 4 times. It is therefore clear that even where the government has



more overall money, it is not putting a proportionally higher amount into environment. Nor have other, related sectors such as non-conventional energy sources, gone up dramatically as a share of the budget.

The annual Economic Survey produced by the Government of India, reviews major trends in the economy and provides an outlook for the coming year. Since the early 1990s, the Survey has included a section on environment, but it has remained an insignificant aside, getting one or two pages out of around 200. And while this has often painted a dismal situation regarding forests, land and water, and pollution, this has never been linked to the years' major economic developments. They do not, for instance, analyse whether the impact of these developments was ecologically detrimental or corrective, nor the implications of environmental degradation for future economic development.

Despite repeated pronouncements of the goal of 'sustainable development', there are no criteria and indicators in use to assess whether we are heading towards such a goal.

Has globalization not benefited the environment at all?

There are undoubtedly a number of environmental benefits of globalization: new technologies relating to renewable energy, pollution control, efficiency, and so on; faster exchange of information and ideas because of the electronics and communications boom; the ability of big corporations to plough in greater resources for ecologically superior technologies.

Yet, there is no indication that these benefits of globalization are anywhere commensurate with the losses it entails, as outlined above. Whatever indications are available, quantitative or qualitative, point to growing ecological unsustainability of the country as a whole, and increasing environmental insecurity for hundreds of millions of its citizens. At best, new technologies will delay ecological collapse, helping us to gain time, and providing some steps in the transition to, a radically different society. But what could such a society look like? What is the alternative to economic globalisation?

Towards Alternatives: Radical Ecological Democracy

Introduction: Radical Ecological Democracy

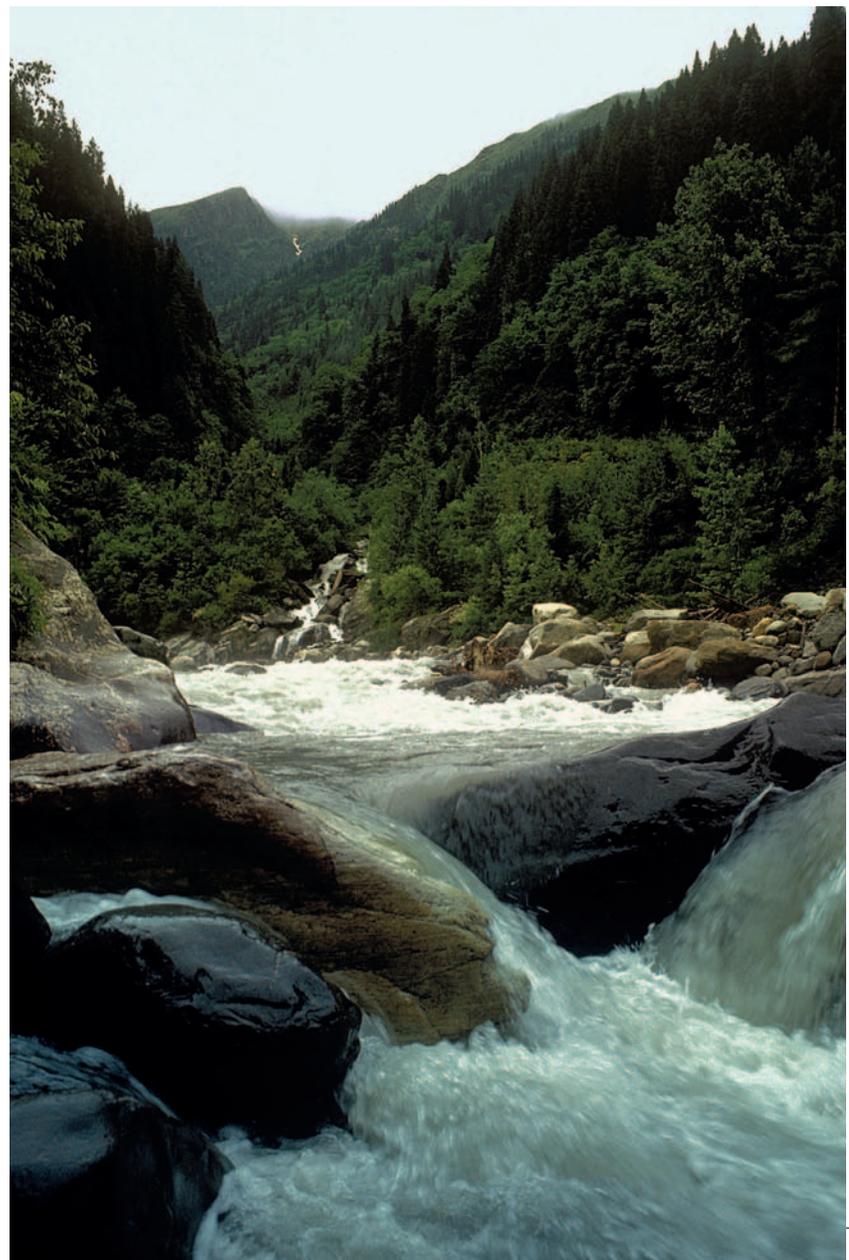
If the real aim of human society is happiness, freedom, and prosperity, there are indeed many alternative ways to achieve this without endangering the earth and ourselves, and without leaving behind half or more of humanity. This applies to India as to any other country, though the specifics of the alternatives will vary greatly depending on ecological, cultural, economic, and political conditions.

Broadly, an alternative framework of human well-being could be called Radical Ecological Democracy (RED): a social, political and economic arrangement in which all citizens have the right and full opportunity to participate in decision-making, based on the twin principles of ecological sustainability and human equity. Ecological sustainability is the continuing integrity of the ecosystems and ecological functions on which all life depends, including the maintenance of biological diversity as the fulcrum of life. Human equity, is a mix of equality of opportunity, full access to decision-making forums for all (which would include the principles of decentralization and participation), equity in the distribution and enjoyment of the benefits of human endeavour (across class, caste, age, gender, race and other divisions), and cultural security.

Linked to these are some basic principles or values that need to be respected: diversity and pluralism (as against the homogenizing tendencies of globalisation), cooperation and collective management of the 'commons' (as opposed to cutthroat competition and individualism), clear human rights and environmental responsibilities for all people, the dignity of labour

Energy security still eludes several hundred million people

Irreplaceable ecological functions of nature need respect and protection



(moving away from intellectual work as being necessarily superior), the pursuit of happiness in a mix of qualitative and quantitative ways (as opposed to full-scale materialism), stress on human relations and customary ways of dealing with conflicts, non-violence, 'deep' democracy in which all people have the right and capacity to participate in decision-making, and respect for the rights of nature and non-human species.

Taking the above principles together (and undoubtedly others that can be added), RED is a continuous and mutually respectful dialogue amongst human beings, and between humanity and the rest of nature. It is also not one solution or blueprint, but a great variety of them. These would include systems once considered valuable but now considered outdated and 'primitive': subsistence economies, barter, local *haat*-based trade, oral knowledge, work-leisure combines, the machine as a tool and not a master, local health traditions, handicrafts, learning through doing with parents and other elders, frowning upon profligacy and waste, and so on. This does not mean an unconditional acceptance of traditions — indeed there is much in traditional India that needs to be left behind — but rather a re-considered engagement with the past, the rediscovery of many valuable practices which seem to have been forgotten and building on the best of what traditions offer. This is not the kind of revivalism that India's right-wing Hindu chauvinists talk about; traditions need to be rescued from those who use them in a bigoted way.

Localisation

Localisation, a trend diametrically opposed to globalization, is based on the belief that those living closest to the resource to be managed (the forest, the sea, the coast, the farm, the urban facility, etc), would have the greatest stake, and often the best knowledge, to manage it. Of course this is not always the case, and in India many communities have lost the ability because of two centuries of government-dominated policies, which have effectively crippled their own institutional structures, customary rules, and other capacities. Nevertheless a move towards localization of essential production, consumption, and trade, and of health, education, and other services, is eminently possible if communities are sensitively assisted by civil society organizations and the government. There are thousands of Indian initiatives at decentralized water harvesting, biodiversity conservation, education, governance, food and materials production,



energy generation, waste management, and others (in both villages and cities). Indeed the 73rd and 74th Amendments to the Indian Constitution (mandating decentralization to rural and urban communities), taken to their logical conclusion, are essentially about localisation. To give some live examples:

- Sustainable agriculture using a diversity of crops has been demonstrated by Dalit women farmer of Deccan Development Society, communities working with Green Foundation in Karnataka, farmers of the Beej Bachao Andolan, and the Jaiv Panchayat network of Navdanya.
- Thousands of community-led efforts exist in Odisha, Maharashtra, Uttarakhand, Nagaland, and other states, at protecting and regenerating forests, wetlands, grasslands, and coastal/marine areas, as also wildlife populations and species.
- 'Communitization' (providing greater local control) of education, health and other aspects has been successfully tried by the government of the north-east Indian state of Nagaland.
- Water self-sufficiency in arid, drought-prone areas has been demonstrated by hundreds of villages, through decentralised harvesting and strict self-regulation of use, such as in Alwar district of Rajasthan by Tarun Bharat Sangh.
- Moving away from the classic model of a city parasitically dependent on the countryside for all its needs is Bhuj (Kachchh, Gujarat). Groups like Hunnarshala, Sahjeevan, Kutch Mahila Vikas Sangathan, and ACT, have teamed up to mobilize slumdweller, women's groups, and other citizens into reviving watersheds and creating a decentralized water storage and management system, manage solid wastes, generate livelihood for poor women, create adequate sanitation, and provide dignified housing for all. Here and in Bengaluru, Pune, and other cities, increasingly vocal citizens are invoking the 74th Amendment to urge for decentralised, local planning.
- For localization to succeed, it is crucial to deal with the socio-economic exploitation that is embedded in India's caste system, inter-religious dynamics, and gender relations. Such inequities can indeed be tackled, as witnessed in the case of dalit women gaining dignity and pride through the activities of Deccan Development Society in Andhra, dalits and 'higher' castes interacting with much greater equality in Kuthambakkam village of Tamil Nadu, and adivasi children being empowered through the Narmada Bachao Andolan's *jeevan shalas*. In any case, there is little evidence that globalisation has in any significant way reduced caste, religious, and gender exploitation, and indeed not brought in new forms of inequality.

Working at the landscape level

The local and the small-scale are not by themselves adequate. For many of the problems we now face are

at much larger scales, emanating from and affecting entire landscapes (and seascapes), countries, regions, and indeed the earth. Climate change, the spread of toxics, and desertification, are examples. Landscape and trans-boundary planning and governance (also called 'bioregionalism', or 'ecoregionalism', amongst other names), are exciting new approaches being tried out in several countries and regions. These are as yet fledgling in India, but some are worth learning from. The Arvari Sansad (Parliament) in Rajasthan brings 72 villages in the state of Rajasthan together, to manage a 400 sq.km river basin through inter-village coordination, making integrated plans and programmes for land, agriculture, water, wildlife, and development. In Maharashtra, a federation of Water User Associations has been handed over the management of the Waghad Irrigation Project, the first time a government project has been completely devolved to local people.

Building on decentralized and landscape level governance and management, and in turn providing it a solid backing, would be a rational land use plan for each bioregion, state and the country as a whole. This plan would permanently put the country's ecologically and socially most fragile or important lands into some form of conservation status (fully participatory and mindful of local rights and tenure). Such a plan would also enjoin upon towns and cities to provide as much of their resources from within their boundaries as possible, through water harvesting, rooftop and vacant plot farming, decentralized energy generation, and so on; and to build mutually beneficial rather than parasitic relations with rural areas from where they will still need to take resources. The greater the say of rural communities in deciding what happens to their resources, and the greater the awareness of city-dwellers on the impacts of their lifestyles, the more this will happen.

Ultimately as villages get re-vitalized through locally appropriate development initiatives, rural-urban migration which today seems inexorable, would also slow down and may even get reversed...as has happened with villages like Ralegan Siddhi and Hivare Bazaar in the state of Maharashtra, those in Dewas district of Madhya Pradesh where Samaj Pragati Sahayog is active, and those in Alwar district of Rajasthan where Tarun Bharat Sangh works.

Governance, local to national

Central to the notion of RED, is the practice of democratic governance that starts from the smallest, most local unit, to ever-expanding spatial units. In India, the Constitution mandates governance by *panchayats* at the village and village cluster level, and by ward committees at the urban ward level. However, these are representative bodies, subject to the same pitfalls that plague representative democracy at higher levels. It is crucial to empower the *gram sabha* (village assembly) in rural areas, and the *area sabha* (smaller units within wards) in cities, or other equivalent body where all the adults of the individual hamlet or village or urban colony are conveniently able to participate in decision-making.

The late Savithriamma, pioneer in reviving home gardens in Uttara Kannada

All critical decisions relating to local natural resources or environmental issues should be taken at this level, with special provision to facilitate the equal participation of women and other underprivileged sections.

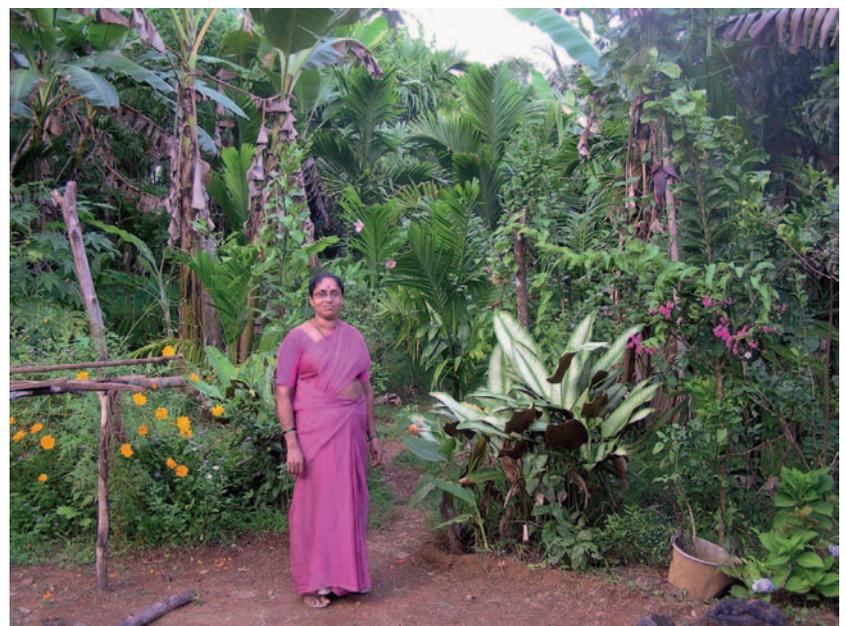
Already there are examples of this, such as:

- The Gond *adivasi* village of Mendha-Lekha (Maharashtra), adopts the principle of 'our government in Mumbai and Delhi, but we are the government in our village'. All decisions are taken by consensus in the full village assembly, based on information generated by *abhyas gats* (study circles). In the last three decades the village has moved towards fulfillment of all basic requirements of food, water, energy and local livelihoods, as also conserved 1800 hectares of forest.
- Apart from the urban examples mentioned above, some cities have moved towards participatory budgeting, with citizens able to submit their priorities for spending to influence the official budgets.

Larger level governance structures need to essentially emanate from these basic units. These would include clusters or federations of villages with common ecological features, larger landscape level institutions, and others that in some way also relate to the existing administrative and political units of districts and states. Governance across states, and across countries, of course presents special challenges; there are a number of lessons to be learnt from failed or only partially successful initiatives such as river basin authorities.

Meaningful education and health

The most relevant knowledge for RED will also be that which disregards the artificial boundaries that western forms of education and learning have created, between the 'physical', 'natural', and 'social' sciences, and between these sciences and the 'arts'. Ecological and human systems are not constituted by such neat boxes, landscapes are not amenable to easy boundaries between the wild and the domesticated, the natural and the human. The more we can learn and teach and transmit knowledge in holistic ways, giving respect not only to specialists but also to generalists, the more we can understand nature and our own place in it. A number of alternative education and learning initiatives attempt to do this: schools like *pachasaale* of the



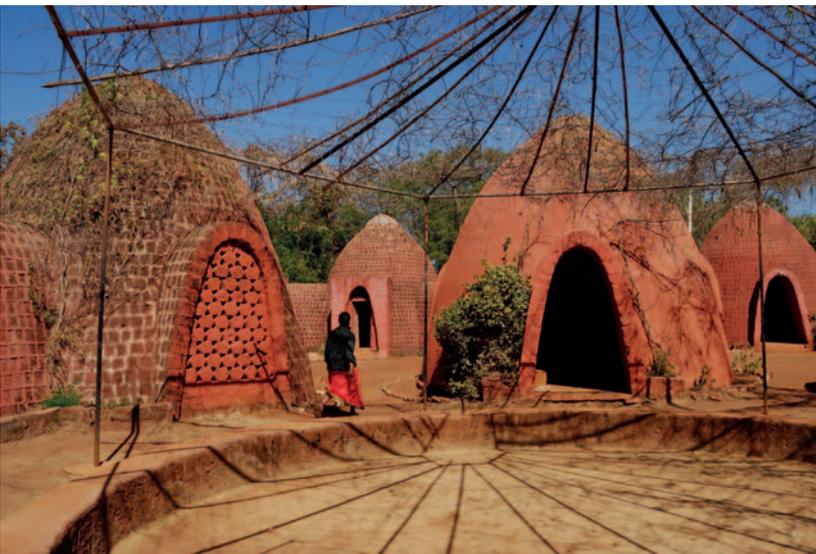
Deccan Development Society, in Andhra Pradesh, and the *jeevan shalas* (life schools) of the Narmada Bachao Andolan, struggling to save the Narmada valley and its inhabitants from a series of mega-dams; colleges like the Adivasi Academy at Tejgadh, Gujarat; open learning institutions like the Bija Vidyapeeth in Dehradun, Uttarakhand (refs), and others.

Similarly, several groups are working on public health systems that empower communities to deal with most of their health issues, through combining traditional and modern systems, and through strengthening the links between safe food and water, nutrition, preventive health measures, and curative care.

Employment and livelihood

The combination of localization and landscape approaches also provides massive opportunities for livelihood generation, thus tackling one of India's biggest ongoing problems: unemployment. Land and water regeneration, and the resulting increase in productivity, could provide a huge source of employment, and create permanent assets for sustainable livelihoods. The National Rural Employment Guarantee Act (NREGA), one of the current government's flagship programmes, as also other schemes such as the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), could well be oriented towards such environment-employment combinations. Also important in the new 'green job' deal would be a renewed emphasis on labour-intensive rural industries and infrastructure, including handlooms and handicrafts, local energy projects, rural roads, and others that people can be in control of, building on their own traditional knowledge or with easily acquired new skills.

The United Nations Environment Programme and the International Labour Organisation estimate that there is considerable employment opportunity in 'green jobs', defined as "decent work" that helps to tackle the ecological crises we face. For instance, organic, small-scale farming can employ more people than conventional chemical-based agriculture. Renewable energy generation, and energy efficiency, as yet in its infancy, could provide jobs to tens of millions. For both farming and energy (generation and efficiency), as also several other sectors, such as transportation, energy-efficient building, decentralized manufacture, recycling, forestry, and others, the potential in India must be truly astounding. Yet no comprehensive study on this potential has ever been carried out.



Economic democracy

RED requires not only a fundamental change in political governance, but also in economic relations of production and consumption. Globalized economies tend to emphasise the democratization of consumption (the consumer as 'king'...though even this hides the fact that in many cases there is only a mirage of choice), but not the democratization of production. This can only change with a fundamental reversal, towards decentralized production which is in the control of the producer, linked to predominantly local consumption which is in the control of the consumer.

Village-based or cottage industry, small-scale and decentralized, has been a Gandhian proposal for decades. Such industry would be oriented to meeting, first and foremost, local needs, and then national or international needs. Since this would be a part of a localized economy in which producer-consumer links are primarily (though not only) local, the crucial difference between such production and current capitalist production is that it is for self and others, primarily as a service and not for profits.

Groups of villages, or villages and towns, could form units to further such economic democracy. For instance:

- In Tamil Nadu, the dalit panchayat head of Kuthambakkam village, Ramaswamy Elango, is organizing a cluster of 7-8 villages to form a 'free trade zone', in which they will trade goods and services with each other (on mutually beneficial terms) to reduce dependence on the outside market and government. This way, the money stays back in the area for reinvestment in local development, and relations amongst villages get stronger.
- In Gujarat, the NGO Bhasha is promoting the idea of Green Economic Zones to encompass dozens of tribal villages, based on the "concepts of sustainability, ecological sensitivity, and an ingrained understanding of the cultural roots of a people".
- The Nowgong Agriculture Producer Company Ltd (NAPCL) in Madhya Pradesh and the Aharam Traditional Crop Producer Company (ATCPC) in Tamil Nadu are examples of farmer-run companies that enable producers directly reach their markets.

Money may remain an important medium of exchange, but would be much more locally controlled and managed rather than controlled anonymously by international financial institutions and the abstract forces of global capital operating through globally networked financial markets. Considerable local trade could revert to locally designed currencies or barter, and prices of products and services even when expressed in money terms could be decided between givers and receivers rather than by an impersonal, non-controllable distant market. A huge diversity of local currencies and non-monetary ways of trading and providing/obtaining services are already being used around the world.

Financial management itself needs to be radically decentralized, away from the mega-concentrations that today's banks and financial institutions represent.

Pachasaale, Deccan Development Society's alternative school

Rally of Narmada dam-affected people, Badwani, Madhya Pradesh

These globalized institutions and the free rein given to their speculative tendencies, have been at the heart of the latest financial crisis. But simultaneously, across the world a host of localized, community-based banking and financing systems have also cropped up over the last couple of decades.

The role of the state

Though communities (rural and urban) will be the fulcrum of the alternative futures, the state will need to retain, or rather strengthen, its welfare role for the weak (human and non-human). It will assist communities in situations where local capacity is weak, such as in generating resources, providing entitlements, and ensuring tenurial security. It will rein in business elements or others who behave irresponsibly towards the environment or people. It will have to be held accountable to its role as guarantor of the various fundamental rights that each citizen is supposed to enjoy under the Constitution of India, including through appropriate policy measures such as the Right to Information Act the government brought in in 2005. Finally, it will retain a role in larger global relations between peoples and nations.

International relations

The reversal of economic globalization does not entail the end of global relations! Indeed there has always been a flow of ideas, persons, services and materials across the world, and this has often enriched human societies. RED, with its focus on localized economies and ethical lifestyles, learning from each other, would actually make the meaningful flow of ideas and innovations at global levels much more possible than a situation where everything is dominated by finance and capital.

India needs to build much better relations with neighbouring countries, based on our common ecological, cultural, and historical contexts. Transboundary landscape and seascape management would be an example, including 'peace zones' oriented towards conservation where there are currently intense conflicts (e.g. the Siachen glacier between India and Pakistan). More globally, strengthening various treaties on peace, rights, and the environment, are a key agenda.



Is such a transformation possible?

RED entails huge shifts in governance, and will be resisted by today's political and corporate power-centres. But in India, there are many signs that a transformation is possible over the next few decades, including:

1. Growing civil society mobilization to resist elements of the dominant economic growth model. There has been a marked growth in mass movements against destructive development projects, especially amongst communities most impacted by displacement or the degradation of their environment, supported by civil society groups in urban areas.
2. Civil society facilitating basic needs: The repeated failure of the state to deliver on many counts, has prompted civil society organizations (community-based, or NGOs) to take on the role of provision of basic facilities and amenities, and of facilitating local empowerment, as illustrated in examples in this chapter. But care is needed that they do not exempt the state from its roles as described above.
3. Policy shifts and reforms: Civil society advocacy and initiatives by progressive individuals from within the state itself, has led to some policy shifts and reforms that are against the general trend of economic globalisation. Three recent legislative measures are examples: the Right to Information Act 2005, the National Rural Employment Guarantee Act 2006, and the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006. Each of these has a base in people's initiatives; e.g. the RTI emerged from grassroots struggles in Rajasthan, Delhi and elsewhere, led by groups like the Mazdoor Kisan Shakti Sangathan (MKSS) demanding access to official records on employment and funding.
4. Technological shifts: Many technological innovations are making human life not only less dreary but also more ecologically sensitive, in industrial and agricultural production, energy, housing and construction, transportation, household equipment. There is also growing appreciation of the continued relevance of many traditional technologies, e.g. in agriculture, textiles and other manufacturing, and other fields. Countries in a 'developing' stage, have

the unprecedented opportunity to leapfrog directly from some of the most wasteful industrial, energy, and transportation technologies, into super-efficient ones, provided they are given the opportunity and support to do so by the industrialized world.

5. Financial measures: A range of reforms in macro-economic and fiscal policies have been suggested to move towards greater sustainability. Shifting subsidies from ecologically destructive practices such as chemical-heavy agriculture, to truly sustainable ones like organic farming, are one powerful set of changes that a number of civil society groups have demanded in India. Taxes that reflect something of the true value of natural resources being used by urban and industrial-scale consumers, discourage ecologically destructive practices including consumerism, and reduce income disparities, would also contribute substantially.
6. Awareness, education, capacity: Ecological and social awareness and the capacity to deal with associated problems has risen exponentially in the last 2-3 decades. Yet amongst decision-makers, and business elites, it remains particularly poor. A transition to RED will require a massive campaign to spread awareness about the multiple crises we face and their root causes, and build capacity to spread meaningful solutions.

India is perhaps uniquely placed to achieve the transformation to RED. This is for a variety of reasons: its thousands of years of history and adaptation (including ancient democratic practices that perhaps pre-date even the famed Greek republics), its ecological and cultural diversity, its resilience in the face of multiple crises, the continued existence of myriad lifestyles and worldviews including of ecosystem people who still tread the most lightly on earth, the powerful legacy of Buddha, Gandhi, and other progressive thinkers, the adoption of revolutionary thinking from others like Marx, zealously guarded practices of democracy and civil society activism, and the very many peoples' movements of resistance and reconstruction. But of course it cannot do this alone, it will need to convince, teach, and learn from, other countries and peoples....which too it has done for many centuries, but now in an entirely new and far more challenging context.



Village-level interaction on natural resource rights, Odisha

Endnotes

- 1 Economic Survey, Government of India, Oxford, New Delhi, 2009, <http://indiabudget.nic.in/es2008-09/chapt2009/chap11.pdf>. Economic Survey, Government of India, Oxford, New Delhi, 2012, <http://www.indiabudget.nic.in/es2011-12/echap-01.pdf>, "India's fourth quarter GDP grows at 5.3%, 6.5% for FY 12", The Times of India, May 31, 2012, <http://timesofindia.indiatimes.com/business/india-business/Indias-fourth-quarter-GDP-grows-at-5-3-6-5-for-FY-12/articleshow/13683804.cms>. Some economists dispute the government's estimates of growth since the mid-1990s. This includes ex-advisors to the government, like Shankar Acharya. See <http://www.hindustantimes.com/StoryPage/Print/455513.aspx>
- 2 Numbers presented have been computed from Economic Survey, Government of India, Oxford, New Delhi, 2010, <http://indiabudget.nic.in/es2009-10/chapt2010/tab132.pdf>
- 3 http://www.fundoodata.com/mnc_companies.php
- 4 Economic Survey, Government of India, Oxford, New Delhi, 2009, <http://indiabudget.nic.in/es2008-09/chapt2009/chap610.pdf>, Foreign exchange reserve data is from RBI, <http://www.rbi.org.in/scripts/WSSView.aspx?id=15032>, and from "India's forex reserves falls to \$286.75 bln – RBI", <http://in.reuters.com/article/2012/07/20/india-reserves-id-INI8E8H102720120720>
- 5 Economic Survey, Government of India, Oxford, New Delhi, 2009, <http://indiabudget.nic.in/es2008-09/chapt2009/chap610.pdf>, Economic Survey, Government of India, Oxford, New Delhi, 2012, <http://www.indiabudget.nic.in/es2011-12/echap-01.pdf>, Foreign exchange reserve data is from RBI, <http://www.rbi.org.in/scripts/WSSView.aspx?id=15032>
- 6 Economic Survey, Government of India, Oxford, New Delhi, 2012, <http://www.indiabudget.nic.in/es2011-12/echap-03.pdf>, <http://indiabudget.nic.in/ub2012-13/bag/bag3.pdf>
- 7 <http://www.expressindia.com/latest-news/PM-warns-G20-fiscal-stimulus-is-too-small/442197/>
- 8 Growth isn't Working, New Economics Foundation, London, 2006 http://www.neweconomics.org/sites/neweconomics.org/files/Growth_Isnt_Working_1.pdf
- 9 http://hdrstats.undp.org/en/countries/country_fact_sheets/cty_fs_IND.html, <http://business.outlookindia.com/article.aspx?101689>
- 10 <http://business.outlookindia.com/article.aspx?101689>
- 11 Report of the Expert Group to Review the Methodology for Estimation of Poverty, Planning Commission, New Delhi, 2009, <http://planningcommission.nic.in/reports/genrep/himanshu.pdf>, http://planningcommission.nic.in/reports/genrep/rep_pov.pdf
- 12 Estimated by the authors, using World Bank Data.
- 13 State of Food Insecurity in the World 2008, FAO, Rome, <ftp://ftp.fao.org/docrep/fao/012/i0876e/i0876e.pdf>; State of Environment Report India 2009, Ministry of Environment and Forests, Government of India. <http://moef.nic.in/downloads/home/home-SoE-Report-2009.pdf>; Economic Survey 2008-09, Ministry of Finance, Government of India.
- 14 National Family Health Survey 2005-06, <http://www.nfhsindia.org/fact-sheet.html>, <http://www.nfhsindia.org/pdf/IN.pdf>
- 15 Mathur, H.M. 2008. Development and displacement: Introduction and overview. In India Social Development Report 2008: Development and Displacement, Council for Social Development, OxfordUniversity Press, Delhi.
- 16 "49,000 slums in India: NSSO", The Times of India, May 27, 2010. The last two figures are cited in Mike Davis, Planet of Slums, Verso, London, 2007, p.24.
- 17 Economic Survey, Government of India, Oxford, New Delhi, 2010, <http://indiabudget.nic.in/es2009-10/chapt2010/tab31.pdf>
- 18 Economic Survey, Government of India, Oxford, New Delhi, 2010, <http://indiabudget.nic.in/es2009-10/chapt2010/tab117.pdf>
- 19 Tamal Bandyopdhyay, "Financial inclusion and my driver Raju", <http://www.livemint.com/2009/08/09220615/Financial-inclusion-and-my-dri.html>, RBI data is from <http://www.thehindu.com/2007/07/02/stories/2007070255241500.htm>
- 20 <http://www.hindu.com/2010/05/13/stories/2010051351651200.htm>
- 21 "Delhi, Bengaluru, Mumbai most affluent cities: Nielsen", Economic Times, September 3, 2009.
- 22 Joint Monitoring Programme for Water Supply and Sanitation, Estimates for the use of Improved Sanitation Facilities, March 2010, WHO/UNICEF. http://www.wssinfo.org/resources/documents.html?type=country_files, Water data is from UNICEF, http://www.unicef.org/india/media_6116.htm
- 23 <http://timesofindia.indiatimes.com/india/Rich-getting-richer-120k-Indians-hold-a-third-of-national-income/articleshow/6088394.cms>
- 24 <http://nationalelectionwatch.org/>
- 25 Manshi Asher, Rifat Mumtaz, Amitabh Behar, "Rivers for sale", <http://infochangeindia.org/200510085608/Agenda/The-Politics-Of-Water/Rivers-for-sale-The-privatisation-of-common-property-resources.html>
- 26 India's Ecological Footprint: A Business Perspective, produced by GFN and CII, New Delhi, 2008, http://www.footprintnetwork.org/es/index.php/GFN/press/indias_demand_on_nature_approaching_critical_limits_report_finds/
- 27 The numbers have been estimated by the authors using World Bank data on income distribution. The assumption made is that a rupee of GDP that accrues to the wealthy and the rich in the country leaves the same resource and carbon footprint as a rupee of GDP that is earned by the poor. Thus, if the share of the GDP that accrues to the top 10% of the country's population is 30% and that going to the poorest 10% is 3%, the ecological footprint of the rich is roughly 10 times that of the poor. In making international comparisons – which must correct for different costs of living across countries – we have taken recourse to the standard international dollar PPP method used in World Bank calculations. Thus, \$1 in India in 2007 commanded as much goods and resources as \$2.88 in the US in the same year. So, for instance, a rich individual with the Indian rich's per capita income of \$8,000 annually commands as much as an individual earning \$23,000 (\$23,000 x 2.88) per annum in the US.
- 28 State of Environment Report: India 2009, MoEF, Gol, New Delhi, 2009, p.92.
- 29 <http://timesofindia.indiatimes.com/news/environment/global-warming/India-carbon-emissions-to-triple-by-2030-Study/articleshow/4967294.cms>, <http://www.guardian.co.uk/environment/2008/jun/13/climatechange.carbonemissions>
- 30 "Coal reserves may be over by 2040", <http://www.livemint.com/2008/09/08002208/Coal-reserves-may-be-over-by-2.html>, Centre for Strategic and International Studies, Washington DC, 2009, http://csis.org/files/publication/sam_132.pdf
- 31 Economic Survey 2008-09, Department of Economic Affairs, Ministry of Finance, Government of India, Delhi.
- 32 Maude Barlow and Tony Clarke, Blue Gold, LeftWord Books, New Delhi, 2004, p.24, 64, P.Sainath, "Dry Village, Lush Water Park", The Hindu, June 22, 2005, India Business Directory: Amusement Parks, available at <http://www.indiastudychannel.com/business/Category11.aspx>. The data on per capita availability is from N. Chattopadhyay (Director, Indian Meteorological Department, Gol), "Climate Change and Food Security in India", International Symposium on Climate Change and Food Security in South Asia, Dhaka, August 25-30, 2008.
- 33 http://www.wamis.org/agm/meetings/rsama08/S402-Chattopadhyay-Climate-change_Food-Security.pdf, State of Environment Report: India 2009, MoEF, Gol, New Delhi, 2009, p.94
- 34 <http://economictimes.indiatimes.com/News/Economy/Agriculture/Monsoon-shows-signs-of-revival/articleshow/4981836.cms>
- 35 Y.C.Deveshwar, "When Indian Inc understands its social obligation", Indian Express, Oct.8 2005, <http://www.indianexpress.com/oldStory/79648/>, "Farming Sand", Down to Earth, Nov.14, 2008, <http://www.indiaenvironmentportal.org.in/node/267019>, "Uttarakhand's growth push discounts long-term concerns, Down to Earth, Nov.30, 2006, <http://www.indiaenvironmentportal.org.in/node/6302>, "Quarrying renders land barren", The Tribune, Sep.27, 2001, <http://www.tribuneindia.com/2001/20010927/haryana.htm#1>
- 36 State of Environment Report: India 2009, MoEF, Gol, New Delhi, 2009, p.55. <http://www.ias.ac.in/currsci/jul252008/216.pdf>
- 37 Data supplied by Ministry of Environment and Forests, in response to Right to Information applications filed by Kalpavriksh.
- 38 State of Environment Report: India 2009, MoEF, Gol, New Delhi, 2009, p.73.
- 39 Securing India's Future: Final Technical Report of the National Biodiversity Strategy and Action Plan Process, TPCG and Kalpavriksh, Delhi, 2005; M.Bajaj, The Impact of Globalization on the Forestry Sector in India with Special Reference to Women's Employment, Paper for National Commission on Labour: Group on Women and Child Labour, 2001.
- 40 Rahul Goswami, "Coastal cities need to clean up their act", <http://infochangeindia.org/Environment/Coastal-Nightmares/Coastal-cities-need-to-clean-up-their-act.html>, NDTV, "India's Dying Beaches", <http://www.youtube.com/watch?v=DjU1UPCQjfg>
- 41 See Endnote 43.
- 42 http://www.cpcb.nic.in/oldwebsite/Electronic%20Waste/Final-Ewaste-Documents/Executive_Summary.pdf, <http://feeds.bignewsnetwork.com/?sid=287941>, <http://www.toxiclink.org/mediapr-view.php?pressrel-num=99>
- 43 Department of Commercial Intelligence and Statistics, Ministry of Commerce and Industry, data supplied on Right to Information application by Kalpavriksh, February 2010; Krishnan, M. and Unnithan, S. 2004. Ticking time bombs. India Today Online, 25 October. <http://www.india-today.com/itoday/20041025/nation2.html>
- 44 Kanchi Kohli and Manju Menon with Sanchari Das and Divya Badami, Calling the Bluff, Kalpavriksh, New Delhi, 2009.
- 45 'Naxalism' or 'Maoism' are loose labels to a range of strongly leftist groups in parts of eastern and central-southern India (especially in areas of tribal concentration), that have been waging armed struggles for land rights and other issues for many years. The Government of India terms them the country's biggest internal security threat, a perspective not shared by several independent observers.
- 46 Figures not adjusted to a baseline; it is therefore more relevant to look at the trend of the share of the budget that MoEF is allocated, over this period.



The material for this publication is based on *Churning the Earth: The Making of Global India*, by Aseem Shrivastava and Ashish Kothari, Viking/Penguin, 2012. Some facts have been updated as available in mid-2012. The section 'Globalisation, economy, society and environment' was compiled by Aseem, while the sections 'Environmental impacts' and 'Towards alternatives' were written by Ashish.

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Designed by Vipul Sangoi, with inputs from Shiba Desor

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Kalpavriksh (KV) is a civil society organisation working on environmental education, research, campaigns, and direct action. It believes that a country can develop and prosper meaningfully only when ecological sustainability and social equity are guaranteed, infused with a sense of respect for and oneness with nature, and with fellow humans.



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