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Cover: The Kingfisher.
Apart from housing almost the entire colour spectrum within its feathers, it links the three realms on earth: land, water and sky.
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Develop and perish?

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Humanity entered the 21st Century with two strongly contrasting views on the future. One pointed to a new millennium filled with the hope of information technology, genetic engineering and revolutions in health and medicine; the other showcased the irretrievable destruction of our life support systems through toxic wastes, global warming, land degradation, climatic change, and the loss of biodiversity. The former suggested that humanity was the best thing that could have happened to the earth, the latter said it was the worst.

Which viewpoint one tends towards is likely to be partly dependent on one's place in society. Are you one of India's lucky ("hard-working") citizens, who subscribes to an English newspaper, avoids the vagaries of Mumbai's or Kolkata's or Delhi's or Chennai's weather by travelling to an air-conditioned office in an air-conditioned car and curses the slums that line the road you travel on? Or are you one of the villagers whose fellow tribals were shot dead by the police, because you happened to be protesting against the takeover of your ancestral lands and forests by a foreign mining company in Orissa? Or, for that matter, while resisting displacement by a dam in Jharkhand, dispossession by a commercial trawler in the waters off Kerala's coast, or loss of your forest and agricultural lands by a tourist resort in Maharashtra?

That's a silly question, you'd say, for such a villager would surely not be reading *Folio*. Very right. Even less likely to be reading this article are any of the species of plants and animals which, solely due to human destructiveness, are today facing the final prospect of extinction. Not one or two, but thousands of them, as humanity's bulldozing effect on natural ecosystems undermines their very basis of existence.

But then the victims of what we educated people call "development" do not need to read this article, as much as we ourselves do. For it is our middle and upper classes that benefit from this development and clamour for more and more of it. More big dams, more power stations, more superstores crammed with more consumer goods, more

Neeral Vaghelkar

Left: Mining in Goa, mass-scale destruction of biodiversity and the environment.

Below: A classic example of the conventional view of development: destroy nature for human prosperity.

expressways that can take us to our destinations faster, more of everything . . . except, perhaps, wisdom?

The cost of development

Worldwide, the commercialisation of agriculture, the growth of the industrial economy, and the more recent push towards globalisation, have all taken a heavy toll of biodiversity and the livelihoods of those directly dependent on natural resources. Conservative estimates put the global loss of forest, fisheries and agricultural productivity, caused by over-exploitation, pollution, and other factors, at tens of billions of dollars. This does not even take into account the loss of critical ecosystem values (especially hydrological) and the social, cultural, and non-quantifiable economic losses, which could be even greater than the financially quantified ones. For India, only piecemeal estimates are available: for instance, the Tata Energy Research Institute estimates that forest degradation causes the loss of about Rs. 57 billion worth of loss in wood produce alone. If one were to add to this, the loss of non-timber forest produce (absolutely critical for the survival of tribal and other rural communities), the damage would be astoundingly high. Possibly even greater is the loss relating to the destruction of natural habitats which results in an increasing cycle of droughts and floods and more erratic rainfall. Forestry, fisheries, and agriculture account for over 30 per cent of India's GDP, yet the biological diversity that forms their base gets virtually no place in the budgets and plans for these sectors.

Ashish Kothari

If you thought that as an urbanite, you are immune to this, think again. Were it not for the reservoirs that protect reservoirs providing Mumbai with at least 30 per cent of its drinking water, its citizens or municipality would have to pay through their noses to bring water from longer distances. Cut down the forests of the Shimla water catchment sanctuary, and that city will die for lack of water. Where mangrove forests along Orissa's coasts had been destroyed for "development", the cyclone that hit this state in 1999 caused hundreds of crores worth of damage; where these forests were still intact and acted as a buffer, the damage was contained.

The impact of the neglect of biodiversity in development planning can be seen in several sectors:

Agriculture: The Green Revolution's stress on promoting monocultures of "high-yielding varieties", has yielded significant production increases. However, the cost has been greater, and we are now paying for it. Foremost is the rapid erosion of crop and livestock (including poultry) diversity, especially from farmers' fields and the pastoralists' pastures. This loss of diversity has undermined the stability of farming systems, led to loss in soil fertility, made farmers more dependent on markets and outside agencies, reduced nutrition once obtained from "wild" foods on farms (e.g. fish and prawns in traditional rice fields), increased the need for expensive and poisonous chemical fertilizer and pesticides, and eroded the genetic diversity on

which continuous crop and livestock development is based. The impact is greatest on tens of millions of small farmers and pastoralists. The current draft agricultural policy fails to integrate these issues, focussing as it does on high-yielding hybrids and varieties, large-scale agro-processing, and other such strategies that have already eroded biodiversity and sustainability.

Water resources development: Development of water resources for irrigation, drinking water and other purposes, has been fixated on mega-projects. Big dams and irrigation projects have submerged several hundred thousand hectares of forests, displaced millions of people who have in turn put further pressure on natural resources, and led to damages in downstream aquatic and marine habitats. The proposed National Water Policy makes some of the right noises regarding sustainability, but does not centrally integrate biodiversity and livelihood concerns. The relationship between watersheds and biologically diverse catchments, for instance, remains neglected.

Tourism: One of our most rapidly growing industries, tourism, has led to deforestation, enormous waste generation, and cultural pollution. Even "ecotourism", the latest buzzword, is more a greenwash than anything else. The 9th Plan does not deal with ecological aspects of tourism in a major way. Critical gaps remain in devising truly ecologically friendly modes of tourism, and in promoting the livelihoods of local communities based on more sensitive tourism.

Energy and infrastructure: These are perhaps the sectors in which integration of biodiversity concerns is the weakest. Environment impact assessment procedures remain weak and ineffective (see box). In the last decade or so, the greatly accelerated thrust towards increasing road, rail, and other infrastructure, to meet the demands of the liberalised economy, has also resulted in a renewed attack on biodiversity-rich areas and on the natural resource base of millions of people.

Such attacks on India's natural resources are not a matter only for the board-room discussions of wealthy upper class "environmentalists". Witness, for instance, the repeated agitations by millions of fisherfolk along India's coast. Their main demands: ban commercial trawling in Indian seas, stop all commercial shrimp/prawn

The EIA farce

A key tool meant to ensure that economic development does not undermine the ecological basis on which all life depends, is Environmental Impact Assessment (EIA). Unfortunately, a series of recent events has shown what a farce this system has been reduced to, and made people realise what needs to be done to rescue and use its full potential.

In 1994, the Environment Impact Assessment (EIA) Notification (under the Environment Protection Act, 1986), made it legally mandatory for 29 industrial and developmental activities to get environmental clearance from the centre. Each of these activities needs to follow a specified procedure, for instance, the preparation of a detailed EIA report and its evaluation by an Impact Assessment Agency. In 1997, the notification was amended to include, as mandatory, a public hearing to be conducted before a project is considered for clearance.

EIAs and public hearings are, on paper, progressive tools in the direction of sustainable development planning. EIAs are supposed to give a full understanding of the impact of a proposed project on nature and people, and help assess whether the project should or should not be built. They also form the base of mitigatory plans if the project is approved. A Public hearing is the only forum that local residents and concerned groups have, to come face to face with project proponents and government authorities and to voice their suggestions and objections.

However, the implementation of both is ridden with concerns. One of these is the preparation of fraudulent and fabricated EIAs, disturbingly commonplace. The international consultant Ernst and Young recently made headlines, when NGOs exposed one of its EIAs, for a dam in Karnataka as being a total lift-off from a previous EIA done on a different dam. Unfortunately, the public condemnation that Ernst and Young got for this, did not deter Tata Energy Research Institute (TERI), which was later contracted to do the EIA for the same project, from producing a shoddy and incomplete report.

There are several reasons for such a situation. Many of the guidelines for EIAs are outdated and incomplete. Expertise to carry out professional EIAs is inadequate, or not easily available. Most serious, however, is the fact that EIAs are usually funded by those who are proposing the project, thereby making independent studies very difficult. The severe lack of public involvement, and non-availability of the full EIA document to the public, are other critical problems. While NGOs and local residents have used public hearings as a forum to raise the lacunae and loopholes in the existing EIAs, the government is under no obligation to incorporate the objections raised in such a hearing. Sometimes, despite serious objections by residents and NGOs along with evidence of negative impacts, projects have been granted clearance, like in the case of a barge mounted power plant in Dakshin Kannada district of Karnataka.

The EIA notification could be one of the most effective means of conserving biodiversity by checking destructive industrial development. However, the above problems need to be tackled to make it so. Most important, EIAs need to be commissioned with funding independent of the project proponents, and be carried out by agencies with a clear track record of integrity. Public involvement needs to be built in centrally, at all stages of the process. Without such changes, these essential tools will remain largely paper tigers.

Kanchi Kohli and Ashish Kothari

farming, implement the Coastal Regulation Zone stipulations restricting destructive activities upto a certain distance inland from the sea, and promote traditional sustainable modes of fishing. The connection between biodiversity in the seas and their own livelihoods, was very clear to these fisherfolk, but had been ignored by those in government who plan fisheries development.

Do we have an alternative?

Are environmentalists only the "no-no" brand of romantics and misguided anti-nationals that the proponents of today's development model label them to be? Not quite. Even while protesting against this model, many environmentalists, community activists and sensitive academics, scientists and government officials, are pointing to concrete alternatives, which enhance human welfare in tune with the dynamics of nature. Some examples:

- In agriculture, hundreds of farmers and groups are successfully enhancing biodiversity while also increasing productivity and employment potential through organic farming systems. In Zaheerabad area of Andhra Pradesh, Dalit women have demonstrated that biologically diverse farming, linked to a people-centred public distribution system, can considerably enhance livelihoods, employment and the nutritional status of the poorest people (see article on Agriculture, in this issue).
- In water development, experiments in diverse agro-climatic conditions show that decentralised water harvesting with catchment protection can provide enough for drinking and agriculture, while actually regenerating and maintaining biological diversity. In Alwar district of Rajasthan, for instance, several hundred villages have boosted agricultural production and eradicated drought, through a network of small checkdams (*johads*), regenerated catchment forests, and helped revive disappearing wildlife populations.
- In tourism, residents of the Rathong Chu and Khangchendzonga region of Sikkim have moved towards an ecologically sensitive model of visitation that provides sustained benefits to local people and fisherfolk at sites in Goa have protected turtle nesting sites as these attract the discerning tourist.
- In industry, several experiments with small-scale units using natural dyes, medicinal plants, non-timber forest produce and other biological resources, are demonstrating that sustainable use is possible and desirable. In the Biligiri Hills of Karnataka, for instance, the Vivekananda Girijan Kalyana Kendra has worked with Soliga tribal cooperatives to manage sustainable harvests of medicinal plants, and process them into saleable products.

There are, however, some sectors of our "globalising" economy that remain largely immune to the demands of sustainability. In energy development, for instance, scientists like A.K.N. Reddy and groups like PRAYAS have suggested alternatives focusing on efficiency in production and distribution, and non-conventional sources, but these remain neglected by the decision-makers. Infrastructure development, in particular ports, expressways and so on, have a long way to go to build in environmental concerns.

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Left: Gond adivasi in Mendha (Lekha), Maharashtra, successfully establishing community-controlled natural resource management and livelihood generation in tune with nature.

Below: Hill top lake in Nako, one of the highest round-the-year habitated villages of the world. In the harsh, almost rainless, high altitude desert of Kinnaur, local communities have channelled the snow melt from the high peaks, over kilometres. With this sole source of water they've grown an oasis of some of India's most amazing almonds, apples, apricots and diverse crops.

For the first time, a comprehensive attempt to build an alternative development vision based on biodiversity concerns, is taking place under the ongoing National Biodiversity Strategy and Action Plan. Voices from the grassroots, from practitioners of alternative development strategies, from those who understand the workings of the system and how to change it, will all get built upon in the preparation of this plan. A working group may be set up to integrate biodiversity across all the sectors of the upcoming 10th Plan. If this happens, it could send a clear signal to all central ministries and State governments, that it is time they took biodiversity and nature seriously. The NBSAP could be one small step in the right direction. Ultimately, however, it is only strong citizens' pressure, of the kind mounted by millions of fisherfolk in relation to the fisheries policy, that will alter the course of destructive development our country has taken.

WTO: a right denied

Ashish Kothari

Farmers shout anti-government slogans in Chandigarh demanding that the government withdraw from its WTO agreement. Some hold portraits of freedom fighter Bhagat Singh – also a farmer – hanged during British rule.

Reuters

Remember the Dunkel draft, or GATT? In the early 1990s, these words were at the centre of an explosive national debate. It denoted the emerging face of the international trade system, and the thrust of industrial countries to promote one legally binding regime that would apply to all countries. In 1995, over 100 countries entered into such a regime, meant to remove trade barriers and, in theory, promote economic development across the globe. Several different agreements – on agriculture, on tariffs, on subsidies, on sanitary measures, and on intellectual property rights – came under one roof, the World Trade Organisation (WTO). Initially resistant, the Indian government finally gave in and joined the regime.

Just over half a decade later, the widespread controversy that preceded the coming into force of the WTO, the debates that made "Uncle Dunkel" a favourite whipping boy, are back again. On April 1, the Indian government lifted "quantitative restrictions" (QRs) on over 700 items of industrial, agricultural and domestic products. In 2000, it had already lifted such barriers on several hundred other items. Suddenly, the economy, sheltered by customs duties and restrictions of various kinds, has been opened up to a flood of cheap goods that will be the delight of the urban elite consumer class, but the despair of tens of millions of farmers, fisherfolk, tribals and small manufacturers. Promises of continued protection, simultaneously made by the government, appear to be more a cruel All-Fools Day joke than a long-term measure of security.

What does the WTO do? It forces countries to open up their economy to a virtually free flow of imports and exports, controls on which are increasingly removed. It denies countries the right to protect their fledgling or weak industrial and agricultural sectors. And in the context of this issue, it compels countries to ignore, or weaken as deliberate policy, the controls that are so essential to protect natural environment and people's lives that are dependent on this environment.

International trade has conventionally been destructive of biodiversity and people's livelihoods, by encouraging over-exploitation of natural resources, creating pollution through increasing transportation, habitat loss by infrastructure development, and so on. WTO did not create such impacts, but it will greatly enhance them. This it is will do by forcing countries to:

- relax export rules that to date prohibit or restrict the exploitation of forests, fisheries and minerals, encouraging, for instance, destructive shrimp aquaculture along coasts or the unrestricted export of medicinal plants;
- encourage export policies that spread monocultures (single-species plantations), e.g. of flowers, export-oriented cash crops, and a handful of market-favoured crop varieties;
- relax import rules that control the unhindered dumping of all kinds of products, including polluting and hazardous wastes and exotic species/varieties of plants and animals that could wipe out indigenous species;
- adapt intellectual property rights regimes (through the Trade Related IPR agreement or TRIPs), including compulsory patents on micro-organisms, that are inappropriate to local conditions, increase the piracy of biodiversity and indigenous knowledge, and will relegate farmers to second-class citizenship by providing huge sops to seed corporations;
- accept with few conditionalities, investment in several sectors by foreign industrialists and firms, with little regard for its ecological and social impacts.

The WTO does have some "safety" clauses which allow countries to impose restrictions and conditions based on public health, environment, or ethical reasons. However, these are generally lost under the sheer weight of the free trade verbiage, and it has proved rather difficult for countries to deny liberalisation using such reasons. The Indian Government has promised to use these and other discretionary powers to safeguard the country's interests . . . but all indications are to the contrary and indeed, it seems that the country is in a hurry to abide by most of the WTO conditions well before we even need to. Since the early 1990s, a combination of the IMF-World Bank influenced "globalisation" process and the WTO-dictated measures on import-export, have increasingly driven India's natural environment and the people who live on this environment, to the edge of a precipice. The only hope is the widespread resistance, in India and across the world, from farmers groups, NGOs, fisherfolk associations, and many sensitive governments, to the imposition of the WTO.

In the final analysis, the WTO juggernaut can only be defeated through such resistance, coupled with the use of other international agreements such as the Convention on Biological Diversity, and initiatives towards more self-reliant production systems based on biodiversity, ecological sustainability, and social justice.