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Environment and the New Economic Policy

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The natural environment has been viewed by conventional economists and development advocates as an exploitable resource, and a sink into which the wastes of economic development can be thrown. This view ignores the fact that for the majority of people on earth, and particularly in so-called "developing" countries, the natural environment forms the very basis of survival. Forests, land, and water-bodies directly meet the food, water, housing, energy, medical, and cultural needs of much of humanity. When these resources are targeted by development planners for commercial use, or for appropriation by a small elite in the name of some unspecified "national interest" and the single-minded pursuit of economic growth, it is the lives and livelihoods of these people which are threatened. Much the same world-view guides the planners of India's economy, and at no time has this been clearer than in the 1990s, particularly with the Structural Adjustment Program (SAP) under the IMF and World Bank aegis and the reforms under the New Economic Policy (NEP) of the government.

A review of the impact of the NEP on India's environment and on those communities which depend directly for their subsistence and livelihood on the natural environment has been done in a series of annual articles in the *Alternative Economic Survey* of earlier years. With half a decade of the NEP over, and with a possible change of government coming into India, it is an opportune moment to take a look at this impact, particularly its qualitative aspects. In the last five years, evidence strongly suggests that each of the major components of the NEP is having a severe environmental (and consequently social) impact:

i. The liberalisation of trade has had two consequences: the move towards an export-led

model of growth is rapidly sacrificing natural resources to earn foreign exchange, as was especially seen in the fisheries and mining sectors; secondly, there has been a sudden flood of consumer goods and toxics coming into India, creating serious waste disposal and health problems.

ii. The move towards industrial and agricultural liberalisation has resulted in industries increasingly ignoring environmental standards, and state governments sacrificing natural habitats and prime food-growing land to make way for commercial enterprises; in addition, the goals of equity are being given up, e.g. in the move to relax land ceilings to allow agro-industrial expansion.

iii. The opening up of the economy to foreign investments is bringing in companies with notorious track records on environment, and with demands to further relax social and environmental measures.

iv. Privatisation, while bringing in certain efficiencies, is encouraging the violation or dilution of environmental standards, and the neglect of social services/goods for the poor.

Exports: Selling our Future

While easy reliance is being placed on exports as a means to drive the economy forward and to ease the Balance of Payments crisis, this is being done without an overall policy which would ensure that:

■ the domestic availability of the products is not jeopardised.

- the exports do not cause domestic prices to skyrocket;
- the exploitation of natural resources to extract/produce these products is ecologically sustainable;
- the rights of local communities from whose areas the resources are being extracted are respected; and
- these communities are the primary beneficiaries of exports.

Unfortunately, the NEP violates each of these principles. The clearest examples of this destructive thrust are in the case of fisheries and aquaculture, floriculture, cash cropping, and mining, which are all amongst the fastest growing export sectors.

Exports of fish and fish products as a whole, with marine products as their major component, have risen from 159,000 tonnes, valued at Rs. 960 crores, in 1990-91, to 321,000 tonnes, valued at Rs. 3537 crores, in 1994-95 (*Economic Survey 1995-96*). In the period 1991-94, 82 companies were given clearance for joint (foreign and Indian) venture marine fisheries using 265 deep sea fishing trawlers. Further clearances have been frozen due to protests from traditional fisherfolk - but more on that later.

Not surprisingly, joint ventures being allowed into India are all export-oriented. According to available data, fishery stocks in most of the world's seas have been either exploited to their full potential, or over-exploited; one of the exceptions being the Indian Ocean. It is obvious that the major fishing companies, and the rich fish-eating nations, are eyeing our waters. Unfortunately, lured by the foreign exchange prospects, our government has given in to this unjustified and unsustainable demand. Proponents of trawling claim that these ventures 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 (Kurien, *J. Economic and Political Weekly*, February 11, 1995). Also, trawlers are often used in the fish-breeding season, during which time

traditional fisherfolk usually give the seas a rest. The results, for India's marine ecosystems and traditional fisherfolk, are already proving to be disastrous. Physical clashes between trawler owners and local fisherfolk are a common occurrence.

Both the public and private sectors have big plans for aquaculture in the country. Fisherfolk and farmers along the coasts will be seriously hit by the spate of new prawn and shrimp farming ventures which are being cleared. There has been a rapid expansion of such aquaculture, largely oriented to the foreign demand for seafood. Such farming involves intensive management of coastal ecosystems, oriented to a single species; this invariably disrupts the delicate salinity balance of coastal areas, causes pollution, and reduces their biodiversity. In many countries of the world (Thailand, Mexico, Ecuador), such farming has destroyed large stretches of mangrove forest, and caused serious pollution (Greenpeace International: *Coastal Aquaculture in the Context of the CBD 1995*). In India, surveys by the National Environmental Engineering Institute (NEERI) have shown serious negative impacts in Orissa and other states. The environmental and social repercussions have been shown to have economic implications also; for instance, the report notes that in Tamil Nadu, there was a net loss of Rs. 142 crores due to damage to farm land and salt pans, wage losses to farmers, fall in rice production, and losses in fishing income (Viswanathan, S: *Survival Stakes: The Battle on the Aquaculture Front, Frontline*, July 14, 1995). Since large-scale operations standardised to meet stringent export requirements are affordable mainly by big companies, benefits hardly go to small fisherfolk.

Other studies of farms which have been set up in the last few years, for instance in the Nagai Quaid-e-Milleth district of Tamil Nadu, and the Nellore district of Andhra Pradesh, have shown that serious pollution problems have been caused by prawn farming, and that per unit of area, aquaculture has provided less than half the employment that farming previously did (Raj, Jacob D. and Dharmaraj,

Daisy; Aquaculture, A Boon or a Bane; Andhra Pradesh Experience. In V. Shiva (ed.), *Biodiversity Conservation: Whose Resource? Whose Knowledge?*, INTACH, New Delhi, 1994). Considerable depletion of ground-water has taken place, and salinity of the water and of the soils on land surrounding the aqua-farms, has increased significantly. Threats have been reported to the biodiversity and livelihood resources of other ecologically sensitive areas like the Pulicat Lake Sanctuary (straddling A.P. and Tamil Nadu) in the Indian coastline.

Other sectors slated for major export-oriented production are agro-products (including processed foods) and floriculture. One of the consequences of this is the loss of genetic diversity, which is largely ignored. Export markets and large-scale agro-industries typically demand standardised uniform products, and result in the replacement of a high diversity of indigenous crops by a few so-called high-yielding varieties. Already a single variety of Basmati rice, favoured by foreign consumers, has replaced dozens, possibly hundreds of other local varieties of rice. Pepsi has reportedly encouraged farmers to grow one particular variety of tomato, which is suited to its production process. Kentucky Fried Chicken is reported to have delayed the start of its operation in India because it wants a special variety of maize-fed chicken, which it will introduce to replace the local Indian breeds.

From 1991 to 1994, 41 joint ventures for export-oriented flower production were approved. Intensive floriculture can be ecologically destructive, given that production is highly dependent on the use of fertilisers, pesticides and other artificial inputs. It is also likely to push out the small farmer, who will not have the necessary

resources to invest, in favour of the large farmer and the private corporation. Indeed, as will be shown below, state governments are increasingly considering relaxing the limits to land-holdings, to encourage large commercial farming by the corporate sector.

Mining is another major thrust area for investments, especially related to exports. 1994 saw major changes in the National Mining Policy and amend-

ments in the Mines and Minerals Development Act, primarily towards easing investments by the private sector, including foreign concerns. The concern is that in the desire to cash in on the country's vast mineral resources, neither state governments nor

private companies are likely to bother about such niceties as natural resource conservation and local community rights. Mining, especially surface mining, is extremely devastating, as witnessed in the vast desertscapes created in the iron ore belts of Goa, the limestone belts of Rajasthan and Uttar Pradesh hills, the coal belts of east India, and other areas. As an example of what is to come, Orissa's export earnings have risen by 36% per annum over the decade, with minerals topping the list of items exported; what is ignored is that this has been at the cost of large-scale deforestation and dispossession of lands from tribal communities.

A final indication of the impact of an export-led economy are the revisions made, in April 1993, in the policy regarding export. In one sweeping move, some 144 items and sub-items were removed from the negative list of exports, including the export of threatened plant and animal species. The notification removed or severely diluted restrictions on the export of wild orchids, *kuth* extract of

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With the acceptance of the World Trade Organisation (WTO) regime, the above trends can only intensify. Also pushing the unsustainable thrust towards export oriented exploitation is India's continuing heavy debt-repayment burden.

Import Liberalisation: Consumerism and Import of Toxic Waste

The consumerism thrust that the 1980s witnessed - already a cause of serious ecological damage and social distortions - is likely to pale into insignificance in comparison to what is coming now. Flashy advertisements for elite products towering above an ugly cluster of squatter's hutments; this classic visual of riches in the midst of increasing poverty is now a common sight in any of India's cities. While the social consequences of this consumerism boom are frightening enough, the environmental implications are also serious. The rapid rise in production of luxury goods has serious ecological consequences from resource extraction (mining, tree-felling, etc.) to production (pollution, working hazards, etc.). After consumption too, environmental impacts are felt in the increasing wastes which are generated. In this respect the phenomenal rise in the use of plastics, detergents, and other non-biodegradable or hazardous materials in the last few years is alarming.

The last few years have also seen India emerging as a major importer of toxic wastes from the industrial countries, much as has happened to many other tropical countries in the past. According to information unearthed by Greenpeace International, hundreds of tonnes of plastic, metal, lead, copper, and other wastes are coming into India from countries like Australia, Canada, U.K., and U.S.A., ostensibly for recycling (Public Interest Research Group: *Toxic Waste Trade: A Primer*, New Delhi, 1994). Undoubtedly a substantial part of this does get recycled, but much also gets dumped as it is not reusable, while the recycling process itself yields serious effluents. Greenpeace International reports that an Indian company, Futura Industries of Tamil Nadu, has imported 10,000 metric tons of plastic waste since 1992 for recycling. Futura has admitted that 30-40% of this could not be reused. Between 1997 and 1993, imports of lead acid battery wastes from Australia increased nearly three fold from 1,26,000 kg. to 3,46,000 kg. In 1995, India was even considering opposing the ratification of the Basel Convention, banning trans-boundary movement of toxic waste, but public pressure fortunately persuaded it to withdraw its opposition.

Internal Liberalisation: 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, that of loosening, in policy or in practice, the environmental safeguards so painstakingly built up over the 1980s.

For example, there was a considerable delay in issuing a notification making environmental clearances legally mandatory for certain types of development projects. This notification, drafted and twice opened for public objections in the early 1990s by the Ministry of Environment and Forests (MoEF), was kept pending with the Prime Minister

It was finally gazetted in 1994, but in a considerably diluted form. For instance, a provision that development projects near ecologically fragile areas would need special clearance, has been dropped. This dilution is due to severe opposition from industrialists and politicians, whose objections are simple: when all regulations are being removed, and the economy is moving into fast gear, why impose environmental regulations?

A simple argument, but deadly in its consequences. In no industrialised country of the world are development projects, even privately owned ones, given a free reign over how and what natural resources they can use, and what they are to do with the adverse social and environmental impacts of their activities. These issues are subject to stringent regulations, including environmental clearance procedures, siting considerations, monitoring exercises, and penalties for violations. Such regulations have been put into place after learning the hard way, that an uncontrolled development process is a recipe for ecological and social suicide. In India, the Government under reforms is now dismantling the environmental regulations and opening the way for environmental disaster.

The Union Minister for Environment and Forests recently admitted that the Forest Conservation Act of 1980, which helped to reduce the diversion of forests for non-forest purposes by subjecting this diversion to scrutiny by the central government, is itself being challenged by state Chief Ministers, who now see it a roadblock to industrialisation. In late 1995, the Rajasthan State Government issued a directive to its forest officers to identify forest lands which could be denotified for mining purposes, openly defying the Forest Conservation Act. The MoEF is itself considering leasing forest land for industrial plantations, ostensibly to reduce pressure on natural forest lands. This move has been opposed for years by environmentalists and

local communities as good forest areas may be leased out in the guise of degraded forest lands, and the dependence of local poor people (especially pastoralists) on degraded lands and grasslands will be denied if these lands are leased to industry. Alternative suggestions regarding farm forestry to meet industrial demands have so far been ignored by the MoEF. Fortunately, widespread protests have so far stalled the move.

For those who have struggled to save India's last few wildlife habitats from destructive processes in the last few decades, the NEP presents horrifying prospects. The 1990s have seen a spate of proposed and actual denotifications (or degazetting) of national parks and sanctuaries in various states. Both the declaration and management of such wildlife protected areas is

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in the hands of state governments, as is the procedure for their denotification. Taking advantage of this, the Himachal Pradesh government took the lead in 1992, denotifying the Darlaghat Sanctuary to make way for a cement factory. Nationwide protests after this fact became public forced the government to renotify a smaller portion of the previous sanctuary, but the damage had been done. Gujarat followed in 1993, with the denotification of the Narayan Sarovar Sanctuary, a critical habitat for wildlife typical of the western arid zone and coastal ecosystem interface. Once again, the beneficiary is a cement factory. NGO protests reduced the damage, as the government renotified a portion of the sanctuary, but over 300 sq. km. were still sacrificed.

Several other areas are threatened with denotification. Bhattarkanika Sanctuary in Orissa, home to the world's largest nesting congregation of the endangered Olive Ridley sea turtle, may be truncated in size to accommodate trawling jetties and roads. The proposed denotification of a part of the Marine National Park in the Gulf of Kutch, Gujarat is another such example. Reliance

Industries proposes to set up a refinery on the Kutch coast, in collaboration with the Japanese firm, C. Itoh. In one of its project documents, Reliance had explicitly sought the denotification of a part of the national park, even giving details of the areas to be denotified. ('Reliance Refinery Complex', undated, Reliance Group of Industries). These included the famous Piretan Island and surrounding coral reefs. In the same document, Reliance stated that C. Itoh, its collaborator, "required, in principle, clearance of limited denotification of marine park". The implication, not explicitly stated but obvious, was that in the absence of this and other conditions being met, C. Itoh would not be interested in collaborating.

Relaxation of environmental measures is taking place in other fields too. In the 1992-94 budget, the government announced a five-year tax holiday for new industries being set up in Industrially Backward Areas; this has now been extended to all Backward Areas by the Department of Revenue. Since such areas are defined primarily from the narrow economic point of view, almost invariably they are areas where the last vestiges of natural habitats and traditional cultures remain. And so in large parts of the country which have so far been free from a distorted industrial development (Kutch, Ladakh, Andaman and Lakshadweep Islands, Bastar), industries are being given a red-carpet welcome by the new policies. Gujarat, for instance, has industrial projects worth Rs. 5000 crores pending for the Kutch area. With virtually no monitoring by official environmental agencies in these "remote" areas, and with weak local NGO presence, this process is inevitably going to lead to ecological devastation and social disruption on a massive scale.

A sample of the industrial policy reforms which some states have announced, as listed in the *Economic Survey 1994-95*, gives a taste of things to come:

- Haryana has set up a High Powered Committee to take spot decisions on foreign investments, NRI projects, and 100% export-oriented

projects; it has also announced that all projects will be cleared through the State Pollution Control Board within 15 days.

- Kerala has introduced a Green Channel Scheme to expedite clearances
- Punjab has constituted a committee to provide land "off the shelf", and is formulating a policy to ensure clearances within 24 hours of the submission of a proposal.
- Rajasthan has exempted 155 SSI industries from obtaining a No Objection Certificate from the State Pollution Control Board, and reduced the number of industries to be inspected under the Factories Act from 15 to 3.

In each of these cases, it is clear that the state governments attach no importance to the critical environmental appraisal process which industries must go through: it is impossible for such an appraisal to be done within 15 days (Haryana), much less within 24 hours (Punjab), not to mention "on the spot" (Haryana)! The whittling down of the list of industries requiring pollution clearances and Factories Act inspection (which includes the plant's working environment and state of maintenance), by Rajasthan, is even more chilling.

Apart from the threat posed by liberalisation to our air and water, there is a direct attack on land resources also. As noted above, Punjab is ready to sell land "off the shelf". In an astounding move, state governments are considering relaxing their Land Reforms Acts and land ceiling rules, to make way for the massive land holdings which industrial projects, commercial farming, aquaculture, and floriculture will require. Similar moves are also being initiated in Karnataka and other states.

In yet another twist to this game of depriving the poor to benefit the rich, the Andhra Pradesh state government has hit upon a new way of circumventing the constitutional guarantees given to tribals. In most parts of the country, tribal lands cannot be transferred to non-tribals, to protect the

interests of the former. However, in Andhra Pradesh, the state government has given itself the powers to take over tribal lands; now, it is acting as a front to lease tribal lands for mining to about 15 private companies. Amongst the beneficiaries is the Birla group of companies, one of India's largest corporations. The losers, of course, are the tribals and the forests of the area, including of the ecologically sensitive Eastern Ghats belt.

The latest thrust under the NEP is for tourism. Several states are opening up areas previously restricted for tourists, including sensitive border areas of the north and north-east. Among the areas to be opened up for this are ecologically sensitive habitats in Pachmarhi, Kanha, Bandhavgarh, and Pench - all currently protected areas for wildlife. In Andaman Islands, there has been a spate of tourism related structures coming up on the coast, in violation of the Coastal Zone Regulations.

Foreign Investment

The transfer of hazardous industries and commodities, as has already happened in other developing countries, becomes much more possible with the NEP and wooing of foreign capital. Information on the foreign companies who are investing in India confirms this view. Among the multinationals who have a notorious environmental record, and whose investments in India have already been approved, are Imperial Chemical Industries or ICI (UK), Du Pont, Monsanto, and Cargill (all USA), Shell (Netherlands), and Ciba Geigy (Switzerland).

One of the major areas targeted by foreign corporations is pesticide production. Recently the *Economic Times* reported that several "major international players in the pesticide industry are now scouting for partners to set up shop in India". These include Japan's largest pesticide company, Kumiai Chemical Industries, as also Nippon, Hokke Club, Mitsubishi, Atochem, Dow Chemicals, and Du Pont. The intentions are clear. The *Economic Times* quoted a Du Pont official as saying that there was vast market potential in India: "In Japan, the

average use of pesticides per hectare is 10 kg. In India, it is 450 gm. Considering that India is mainly an agricultural economy, the industry has ample scope to grow." This, at a time when the world is moving away from pesticides towards biological pest control and organic farming.

An example of what this move by entails is provided by collaborations which have already been approved. Ciba Geigy, which justifiably earned notoriety when it tested pesticides on Egyptian children, plans to manufacture Monocrotophos, in collaboration with its Indian counterpart Hindustan Ciba Geigy. Monocrotophos is classified as a "highly hazardous" pesticide by the World Health Organisation, and is banned or severely restricted in many countries. Yet it is freely being used in India. Since Ciba Geigy's technology to produce it is no longer of use in industrialised countries, what better way to make a killing than to transfer it to countries like India?

The ridiculous extremes to which the new open-door policy can go is highlighted by the proposal to import cowdung from Holland! A more harebrained scheme for a country which has the world's largest livestock population would be hard to think. This has been seriously proposed by a Dutch firm, Seaswan R.V., in collaboration with an Indian fertiliser and pesticide company, EID Parry. The proposed label "Envirodung" will hide the fact that the dung may contain residues of the chemicals used in the intensive livestock farming systems of Holland (Public Interest Research Group: *Cowdung from Holland: Action Alert*, 1995). Indeed, these residues, which in Holland leak into the ground-water, are the major reason the Dutch government want to get rid of the dung. The proposal, fortunately, was buried after strong protests.

Another indication of the eagerness of the Indian government to please foreign investors and major Indian industries is the alacrity with which it has proposed an Intellectual Property Rights (IPR) system for new plant varieties. Under GATT, India is obliged to introduce a *sui generis* IPR system

for plants; however, it has a five year grace period in which to do so, and there is no obligation to follow any existing model of IPR legislation. However, under pressure from seed companies and powerful multinationals who want monopolistic rights to the varieties they produce, the Agriculture Ministry has not only already drafted a Plant Varieties Act, but more or less modelled it after the International Convention for the Protection of New Varieties of Plants (UPOV) which restricts farmers and researchers from access to genetic material.

Once we are on the road to accepting private IPRs on life forms, there is no way we will be able to resist the global trend to make such IPRs more and more monopolistic, affecting both farmers and the crop genetic diversity which they have developed and continue to depend. India could well have adapted a system of protection which gave common/public/community rights to plants, which oblige breeders to publicly share their inventions while assuring them financially adequate and socially acceptable returns, which emphasised diversity rather than uniformity in the use of crops, and which used public good rather than private profit as the major incentive for creativity (as has so far been done in the public sector seed development programme). But Cargill and Imperial Chemicals Industries (ICI) and WR Grace would not have liked that, so it was not to be.

The Economic Survey, Environment, and Equity: Lip-service

The *Economic Survey* every year reviews the major trends in the economy and provides an outlook for the coming year. For the last three years, the official *Economic Survey* of the Government of India has included a section on environment, previously absent. However, the environment section is an insignificant component (e.g., all of 2 pages out of 183 in the 1995-96 Survey), tucked away in the chapter on Infrastructure. It is clearly being treated like an irritating aside which has to be paid lip-service.

The section on environment gives a general picture of the dismal situation regarding forests, land and

water, and pollution, and then lists a few steps that the government is taking to tackle these. It does not link the year's major economic developments with this situation, it does not, for instance, analyse whether the impact of these developments was detrimental or corrective. Nor does it do the reverse: analyse the implications of the environmental situation for future economic development in India.

This failure is all the more glaring because the facts presented in this brief section all point to the need to drastically review the economic policies of the country. Perhaps this is why no analysis is presented, for if done honestly, the government would have to admit that the environmental crisis is an outcome of these very policies. The 1994-95 Survey admitted, for instance, that:

- industrialisation has put severe pressure on natural resources;
- 90% of water in 74 I Class II cities is polluted
- 54% of the urban and 97% of the rural population do not have sanitation facilities

The 1995-96 Survey adds other tales of woe. Yet, both Surveys fail to state that the nature of economic activities of the past few years (or for that matter of the 1990s as a whole) have only served to put further pressure, cause more pollution, destroy more forests; and on the other hand, the drastically increased budgets that would be required to tackle the pollution and sanitation and other problems have not been forthcoming. It does not draw the logical conclusion from the data presented: that mechanised trawling, large-scale aquaculture, intensive cash cropping, mining, indiscriminate industrial growth in ecologically sensitive ("backward") zones, and other activities which are now being promoted, must be halted and alternative forms of economic activity sought which do not cause irreversible ecological damage.

Exploring Alternatives, Strengthening People's Movements

Any meaningful transformation in India must tackle the patently unequal control over natural resources (especially land, water, and

forests) which allows the minority elite to race towards a luxurious 21st century, at the cost of further dispossessing the poor of whatever little they have. This transformation must also redirect the present model of development, which is socially iniquitous and ecologically unsustainable.

The true alternative to the economic crisis lies in getting away from both an over-centralised system, which existed since Independence, and an excessively privatised one, which is looming on the horizon. Community management of resources needs to be revived, with a clear set of rights and obligations for local communities, governmental agencies, and voluntary organisations. If sustainable development is the goal of economic policies, then there is much to learn from the many genuine people's and governmental developmental efforts that are scattered throughout India. The watershed and land management experiments of Ralegan Siddhi (Maharashtra) and Sukhomajri (Uttar Pradesh), involving villagers with the help of some enlightened individuals have turned food and cash deficit villages into surplus economies (Agarwal, A. and Narain, S; *Towards Green Villages*, Centre for Science and Environment, New Delhi, 1990). Ralegan Siddhi is in fact quite an eye-opener, for it is in one of India's most drought-prone areas (an average rainfall of 400 mm), and has achieved adequate water supplies for drinking and agriculture through rainwater harvesting, without the help of a costly, debt-incurring big dam (Pangare, G. and Pangare, V. *From Poverty to Plenty. The Story of Ralegan Siddhi*, INTACH Studies in Ecology and Sustainable Development 5, New Delhi 1997). These experiments have also ensured a greater degree of equity in the distribution of the resultant benefits than has been possible in most government programmes. Such equity has been the hallmark of another unique effort, the water management and distribution system of Pani Panchayat in

villages of Pune district of Maharashtra. Then there are the dozens of efforts at switching to organic farming, either through traditional methods or new ones, reducing or eliminating completely the need for expensive, ecologically disastrous, and fossil-fuel guzzling chemical fertilisers and pesticides.

Simultaneously, people's groups along with intellectuals are working out policy and legal alternatives to the present developmental and governance system. Scientists and activists have proposed a People's Nature, Health, and Education Bill, with detailed provisions for governing resources from the village to national level (Gadgil, M. and P.R. Seshagiri Rao; *People's Nature, Health and Education Bill. Technical*

Community management of resources needs to be revived, with a clear set of rights and obligations for local communities, governmental agencies, and voluntary organisations.

Report 55, Centre for Ecological Sciences, Indian Institute of Science, Bangalore, 1995). A widespread process of consultation in the 1990s led, in 1995, to the formulation of a People's Forest Act, as an alternative to the present act which is a carry-over from colonial times (Sama; *Parivartana Samudaya: Amended Draft Forest Bill 1995 - NGOs*, Centre for Tribal Conscientization, 1995).

While this quiet constructive work of sustainable development and alternative policy formulation goes on, there is increasing people's resistance to the NEP. Mass protest and public debate are having some effect not only on individual projects but on the policies themselves.

Most significant and widespread was the agitation of 7 to 8 million fisherfolk, with a series of mass actions, including three nation-wide strikes in the last two years, against the deep-sea fishing policy. Apart from achieving impressive following amongst fishing communities, the agitation, supported by a cross-section of intellectuals, scientists, and politicians, led the Government of India to appoint a committee to review of the policy on deep-sea fishing. After an year of consideration, the committee recommended that all permits for joint

venture or charter vessels for deep sea fishing should be cancelled (subject to legal processes), and that no such permits should be given in future. For Indian fisherfolk, this is a major victory; they have shown that sustained resistance coupled with informed debate can force the withdrawal of a major component of the NEP.

Significant successes elsewhere also signalled hope:

- Sustained opposition by villagers and activists stalled work on the Du Pont-Thapas Nylon plant in Goa for years; the agitation reached a head in early 1995 when a young boy was killed in police firing during a demonstration against the plant, and villagers in retaliation burnt structures on the plant premises. Du Pont finally to move out of Goa, but are now encountering resistance from villagers near the new proposed site in Tamil Nadu.
- In Orissa, a mix of environmental and political opposition stalled the proposed denotification of Balukhand Sanctuary, to make way for a hotel complex, until the government dropped the proposal. Similar opposition continues to protect the Bhitarkanika Sanctuary from the proposed development of jetties and roads. In Gujarat, the High Court ordered a stay on the denotification of the Narayan Sarovar Sanctuary, based on a petition by environmental NGOs. The stay did not last long, as the state government managed to obtain legislature approval for the denotification; however, it had to renotify a substantial part of the sanctuary.
- Pressure from concerned politicians, public interest legislation by environmental groups, and mass protest by farmers in other states halted the indiscriminate expansion of aquaculture along many parts of India's coasts. In Tamil Nadu, an NGO coalition "Campaign Against Shrimp Industry" was formed; 40 Members of the Legislative Assembly in Orissa demanded a total halt to such farming; and several international groups like the Mangrove Action Project appealed for a boycott of shrimp and prawns imported from India. Acting on a writ

by the Tamil Nadu Gram Swaraj Movement and PREPARE, the Supreme Court asked for a stay on further allotment of land for aquaculture till further hearings. In a belated move in late 1995, the Government of India issued guidelines on how to make aquaculture more environmentally friendly, though these are not comprehensive, and leave most critical decisions to the state's discretion.

- The MoEF's proposal to lease forest lands to industry for growing commercial plantations, was quietly hushed after intense opposition from environmental and social action groups. These groups are keeping a close tab on events, as proposals such as this have a habit of resurfacing time and again.
- Greenpeace International joined Indian groups in demanding a halt to toxic waste exports from industrial countries to India.
- The Indian Government's proposal to amend the Indian Patents Act, to bring it in line with GATT, has been twice defeated in the Rajya Sabha, thanks to some intense political lobbying by NGOs and intellectuals.

These successes and moves are certainly helping to buy time. But the most pressing need is for environmentalists, social activists, and sensitive academics to work out an alternative strategy for the economic renewal of the country, a strategy which is socially sensitive and environmentally sustainable. Elements of such a strategy are present in the widespread mass movements built around natural resource conflicts, in the various alternative energy, agricultural, and industrial projects which are successfully being run by citizens' groups and a handful of government agencies across the country, and in the alternative governance models which are being practiced in several areas. But unless these elements can be bound together into a comprehensive conceptual and practical alternative, the powerful forces unleashed by the NEP will lead the country over the brink of survival.