



Dr. M.K. Ranjitsinh,
Additional Secretary

तार :

Telegram : PARYAVARAN,
NEW DELHI

दूरभाष :

Telephone : 3 6 2 2 8 1

टेलिक्स :

Telex : W-66185-DOE IN

भारत सरकार

पर्यावरण एवं वन मंत्रालय

GOVERNMENT OF INDIA

MINISTRY OF ENVIRONMENT & FORESTS

पर्यावरण भवन, सी. जी. ओ. कॉम्प्लेक्स,

PARYAVARAN BHAWAN, C.G.O. COMPLEX

लोदी रोड, नई दिल्ली-110003

LODI ROAD, NEW DELHI-110003

D.O.NO.J=18038/1/90-CS

April 19, 1991

Dear Shri Verma,

This relates to our exercise for formulating a National Conservation Strategy and Policy Statement on Environment and Development. In this context, a Committee was constituted by this Ministry and the Committee submitted a report containing the following:

1. Draft Policy Statement on Environment and Development.
2. Strategy for Conservation and Sustainable Development.

2. You may kindly recall that we had circulated the above mentioned report seeking your comments/suggestions vide our letter No.J=19038/1/90=IA.III dated 15th June, 1990 (copy of the letter enclosed for ready reference).

3. Based on the suggestions received from various Central and State Government Departments, as also non-governmental organisations, we have prepared a document on National Conservation Strategy and Policy Statement on Environment and Development. I am enclosing a copy of the Paper for your reference.

4. Before the document is finalised, we would request you to consider it and revert to us with any suggestion that you wish to make. Side by side, we also request you to send us a brief outline of the action that you will like to take under the purview of the strategy and policy statement in order to implement the same once it is approved.

Looking forward to your response at a date not later than 15th of May, 1991.

With kind regards,

Yours sincerely,

Shri ~~Verma~~ Verma,
Secretary,
Planning Commission,
Yojana Bhavan,
New Delhi.

(M.K. Ranjitsinh)

सचिव कार्यालय
Member Secretary's Office
डाकरी सं०
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सचिव कार्यालय
Secretary's Office
दिनांक 25-4-91
Date 26-4-91

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We shall get this examined on priority.

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Adv(E&F)

5.10.19 (1554)

5.10.11 (1554)

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K. Madhava Sarma
Additional Secretary

तार :

Telegram : PARYAVARAN
NEW DELHI

दूरभाष :

Telephone :

टेलिक्स : 362281

Telex : W-66185 DOE IN

भारत सरकार

पर्यावरण एवं वन मंत्रालय

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पर्यावरण भवन, सी. जी. ओ. कॉम्प्लेक्स

PARYAVARAN BHAWAN, C.G.O. COMPLEX

लोदी रोड, नई दिल्ली-110003

LODI ROAD, NEW DELHI-110008

No.J-18038/1/90/IA.3

15th June 1990

A committee under the chairmanship of Dr.M.S.Swaminathan was set up by this Ministry for recommending the framework and operational details of a National Conservation Strategy. The Committee has since submitted its report and I enclose a copy of the report. The report contains the following :

- i. Draft Policy Statement on Environment and Development.
- ii. Strategy for Conservation and Sustainable Development.

2. The recommendations of the Committee are being considered in this Ministry before further action is taken. Meanwhile, it will be very useful to have your comments/suggestions, particularly in regard to institutional mechanisms suggested in the Draft Policy Statement. An early response from your end will be appreciated.

With regards,

Yours sincerely,

Sd/

(K. Madhava Sarma)

F.No.J-18038/1/90-IA.III

DRAFT

NATIONAL CONSERVATION STRATEGY
AND
POLICY STATEMENT ON ENVIRONMENT AND DEVELOPMENT

MINISTRY OF ENVIRONMENT & FORESTS

GOVERNMENT OF INDIA

OCTOBER, 1990

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1. PREAMBLE

Survival and well being of a nation depend on sustainable development. It is a process of social and economic betterment that satisfies the needs and values of all interest groups without foreclosing the future options. To this end, we must ensure that the demand on the environment, from which we derive our sustenance, does not exceed its carrying capacity for the present as well as future generations.

2. In the past, we had a great tradition of environmental conservation which taught us to respect nature and to take cognisance of the fact that all forms of life - human, animal and plant - are closely interlinked and the disturbance in one gives rise to imbalance in others. Even in modern times, as evident in our Constitutional provisions, environmental legislation and planning objectives, conscious efforts have been made for maintaining environmental security along with the developmental imperatives.

3. Nevertheless, over the years, there has been progressive pressure on the environment and the natural resources, the consequences of which are becoming increasingly evident in alarming proportions. These consequences reduce the gains of development and worsen the standard of living of poor who are totally dependent on natural resources. It is clear that we need to give a new thrust towards conservation and sustainable development if our quest for alleviation of poverty is to progress.

4. The National Conservation Strategy and the Policy Statement on Environment and Development are in response to the need for laying down the guidelines that will help to integrate environmental considerations into the fabric of our national life and of our development process.

It is an expression of our commitment for reorienting our policies and actions with the environmental perspective.

II ENVIRONMENTAL PROBLEMS : NATURE AND DIMENSIONS

5. Environmental problems in India can be classified into two broad categories :

- a. those arising from conditions of poverty and underdevelopment; and,
- b. those arising as negative effects of the very process of development.

The first category has to do with the impact on the health and integrity of our natural resources (land, soil, water, forests, wildlife, etc.) as a result of poverty and the inadequate availability, for a large section of our population, of the means to fulfil basic human needs (food, fuel, shelter, employment, etc.). The second category has to do with the unintended side effects of efforts to achieve rapid economic growth and development. In this latter category, would fall the distortions imposed on natural resources from poorly planned development projects and programmes, as well as from lack of attention to long term interests.

6. Population is an important resource for development and yet it is a major source of environmental degradation, when it exceeds the threshold limits of the support systems. Unless the relationship between the multiplying population and life support systems can be stabilised, development programmes, however innovative, are not likely to yield the desired results. It is possible to expand the 'carrying capacity' through technological advances and spatial distribution. But, neither of these can permit unlimited population growth. Although technological progress will add to the capabilities for sustaining a large number of population, the need for a vigorous drive for population control can hardly be over emphasised in view of the linkage between poverty, population growth and the environment.

1. Causes, not categories.

2. Many more, eg:

- a) carelessness
- b) ignorance
- c) greed
- d) short-term economic strategies.

7. Even today, over 250 million children, women and men suffer from under-nutrition. The scenario for the coming years is alarming and we are likely to face a food crisis unless we are in a position to increase crop and animal productivity on a continuing basis, since the only option open to us for increasing production is productivity improvement. Also, access to food will have to be ensured through opportunities for productive employment.

8. Out of a total area of about 329 million hectares about 173 million hectares are classified as degraded lands, needing attention from the point of view of upgrading their biological potential. In many canal irrigated areas, salinity, alkalinity and water logging are serious problems. Thus, productivity improvement in agriculture has to be achieved against a background of deteriorating land resources and expanding biotic and abiotic stresses.

9. Our forest wealth is dwindling due to over grazing, over-exploitation both for commercial and house-hold needs, encroachments, unsustainable practices including certain practices of shifting cultivation and developmental activities such as roads, nursing, irrigation and power projects. Forests occupy only 19.5% of the total geographical area as against the stipulated national goal of 33%. Even within this area, only 11% constitute forests with 40 per cent or more of crown cover. According to the State of Forest Report, 1989, the actual forest cover in the country was 64.01 million hectares during 1985-87 and the annual rate of loss works out to 47,500 hectares. The loss of habitats is leading to the extinction of plant, animal and microbial species. According to the Botanical and Zoological Surveys of India, over 1500 plant and animal species are in the

endangered category. The biological impoverishment of the country is a serious threat to sustainable advances in biological productivity. Gene erosion also erodes the prospects for deriving full economic and ecological benefits from recent advances in molecular biology and genetic engineering.

10. Our unique wetlands, rich in aquatic and bird life are facing problems of siltation, pollution and over-exploitation. The major rivers of the country are also facing problems of pollution and siltation. Our long coast line is under similar stress. Coastal vegetation including mangroves and sea grasses is getting denuded. Our mountain eco-systems are under serious strain. Extensive deforestation leading to the erosion of valuable topsoil is threatening the livelihood. security of millions of hill people. Equally serious is the downstream effects of damage done upstream. Indo-gangetic agriculture, often described as a potential bread basket in the world, is being damaged beyond repair as a result of soil degradation. Some areas are facing problems of water logging and rising water-table because of poorly planned irrigation. In other areas, the water table is receding because of over exploitation of ground water. Also, the quality of ground water is being affected due to chemical pollution and in coastal areas, due to the ingress of sea water. The absence of an integrated land and water use policy for the country is taking a heavy toll on these basic natural assets.

11. Compounding these human-inflicted wounds on natural ecosystems and life-support mechanisms, we are facing serious problems of pollution and unsanitary conditions especially in urban areas. Pollution arising from toxic wastes and non-biodegradable consumer articles is tending to increase.

12. lack of opportunities for gainful employment in villages is leading to an ever-increasing movement of resource-poor families to towns. Megacities are emerging and urban slums are expanding. Illiteracy and child labour are persisting. The incidence of malaria is high in many parts of the country. Safe drinking water is still a luxury in many villages. Liver ailments and gastro-intestinal diseases are common due to unclean drinking water.

13. It is difficult to clearly delineate the causes and consequences of environmental degradation in terms of simple, one-to-one relationships. The causes and effects are often interwoven in complex webs of social, technological and environmental factors. For instance, from a purely scientific and technological standpoint, soil erosion would result from the cultivation of marginal lands. However, from the point of view of a comprehensive environmental impact analysis, it is important to go further back and analyse the circumstances that force people to cultivate marginal lands. Viewed in this light, it becomes clear that a concern for the environment is essentially a desire to see that national development proceeds along rational, sustainable lines. Environmental conservation is, in fact, the very basis of all development.

14. Thus, we are faced with the need for accelerating the pace of development for alleviation of poverty which is, to a great extent, responsible for many of our environmental problems. On the other hand, we have to avoid proceeding along paths with environmental costs so high that these activities cannot be sustained.

III ACTION TAKEN

15. In recognition of the felt need for environmental protection various regulatory and promotional measures have been taken in our country over the past twenty years. These include the following:

Legal

- The Wildlife (Protection) Act, 1972.
- The Water (Prevention and Control of Pollution) Act, 1974 amended in 1988.

- The Forest (Conservation) Act, 1980 amended in 1988.
- The Air (Prevention and Control of Pollution) Act, 1981 amended in 1988.
- The Environment (Protection) Act, 1986.

Institutions

- Department of Environment in 1980 and the integrated Ministry of Environment & Forests in 1985 at the Centre;
- Departments of Environment at the State and Union Territory level;
- Central Pollution Control Board and State Pollution Control Boards;
- Indian Council of Forestry Research and Education;
- National Landuse and Wasteland Development Council;
- National Wasteland Development Board.
- Indian Board for Wildlife. ; and,
- National Museum of Natural History, Centre for Environmental Education, Institute for Himalayan Environment & Development and Centres of Excellence in specialised subject areas are among the various institutions set up.

Prevention and Control of Pollution

- Water and air quality monitoring stations set up in selected areas;
- Use-based zoning and classification of major rivers,
- Notification and enforcement of standards for polluting industries through the Central and State Pollution Control Boards,

- Rules for manufacture, storage, transportation and disposal of hazardous substances;
- On-site and off-site emergency plans for preparedness against chemical accidents;
- Fiscal incentives for installation of pollution control devices; and,
- Ganga Action Plan to prevent pollution of the river and restore its water quality which could be expanded to cover other major river systems. subject to availability of resources.

Conservation of Forests and Wildlife

- The new Forest Policy of 1988 approved by the Government proclaims the principal aim as ensuring environmental stability and maintenance of ecological balance including atmospheric equilibrium. The derivation of direct economic benefit from forests will be subordinated to this principal aim. The objectives are maintenance of environmental stability, preservation of biological diversity, soil and water conservation, increase of tree cover, meeting the requirements of the rural and tribal population, increase in the productivity, efficient utilisation of forest produce, substitution of wood and people's involvement for achieving these objectives. The goal is to have a minimum of one-third of the country under forest or tree cover.
- Under the Forest (Conservation) Act, 1980 stringent provisions have been made for preventing diversion of forest land for any other purpose.

- The National Wasteland Board has been set up to gear up afforestation activities;
- A National Wildlife Action Plan has been formulated and it is under implementation.
- National Parks and Sanctuaries have been established covering about 4 per cent of the country's area;
- Biogeographical zones in the country have been identified for establishing Biosphere Reserves. Seven Reserves have been set up so far; and,
- Management plans are being prepared for identified wetlands, mangrove areas and coral reefs.

Land and Soil

- Surveys by the All India Soil and Land-use Survey Organisation;
- Treating catchment of river valley projects, integrated watershed management projects in catchment of flood prone rivers;
- Assistance to states to control shifting cultivation;
- Assistance for reclamation and development of ravine areas;
- Drought prone areas programme; and,
- Desert development programme.

Environmental Impact Assessment

Procedures have been set up for environmental impact assessment and clearance of selected types of projects requiring approval of the Government of India. Prior clearance of projects requiring diversion of forests for non-forest purposes has been made obligatory under the Forest (Conservation)

Act, 1980. Environmental guidelines for projects in various sectors have been evolved.

Other Activities

- Eco-Task Forces of ex-servicemen for ecological restoration through afforestation and soil conservation.
- National Environmental Awareness Campaigns.
- Surveys and research studies.
- Training programmes, workshops and seminars for building up professional competence and for creation of awareness.

IV CONSTRAINTS AND AGENDA FOR ACTION

16. The modest gains made by the steps taken during the past few years leave no room for complacency when viewed in the context of enormous challenges. One of the major lacunae has been due to the fact that the environmental considerations are not yet internationalised in various sectors of economic development. We can meet the challenges only by redirecting the thrust of our developmental process so that the basic needs of our people are fulfilled by making the judicious and sustainable use of our natural resources. Conservation, which covers a wide range of concerns and activities, is the key element of the policy for sustainable development. Framing a conservation strategy is, therefore, an imperative first step. Development requires the use and modification of natural resources; conservation ensures the sustainability of development for the present and in the future. The conservation strategy is to serve as a management guide for integrating

the environmental concerns and the developmental imperatives.

17. The primary purpose of the strategy and the policy statement is to reinforce our traditional ethos and to build up a conservation society, living in harmony with Nature, frugal and efficient in use of resources guided by the best available scientific knowledge.

18. The agenda for action in this regard will include the following :

- i) to ensure sustainable and equitable use of resources for meeting the basic needs of the present and future generations without causing damage to the environment;
- ii) to prevent and control further deterioration in land, water and air which constitute our life support systems;
- iii) to take steps for restoration of ecologically degraded areas and for environmental improvement in our rural and urban settlements;
- iv) to conserve and nurture the biological diversity and resources through environmentally sustainable development and management of ecosystems with special emphasis on our montane, marine and coastal, desert, wetlands and riverine ecosystems; and,
- v) to protect the scenic landscapes, heritage sites/structures and areas of cultural importance.

19. To address to the above stated agenda, the instruments for action will include the following :

- i) to carry out environmental impact assessment of development projects right from the planning stage and integrate it with their cost-benefit considerations;
- ii) to incorporate environmental safeguards and protection measures in policies, planning, site selection, choice of technology and

- implementation of development projects like agriculture, water resource development, industry, mineral extraction and processing, energy, forestry, transport and human settlements;
- iii) to encourage development and adoption of environmentally compatible technologies; and, to promote application of the modern tools of science and technology for conservation, control and monitoring;
 - iv) to elicit and ensure participation of people in programmes for environmental improvement and for integrating the environmental concerns in planning and implementation of development programmes;
 - v) to create environmental consciousness through education and mass awareness programmes;
 - vi) to develop appropriate organisational structures and a pool of professional manpower to serve as the cadre for environmental management services; and,
 - vii) to effectively implement the various environmental laws and regulations for environmental protection through creation/strengthening of requisite enforcement machinery.

V PRIORITIES AND STRATEGIES FOR ACTION

POPULATION CONTROL

20. Unabated population growth, as at present, not only adds to the economic burden for all developmental activities, but also reduces the impact of economic growth on our society. Therefore, for the success of our planning, population control becomes the most urgent necessity. A comprehensive programme, with strong political backing and appropriate socio-economic measures, fully utilising the available scientific know-how,

simultaneously making efforts for developing new methodologies, and supported by modern communication technology and managerial and organisational skills, is essential for success in this most difficult area. Population control should be a national mission for the next decade.

21. Along with the development programmes to improve the living conditions, action must be directed towards stabilisation of population including the following measures :

- Launching a time bound national campaign for population stabilisation with the small family as a socially responsible objective;
- Increased support for female education, female employment, and introduction of social security programmes;
- Easier access to the means of family planning and health care facilities;
- Added incentives in terms of taxation and other benefits for family planning; and,
- Environmental sanitation, prevention and control of communicable diseases through integrated vector control and health education.

CONSERVATION OF NATURAL RESOURCES

(i) Land and Water

22. An integrated land and water management approach is extremely important to sustain the food production, animal husbandry and other activities.

23. Amelioration of water-logged and saline lands, command area development, protection of good agricultural land against diversion to urban and other uses, maintenance of sustained productivity of soil and conservation of lands with forests and vegetal cover are the integral components of sustainable land management.

24. The importance of water as a finite, though a renewable resource, must be clearly recognised. Land and water use are to be considered together, particularly in the context of recurring droughts and floods. Water conservation measures; discipline on use of water; economising the consumption of water in households, agriculture and industry; and, appropriate recycling would be essential.

25. The steps to be taken for sustainable use of land and water should include the following:-

- Classification, zoning and apportionment of land for designated uses such as, agriculture, forestry, grassland, green areas, industrial activities and human settlements based on assessment of their capabilities and environmental considerations;
- measures to ensure equitable access to and responsibility for sustainable use of land and water resources including forests;
- Incentives and regulatory measures to ensure that the right of land ownership carries an obligation to sustain its productivity;
- Countrywide campaign to minimise soil and run-off losses by carrying out extensive works like contour trenching, contour bunding, terracing, construction of small storages and protection of the vegetal cover in the micro-catchments and watersheds;
- Restoration and reclamation of degraded lands including mined areas, grazing lands and areas affected by water logging, salinity and alkalinity;
- Development of suitable agro-silvipastoral techniques with special emphasis on hilly areas and in arid and semi-arid zones;
- Building up a network for assessment and monitoring of soil and water (surface and ground water) quality through out the country which should be on a permanent basis as in the case of meteorological stations;

- Measures for water conservation, recycling and optimal conjunctive use of surface and ground water for specific uses;
- Encouragement^{to} and improvement in traditional methods of rain water harvesting and storage; and,
- Stringent measures for prevention and control of pollution due to indiscriminate disposal of solid wastes, effluents and hazardous substances in land and water courses.

(ii) Atmosphere

26. For prevention and control of atmospheric pollution the thrust will be on the following:-

- Use of clean fuels, energy efficient devices and air pollution control systems;
- Setting up of source specific and area-wise air quality standards and time bound plans to prevent and control pollution;
- Incentives for environmentally benign substitutes, technologies and energy conservation;

Raising of green belts with pollution tolerant species; and,

- Developing coping mechanisms for future climatic changes as a result of increased emission of carbon dioxide and green house gases.

(iii) Biodiversity

27. It is well-known that about 90% of the world food comes from 20 plant species. The plant breeders find that they have to turn more and more to the wild species to introduce into the cultivated forms desired qualities of resistance to pests and diseases and the ability to withstand adverse soil and weather conditions. India's biological diversity is

very rich but unfortunately its wealth is being eroded due to various reasons. This diversity needs to be preserved and the immediate task will be to devise and enforce time bound plans for saving the endangered plant and animal species as well as habitats of biological resources. Action for conservation must be directed to :

- Intensification of surveys and inventorisation of biological resources in different parts of the country;
- Conservation of biodiversity through the network of protected areas including Biosphere Reserves, National Parks, Sanctuaries, Gene Conservation Centres, wetlands, coral reefs and such other natural habitats of biodiversity;
- Promotion of traditional methods for conservation, propagation and use of species diversity;
- Development of methodologies to multiply, breed and conserve the threatened and endangered species; and,
- Discouragement to monoculture and plantation of dominating and exotic species.

(iv) Biomass

28. For the vast majority of our rural people, the foremost need is for fuelwood, timber, fodder, fibre etc. the issue of sustainable resource utilisation, therefore, has to be specially addressed first from the point of view of the biomass requirements of the rural poor. Action must be directed to :

- Devise ways and means by which local people can develop, control and use the resources

of common lands and degraded forests so that they have a stake in the continuing productivity of the resources;

- Promote plantations for fuelwood to meet the growing demand and develop alternative fuels for rural use;
- Develop technologies for enhancing the productivity and efficiency of use of all biomass resources (both terrestrial and marine);
- Devise institutional and technological systems to enable rural artisans to sustain biomass-based crafts; and,
- Curtail the supply of subsidised biomass based resources to industrial consumers.

DEVELOPMENT POLICIES FROM ENVIRONMENTAL PERSPECTIVES

29. Implementation of the aims and objectives of conservation and sustainable development will require integration and internalisation of environmental considerations in the policies and programmes of development in various sectors.

30. Curtailment of consumerism and shift towards use of environment - friendly products and processes, and low waste generating technologies through conscious efforts and appropriate economic policies including proper pricing of natural resources as well as fiscal incentives and disincentives will be the guiding factors for ensuring conservation and sustainable development.

31. For environmental conservation and sustainable development, the steps which need to be taken in some of the key sectors of development activities are outlined in the following sections.

(i) Agriculture and Irrigation

Agriculture

- Development of integrated pest management and nutrient supply systems;
- Phasing out of subsidies on chemical fertilisers and pesticides so as to prevent overuse and abuse of persistent agro-chemicals;
- Promotion of environmentally compatible cropping practices, biofertilisers and biopesticides;
- Embargo on diversion of prime agricultural land for other purposes;
- Emphasis on agro-forestry, horticulture and fodder crops in degraded and in marginal lands;
- Development and promotion of suitable dry farming techniques for water scarce areas like arid and semi-arid region, hilly areas and culturable wastelands; and,
- Anticipatory programmes and contingency plans for disasters such as, drought, flood and climate change.

Irrigation

- Priority to small projects to meet the requirements of irrigation without causing significant alterations in the environmental conditions;
- Measures for increasing the efficiency of water-use, water conservation and recycling;
- Measures to ensure optimal conjunctive use of surface and ground water;
- Measures for provision of drainage as an integral component of irrigation projects;
- Watershed management through catchment treatment, protection of vegetal cover and measures to prevent siltation; and,
- Critical assessment of irrigation projects and delivery systems to ensure optimal utilisation of water resources along with measures to prevent unwanted side effects.

(ii) Animal Husbandry

- Intensification of sterilisation programme for containing unsustainable growth in livestock population;
- Improvement in genetic stock and conservation of genetic variability of indigenous population;
- Promotion of stall feeding and rotational grazing;
- Restoration and protection of grazing lands; and,
- Incentives for growing fodder crops and establishment of fodder banks.

(iii) Forestry

- Maintenance of environmental stability through preservation and, where necessary, restoration of the ecological balance that has been adversely disturbed by serious depletion of the forests of the country;
- Conserving the natural heritage of the country by preserving the remaining natural forests with the vast majority of flora and fauna, which represent the biological diversity and genetic resources of the country;
- Increasing substantially the forest/tree cover in the country through massive afforestation and social forestry programmes, especially on all denuded, degraded and unproductive lands;
- Meeting the requirements of fuelwood, fodder, minor forest produce and small timber of the rural and tribal populations;
- Increasing the productivity of forests to meet essential needs;
- Encouraging efficient utilisation of forest produce ;

- The national goal shall be to reserve one third of the country's area as forests. To this end, all community lands which can be spared shall be declared as forests;
- Forest lands shall not be diverted for non-forest uses unless it is unavoidable. Before proposing any such diversion, other options of using non-forest lands should be explored and it should be proved that such diversion is inevitable in the interests of the country;
- Where any forest land is to be diverted, equivalent non-forest land shall be made available for conversion as forests and the agency for whose benefit the forest land has been diverted shall pay the cost of compensatory afforestation. Where such non-forest land is not available for conversion as forest land, the concerned agency shall provide the resources for afforesting double the area in degraded forest;
- Afforestation on common lands by the local communities should be encouraged through usufruct-sharing schemes;
- Appropriate regulations should govern the felling of trees on private holdings;
- Schemes and projects which interfere with the forests that include steep slopes, catchments of rivers, lakes and reservoirs, ecologically unstable terrain and such other ecologically sensitive areas should be severely restricted;
- The rights and concessions, including grazing enjoyed in forest lands should be related to the carrying capacity of the forests. The holders of such rights should be motivated to identify

too detailed

themselves with the protection and development of forests;

- The rights and concessions enjoyed by tribals and local people living within and near forests should be protected. Their domestic requirements of fuelwood, fodder, minor forest produce and construction timber should be met out of forest proceeds;

- All steps should be taken for substitution of wood by other materials. Alternative sources of energy and fuel efficient stoves should be encouraged for this purpose;
- Those who are allowed to use forest land for non-forest purpose such as mining or quarrying should be required to repair and revegetate the area in accordance with the established practices;
- Forest management should take special care of the needs of wildlife preservation;
- Industries requiring forest based materials should raise the raw material needed by establishing direct relationship with individuals who can grow such raw materials in their own private lands;
- Forest based enterprises should not be permitted in future excepting after a thorough scrutiny regarding the availability of raw materials; and,
- Forest produce should be supplied to the consumers only at its true market value and not at concessional prices.

Involvement of local people should be an important component in the afforestation programme and for protection of existing forests.

(iv) Energy Generation and Use

- Environmental impact assessment prior

Xy
Contracting
y

- to decisions on site selection and choice of technologies for energy production, and processes including waste utilisation, treatment and disposal of solid wastes, effluents and emissions;
- Location of energy generation projects based on environmental considerations including pollution, displacement of people and loss of biodiversity;
- Shift towards decentralised small projects for meeting the rural energy needs and incentives for use of non-conventional energy sources;
- Incentives and punitive measures (including proper pricing) to prevent abuse and to promote the use of energy efficient devices and for energy conservation in all sectors including households, agriculture, industry and transportation; and,
- Concerted efforts for development and propagation of non-conventional renewable energy generation systems.

(v) Industrial Development

- Incentives for environmentally benign technologies, recycling and reuse of wastes and conservation of natural resources;
- While deciding upon sites, priority to compatible industries so that, to the extent possible, wastes from one could be used as raw material for the other and thus the net pollution load is minimised;
- Collective efforts for installation and operation of common effluent treatment facilities in industrial estates and in areas with a cluster of industries;
- Periodic 'Environmental Audit' particularly in respect of hazardous industries to ensure adequacy of environmental safeguards through requisite preventive maintenance, pollution control and waste management systems;

- Dissemination of information for public awareness on environmental **safety** aspects and stringent measures to ensure safety of workers and general population against hazardous substances and processes;
- Public liability insurance against loss or injury to life or property;
- Cost of environmental safeguards to be treated as integral component of the project cost;
- Environmental impact assessment right from the planning stage and selection of sites for location of industries; and,
- Issuance of licence/permit and funding support from financial institutions to be preceded by environmental clearance of the competent authority.

(vi) Mining and Quarrying:

- Mined area rehabilitation and implementation of the environmental management plans concurrently with the on-going mining operations;
- Rehabilitation of the abandoned mined areas in a phased manner so that scarce land resources can be brought back under productive use;

- Rehabilitation of the project
oustees to ensure at least the
same level of quality of life,
if not better, as before by providing
suitable facilities;
- Conditions of mining leases regarding
tenure, size, shape and disposition
with reference to geological
boundaries and other mining condi-
tions shall be such as to ensure
not only systematic extraction
of minerals but also environmental
conservation;
- Emphasis on production of value
added finished products from
mining so as to reduce indiscri-
minate extraction;
- Upgradation and beneficiation
of minerals at the source, to
the extent possible, so as to
prevent pollution and to reduce
the cost of transportation, pro-
cessing and utilisation;
- Restriction on mining and quarrying
activities in sensitive areas
such as hill slopes, areas of
natural springs and areas rich
in biological diversity; and,
- Environmental impact assessment
prior to selection of sites for
mining and quarrying activities.

vii) Tourism :

- Promotion of tourism based on careful assessment of the carrying capacity and support facilities such as transport, fuel, water and sanitation;
- Development of tourism in harmony with the environmental conditions and without affecting the lifestyles of local people; and,
- Restriction on indiscriminate growth of tourism in sensitive areas such as hill slopes, islands, coastal stretches, National Parks and Sanctuaries.

viii) Transportation :

- Improvements in mass transport system to reduce increasing consumption of fuel, traffic congestion and pollution;
- Enforcement of smoke emission standards for containing vehicular exhausts, at the manufacturer and user level;
- Phasing out the use of lead in motor spirit; and,
- Regulations for environmental safety in transportation of hazardous substances.

ix) Human Settlements

- Provision for basic needs of housing, water supply, sanitation, health care and other civic amenities such as green belts and recreational areas;
- Decentralisation of urbanisation through establishment of secondary cities and towns with requisite infrastructural services and employment opportunities;
- Disincentives for industrial location in existing urban centres which have exceeded their carrying capacity;
- Conservation of heritage sites and buildings, through regulation to ensure that these are not demolished, encroached upon and affected by indiscriminate construction and pollution;
- Planting of shade giving and fruit bearing and ornamental trees along the road side, in the compounds of schools, hospitals, Government as well as private office buildings, places of worship, places meant for public fairs, assemblies and markets, and the periphery of play grounds and water bodies;
- Botanical gardens, representative of the local flora at the district, tahsil and block headquarters;
- Raising of gardens, parks and open spaces in the towns and cities for common use and promotion of environmental consciousness;
- Laying down a system for the propagation and protection of Urban Forestry by assigning responsibility amongst the various authorities; and,

- Deterrent measures to discourage indiscriminate growth of human settlement and polluting industries in vulnerable areas such as hilly region and coastal stretches.

SUPPORT POLICIES AND SYSTEMS

32. Implementation of the aims and objectives of environmental policy will need support policies and systems for filling up of the gaps in the existing institutional set up, research and development, mobilisation of financial resources, creation of public awareness and training of professionals.

33. It will require strengthening of the existing institutions at different levels. It will need an organic linkage among the compartmentalised sectors which have been historically dealt with by separate organisations. It will call for a change in the institutional mechanism for enlisting public participation. It will necessitate decision making on development projects based on assessment of their potential of rendering long term sustainable benefits to the society at large, particularly vulnerable sections. It will also require effective implementation of laws and regulations for environmental protection through strengthening of and closer interaction among the regulatory bodies and administrative machinery.

34. As economic policies form the framework for a range of sectoral developments, it will be necessary to consider how these policies affect the quality and productivity of environmental resources. This will require a system of resource accounting along with the other exercises of cost-benefit analysis. In essence, indicators of growth such as GNP and GDP should include

a measure of depletion cost and value judgements in terms of environmental resources. It will require instruments and expertise for evaluation and conscious trade offs, where unavoidable, to meet the legitimate development needs.

35. It will be necessary to create a pool of professional manpower to serve as the cadre for environmental management services in the Environment Ministries/Departments, Pollution Control Boards and other organisations including the major development agencies and industries. To this end, formal education and training in specialised areas of pollution control and environmental management will be a continuing need. For this purpose, intensive programmes for education and training will need to be introduced in the Universities, IITs and other professional institutions. Environmental education at the school level including training of teachers shall be an important component of educational programmes.

36. To raise public awareness and involvement in environmental activities, the mass media ranging from local folk lores to electronic media should serve a vital role.

37. Non-governmental organisations, citizen groups and village level institutions like Forest Panchayats and Gram Sabha should be empowered with requisite locus standi and support for mobilisation of public opinion and participation in activities for conservation and sustainable development.

38. It is only through such initiatives that we will be in a position to resolve the conflicts which often arise between the environmental concerns

and developmental pursuits that have a direct bearing on the very fabric of our society and life styles.

39. The tasks before us would be daunting if it were not for the many positive factors that are emerging : people's movements to conserve their own environment, greater public and media concern for environmental issues /^{and} spread of environmental awareness among children and youth.

40. It is upto us. as Government and citizens. to propel the development process in keeping with our heritage and traditional ethos of conservation.

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Comments on the National Conservation Strategy and Policy Statement of Environment & Development

1. In general, the document is somewhat loosely written, without proper organisation and
2. Specifically, though Section II is headed Environmental Problems; natural resources, instead of categorising the problems according to their nature they are categorised according to their causes. This is confusing as most environmental problems could arise out of both the causes listed here.
3. Even in the listing of causes, only two causes are listed namely poverty and under-development, and negative effects of development. There surely are many more causes for environmental degradation including ignorance, carelessness, greed and propagation of short term economic strategies.
4. The structure of the strategy is not uniform and certain sections is going to too much details while others are too general. For example, the section of forestry on page 19 to 21 seems to detailed virtually a repeat of the forest policy. On the other hand, various other sections like e.g. paras 29 to 31 on page 17, are too general.
5. There are also some internal contradictions which need to be resolved through perhaps better editing e.g. of this is the last para on page 20 and the first two paras on page 21. The last para on page 20 asserts that all rights and concessions in forests should be related to the carrying capacity of the forests. However, the next paragraph on page 21 asserts that rights and concessions enjoyed by tribals and local people should be protected and that their domestic requirements should be met

out of forests proceeds. On the face of it, these two paras appear contradictory. Though the text of the strategy and policy is comprehensive, in many places it seems that only benign intentions are stated without any indication of the strategy to be employed in achieving these intentions.

6. It might also be useful to have a section where some of the major issues like development versus environmental preservation, short term economic needs versus long term economic needs and poor peoples requirements for substances versus environmental conservation could be discussed in some greater detail.

7. As the document contains both the policy and a strategy, perhaps they needs to be a much greater enunciation of the institutional structures and mechanisms required to implemented the policy. For example, though there is mention of integrating the cost of natural resources into the system of national accounting, in a strategy this needs to be carried out in greater detail. Also, the Ministry might consider starting system of developing of natural resources budget so that at any time it could be clear how much natural resources are available for use in different activities and sectors.

8. Given the different requirements of a policy and strategy, it might be desirable to have two distinct document one laying out the policy thrusts and the other building up a detailed strategy. The draft chapter on Environment & Forests for the 8th Plan could form a base for such a document.