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# SIKKIMINFO

...Everything you ever wanted to know about Sikkim

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ENVIRONMENT POLI



Department of Forests, Environment & Wildlife  
Government of Sikkim

## RESOLUTION

### 1. PREAMBLE

Article 48A and 55A (g) of the Constitution under  
Directive Principles of state policy

assign duties for the state and all citizens



which state that, the state shall endeavour to protect and improve the environment and to safeguard the forests and wildlife and to protect and improve the natural environment including forests, lakes and rivers and wildlife and to have compassion for the living creatures. In Resolution No. 3-1/86-FP dated the 7<sup>th</sup> December 1988, the Government of India, Ministry of environment and Forests, enunciated National Forest Policy to be followed in the management of state forests in the country. However, over the years, the environment, forests and land in the state of Sikkim have come under serious pressure due to the fact that more than 80% of the land resources of the state are under the management of the Department of Forests, Environment & Wildlife. Due to the increase in human population and cattle population and increase in development activities in the state, the pressure on the environment, forest and land is increasing at a very fast pace. Due to increase in human population, there is increase in demand for land for house construction, agriculture, road construction, hydel projects and other developmental activities. There is also increase in demand for fuel wood for cooking and heating purposes. Due to increase in livestock population, grazing in the forest areas has been increasing. All the above-mentioned activities are likely to create degradation of forests and environment. To overcome the situation and to increase the participation of the local people in the conservation and management of forest resources of the state and to maintain the ecology of the state without hampering developmental activities, it has become imperative to review the situation and to evolve, for the future, a strategy of environment of natural environment. There has been tremendous increase in the air pollution in the urban areas due to the increase in the number of vehicles over the years. Due to hilly terrain, land available for non-forestry purposes is very limited. So there is great demand on this land from various sectors. Land use planning and land management is very important for optimal utilization of land resources in the state. It has thus become necessary to formulate a "State Policy of Environment, Forests and Land Use".

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## 2. BASIC OBJECTIVES

The basic objectives that should govern State Forest Policy of Environment, Forest and Land Use are as under:

- Maintenance of environmental stability through preservation and where necessary, restoration of ecological balance which has been distributed due to various developmental activities, faulty land practices and degradation of forest resources.
- Conserving the natural heritage of the state through conservation and preservation of natural forests of the state with vast variety of flora and fauna, which represents the remarkable diversity, and genetic resources of the state.
- Checking the soil erosion and denudation of the hill slopes in the catchment areas of rivers, streams, lakes, and reservoirs in the interest of soil and water conservation for mitigating landslides, floods, and droughts and for the retardation of siltation of reservoirs.
- Increasing substantially the forest / tree cover in the state through massive afforestation, social forestry programmes especially on all denuded and degraded slopes, regeneration of natural forests through inducing natural regeneration.
- Increasing the productivity of land through improved management practices to meet the needs of increasing human population in respect of food, timber, fuel wood and fodder for the livestock.
- Preventing the diversion of forestlands and good agriculture lands for other purposes.
- Efficient management of land under urban and village settlement to prevent landslides, flooding and damage to roads, bridges, buildings, etc.
- Efficient management of land under agriculture by controlling the use of pesticides and insecticides to prevent pollution of soil and water resources.
- Preventing pollution of air especially in urban area by prescribing emission levels for vehicles / industries and other air polluting industries.
- Encouraging efficient utilization of forest produce and maximizing substitution of wood.
- Encouraging people to use alternative sources of energy for heating and cooking purposes.

### **3. ESSENTIALS OF ENVIRONMENT, FOREST AND LAND MANAGEMENT**

- Existing forests and forestlands shall be protected and their productivity improved. Forest and vegetation cover should be increased and improved on hill slopes, in catchment areas of rivers, lakes and reservoirs to check the siltation of these water bodies.
- Diversion of good and productive forestlands and agricultural lands for other purposes should be discouraged. The productivity of existing forest and agricultural lands should be increased through improved management practices and application of appropriate technology.

- For the conservation of total biological diversity, the area under national parks sanctuaries and biosphere reserve should be fully protected and not diverted for any other purposes.
- Forest tree cover should be increased in the Khasmal and Gorucharan areas through massive afforestation programmes through involvement of local people in the management of these lands.
- Since fuel wood continues to be the main source of energy in the rural areas, the programmes of afforestation should be intensified with special emphasis on increasing the production of fuel wood and tree fodder to meet the requirement of the local people.
- To decrease the pressure on the natural forests, the rural people will be encouraged to undertake plantation of fuel wood and fodder trees on lands which are uneconomical for agricultural and horticultural practices.
- Non-timber forest produce provides sustenance to the tribal population residing in and around the forest area. Such forest produce should be protected, improved and its production increased to generate employment and improve the economic conditions of the local tribals.
- To improve the ecology of agricultural lands, the lands, which are not fit for agriculture due to high degree of slopes, should be used for horticulture crops.
- Diversification in land use by introduction of crops like pulses, oilseeds, vegetables and fodder in the cropping pattern should be encouraged. Double and multiple cropping wherever possible should be encouraged. For diversifying production, mixed farming should be encouraged including dovetailing cultivation with subsidiary occupations like raising livestock and poultry, fish, silk rearing and bee keeping, which will ensure year round of resources and employment potential for the farming family and the livestock.
- Compensatory afforestation and alternate production programmes should be undertaken to ensure that the productivity of agricultural and forest land lost or damaged through unavoidable diversion, is restored.
- Movement of people from rural areas to the urban areas is to be discouraged so that slums are not developed in the urban areas by unauthorized encroachment on the public land and creating unhygienic conditions in the urban areas. Sanitation should be an integral part of the town planning. Safe drainage of domestic and rainwater is the prerequisite of any town planning exercise.
- Arrangement should be made for disposal of solid waste material and garbage, both non-degradable and biodegradable, so as to check choking of drainage systems and silting of rivers and streams.
- Areas which are feeding the water sources through surface runoff / seepage into the ground should be completely protected from all biotic interference for checking pollution and contamination of drinking water particularly in case of heavy domestic water consumption centres.
- Diversion of ecologically fragile and environmentally sensitive areas for other alternative uses should be avoided and wherever such diversion cannot be avoided, environmental safeguards should be the integral

part of the project to limit the damage to the environment to the minimum. Environmental impact assessment of all development projects above a certain size should be made compulsory. Treatment of the area damaged due to execution of project / extension of old one, should be the responsibility of the project authority.

- Protection should be the integral part of all afforestation projects. Catchment treatment plan should be imperative for all hydel power, irrigation and water supply projects.

## 4. STRATEGY

- The national goal is to have a minimum of two-third of area under forest or tree cover in order to prevent soil erosion and land degradation and to ensure the stability of fragile ecosystem. Although about 84% land resources are under the management of the forest department, yet the area under tree cover is only about 44%. Further the density of the tree cover is very low in many areas. The state would strive to increase the area under tree cover further and also improve the density of the existing tree cover.
- A massive need-based and time-bound programme of afforestation and tree planting will be launched with main emphasis on production of fuel wood and fodder on degraded and denuded lands, both forest and non-forest. Afforestation being a time specific activity, the government will ensure technical, administrative and financial approval well in advance for all afforestation projects to ensure the success of these programmes and improve the quality of works.
- An urban forestry programme is a necessity to improve the environment in the urban areas of all the districts through planting of ornamental trees and bushes. Such a programme will increase the scenic beauty of the towns as well as check soil erosion and landslides in these areas.
- Khasmal and Gorucharan lands should be taken up for the development of tree crops and fodder resources. A "Joint Forestry Management Programme" will be launched to improve the condition of the forest crop on such lands. The state government will consider providing assistance for undertaking planting on such lands and the local Village Forest Protection Committee will be responsible for the protection and maintenance of the tree plantation. The revenue saving mechanism between the state and the local villagers will be considered without transferring ownership rights, to undertake block plantation of trees on such lands for production of timber, fuel wood and fodder. Appropriate regulations will be made to govern the felling of trees on private holdings.
- The productivity of the area under agriculture and horticulture should be increased so that total agricultural and horticultural production is increased. Good agricultural land should not be diverted for non-agricultural purposes as far as possible. To maintain the fertility of the land, rotational cropping pattern should be adopted and bio-fertilizers should be added to the soil.
- Modern town planning techniques are adopted in urban settlements. Constructions of buildings and houses not are allowed in landslide prone areas to avoid loss of life and property.

- Laws should be notified in such a way that the arrangement for proper drainage of the buildings, roads, parking places, commercial complexes, factories, etc. from the site to the natural water way should be the responsibility of the owners / constructing agencies.
- There are many endangered species in Sikkim, which require ex situ conservation and propagation in addition to in situ conservation in their respective habitats. Efforts will be made to propagate these species by establishing seed orchards and germ-plasm gardens.
- To save forests, environment and biodiversity from biotic interference (illicit tree felling, poaching, smuggling of forest produce, grazing, fire, etc.) infrastructure development for protection of forests, is the need of the time. The government will invest 10 % of the total outlay for forestry sector for development of infrastructure for forest protection, which includes procurement of patrolling vehicles, firearms, telecommunication development and improvement and construction of check posts.

## **5. MANAGEMENT OF ENVIRONMENT, FORESTS AND LAND**

- Developmental schemes and projects, which are detrimental to the environment and forest growing on steep slopes, land in catchment areas of rivers, lakes and reservoirs, and ecologically and geologically fragile areas should be severely restricted. Further it will be made compulsory for all development agencies to have in built provisions in their project cost for providing alternative fuels (kerosene, LPG, etc.) for their labour force to avoid damage to the forest and environment around forest areas.
- No forest should be worked without the approval of Working Plan by state government and the competent authority in the central government.
- In order to meet the growing needs of timber, fuel wood, fodder and non-timber forest produce, which the forest provide, it is necessary to increase productivity of the existing forest land and enhance the forest cover through application of scientific and technological inputs. Production forestry programmes, while aiming at increasing the forest cover should also be oriented to narrow the gap between supply and demand of the firewood. However no programmes should be started which involve clear felling of the natural forests. Exotic species should not be planted on large scale unless it is established through trial that they have no adverse impact on local environment and vegetation.
- Soil fertility of the land under cultivation should be improved by promoting the use of organic manure, biogas and nitrogen fixing practices. Land along the hill slopes should be terraced to check the erosion of topsoil and for conservation of moisture. Production from the rain fed area should be increased through land water resource management.
- Khasmal and Gorucharan lands should be protected from encroachment. These lands should be developed by planting fodder and fuel wood trees. Suitable fodder grasses should be planted to augment the availability of fodder. Grazing should be allowed only upto the carrying capacity of the lands. Stall-feeding should be encouraged. Status of these lands should be regularly monitored to avoid over

exploitation of these lands.

- Special efforts should be made to maintain the ecology of the inland water bodies like lakes, rivers and streams. Legislation should be adopted to prevent pollution of the water bodies. Water bodies should also be developed for the production of fish to increase the production of food. Water balance studies should be undertaken for considering the requirements of different sectors. Statistics of water resource potential and competing demands for human consumption, agriculture and industry should be collected at regular intervals. Impact of water resource development project for hydropower generation and irrigation or flood control on the land, ecology and society as a whole should be evaluated.
- Soil conservation and watershed management, for increasing productivity, checking soil erosion, retarding runoff, helping moderation of floods, drought and land degradation should be undertaken. Hill slopes should be protected against landslides through modern techniques. Water harvesting measures should be undertaken in the dry areas to increase moisture regime for increasing productivity of dry lands.
- For implementation of urban and rural human settlement programmes, proper planning should be undertaken beforehand. More scientific methods, requiring less areas, should be adopted for disposal of urban waste to avoid damage to lands, water bodies and environment.
- The alignment of the road and transport system should be planned with minimum use of arable lands and good forest areas. Construction of roads should have in built provision for waterways to supplement the natural drainage system, treatment of landslides prone and fragile areas, compensation for crop / forest / land property, etc. likely to be damaged / destroyed and having provision for compensatory afforestation for greater stability of the slopes.
- The industrial units be required to take necessary safeguards to reduce pollution particularly those affecting the health of soil / land and water bodies.
- The mining programmes should contain detailed plan not only for mining operations but also for re-use of land after mining. Land use plan for mining areas should be examined against the cost involved and the social needs of the adjoining areas.
- Catchment area treatment plan should be prepared for the major and medium irrigation and hydel power reservoirs. Watershed management and soil conservation including afforestation should precede or at least be taken up simultaneously with the construction of dams / reservoirs so that their effect is felt by the time the irrigation / hydel project is completed and water is impounded in the reservoir.
- Steps need to be taken to obtain reliable information on the extent of area under direct possession of defense establishments and the extent of areas being required by the year 2020 to meet the future requirement.
- Steps are required to be taken to get the information on the extent of area under direct possession of Border Roads Organization for their camps and also the labour camps. The information is also required to

be collected for their future needs for road constructions by the year 2020.

- To check the pollution of air, steps should be undertaken to fix the emission levels also all types of vehicles. Norms also need to be fixed for the air polluting industrial units. Locations of polluting industries near the densely populated areas should not be allowed.

## **6. ECOTOURISM**

To generate revenue without damaging the ecology and environment, eco-tourism will be promoted in protected areas having natural scenic beauty and places of religious importance. Eco-tourism will be strictly regulated by making appropriate rules and regulations. No new area will be opened without thorough scrutiny and evaluation of the impact on the environment by the experts. The government will close those areas for eco-tourism temporarily or permanently, on which eco-tourism is having adverse impact on environment after scrutiny.

## **7. RIGHTS AND CONCESSIONS**

- The rights and concessions if any including grazing should always remain confined to the carrying capacity of the forest. The carrying capacity should be enhanced through total banning of grazing for certain periods, increased investment, silvicultural research and development of the area. Grazing in the forests freely should be discouraged and stall-feeding should be encouraged. Social forestry programme should be started in Khasmal and Gorucharan areas outside the Reserve Forest (RF) to increase the availability of fuel wood and fodder in such areas. Establishment of cattle camps / sheds within the RF should not be allowed.
- The rights and concessions should be related to the assistance provided by the people, residing in and around the forest, in protection of the forests from fires and forest offenders. Demands of the local people for their bonafide use should be the first charge on the forest.
- Wood is in short supply. The long-term solution for bridging the existing gap between demand and supplies lies in increasing the productivity of forests. But to relieve the pressure on the forest for timber, substitution of wood by alternatives is required to be taken recourse to. In case of energy required for domestic purposes fuel wood needs to be substituted with alternative sources like biogas, LPG and solar energy. Fuel-efficient 'chulahs' as a measure of conservation of fuel wood need to be popularized in rural areas. Similarly solar cookers and solar water heaters need to be popularized in the state.

## **8. DIVERSION OF FOREST LANDS FOR NON-FOREST PURPOSE**

- Forest land or land covered with trees should not be treated as source readily available to be utilized for various developmental projects and schemes, but as a national asset which is required to be properly safeguarded for providing sustained benefits to the entire state. Diversion of forestlands for any non-forestry purpose should not be allowed except for developmental projects after the most careful examination and scrutiny by the specialists from the standpoint of social and environmental costs and benefits. Construction of dams and

reservoirs for hydel power generation, mining and industrial development, construction of roads and bridges and any other projects of the state government / central government or any other public undertaking of the state government / central government which are consistent with the needs for conservation of trees and forest, which involve such diversion, shall provide in their investment budget, funds for regeneration / compensatory afforestation and compensation for damage caused to the forest crop both on government and private lands.

- Beneficiaries who are allowed mining and quarrying in forest land and in the land covered by the trees should be required to repair, reclaim and re-vegetate the area in accordance with established forestry practices. No mining lease or licence should be granted to any party. Private or public without a proper mine management plan appraised from the environmental angle and enforced by adequate machinery.

## **9. WILDLIFE CONSERVATION**

- Wildlife management plans should be prepared for all national parks and sanctuaries for taking special care for the needs of wildlife conservation. It is essential to provide for 'corridors' linking the protected area in order to maintain genetic continuity between artificially separated subsection of migrant wildlife. Diversion of forestland in national parks and sanctuaries should not be allowed.
- Forest management plan should take special care of needs of wildlife conservation in areas outside the protected areas.

## **10. TRIBAL PEOPLE AND FORESTS**

- All the remote areas of the state are inhabited by the tribal people. There is a symbiotic relationship between the tribal people and the forests. Tribal people and people residing in and around the forest areas should be involved in the protection, regeneration and development of forests to provide them gainful employment.
- Tribal co-operatives should be involved in protection, regeneration and optimum collection of non-wood forest produce.
- Provision of alternative sources of energy for domestic purposes should be made in tribal areas to reduce the pressure on forests.

## **11. DAMAGE TO FOREST FROM ENCROACHMENT, FIRES AND GRAZING**

- Encroachment on forestland has been on the increase. This trend has to be arrested and reversed by taking effective steps. There should be no regularization of existing encroachments.
- The incidence of forest fires is very high especially in the lower areas in the state. Standing trees, young plantations, natural regenerations, medicinal herbs and shrubs are destroyed by the forest fires. Fires cause maximum damage to the genetic resources and biodiversity. Special precautions should be taken during the fire seasons to prevent and contain the fire in the fire prone areas. Sufficient allocation of funds should be made in the budget for dealing with the fire. Culprits who



indulge in causing fires to the forest should be severely punished.

- Grazing in forest areas is a major problem in the state. Grazing in Reserve Forest area should be severely restricted / banned. Cattle camps / 'goths' should not be allowed in the Reserve Forest areas. Stall-feeding should be encouraged. Adequate grazing fees should be imposed to discourage the people from maintaining large herds of non-essential livestock.

## **12. FOREST BASED INDUSTRIES**

- The private forest based industries should not be allowed near the forest areas. However, to meet the
- Demands of the public the Department of Forests, Environment and Wildlife should establish saw mills and sale depots for timber, firewood and charcoal marketing.
- Farmers should be encouraged the private forest based industries should not be allowed near the forest areas. However, to meet the to grow trees on lands which are not required by them for agriculture / horticulture. Department of Forests, Environment and Wildlife may make arrangement to market the produce through their departmental sale depots.
- At village level small cottage industries run by village co-operatives based on forest produce / wood produced by the farmers may be allowed after scrutiny of the adequate supply of wood by farmers residing in the area.

## **13. JOINT FOREST MANAGEMENT**

Forest protection and conservation programmes cannot succeed without the willing support and active co-operation of the people. It is essential, therefore, to involve people in the development and protection of forests. This can be achieved through formation of Village Forest Protection Committees. Women should be given due representation in these committees to make them more effective. In lieu of the services rendered by these committees, the members of the committees may be considered for sharing benefits arising from such afforested and protected areas. Joint forest management can be undertaken in Khasmal, Gorucharan and degraded forestlands.

## **14. EXTENSION**

Forest and environmental conservation programme cannot succeed without making the people conscious of value of trees, wildlife and nature. Farmers should be motivated to undertake tree plantation of lands not being utilized for agriculture, to terrace the land along the hill slopes and to plant agricultural crops by rotation. Short-term extension courses and lectures should be organized in order to educate farmers and villagers for this purpose. It is essential that suitable programmes are propagated through mass media, audio-visual aids and film shows. Environmental education should be made an optional subject at school level.

## **15. FORESTRY AND ENVIRONMENTAL EDUCATION AND TRAINING**

Forestry is a scientific disciplines as well as a profession. Academic and professional qualification in forestry should be kept in view for recruitment to the State Forest Service and Forest Subordinate Services. Specialized and orientation courses for developing better management skills by in-service training should be encouraged. All personnel dealing with forest and environment should be regularly trained to keep them upto date with latest technology.

## **16. FORESTRY AND ENVIRONMENTAL RESEARCH**

With the recognition of importance of forests for environmental conservation, energy, fodder and employment, emphasis must be given to scientific forestry and environmental research. There is adequate need for strengthening of research base. Some broad priority areas so research and development needing special attention is:

- a) Increasing the productivity of timber, fuel wood, fodder and non-timber forest produce per unit area per unit time by the application of modern scientific methods and techniques.
- b) Reforestation of barren / degraded forestlands, wastelands and watersheds.
- c) Effective conservation and management of existing natural forest.
- d) Research related to social forestry for rural and tribal development.
- e) Research related to re-vegetation of high altitudes, barren and degraded forestlands.
- f) Research related to enhancement of productivity per unit area per unit time of medicinal plants, herbs and shrubs.
- g) Research related to wildlife management and management of national parks and sanctuaries.
- h) Survey of medicinal plants and biodiversity should be undertaken and status reports should be prepared and updated regularly.

## **17. PERSONNEL MANAGEMENT**

Government policies in personnel management should aim at enhancing the professional competence and status of personnel engaged in management of forests, environment and land. Qualified and motivated personnel should be given incentive by way of granting special increments for doing outstanding work. For removing the stagnation in their services career, the proposal for in site promotion to next grade in the same post may be considered after a certain period of service in the same grade. Seeing the arduous nature of duties, the forestry / wildlife staff has to perform in remote and inhospitable areas, adequate pay scale and promotions to them must be given to keep their morale high.

## **18. SURVEY OF ENVIRONMENT, FOREST AND LAND AND DATABASE**

- There is an urgent need to generate and update database for natural resources of the state without which correct decision could not be taken

and optimum utilization of natural resources is not possible. Priority is needed to be accorded to undertake the survey of forest resources, land use and biodiversity in the state on scientific lines. For this purpose, periodic collection, collation and publication of reliable data on prevalent aspects of environment, forest and land management need to be improved with recourse to modern technology and equipment.

- Land is a state subject. State Land Use Board should function as main custodian of data on land use. State Environment and Pollution Control Board should be constituted to regularly monitor the environment and pollution.

## **19. LEGAL SUPPORT, ORGANISATION AND INFRASTRUCTURE DEVELOPMENT**

Appropriate legislation should be undertaken and rules need to be formulated in order to implement comprehensive policy on environment, forest and land use effectively. Organizational restructuring needs to be undertaken periodically. Further, infrastructure by way of construction of adequate number of houses and office for the staff at various levels at various locations need to be developed to implement the policy and various Acts for conservation of environment and forest resources.

## **20.FINANCIAL SUPPORT FOR ENVIRONMENT AND FORESTRY**

The objectives of the Comprehensive Policy cannot be achieved without the provision of budgetary support and investment of financial and other resources on a substantial scale. The government will increase the investment in Forestry sector to 5 % of the total State Plan Outlay for the State. Such investment is fully justified considering the fact that more than 84% of the land resources of the State are under direct management of Department of Forests, Environment & Wildlife and the forest are very important for maintaining the environment and supporting essential ecological processes, life support systems and in preserving genetic diversity. Forest should not be seen as a source of revenue. They are a renewable natural resource. They are lungs of civilization and without protection of forest, environment and land from degradation; no civilization can survive on the earth. They are national assets to be protected and improved for the well being of the people of the country in general and of the State in particular.

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