

## Chapter 7

### STRATEGY AND ACTION PLAN

Based on the philosophy and methodology as suggested by NBSAP, the inputs provided by the government / non-government agencies, the network of local working groups created for the purpose, public meetings ( *raij mel* ) held at different places of the state, individual experts, a conceptual framework has been developed to formulate strategy and action plan for conservation and sustainable use of biodiversity in Assam. The strategies formulated cover almost all the issues and problems concerning biodiversity as visualised by the project group to be important and relevant. The actions stated, however, could not be pin pointed to the expected level in some cases owing to paucity of authentic data and concrete picture on the concerned themes and issues. The following are the tentative outputs so far arrived at:

**STRATEGY 1 :     DISSEMINATION OF EDUCATION AND AWARENESS AMONG ALL SECTIONS OF PEOPLE INCLUDING THOSE IN POLITICAL, ADMINISTRATIVE AND LEGAL FIELDS**

**The rationale behind:** The people of the state are more or less aware of the basic environmental issues through the consistent efforts made by the NGOs, academic institutions and organizations, government departments and the media particularly during the last two decades or so. There is no doubt that even many of the people living in the interior areas are also now more or less environmentally literate, although elements of superstitions among them still continue almost unabated. Though the people are traditionally living with biological resources and aware of their conservation, biodiversity as such is relatively a new concept not only to the people in general but also to most of the practicing politicians and administrators. This was quite

evident in the course of preparation of the SBSAP, when we had the opportunity to come in to close contact with the mass people, academicians, and the government personals and could read their minds. Therefore, there is a prime needs to educate and sensitize the major actors (the government and the people) regarding the current and future issues relating to the biodiversity use and conservation.

## **ACTIONS**

- 1 Publication of reading materials on biodiversity and related themes by scientific organizations and concerned government departments.
  - 1.1 Publication of documents in local languages (Assamese, Mishing, Bodo, Karbi, etc.) incorporating the rules, regulations and views of all the concerned government departments on bio-diversity and related issues so that the linkages between the government and the people. The document will contain the value of biodiversity and the need for its conservation, historical relation between people and biodiversity, scope for participation of people and the government departments for sustainable use and conservation of biological resources, government initiatives and rules and regulations concerning biodiversity. The state government will take the responsibility of producing the documents.
    - 1.1) Publication of the results of biodiversity-related research carried out by the universities and the research institutions in popular language in order to make people aware of and concerned with the recent developments in the field.
    - 1.4) Incorporation of the concept and significance of biodiversity in the curriculum at all levels of education from primary to university.
    - 1.5) Generation of appropriate literature on the value and scientific use of bioresources for the village peoples.

- 1.6) Workshop /training/orientation courses may be organised specially for the politicians, bureaucrats, lawyers and other responsible citizens for proper understanding of biodiversity and the need of its conservation. Concerned university departments, reputed NGOs or the administrative staff college may organise such courses.

The above action programmes may be entrusted to state level scientific organisations like Assam Science Society, Assam Science Technology and Environment Council, Center for Environment Education and the relevant government departments.

**STRATEGY 2: REVITALIZATION OF TRADITIONAL PERCEPTION, KNOWLEDGE AND SKILLS WHICH HAVE SIGNIFICANT POSITIVE VALUES IN THE RATIONAL USE AND CONSERVATION OF BIODIVERSITY RESOURCES**

**The rationale behind :** Assam is socio-culturally a diverse land. The tribal groups particularly have occupied distinct habitats suitable to their tradition and livelihood. Even the non-tribal people including the immigrants are traditionally inclined to specific environmental settings which they consider to be favorable for their ways of living (*genre de vie*). Thus till recently there had been remarkable traditions of living with nature both in the hilly and plain areas of the state under the subsistence economic environment then prevalent. Some of the traditional activities like sericulture, apiculture, poultry farming, where mainly women are involved, are basically found to be tuned towards right kind of use and conservation of environmental resources. There are examples of how people rightly perceived the delicate natural systems and accordingly decided their activities which proved harmless / least harmful to the environment. If the

ecofriendly traditional knowledge and skills can be revitalized, there is scope for further strengthening people's participation in conserving the broad base of the state's biodiversity.

#### **ACTIONS**

- 2.1) Study and documentation of the traditional knowledge and skills of both tribal and nontribal people including women that are considered to be helpful for biodiversity conservation : This may be undertaken by scientific NGOs in collaboration with the science and technology department, Government of Assam.
- 2.2) Protection and application of traditional knowledge, skills and livelihoods involving local people: necessary improvement of the traditional skills may be made through appropriate S & T inputs to meet the present demand in terms of quantity and quality. Preferably the gram panchayats and scientific NGOs may take active part in this regard.

#### **STRATEGY 3 : EXPANSION OF SCIENTIFIC STUDIES ON VARIOUS FACETS OF BIODIVERSITY AND INTEGRATION OF THEM TO STRENGTHEN THE TOTAL UNDERSTANDING OF BIODIVERSITY AND TO EXPLORE MEASURES FOR ITS SUSTAINABLE USE AND CONSERVATION**

**The rationale behind :** The scientific studies made so far on biodiversity and related issues have been found to be inadequate even to understand the present status of the state's biodiversity. Although we often express our concern to the growing ecological imbalances mostly in terms of the proportion of forest cover, we are really least concerned with the probable imbalances among the species within a forest ecosystem, for instance. It is observed that already there is a visible imbalance among and within the species (both plants and animals)

in some ecosystems (e.g. the tropical semi-evergreen forest along the foothills) manifested in different forms including the growing human-animal conflicts. Scientific study on the carrying capacity of different ecosystems seems to be lacking which has resulted in a confusing environment as to the growth of certain species like elephant and monkeys, for example. On the other hand, the level of sustainable use of biodiversity resources has also not been determined by any agencies, either the user or the custodians. There is no need to mention here that many species have already seen their extinction because of unscientific and excessive use. All these call for extensive and in-depth study and documentation of the already threatened biodiversity of the state.

#### **ACTIONS**

- 3.1)** Mapping of different ecosystems and study and documentation of biodiversity status and the trends and forces causing biodiversity change: the concerned university departments, scientific institutions and NGOs in collaboration with the relevant government departments may take up this task. Priority may be given to the remnants of wet-evergreen forests (rain forest) distributed in the upper Brahmaputra valley, grasslands of northern foothills and North Cachar Hills and the riparian forests and wetlands in the floodplains of the Brahmaputra.
- 3.2)** Determining the quantum and kind of use of natural resources: the state government has to evolve a mechanism to determine the quantity and quality of the use of natural resources with the help of appropriate agencies involving experts from various fields including engineering, industrial and management organizations.
- 3.3)** Determining the sustainable level of biodiversity use: it is no doubt a difficult task needing interdisciplinary expertise. At species or type of resource use level, however, steps may be taken up immediately to assess the sustainable level of the

use. For instance, the use of cane and bamboo resources in the state has attained such a level that their diversity and dimension of occurrence have already been drastically reduced. Experts from organizations like I.I.T, university and other scientific institutes may take up this very important task taking help from concerned government departments and NGOs.

- 3.4)** Study on the prospect of regeneration and restoration of critical ecosystems like grasslands, foothill ecotone, wetland ecosystems, degraded forests etc. has to be taken up immediately before it is too late. The grasslands needing proper protection and regeneration includes mainly those of Dibru-Saikhowa, Majuli, Laokhowa and Burhachapari, Orang, Pobitara, Barnadi and Manas. The wetland ecosystems needing topmost priority includes, to name a few, Rota beel and Son beel in Karimganj district, Morikolong beel and Kuji beel in Nagaon district, Dhir beel in Dhubri district, Tamranga beel in Bongaigaon district, Deepar beel, Chandubi beel and Jalikhora beel in Kamrup district, Kapla beel in Nalbari district, Goranga in Morigaon district, Urapad beel in Goalpara district. Relevant NGOs, university departments, forest and soil conservation departments of the state government may be involved in this task.

**STRATEGY 4: REORIENTATION OF THE ECONOMY TOWARDS SUSTAINABLE USE OF BIOLOGICAL RESOURCES AND GENERATION OF EMPLOYMENT OPPORTUNITIES FOR THE WEAKER SECTIONS AND WOMEN IN ECOFRIENDLY OCCUPATIONS**

**The rationale behind:** The present occupational structure of the state clearly indicates that the secondary sector is still very poor and almost stagnant. It absorbs only 5.56% (1991 census) of the working force against the country's average of 11.97%. There are some districts like Kokrajhar and Dhemaji where the proportion of workers in the secondary sector is less than 3%. The tertiary sector on the other

hand absorbs 20.45%, which is equal to that of the national average (20.50%). In the most urbanized district of Kamrup this figure stands at 42.41%. It is important to note that during the recent years the state income has been found to be not sufficient even to pay the monthly salary to the state government employees. It is here worth mentioning that the rural poor who do not have sufficient land and required formal education have practically little excess to gainful activities available in the primary or the tertiary sectors. There is however enough scope to increase the output particularly of the agro-based and forest produces and to generate employment opportunities, provided the available and potential biological resources are locally and judiciously utilized. Thus it appears that there is apparently no alternative for improving the condition of the weaker sections but to evolve strategies to use natural and agricultural resources locally through establishing low cost processing units. The horticultural products like tomato, pineapple, guava, citrus fruits, banana, pumpkin, produced in large scale in the rural areas of the state are either sold at a very low price or parts of them get destroyed in the peak season of production due to the lack of storage and processing facilities. There is thus promising scope for proper utilization of these resources locally, which will not only generate income for the rural poor but also employment opportunities.

#### **ACTIONS**

- 4.1)** Survey and documentation of the currently used and usable biological resources and determination of the prospect of their processing locally to enhance their quality and durability. Institutions, NGOs and small groups of experts may be involved in this kind of job under government initiatives.

- 4.2) Development of entrepreneurship among the weaker section and women for production and processing of biological resources such as cane and bamboo, jute, eri, muga, pat and a variety of food products and improvement of the marketing system in favor of the local producers. NGOs and women organizations may take the lead to implement these in collaboration with relevant training institutes.
- 4.3) Price protection to the producers of biodiversity-related resources: government and non-government organizations have to take steps to address this issue and make provision for necessary price protection.
- 4.4) Access right to biological resources to the communities who are intimately associated and traditionally dependent on them has to be provided and parallelly they have to be motivated for ecologically acceptable and economically viable productive activities. This is a task to be taken up by relevant government departments, panchayats and local bodies and NGOs of the concerned areas.

**STRATEGY 5 : INTEGRATION OF THE EXISTING CONSERVATION EFFORTS TO STRENGTHEN THEIR EFFICIENCY AND EVOLVING NEW MEASURES FOR CONSERVATION OF BIODIVERSITY IN VIEW OF THE EMERGING PROBLEMS AND PROSPECTS**

**The rationale behind :** The idea of conservation is not new in the state. Traditionally the indigenous people are more or less conscious about the biological diversity around them, as their livelihoods are basically dependent on it. There have been efforts from the government machineries also towards conservation of biodiversity since long. The national parks, wildlife sanctuaries and other

protected areas existing today are the best evidences of such efforts. But the high rate of population growth and consequent increase in the demand for biological resources have presently led to a situation for which both the government and the people seem to be not adequately prepared. As a result, today we find alarming loss of forest areas including their rich biodiversity. During the period 1974-99, for instance, the state recorded a loss of nearly 9000 sq. km. of forest area. Outside the protected areas also, because of significant diversity of natural settings rich biodiversity prevailed till recent past. But due to lack of appropriate conservation measures these areas are also rapidly losing their biodiversity. There is thus an urgent need to strengthen the existing conservation efforts and to evolve new strategies to address the emerging trend of problems and prospects of biodiversity conservation.

#### **ACTIONS**

- 5.1)** Checking further degradation of forests, grasslands and grazinglands and introduction of reforestation in the deforested areas: to accomplish this task, the forest department has to take bold steps involving local people and NGOs. The important sites needing immediate attention include the peripheries of almost all the NPs and sanctuaries; Gahpur RF, Bihali RF, Balipara RF, Nambor RF, Doyang RF, Rengma RF, Joypur RF, Darranga RF etc.
- 5.2)** Reintroduction of the threatened species in their existing natural habitats (*in-situ*) and creation of scope for extension of their habitats wherever feasible. Survey and research may be taken up by the government departments involving experts and NGOs to explore the possibilities and to initiate action in this regard.
- 5.3)** Taking up programs of *ex-situ* conservation mainly for propagation of endemic, threatened and endangered flora and fauna through scientific methods. In the case of plants, tissue culture lab may be established for mass culture of selected

plants and their subsequent transfer to the natural habitats. Some species according to priority are to be preserved in scientifically planned botanical gardens/parks ( eg. butterfly park, snake park, fish park) to ensure long term *ex-situ* conservation of genetic resources. Relevant university departments, institutions, forest department and scientific NGOs may take up this kind of task.

- 5.4)** Whatever government lands including the grazing and wastelands are there in the hills and plains of the state have to be earmarked for conservation purposes considering their present status and feasibility. Panchayats and local bodies, revenue department, NGOs and experts in the field of biodiversity conservation may be assigned responsibility to identify the areas and to decide the possible conservation measures.
  
- 5.5)** Networking of the agencies like forest department, BSI, ZSI, academic institutions, NGOs and other relevant organizations has to be established in order to share ideas and functions relating to biodiversity conservation. The network (Assam Science Society Biodiversity Network) formed during NBSAP which include as many as 26 local working groups distributed throughout the state may be extended and strengthen further for the purpose of sharing ideas and functions of the concerned agencies. The forest department in collaboration with NGOs has to evolve ways and means to take necessary lead in this regard.
  
- 5.5)** In addition to the conservation of the sacred grooves (demarketed and undisturbed biological entity) distributed in the state, necessary arrangements to keep a small part as natural greenery in the premises of those government and public institutions, which occupy relatively large range of land, has to be made so that the people around may be attracted towards conservation of local biological resources. Concerned departments and institutions may be asked to take necessary action in this regard in collaboration with local NGOs.
  
- 5.7)** Initiative for the establishment of a natural history museum in the state has to be

taken up immediately. Organizations like the Assam Science Society may be assigned the responsibility to do the needful in this regard.

**STRATEGY 6 : IDENTIFICATION AND MANAGEMENT OF THE THREATS AND PRESSURES ON BIODIVERSITY**

**The rationale behind:** Like many other parts of the country, Assam has also witnessed a variety of threats and pressures on biodiversity. Some of the threats are however found to be of peculiar nature because of certain distinctive natural and social characteristics of the state. Among the geomorphological threats, regular flooding, riverbank erosion, siltation and soil erosion have put growing threat to the biodiversity of the areas affected. The functioning of these geomorphological processes have been intensified during the recent years through increased human interference in the ecologically sensitive areas like the riverine tracts and the foot hill zones. In the socio-economic and political front on the other hand, factors like unplanned expansion of human settlement, irrational use of land, improper application of agro-chemicals, harmful exploration and exploitation of mineral resources, excessive exploitation of certain valuable species of flora and fauna, insurgency and political unrest, allotment of land in the forest fringes in the name of rehabilitation to fulfil narrow political interest have now emerged remarkably to cause immense pressure on the biodiversity of the state. Therefore scientific management and socio-political handling of these threats and pressures are considered to be the need of the hour to protect the biodiversity from further degradation.

**ACTIONS**

- 6.1)** Control of unplanned spread of human settlements to the forest fringes and protected areas including the chronically flood-affected zones: concerned government departments are to identify the areas where further settlement should not be allowed and accordingly actions have to be planned and implemented. In the case of planning for human settlement in the flood affected zone, the Brahmaputra Board may be entrusted to provide the outlines of the chronically and occasionally flood affected areas so that further expansion of settlement particularly to the severely flood-affected areas may be restricted. This action requires detailed study and strong legislation from the government side and active co-operation from the people.
- 6.2)** Scientific management of the riverbeds and the river systems has to be adopted to deal with flood and bank erosion problem both at the basin and sub-basin levels. The traditional culture of living with flood has to be encouraged wherever feasible. The traditional knowledge of the local people about the positive contribution of flood to their agriculture and fishing including the sustenance of the wetlands may be revived and utilized while planning for controlling the devastation of flood. Adequate care and precaution for conservation of nature should be taken if and when some structural measures are adopted to control flood. Scientific institutions and organizations like IIT, University, etc. must be involved in flood management policy and programmes in addition to the flood control department and the Brahmaputra Board.
- 6.3)** As the Brahmaputra basin includes several states of the country and neighbouring nations like Bhutan, China and Myanmar, actions has to be taken up to deal with the flood problem of the state from inter-state and cross-national perspectives.
- 6.3)** Some of the very special areas like Majuli, the biggest river island in the world, having rich biological diversity need special attention. Majuli, which is basically a cluster of islands, has witnessed severe flood problem accompanied by large scale bank erosion and rapid degradation of biological resources during the recent

years. Actions for preparation of a master plan incorporating suitable flood and erosion control measures, conservation of the wetlands and the grasslands and also the traditional institutions (*satras*) are immediately required. The wetlands in the island attract a large number of migratory and resident birds some of which (Bhereki beel and Chakuli beel for instance) can easily be developed as bird sanctuaries.

- 6.5** Popularization of biofertilizers and biopesticides to reduce the quantum of agro-chemical application: the biotechnology department of the universities and the agriculture department may jointly take up the issues relating to biofertilizer and biopesticides application and scientific NGOs may be involved to popularize the matter as per their suggestions.
  
- 6.6** The existing land regulations for both rural and urban areas have to be reviewed from biodiversity point of view and new regulations have to be evolved so that transfer of biologically important land to other uses can be restricted.
  
- 6.7** Further allotment of land to develop tea gardens and other eco-unfriendly activities in the bio-physically-productive lands should be stopped with immediate effect. The revenue department of the government has to take necessary steps in this regard. More over, the management of the existing tea gardens both in the Brahmaputra and Barak valleys should be instructed to actively consider the biodiversity question in the management of their tea estates. Excessive use of pesticides and weedicides in the tea gardens which has adverse impact on the surrounding ecosystems should be strictly prohibited.
  
- 6.8)** Insurgency and growing political unrest must be settled without further delay. Political initiatives and proper economic agenda to remove their root causes have to be adopted immediately. Arrangement for sustainable use of biodiversity resources ensuring participation of local people, especially those who are living in

the forest fringes, may go a long way in solving the problems of unemployment which is considered to be one of the root cause of all these. The tribal dominated areas and the flood-prone riverine belts should get topmost priority in this regard.

**STRATEGY 7 : MAINTENANCE OF AGRICULTURAL BIODIVERSITY AND PLANNING FOR SUSTAINABLE MANAGEMENT OF THE FARMING SYSTEM**

**The rational behind:** Like any other part of SouthEast Asia, Assam is historically rich in crop and livestock diversity. The agricultural sector including livestock farming is still a dominant sector absorbing more than 65% of the state's total working force. The topographic and climatic diversity within the state has not only caused diversity in the crops cultivated and livestock raised but also made the farming systems highly diverse, from primitive shifting cultivation to highly organized plantation farming.

Assam is known particularly for its rice diversity. Records reveal that the state had more than -----species of rice in the historical past. The state has also been traditionally rich in horticultural diversity. But during the recent years because of lack of scientific management, the agricultural sector has seen rapid depletion of crop diversity, more particularly the traditional varieties of rice. There is therefore a growing need to manage the sector scientifically ensuring thereby its long-term sustainability along with conservation of crop and livestock diversity.

**ACTIONS**

- 7.1** Detailed study and formulation of a scientific agricultural development plan for crop and livestock farming considering the agroclimatic characteristics, watersheds, land capability and other biophysical diversities and socio-economic attributes in order to make this sector more sustainable and helpful for biodiversity conservation: this is an interdisciplinary task which can be accomplished under the leadership of the agriculture department and the state's

only agriculture university –the Assam Agriculture University. A planning atlas for the people and student community in general and the farming community and the agricultural planner in particular may be brought out. Geographers may be entrusted with the responsibility of mapping the various aspects to be included in the atlas. The atlas should be of both academic and utilitarian values.

- 7.2** The existing farming system has to be scientifically guided in the line of eco-farming in which the plant biomass, weeds, animal dung, rain and ground water can be constantly integrated into the farming process following a befitting crop calendar. The Agriculture Department which has already done some works in this respect may proceed further encouraging due participation of the farmers at the village level taking necessary help from local NGOs.
- 7.3** Management of livestock farming in the context of changing ecological and economic scenario: the production conditions for farm animals are changing in respect of new feed-stuff, management of animals, housing etc. On the other hand, the demand for products and services expected from animals have also witnessed atleast some change during the recent years. Keeping these points in view steps have to be taken up towards popularization of the modern management systems to use and conserve the domesticated animal diversity. The College of Veterinary Sciences under Assam Agricultural University, and organizations like Goat Research Institute at Barnihat (Meghalaya) may develop new schemes in collaboration with the concerned government departments and NGOs to revitalize the sector preferably at the panchayat level.
- 7.4** *In-situ* and *ex-situ* genetic conservation of farm animal breeds : the College of Veterinary Sciences, AAU has to take necessary lead in this respect with required necessary networking involving local people and NGOs in order to generate a conducive environment for their conservation.

- 7.5** Exploration and collection of germplasm for agrobiodiversity conservation : these are the basic ingredients to constitute the backbone of agrobiodiversity conservation, use and management. In view of the time and resources required for exhaustive collection of the entire domesticated plant genetic resources, priority should be accorded to collection of germplasm of the species, the native diversity of which has already been seriously threatened. The Assam Agriculture University is the most suitable institution for creating a center for long term conservation of germplasm of crop and non-crop genetic resources in the state.
- 7.6** A complete inventory of indigenous fruits and vegetables should be prepared and at the same time conservation programme, both *in-situ* and *ex-situ* should be implemented effectively to safeguard the genetic richness of fruits and vegetables available in Assam. The Department of Agriculture, Government of Assam in collaboration with the Assam Agriculture University and organisations like Horticultural Society of Assam may take up the task.
- 7.7** Survey of non-conventional food plants and evaluation of their nutritional values and steps for their popularisation and conservation : the Assam Agricultural University, biotechnology departments of the Universities and scientific NGOs may be assigned this task.
- 7.8** The age old practice of *jhuming*, which is widely prevalent in the hill districts of Karbi Anglong and North Cachar and some hilly areas of Kamrup district, is proved to be environmentally unfriendly mainly because of the sharp decline in *jhum* cycle. Some of the *jhum* cultivating families have already taken up measures to check soil erosion in the *jhum* fields by introducing plantation crops like banana and bamboo. The need of the time, however is a systematic and scientific effort to evolve a workable and socially acceptable package aimed at improving the condition of the *jhumias* so as to enable them to avoid the adverse effects of shifting cultivation.

**STRATEGY 8: CONSERVATION OF THE AQUATIC ENVIRONMENT AND  
SAFEGUARDING THEIR RICH BIODIVERSITY FOR SUSTAINABLE  
USE AND DEVELOPMENT**

**The rational behind :** With the great Brahmaputra and the Barak river systems including their large number of tributaries, and more than 3000 wetlands of varying dimensions, Assam is one of the richest states of the country in terms of fresh water resources. These water-bodies form favorable natural habitats for a wide range of aquatic flora and fauna. But due to lack of proper conservation measures and scientific management of these fresh water-bodies, particularly the wetlands, the diversity of the aquatic resources has been dwindling very rapidly during the recent period. This is adequately indicated by the amount of fish (0.25 lakh tonnes on an average) the state has to import annually from outside despite the presence of some most favorable natural breeding grounds for a large variety of fishfauna. Moreover, the long-continued dependence of rural populace and the livestock as well on the wetland environments for aquatic food resources has also been no less significant. Therefore, there is an immediate need to protect the fresh water bodies from further degradation and to conserve their rich biodiversity.

**ACTIONS**

**8.1** Extensive survey of wetlands to assess their spatial dimensions, status of biodiversity

and various threat factors: the survey has to be carried out through remote sensing application supplemented by detail ground survey covering all aspects of aquatic environment including biodiversity. This task may be assigned to the department

of fisheries, Government of Assam. The department can involve a team of experts from relevant institutions and NGOs to make the study more authentic and useful.

**8.2** Awareness campaign has to be intensified to sensitize the people and to make them

conscious about the importance of wetlands and for their necessary protection.

NGOs

in collaboration with local self-government may undertake this task.

**8.3** *In-situ* conservation of fish diversity : specific wetlands and upstream courses of certain rivers are considered as the natural habitats for many important native fish species. The upstream of the rivers like Bharali and Subansiri, and the wetlands within the protected areas like Manas, Kaziranga may be adopted for *in-situ* conservation. Farming and breeding facilities may be developed at suitable sites for *ex-situ* conservation of some of the most critically endangered fish species (*Tor tor*, *Labeo dyochelus*, *Bengala elanga*, *Ompok pabda*, for example) of the state.

**8.4** The State Wetland Development Board which has been found virtually defunct for the last few years should be reactivated and be given well defined authority to supervise the conservation and development of the wetlands without further delay.

**STRATEGY 9 : FORMULATION OF POLICY AND LAWS FOR CONSERVATION AND SUSTAINABLE USE OF BIODIVERSITY**

**The rationale behind :** Formulation and implementation of policy and legislation relating to use and conservation of biological resources have assumed increasing importance as these resources are under growing

threats and pressure. The people and the administrative agencies feel that the existing policies and laws and their ongoing implementation are not sufficient to address practically the recent problems associated with biodiversity loss and conservation. Even the national forest policy, to the opinion of the concerned departments and others, is unable to cover all the requirements for sustainable use and conservation of biodiversity in the context of the state. So far, the forest department is the only government establishment to administer the policy and legal measures provided by the Indian Forest Policy, 1988 and the Wildlife (protection) Act, 1972, for instance. The Wildlife (protection) Act of 1972 does not provide much scope for people's participation in biodiversity conservation. Moreover, the existing laws and prevailing situation do not encourage the forest department to work for biodiversity conservation outside the protected areas.

Further, there is no single organization/ institution so far to act as the apex body to look after the complex web of biodiversity related themes and issues. Thus there is a need to formulate some new policies and laws and to establish a state level institution in order to manage the problems and potentialities of biodiversity more efficiently.

## **ACTIONS**

- 9.1** Critical analysis of the existing policies and laws to ascertain their strengths and weaknesses and operational values from the standpoint of biodiversity. Legal experts, government departments, academicians and people's representatives may collectively take up the matter to arrive at acceptable result.
  
- 9.2** Formulation of a new state forest policy in conformity with the National Forest Policy : the existing State Forest Policy 1988 has to be revised and made more scientific by incorporating-(i) provision for effective people's participation,

recognition of community perceptions, livelihood issues and customary laws relating to biodiversity, (iii) provision for formation of local biodiversity committee involving the local self-government, (iv) survey and documentation of forest resources, (v) provision for environmental impact assessment of any present and future establishments having potentialities to cause harm to the forest environment. The forest department may take the lead to formulate the policy considering the views of all concerned, especially environmentalist, environment legal experts, NGOs and academicians involved in the field.

**9.3** Creation of a separate department to manage sustainable use and conservation of biodiversity: biodiversity should emerge as a subject matter of prime concern for the coming decades as the future of the state is largely dependent on its judicious use and conservation. A separate ministry can only do justice to this very complicated but highly important subject of the state.

**9.4** Establishment of a state level institution for biodiversity research and conservation. The institution shall integrate/coordinate the activities of all the departments, NGOs, concerning biodiversity in addition to its own agenda of works, to give biodiversity use and conservation a long-term scientific direction.

