

(Draft)

**State Forest Policy and Strategic Plan
(2008-2017)**



**Department of Forests and Wildlife Preservation
Punjab, Chandigarh**

PART I: THE POLICY

1. Introduction

Punjab Forest Department, one of the oldest State Departments, with a proud legacy, significant record of achievements, tradition of hard work is committed to the cause of protecting, conserving and enhancing State's natural resource base and environment. The State was bifurcated in 1947 on partition of India and further trifurcated into Punjab, Haryana and Himachal Pradesh in 1966. Thus, Punjab has been left with smaller geographic area limited extent of forest resources. The Forest Department by making all-out efforts to develop and enhance state's forest resources has been able increase its forest area from 3.72% in 1966 to 6.3% at present.

The Department has been sincerely implementing forestry programmes in accordance with the National Forest Policies of 1952 and 1988, Joint Forest Management (JFM) notification, 1990, and National Forestry Action Programme (NFAP). To create synergy among local, regional and national efforts to protect, conserve and manage forest resources on a sustainable basis, Government of India has urged the States to formulate their own forest policies in view of different sets of ecological, climatic, social-cultural and economic conditions prevailing in each State.

The State of Punjab is primarily agrarian with 84% of its area under agriculture with very high cropping intensity. Also, urbanization and industrialisation are taking place at a very rapid pace in the State causing a negative influence on its natural resources. All these activities are adversely affecting the environmental quality of land, water and air, which need to be mitigated by making suitable interventions such as adopting environment-friendly technologies, Clean Development Mechanism (CDM), suitable agroforestry and tree farming models on agricultural lands for landuse diversification, and greening of community lands, institutional lands, Industrial estates and urban areas, protection of heritage trees and old trees in rural areas.

This policy provides a framework to identify and accommodate all the issues and pressures on forests and wildlife resources in the state and manage them to derive optimum environmental, social and economic benefits for the State and its residents. It describes the Government's vision, mission and specific policy objectives which will be adopted to manage the state's forest resources in future.

2. Vision

The State of Punjab shares the national vision of sustainable management of forests to meet the needs of present and future generations. This vision has following characteristics:

1. The total area under the forest and tree cover is increased through afforestation and landuse diversification.
2. The forest resources are well protected and managed to retain their integrity and biodiversity using modern technologies and scientific knowledge.
3. The forest resources are managed in an eco-sensitive and sustainable manner to optimize all types of benefits to the society.
4. Forest management is effective and responsive to the society, which has a sound perception of importance of the State's forests and participates in their protection and sustainable management.

3. Mission

To achieve the State's forestry vision, the mission of the Department of Forests and Wildlife Preservation will be:

- To increase the area under forests and tree cover from present 6.3% to 15% of the State's geographical area.
- To protect, conserve and improve the State's forests and other natural resources for improving the quality of soil, air and water.

- To practice sustainable forestry based on sound principles of sustainable forest management through use of modern technologies and scientific knowledge.
- To protect, conserve and enhance the wildlife and remnant biodiversity resources of the State by developing a suitable Protected Area Network.
- To promote non-timber uses of forests such as eco-tourism, Non-Timber Forest Produce, medicinal plants and biodiversity.
- To practice socially-inclusive forestry and solicit cooperation and participation of the rural and forest dependent communities and other stakeholders in greening the State.
- To provide technical assistance, financial incentives and extension services to the people for promoting social forestry, agroforestry and tree farming for landuse diversification.
- To implement Government policies and programmes by adopting innovative approaches for optimising social, economic and environmental benefits from the forestry sector to the state and its people.

4. Basic Principles of Forest Policy

4.1 The forest resources of the state are an environmental resource and not a revenue-earning source. [Therefore the forest resources of the State need to be protected, conserved and enhanced for gaining maximum environmental benefits for the society.](#)

To achieve this:

- Utilize modern technologies to streamline the forestry administration and scientific management of forests.
- Apply scientific research and knowledge for improving vegetation cover and productivity of State Forests.
- [Protect the existing forest areas through proper survey, demarcation and raising of appropriate boundary fencing, pillars or wall and trench as per local requirement](#)

- Undertake strong and effective management interventions to fight the menace of encroachments at all levels.
- Take effective steps to fight and stop heft and other illegal trade from forests.

4.2 To increase the tree cover in the State from existing 6.3% to 15%. by promoting social and agro-forestry activities:

- Encourage people's participation in protection and management of State's forests and other natural resources.
- Promote different models for agro-forestry and trees outside forests through extension activities, technical assistance and financial incentives for land-use diversification and improving the quality of soil, water and air for overall environmental improvement of the State.
- promote environment friendly industry for utilising and processing forest raw materials in manufacturing of value added forest products.
- Prescribe minimum extent of area to be kept under tree plantation and vegetation cover by new industries, colonies, and institutions in the State.

4.3 To protect, conserve and improve Wildlife biodiversity and genetic resources of the state by strengthening and expanding the State's Protected Area Network.

- Fight illegal wildlife activities and trade through strong interventions.
- Revise State's Protected Area Network to include all areas encompassing remnant biodiversity of the State.
- Coordinate and integrate in-situ and ex-situ programmes for conservation of wildlife and biodiversity of the State.
- Give special focus to protection and conservation of endangered species of the state.
- Institute a suitable intelligence-gathering network to check crime and illegal trade in wildlife.

4.4 To promote empathy and sensitise people about importance of forests and wildlife, biodiversity and environment through awareness, education, eco-tourism and extension activities.

- Design a new forestry extension strategy for the State.
- Promote ecotourism in wilderness areas with unique ecological values.
- Institute awards to educational institute to involve children in agreement of the state.
- Run awareness campaigns to educate people almost environmental benefits of the forest and solicit their cooperative in greening activities.

4.5 Mitigate problems related to environmental degradation and climate change through Clean Development & Mechanism (CDM) and carbon sequestration through afforestation and plantation activities.

- Develop appropriate carbon sequestration methodologies for agroforestry plantations and get it approved from CDM Authority.
- Promote landuse diversification for reduction of harmful gases from agricultural fields.

PART II: THE STRATEGIC PLAN

5. Strategic Approaches of Forest Policy

5.1 Increase Area Under Forests and Tree Cover

- Punjab has 6.3% of its area under forests. The State has 84% of its area under agriculture with a very high cropping intensity. Therefore, the State has set a target to increase area under forest and tree cover to 15% by 2017 under State Forestry Action Programme. This can be achieved through agro-forestry on farm lands and by raising trees plantations on all kinds of land in the State which may be available for this purpose. Trees outside forests (TOF) should also be given due importance as they have a major role in increasing the green cover of the State. An annual report of TOF (Species wise) can be obtained by making it a part of the Revenue Gardawri System, so as to facilitate the actual ground-truthing to achieve more realistic results from satellite imagery and GIS based assessments.
- In the Kandi Area, special steps involving vegetative and engineering measures should be taken to prevent soil erosion, land degradation thereby ensuring the stability of the fragile ecosystem of the Shiwalik Hills. Surface and sub-surface water harvesting structures for ground water recharging and microlift irrigation schemes should be promoted to improve departmental support to local communities in providing them with irrigation facilities.
- Water resources should be augmented in other parts of State as well by creating and renovating ponds and other water bodies, and undertaking trees plantations around such structures, which should aim at recharging the underground water table.
- It is necessary to encourage the planting of trees alongside roads, railway lines, rivers, drains and canals, and other unutilized/under utilized lands under state, corporate, institutional or private ownership. Green belts and pockets should be raised in residential and industrial areas as well as in the semi-arid tracts which will help in checking erosion and desertification as well in as improving the environment.

- A minimum green cover policy should be framed for the industries, colonies, institutions and other projects being established in the State.
- Greening Action Plan for the State should be developed by involving other State Departments managing land resources.
- Village and community lands should be taken up for the development of arboriculture and fodder resources. Technical assistance and other incentives necessary for initiating such programs should be provided by the Government. The revenue generated under such program should be given to concerned Panchayats and communities as an incentive to them and solicit their cooperation and participation.
- Degraded forest areas near habitations should be regenerated with the cooperation and involvement of local communities. Joint Forest Management practices should be tuned to local scenario and adjusted to changing perceptions to achieve a sustainable green cover for the state.
- Regulation for felling of the trees on private land and community holdings should be reviewed and rationalized to enhance communities' interest in planting and protecting trees on their lands. The communities should also be provided with adequate financial incentives for raising long-rotation tree crops during the lock-in period of their lands, which fall in eco-fragile or eco-sensitive areas.
- Protection and preservation of Heritage trees and old trees in rural areas with the cooperation of local communities should be ensured.

5.2 Management of the State Forests

- The permanent vegetation cover and productivity of state forestlands should be increased through afforestation, enrichment and other methods.
- Forests in the State should be well protected and managed. These should be surveyed and demarcated by fixing permanent boundaries.
- All natural features and other structures of heritage, cultural or historical importance inside the forest areas should be identified and conserved.

- There should be emphasis on multifunctional role of the natural forests and their sustainable management by formulating improved management plans using modern technologies.
- New technical manuals for all aspects such as management, planning, monitoring and evaluation, and Wildlife Management should be prepared.
- The existing Forest Manuals should be revised and updated.
- Management plans and Working plans should be objectively written and strictly followed for the forest areas covered under them and adequate financial resources should be earmarked for regeneration of harvested areas.
- Scheme and projects that interfere with forests on steep slopes, catchments of rivers, lakes and reservoirs, and ecologically sensitive areas should be severely restricted.
- Grazing in the natural forests should be discouraged and feral population of strayed cattle controlled.
- Soil and Water conservation works should be carried out wherever necessary to improve the moisture regime of shivaliks and augment the recharge and availability of water resources.
- Strip forests along roads, canals and drains should be managed as shelterbelts and refuge for remnant biodiversity of the State and their frequent puncturing through diversion of forestland should be discouraged.
- Block forests in the plains should be cleared of invasive alien species and restored to indigenous vegetation of the area.
- Illegal extraction of any type of forest produce or its illegal trade should be tackled at all levels and stopped.
- Local people and stakeholders should be closely associated with protection, regeneration and development of forests. Any agency involved in forest management should provide gainful employment to the people living in and around forests.
- Only quality forest seedlings should be planted in afforestation and plantation programmes.

5.3. Social Forestry and Agro forestry

- The requirements of the society should largely be met by development of forest and tree resources outside the Government forests.
- Agroforestry besides offering environmental benefits offers an opportunity for crop diversification and should be popularized among farmers.
- Steps should be taken for *in-situ* propagation and conservation of medicinal plants in the Shiwaliks and other parts of the State.
- Non-timber forest produce, its collection, regeneration, protection and marketing should be institutionalized. Integrated development programmes should be undertaken to develop forest areas and their vicinity to meet the needs of local people.
- Providing Bio-energy as alternative source of energy should be one of the prime objective of agroforestry and tree farming programmes under which short rotation energy plantations should be taken.
- Most appropriate Agro-forestry models involving trees, agricultural crops and/or medicinal herbs, shrubs and climbers should be encouraged. Individuals and institutions should also be motivated to undertake tree farming and grow fodder plants, grasses and medicinal plants on their own land.
- Only high quality forest seedlings of fast growing species and those of colonial material from certified nurseries should be made available to the farmers to promote agroforestry.

5.4. Wildlife Conservation

The State government well strengthen and enhance the protected area network (PAN) to protect and conserve its wildlife and biodiversity by constituting more protected areas covering all the physiographic and climate zones of the State.

- Each protected area should be effectively managed under an objectively written management plan.

- Illegal Trade in wildlife and wildlife products from within the state and passing through the State should be strictly prevented.
- Appropriate intelligence gathering measures secret service fund and reward scheme should be put in place to combat poaching and illegal wildlife trade.
- Mobility of staff and communication network should also be strengthened to tackle wildlife crime.
- Regular census/estimates of wild population of rare and endangered species should be undertaken to monitor their status in the wild.
- Habitat improvement programme such as Plantations in wildlife sanctuaries should be undertaken only with indigenous species in line with the approved management plans after obtaining concurrence and sanction of the competent Authority.
- A Wildlife Atlas will be prepared to inventorise and categorise the areas of occurrence of rare and endangered species so that effective strategies could be put in place to promote and conserve them.
- Invasive alien species from inside and vicinity of the protected areas should be removed systematically to restore the indigenous flora and fauna. Strategies to achieve this task should be expressly described in management plans.
- Conservation breeding and planned breeding programme should be undertaken by coordinating in-situ and ex-situ conservation efforts of rare and endangered species in the State.
- Help of modern scientific knowledge, biotechnology and molecular biology should be taken in wildlife conservation programmes wherever deemed necessary.
- For creating awareness among people about conservation of wildlife and biodiversity Nature Education Programmes and camps should be organised in Sanctuaries, Parks and other protected areas. Nature Interpretation Centers should be established for this purpose with adequate government funding.
- Publicity and advertisement campaigns should be carried out to bring various wilderness areas rich in biodiversity and natural beauty into focus and promote ecotourism.

- Excessive use of pesticides is causing harm to the wildlife outside forest boundaries. Research on safer pesticides and fertilizers should be carried out and farmers should be encouraged to use them through proper funding and extension work. The Forest Department in tandem with other Govt. agencies should also encourage organic farming and integrated pest management in agricultural areas.
- Research work on various aspects of biodiversity conservation and improvement should be carried out by involving Universities and other Research Institutes

5.5. Diversion of Forest Land for Non-Forest Purposes

- **Provisions of FCA, 1980 should be effectively implemented especially to stop any violation along strip forests**
- Diversion of forestland especially from natural forest areas for any non forest purpose should be considered as a last resort subject to carefully scrutiny.
- Hazardous industrial development should be discouraged near forest areas and only those industries should be allowed which are consistent with the principles of forest conservation.
- Beneficiaries who are allowed mining and quarrying in forest land covered with trees should be required to restore the degraded area with afforestation and to give a proper mine management plan approved from the environmental angle.
- The State has only 6.3% of its area under forests and this too is continuously diverted for infrastructure demands. To compensate the decrease in forestland and to create new forest areas, land banks should be created in the State as reserves on surplus lands of the other State departments. The state should launch a scheme for purchasing land for afforestation to improve the extent of forest and wildlife habitats in the State.

5.6. Damage to Forest from Encroachment, Fires and Grazing

- **Strong and effective management interventions should be undertaken to fight the menace of encroachments in forests at all levels.**

- Forest areas should be cleared of all encroachments, and regularization of the encroachment should be strongly discouraged.
- Special precautions should be taken during the fire seasons and modern management practices should be adopted to deal with forest fires. Fire fighting training should be imparted to forestry staff and local stake holders.
- Grazing in forest areas should be regulated in the Shiwalik with the involvement of community by appropriately training them. Young plantation and regeneration areas should be fully protected.
- State should formulate a proper land use policy and domestic cattle management strategy.
- Stray and feral population of animals such as cattle and dogs roaming in the forests and protected areas should be controlled and where possible should be translocated to gaushalas and other suitable facilities.

5.7 Conservation and Propagation of Medicinal Plants

- Herbal parks and Herbal Gian Kendras should be set up in each district to educate people about the traditional Indian System of medicine for generating awareness, preserving the gene pool and production of quality seeds and seedlings for distribution to the farmers.
- Farmers should be encouraged for ex-situ cultivation and propagation of medicinal plants for income generation. Enabling environment should be created to facilitate processing and marketing of medicinal plants and their products.
- The Forest Department should take initiative in growing and promoting medicinal plants because most of the medicinal herbs are harnessed from the natural forest areas. Strategy for conservation, cultivation, marketing, evaluation of the medicinal plants should be incorporated in the management and Working plans of the forests.
- State Medicinal Plants Board should be associated with State Forest Department for sincere and dedicated implementation of national policies in this regard.

5.8. Forest Based Industry

- Farmers should be encouraged to grow wood for better economic returns. There should be no restriction and regulation on the felling of tree crops such as Eucalyptus, Poplars and other fast growing species under agro forestry systems on private land holdings to encourage regular supply of raw materials to forest and wood based industries.
- Industry should also be encouraged to raise forest raw material for its own requirement through contract tree farming with private landowners.
- Forest based enterprise at the village or cottage level should be permitted only after availability of raw material is periodically assessed.
- All the wood based industries should be regulated through a proper frame work and illegal saw mills/industries should be closed.

5.9. Forestry Research

- With increased recognition of the role played by the Forests in mitigating environmental problems, biodiversity conservation and energy needs, emphasis must be laid on scientific forestry research by strengthening the research base as well as identifying new priorities for action.
 - Some priority areas of research and development can be identified as:
 - Increasing productivity of wood/forest produce per unit forest area of the State.
 - Development of plantation models for revegetation of barren/marginal/waste land/watersheds.
 - New approaches to social and community forestry for rural development.
 - Biotechnology and Tree improvement to produce quality seedlings for maximizing production from tree crops.
 - Optimum Soil and Water conservation practices to minimize water run-off.
 - Protected Area Network models for wildlife and Biodiversity conservation and Management.

- Research on Medicinal properties of medicinal plants and other forest produce.
- Control and management of invasive alien species in forest areas.
- Impact of climate change on forest productivity and tree crops in the State.
- Collaborative Research involving specialist institutes should be undertaken on priority areas of forestry research.
- Appropriate methodologies and models for holistic economic valuation of the forests and wildlife resources of the State should be developed which take into account both tangible and intangible benefits of the forests.
- The holistic economic valuation should be used to develop a Forest Resource Account which would provide an accurate picture about contribution of forestry sector in the State Economy vis-a-vis other sectors.

5.10. Forest Extension

- A suitable forestry extension strategy should be formulated for the State under which a Forestry Extension Network should be created to adequately meet the extension needs throughout the State.
- Forest Conservation programme cannot succeed without the active cooperation and support of people. They should be involved in development and conservation of forests, wildlife and natural resources. Assistance from institutions such as Krishi Vikas Kendras and Educational Institutions should also be taken in providing forestry extension support.
- There should be separate regulated timber markets in the State by Punjab Mandi Board for ensuring transparency in transaction and avoiding exploitation of tree growers.
- Market intelligence and information gathering mechanism shall be strengthened for the benefit of the tree growers and wood consumers.
- Formation of tree grower's cooperative should be encouraged.
- Van Chetana Kendras should be established by the forest department in each district for extension activities. Education on nursery techniques, agroforestry

and marketing of forest produce, medicinal plants and their marketing should be provided by these Van Chetna Kendras.

- Van Mitra Award scheme should be instituted for educational institutions to involve and encourage school children in greening of the State.
- Regular awareness campaigns should be undertaken to educate people about the environmental, social and economic benefits of the forests and need to protect and conserve them.
- Ecotourism should be used as a management tool for forest conservation. Sites should be identified in natural forests to develop them as Eco –Tourism spots, for the exposure of people and connecting them to the nature and its bounties without disturbing the ecology of the forest area. Some selected Shiwalik forests and wetlands should be developed for such purpose with the involvement of village forest committees so that the villagers are also benefited economically from such activity. Also, they will get encouragement to protect and develop their forest areas for such purposes. Community based Eco-rural tourism should be promoted on the fringes of the forests.
- Due representation to forest officers at senior level should be given in different line departments particularly State Environment Department and Punjab Pollution Control Board so that forest and environment development issues can be addressed in an integrated manner to curb pollution and protect the environment of the State.

5.11. Application of Information Technology to Forestry

- Information technology should be made an integral part of forest management and planning.
- Use of GIS-based Forest Management Information System (FMIS) should be encouraged to strengthen e-Governance in State Forest Department.
- The existing staff should be adequately trained in IT and FMIS, and where required, new staff should be recruited and posted to handle the critical areas of IT-based activities such as GIS, MIS, RDBMS, and Networking etc.

- Use of spatial technologies such as GIS, GPS and Remote Sensing should be promoted among the field staff to draw maximum benefits from their use in forest management, planning, monitoring and evaluation, and decision support.
- The department should aim at achieving 100% computer literacy by training both ministerial and field staff.

5.12. Financial, Legal and Infrastructure Support to the Forest Policy.

- A State Forestry Board on lines of State Board for Wildlife under the Chairmanship of Chief Minister, Punjab should be established to monitor implementation of forest policy periodically and provide guidance to the Department.
- Legal cells should be established to provide legal assistance to forestry staff at Sub-Division, District and State level to take care of pending litigation.
- The forestry sector which maintains the ecology, environment, and renewable natural resources such as forests, wildlife and biodiversity soil and water for the future use should to be provided with adequate financial resources to achieve its mission.
- For effective implementation of this policy, Forest Department should be provided with appropriate infrastructure support in terms of mobility, communication and scientific equipment.

5.13. Personnel Management, Education and Training

- Government policies on personnel management in forestry sector should aim at attracting and retaining qualified and motivated personnel and enhancing their professional skills, competence and status.
- Since the forest and wildlife staff performs multifarious duties and thus have to don many caps which include policing, developmental and scientific to name a few. The policing and protection of forests and wildlife is a prime duty of the foresters. It is imperative that facilities and privileges at par with police

officers/personnel of corresponding rank and pay is provided to the forest officers/personnel.

- The State should also open Forest Stations on the lines of Police Stations.
- Cadre Strength of Forest Officers of various ranks should be maintained at optimum level and reviewed every five years.
- There should be lateral opportunities for forest officers to share experience with other departments to contribute to the development and progress of the State.
- Capacity building of local people especially the members of Village Forest Committee (VFC), Forest Protection Committee (FPC) or Eco Development Committee (EDC) should form an integral part of the Human Resource Development (HRD) Strategy of the State.
- Taking into account the latest developments in forestry and related disciplines, specialized training courses for developing better management skills for in-service officials needs to be encouraged. Government of India is already conducting compulsory Training Courses in various disciplines for IFS officers every year. State Forest Service Officers and all other forest officials of the department should also be given training in latest developments in forestry and modern technologies.
- A State Forestry Training Institute should be developed by equipping it with a well trained faculty and good training facilities for training foresters and wildlife staff as well as staff of other line-departments. A small cadre of non-foresters including Scientists, Ecologists, Geneticists, Sociologist, Economists, Legal experts, Veterinarians and IT professionals should be provided to the Forest Department for addressing the natural resource management issues in a more holistic manner.
- The field staff of the Forest Department should be encouraged to develop specialization in modern technology applications in forestry and also secondary specialization through small training modules in the fields like environmental management, horticulture, agriculture and other allied disciplines.
- An appropriate protocol should be ensured for I.F.S. officers as members of All India Services. They should be given due position and protocol at District,

Division and State Level meetings and functions commensurate with their status vis-à-vis their counter parts from the other All India Services.

- The fleet strength of the Department should be reviewed and upgraded from time to time. In view of emergency nature of duties, vehicles of forests officers at the level of DCF's and above should be provided with red light/flag. The field staff should be provided with patrolling vehicles/motorcycles. Also, mobile communication facility should be provided to each officer/official working in the Department.

6. Epilogue

- It is envisaged that this policy should lead to better forest management programs and practices which ensure environmental stability, promote conservation of biodiversity and bio-cultural heritage, and fulfill basic requirements of forest dependent and rural poor, and other stakeholders while maximizing environmental, social and economic benefits for the State.
