

EVOLVING A HOLISTIC MANAGEMENT STRATEGY FOR FOREST RESOURCES

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Background

The history of scientific management of Indian forests is more than a century old. The strategy of management has been evolved in the form of Working Plans based on scientific and silvicultural principles. Most of the recorded forests of India are managed as per prescriptions of Working Plans or working schemes. Over the years, comprehensive guidelines have been evolved in the form of Working Plan Code for writing up a Working Plan for a given tract of forests. The procedure and methodology of writing up a Working Plan is more or less same throughout the country. In the past, Working Plans used to be written for a period of 30 years which was, subsequently, reduced to 20 years. At present, Working Plans are written for a period of 10 years.

A Working Plan is considered as 'sacrosanct' for the scientific management of forests throughout the country. After Independence, the nation formed a new Forest Policy in 1952 for managing its forests. Over the years due to tremendous increase in human and livestock population, pressure on adjoining forest areas increased manifold. Moreover, deteriorating law and order situation, decadence of ethical norms of the society as well as increased awareness of people about their rights and privileges have created conditions non-conducive for traditional forest management.

The National Forest Policy 1988 has categorically realised the disturbing trends and conditions prevailing in the forestry sector. The policy has not only re-prioritised the objectives of forest management but also has emphasised the sustainable management by involving local communities, in order to minimize the conflict and maximise the harmonious relations.

The strategy enunciated by the policy is innovative and requires new perceptions, approaches and methodologies to translate the objectives into reality. The protection and conservation of natural heritage and rich bio-diversity by involving people needs new ways and means to deal with ever changing environment in the forestry sector. More so, it is becoming more and more difficult to manage forests in the traditional way.

Considering the prevailing conditions in forestry sector, changed perceptions of the society, advance developments in the field of science and technology, needs and aspirations of people and above all the policy objectives, an innovative and holistic strategy of management of forest resources is the need of the time.

Traditional Management Approach - Working Plans

Traditionally, forests of the nation are

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being managed through scientifically prepared Working Plans. The concept of sustained yield and silvicultural requirements of prominent species of a forest tract are the prime considerations. The Working Plans are written, in accordance with the guidelines prescribed in the Working Plan Codes. As per Working Plan format it is written in two parts. Part I deals with collection of requisite data, entitled, 'Summary of facts on which proposals are based', while Part II, deals with 'Future management discussed and prescribed'.

The information on the land use pattern and past treatment, required in Part I, is collected through trained staff. Presently, a Forest Division is treated as a unit for writing up a Working Plan. In the past, a District or a compact forest ecosystem used to be the unit for writing up the Working Plan. It normally, takes 2½ to 3 years to complete a Working Plan. Keeping in view modern modes of printing, data collection and analysis and other infrastructural facilities, it is possible to complete it earlier.

For writing up a Working Plan the entire forest tract is divided into more or less homogeneous units on the basis of nature and composition of the crop and silvicultural requirements of the prominent species. Objective of management and mode of regeneration are also given due consideration. These units of management, primarily delineated for a specific silvicultural treatment are termed as Working Circles (WC).

For the purpose of execution and uniform distribution of operation, Working Circles are further divided into Felling Series (FS) and Annual Coupes. The area of an Annual Coupe is, normally, equivalent to the size of a compartment which is the

smallest unit for silvicultural treatment, having distinct boundaries and more or less homogeneous crop. The entire tract is organised into WCs, FSs and Annual Coupes. The compartments are arranged, in sequences, in Felling Series for treatment under respective Working Circles and a statement for year-wise schedule of work is prepared for each Working Circle, normally, schedules are prepared for a span equal to felling cycle or regeneration period. The treatment is proposed for the period of the plan.

Inadequacies in the Traditional Approach

There is no doubt that the Working Plan approach of managing forests is based on sound silvicultural principles and has stood the test for over a century. Over the years, however, it has not kept pace with the changing perceptions and conditions in the forestry sector to the extent desired. As a result, the relevance of Working Plan is being questioned by increasing number of forest managers. The prominent inadequacies which have seriously affected the relevance and effectiveness of the approach may be summed up as follows :

1. *A conditioned rather than an open Approach* : One of the prime aims of National Forest Policy is to increase the forest cover to the extent of least one-third of geographical area of the country. Very little efforts in this regard, were taken in the management strategy. In fact, the management approach remains confined to the traditional forest areas, giving little consideration for non-forest tracts which were remained unattended due to want of systematic planning. Some non-forest tracts were treated under social forestry and community development programmes, but,

serious thought for extending the management planning to areas other than traditional forests was not given. Thus as a result, instead of increase of forest cover a serious degradation and depletion occurred in the forest tracts.

To achieve the goal enshrined in the policy a serious review of management strategy is required. The unit for management planning of forest resources needs reconsideration in the light of policy objectives. For holistic management and development of resources entire landscape of a District may be taken as a unit of management planning for forest resources.

2. Forest-Type Specific Approach : The present approach can be best termed as species-specific approach than an ecosystem approach of management. The approach provides treatment, in accordance with the silvicultural requirements of a few principal species in the growing stock. The requirement of an ecosystem as a whole is not given due consideration in the management strategy.

Moreover large chunks of forest areas are treated under one silviculture treatment, ignoring variations in crop composition and site quality. More so, the treatment is prescribed on the basis of general examination of growing stock and that too for the entire period of the plan. Such a treatment of the resources does not qualify as professional treatment but a general strategy to exploit the resources.

An approach which keeps into consideration the site quality, composition and requirements of crops and provides a holistic treatment after thorough assessment and examination of the resources, so as to realise fully the potential

of the site in the form of vegetal cover attaining normal form, may be termed as an appropriate approach.

3. Methodological than a Process Approach : The traditional approach of managing the forests is systematic as well as methodological. It provides detailed planning from alpha to omega. It does not seek the involvement of field managers while planning. Moreover, there is very little scope of incorporating changes during the progress of the plan. It does not seek the application of mind of the field managers but seeks rigorous follows-up of the prescriptions. It is contrary to the process approach which assumes that management and development are ever-changing and ever-evolving processes. The change should be incorporated in the management process as and when the need arises. Any approach based on rigid prescriptions becomes irrelevant the very next moment. Therefore, management strategy should have inherent capability to evolve with time and situation. The planning should not be so rigid as to stifle the management process. An appropriate management strategy should not only be evolutionary in nature but based on a process approach also.

4. No Significant Role for Watershed Management Approach : The strategy primarily orients around the silvicultural requirements of the principal species of a given forest type. The management units, such as, Working Circles and Felling Series are purely artificial. It is not based on the watershed pattern of a given tract.

Water is the life of all life forms on the earth. Thus, without *in-situ* conservation of water integrated development is not possible. Moreover, holistic treatment of an area is not possible without incorporating

Watershed Management approach in the strategy. A strategy which is not based on watershed management does not qualify as an appropriate strategy of resources management. Thus, there is a need to review the approach and strategy so as to modify it in accordance with the watershed of the terrain. An integral and natural management of resources is possible, only if naturally existing units form a framework of management strategy.

5. No Concern for People's Involvement : Though the forests, traditionally, have been managed for the welfare of the society. Yet, the involvement of people in management of forest resources has categorically been emphasised recently in National Forest Policy 1988. For involving people in forest management different approach, attitude and institutional arrangements are required. Though enthusiastic efforts have been undertaken to devise a strategy of involving people in forest management, yet, the department is not fully oriented and geared for the job at hand. The micro-planning approach evolved under Joint Forest Management needs incorporation and integration with overall management planning of the entire landscape.

6. Inadequate Emphasis on Bio-Diversity and Wildlife : It is an irony that wildlife protection and management is considered different from the forest management. Separate management plans are written for protected areas for conservation and protection of wildlife and bio-diversity. Wildlife management and conservation of bio-diversity is an integral part of forest management. Wildlife cannot be segregated by artificial boundaries and plans. An appropriate strategy should give due consideration to protection, conservation and management of wildlife as well as

conservation of bio-diversity. Separate plans for these Protected Areas mean fragmenting ecosystems with different management strategies which is contrary to the sound management principles. In the traditional strategy, due emphasis is not given to this aspect. The detailed prescriptions need to be incorporated in management plans, instead of writing separate plans for such areas or ecosystems.

7. Inadequate Emphasis on Forest Protection : Keeping in view the deteriorating conditions of the forest resources, protection aspect needs prime consideration. There is no denying the fact that due emphasis to protection aspect is not given in the traditional management strategy. There is a need to incorporate detailed protection measures in the management planning. Effective measures against fire, grazing, encroachment and other deleterious factors need to be incorporated in the Management Plans. Institutional arrangements and mechanism for involving people for forest protection and annual plans for grazing regulations, fire management as well as provision of disposal of offence cases need to be incorporated. Strengthening of protection machinery and infrastructure facilities also need emphasis.

8. Sustained Yield concept falls short of Sustainable Management : The traditional management revolves around sustained yield concept. It gives little consideration for sustainable management of resources as well as conservation and management of bio-diversity. The concept of sustained yield needs evolution to transform itself as sustainable management of a given tract. The innumerable Non-Timber Forest Produce (NTFP) species may be meaningfully harvested to provide gainful

employment to the local populace as well as to meet their bonafide demands and to realise, fully, the potential of a given tract.

Besides inadequacies explained in the foregoing paras, managerial considerations were given secondary importance than the silvicultural considerations. The principles, concepts and techniques of management have undergone tremendous evolution over the years. Forest management also requires the incorporation of advanced concepts and techniques for evolving a strategy appropriate to the resources condition and the need of the time.

Objectives of Management - National Forest Policy

The philosophy of Management by Objectives (MBO) is said to be the most widely accepted philosophy of management today. The essential features of Management by Objectives are given as under:

- (a) Set objectives carefully.
- (b) Review them periodically.
- (c) Pursue them relentlessly.

The policy of a nation expresses the wishes of the people in the form of objectives of management of its resources. The objectives of management of forest resources of the country have been listed in the National Forest Policy, 1988. The policy sets the goal of extending the forest cover to 1/3 of geographical area of the country.

The principal aim of the Forest Policy must be to ensure environmental stability and maintenance of ecological balance which are vital for sustenance of all life forms. The derivation of direct economic benefit must be subordinated to this principal aim.

The policy is holistic in nature and realistic in approach. It envisages integral and professional management of forest resources of entire country. It has also outlined the strategy to be followed for achieving the objectives. It has categorically recognised the involvement of the local people in forest management, their rights and concessions as well as creation of symbiotic relationship.

In order to achieve the objectives in a wholesome manner a dynamic, holistic and innovative management strategy is required. The present strategy needs to be radically evolved and transformed to suit the present requirements. The new concepts, innovative approaches and policy emphasis need to be suitably incorporated in the strategy to make it self-evolving and sustainable. Sustainable management is possible only through a strategy which may sustain itself in the long run.

The Proposed Strategy of Forest Management

(a) *Basic Assumptions* : The proposed strategy of forest management is based on the philosophy of Management By Objectives (MBO), propounded by John Humble, Mary Parker Follett and Peter Drucker. The strategy, is primarily based on following assumptions :

1. The unit of forest management planning should, preferably, be co-terminus with the basic unit of overall planning and development.
2. The integral and holistic management of forest resources on lines of ecosystem and watershed management is possibly, only if the watershed of a landscape

forms the basic frame-work of the strategy.

3. Site-specific and professional treatment of the micro-unit is more relevant than the type-specific silvicultural treatment.
4. The planning process can not be completely divorced from execution. The strategy envisions overall planning of entire Macro-Unit along with site-specific planning of micro-units at the time of treatment.
5. Natural management of forest resources is an appropriate strategy of management than the sustained yield approach. Natural management sustains in the long run.
6. The National Forest Policy envisages an integral strategy of management for the forest resources of the country by incorporating different streams and approaches, such as, PAs management, Bio-diversity Conservation and Management, Joint Forest Management, Eco-development, etc.
7. Management is an ever-evolving dynamic process.

(b) *Essentials of an Appropriate Strategy* : The need of an appropriate strategy is imperative for achieving the given objectives and for managing the resources in a sustainable manner. The strategy should have the following essential features in order to qualify as an appropriate one :

1. Matches the organisational potential, capabilities, work environment and resource conditions.
2. Based on the latest concepts,

philosophies and approaches as well as should be capable of incorporating the latest innovations in the field of science, technology and management.

3. Sensitive to the changing perceptions and environment variations. It should be responsive to the genuine needs and hopes of the people as well.
4. Takes things and beings as they are in their natural setting.
5. Dynamic in nature and intrinsically capable to evolve holistically with time and situation.

The proposed strategy is an earnest trial to evolve an appropriate management strategy to manage forest resources on sustainable basis. Moreover to ensure continuity of management of forest resources the present strategy needs to be modified and transformed suitably to assume the form and nature of an appropriate strategy.

(c) *Salient features of Proposed Strategy* : With a view to achieve the policy objectives in a planned and systematic manner as well as the sustainable management of forest resources, a strategy has been outlined in the forthcoming paras. The strategy comprises following salient components :

1. *Nomenclature* : Keeping in view the emphasis focused on sustainable management of the forest resources in the National Policy and latest trends in the field of forestry there is need to evolve an appropriate nomenclature for the strategy. The expression of 'Management Plan' seems more agreeable than the 'Working Plan' which is still the vogue. Moreover the entire landscape of District is proposed as Macro-

Unit for management planning. Considering the nature and scope of the strategy and the prevailing trends in the field of management planning the following expression is proposed as nomenclature of the strategy.

“Forest Resources Management Plan of District”

2. Macro Unit - Entire landscape of a Distt. :

The entire geographical area of the country has been delineated into semi-permanent and stable units of manageable size (districts) for the purpose of administration and planning. In order to streamline the management planning strategy of forest resources with the overall management planning of resources of the district, the entire landscape of a district is proposed as Macro-Unit of management planning. It will integrate the management planning of forestry sector with management planning of other sectors. It will bring entire geographical area of a district within the scope of a Management Plan. It will also provide a systematic strategy to extend the forest cover to non-forest areas which is a cherished goal of National Forest Policy since 1952.

3. Division of Macro-Unit (Landscape) into Eco-systems : The division of entire landscape into broad Ecosystems, having more or less defined boundaries is envisioned on the basis of following criteria:

- (a) Locality factors.
- (b) Composition and condition of growing stock.
- (c) Broad objectives of management.

The proposed sub-divisions are as follows :

- (i) Forest Areas,

- (ii) Non-Forest Areas.

4. Superimposing Eco-systems on Watershed of the Landscape : Each Eco-system is further divided into Medium Watersheds for the purpose of convenience of management of resources holistically on the basis of watershed management. It will provide advantage of convenience of working in a synergic manner in the entire watershed. It will also provide naturally delineated units for management.

5. Division of Watersheds into Management Series : Each Medium Watershed is proposed to be further divided and arranged into number of Management Series of appropriate sizes for the purpose of distribution of management operations to the entire watershed.

6. Division of Management Series into Micro-Units : Each Management Series is further divided and organised into Micro-Units of suitable sizes. These micro-units will serve as Annual Management Units (AMU). Considering, natural delineation and homogeneity of the crop, each compartment may be taken as a Micro-Unit for forest management. The areas not delineated into compartments may be divided into Micro-Units of manageable sizes in order to distribute operations of management, uniformly, over the entire area.

Proposed Treatment

Only the Natural Management sustains in the long run. Therefore, it is essential that the proposed strategy of forest management base itself on management systems, techniques and process akin to the way of nature. Amongst all the silviculture systems of Silvicultural Management, the

Selection System is akin to nature and may be termed as Natural System of silvicultural management. It is, therefore, proposed that the well stocked forest areas should be managed in accordance with the requirements of the selection system or its modified versions. The compartments in each watershed are proposed to be organised into Management Series, preferably, comprising 20 micro-units, or, in accordance with any of the following expressions :

- (a) Felling cycle.
- (b) Regeneration period.
- (c) Intensity of management.

The forest tracts as well as the areas devoid of forest cover are proposed to be rehabilitated on the basis of Recreation of Eco-system (Singh, 1994) and Eco-development approach. Presuming such tracts will not be of extensive nature, the Management Series are proposed to be comprising Micro-Units, conforming to the intensity of management, or, preferably, equal to the period of Working Plan.

The strategy envisages overall planning and broad guidelines for Macro-Unit as well for Micro-Units. At Macro level, it envisions overall planning and distribution of operations for the entire tract for a given period on the basis of eco-system and watershed management approach. It provides broad guidelines and prescriptions for fulfillment of general objectives enshrined in the policy. It will provide holistic and integral treatment for the entire tract. At Micro level, it envisages site-specific professional planning on the basis of complete and holistic assessment of resources and locality factors of a particular site. The Micro-Plans will be prepared by the field managers at the time of treatment,

in accordance with the broad guidelines outlined in the overall planning.

The frame-work of proposed strategy is explained in the schematic (Fig. 1). The strategy incorporates differential management on basis of eco-systems - basic unit of eco-management and holistic treatment on the basis of watershed - natural unit of resource management. It also incorporates holistic and eco-silvi-management of micro-units i.e. compartments. The strategy also seeks to integrate Protected Area Management, Joint Forest Management and Eco-development being practiced in traditional forest areas as well as Eco-development and site-specific treatment given to non-forest areas.

The approach of two-phase planning, Macro level as well as at Micro level, ensures the active involvement of field managers in the planning process. It also makes the planning strategy flexible and self evolving. Moreover it ensures the uniformity of treatment of entire landscape as well as professional and site-specific treatment of Micro-units, consistent with eco-requirements of tracts. The strategy envisions the development of each Micro-Unit to its potential as well as conversion of its vegetal cover into normal form.

Revision of Working Plan Code

The proposed strategy of sustainable management necessitates drastic revision of Working Plan Code. In fact, it envisages a uniform Management Plan Code for management of forest resources of entire country. The forests and wildlife being subjects of the Concurrent List, it is, therefore, proposed that the Central

Government through Ministry of Environment and Forests may take initiative through legislative and administrative intervention for preparation of a 'Uniform Management Plan Code'.

The close examination of changes and modifications suggested in the format (Table 1) reveals the need of evolution of each chapter comprising Part I of the format. Moreover, there is a need to add a few new chapters to cover the information on new and additional areas as well as to enhance its scope. The prominent modifications and changes suggested in Part I and restructuring proposed in Part II of the format are explained in the table.

Besides, additions and changes proposed in the Working Plan Code, various forms required to collect information such as compartment history form, enumeration form, control forms etc., need reformatting or revision. Considering the scope of proposed strategy there is need to devise new format for collecting information on subject areas, such as socio-economic conditions, wildlife protection, bio-diversity conservation, extent of non-forest areas, existing management practices and institutional arrangements.

Keeping in view the extent of the landscape and the quantum of information to be collected it is suggested that management plan shall be written in two volumes.

Volume I - Comprising prescriptions for the management of entire landscape (Part I and Part II).

Volume II - Comprising Appendices, Forms, Tables and Maps.

Relevance of the Proposed Strategy

The relevance of the proposed strategy may be ascertained by examining its nature, composition and suitability to the field conditions. The following aspects may help in ascertaining its relevance :

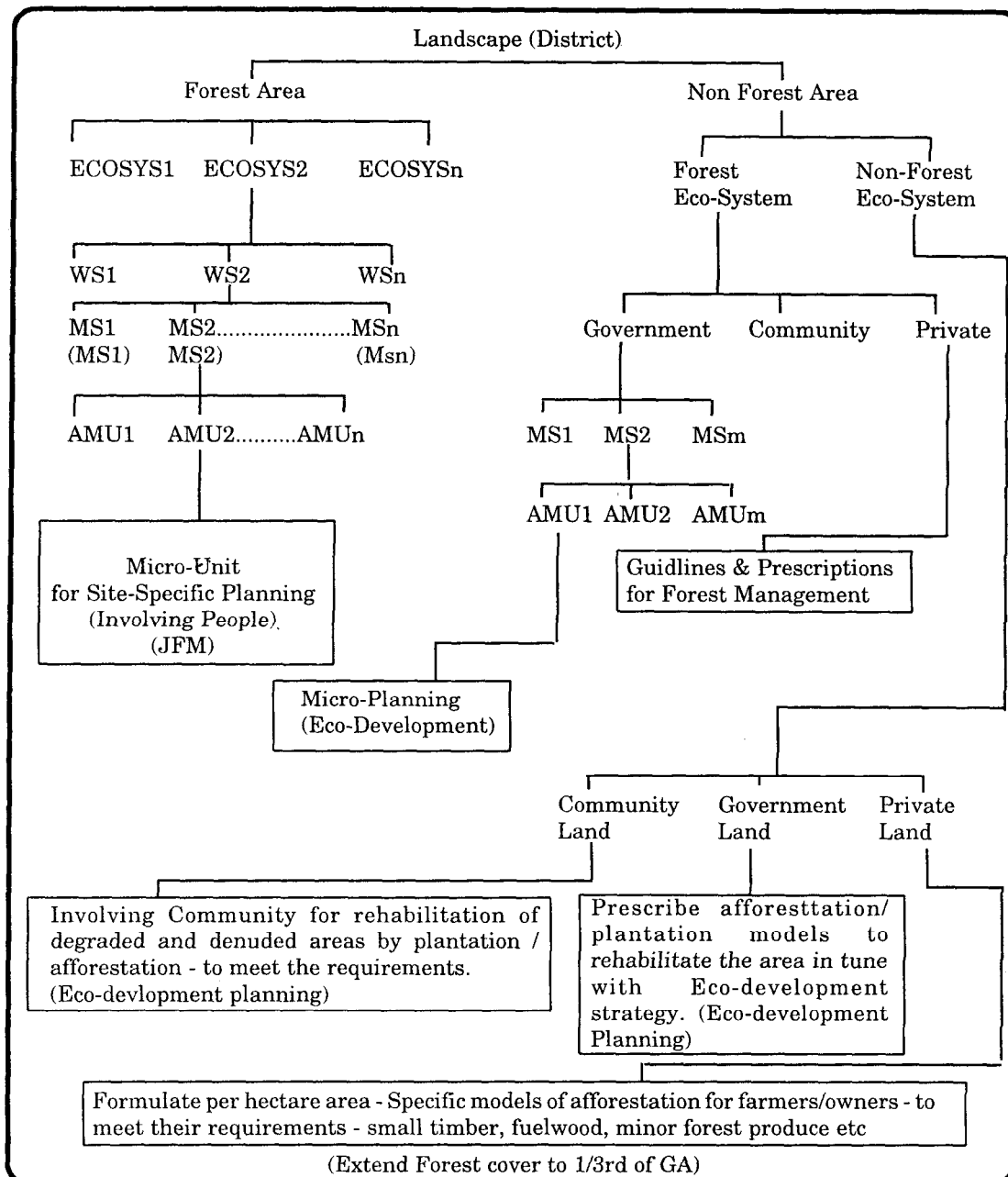
1. It conforms to the objectives of the National Forest Policy
2. It proposes an integral approach of management of entire landscape and conforms to the strategy outlined in the policy document.
3. It seeks involvement of people in forest management through JFM and eco-development as well as aims at creating conducive conditions for sustainable management.
4. It envisages increase of forest cover to the extent 1/3 of Geographical Area by extending the scope of strategy to non-forest areas.
5. It is flexible and open ended. It envisions overall planning of entire landscape as well as site-specific planning at the time of implementation by the field managers.

Conclusions

The proposed strategy of management planning is not only holistic and professional but also an attempt to provide a lasting strategy for sustainable management of forest resources. It proposes re-organisation and re-arrangement of Micro-units into Management Series on watershed pattern. The Management Series are further re-organised into Eco-systems which in turn

Fig. 1

Proposed Management Planning Approach



ECOSY1= Eco-system, WS1 = Medium Watershed, MS1 = Management Series, AMU1 = Annual Management Units.

Table 1**MODIFICATIONS PROPOSED IN WORKING PLAN FORMAT**

FOREST RESOURCE MANAGEMENT PLAN
FOR
.....DISTRICT

Volume 1*Introduction***Part I****SUMMARY OF FACTS ON WHICH THE PROPOSALS ARE BASED**

Chapter No.	Name of Headings	Suggested Changes/ Modification
Chapter I	The Tract Dealt With	Needs Evolution to cover Entire Landscape
Chapter II	The Forests & Wildlife	Needs Evolution to cover Wildlife & Bio-Diversity
Chapter III	Utilisation of the Produce	Needs Evolution
Chapter IV	Staff and Labour Supply	Additions & Alterations
Chapter V	Past Systems of Management	Additions to cover Entire Landscape
Chapter VI	Statistics of Growth & Yield	Entire Landscape

Proposed Chapters

Chapter VII	Information o Socio-Economic Aspects
Chapter VIII	Forest Protection (1) Traditional Forests (2) Non Forest Tracts
Chapter IX	Miscellaneous Information

A few new chapter need to be incorporated in this part to collect information for the entire landscape of the District. There is a need to have a new chapter to collect information required for involving people in the management planning.

Part II

Future Management Discussed and Prescribed

The entire part needs to be restructured in the light of Proposed Management Planning Approach. Chapters relating to Working Circles need restructuring to suit to the Eco-Systems and Watershed of the tract. There is need of a chapter for each Eco-System for prescribing details of treatment on the Basis of Watershed Management Strategy.

Chapter I - Basis of Proposals

(i) General Objects of Management

(ii) Special Objects of Management

A. Traditional Forest Areas

Chapter II - Working Plan for the..... Eco-System

Chapter III - One Chapter for each Eco-System (IV, V, etc.)

Chapter VI - Miscellaneous Regulations
(Prescribed and Suggested)

B. Non Forest Areas

Chapter (VII - One Chapter For Each Eco-System (VIII, IX Etc)

C. General

Chapter X - Establishment And Labour

Chapter XI - Control and Records

Chapter XII - Financial Forecast and cost of the Plan

Chapter XIII - Summary of Prescriptions

form the entire landscape of a Macro-unit. Once these basic units are organised and aligned in the proposed pattern it will provide a natural framework for sustainable management. It is the natural management

which sustains in the long run. The proposed strategy provides structure and approach which is more akin to natural management.

The strategy envisages orientation of

forest managers, as well as local people for its successful implementation. It emphasizes change in outlook and approach. It also stresses the need of development of appropriate modes, techniques and institutional arrangements, in order to deal with the situation comprehensively.

The proposed strategy necessitates drastic revision and modification in the present strategy. The innovative approach and visionary goal and objectives enunciated

in the policy call for an appropriate innovative and dynamic strategy for sustainable forest management. The proposed approach may be considered as a step in this direction. Nature is mysterious and ever-evolving. It can sustain itself without human involvement. Nature and things natural do not conform to human perceptions. The proposed strategy is an effort to look into nature more closely and to find a suitable way to live with nature, in harmony.

SUMMARY

The National Forest Policy 1988 envisages a holistic and professional strategy of forest management for achieving the objectives enunciated therein. The traditional forest management approach (Working Plan) provides silvicultural treatment on sustained yield basis which is far inadequate considering the present scenario of resource conditions and policy objectives. The proposed Strategy of Forest Management is based on holistic treatment of an ecosystem on Watershed pattern. It stresses integral and site-specific treatment of forest resources. The strategy incorporates overall planning for macro-unit - the entire landscape of a District as well as site-specific planning for micro-unit. It provides modes to extend the forest cover to non-forest areas. It is an effort to provide natural management to the forest areas in their natural settings. Once the strategy assumes its natural form it will provide a lasting solution to the problem of management planning of forest resources for sustainable management.

वन संसाधनों के लिए परिपूर्ण प्रबंध रणनीति का विकास

जरनैल सिंह

सारांश

राष्ट्रीय वन नीति 1988 में उसके अन्दर बताए हुए उद्देश्यों को प्राप्त करने के लिए वन प्रबन्ध की एक परिपूर्ण और पेशेवर रणनीति की आवश्यकता बताई गई है। वन प्रबन्ध की पारम्परिक दृष्टि (कार्य योजना) में सतत प्राप्ति लेने के आधार पर वनसंवर्धन उपचारों का प्रावधान है जो संसाधनों की वर्तमान स्थिति और नीतिगत उद्देश्यों को देखते हुए बहुत अपर्याप्त है। वन प्रबन्ध की प्रस्तावित रणनीति को जल विभाजक रूप सज्जा पर परिस्थिति प्रणाली के परिपूर्ण उपचार आधारित किया गया है। इसमें वनसंसाधनों के एकीकृत और स्थल-विशिष्ट उपचार करने पर बल दिया गया है। इस रणनीति में पूरी वृहत इकाई की समग्र आयोजना - जिले के पूरे भूदृश्य - तथा सूक्ष्म (लघु) इकाई की स्थल विशिष्ट आयोजना दोनों पर जोर दिया गया है। इसमें गैर वन क्षेत्रों में वनों को बढ़ाकर ले जाने के तरीके भी बताए गए हैं। इसमें प्राकृतिक परिवेश में वन क्षेत्रों का स्वभाविक प्रबंध करने का प्रयास किया गया है। जब यह रणनीति एक बार अपना स्वाभाविक रूप प्राप्त कर लेगी तो इससे दीर्घकालिक सतत् वन प्रबन्ध करने के लिए वन संसाधनों के प्रबंध की आयोजना करने की समस्या का स्थाई समाधान प्राप्त हो जाएगा।

References

- Anon. (1952). National Forest Policy 1952. Resolution No. 13/52-F, Ministry of Food & Agriculture.
- Anon. (1988). National Forest Policy 1988. Resolution No. 3-1/86-FP, Ministry of Environment & Forests.
- Champion, H.G. and S.K. Seth (1968). *A Revised Survey of the Forest Types of India*. Manager of Publications, New Delhi.
- Champion, H.G. and S.K. Seth (1968). *General Silviculture for India*. Manager of Publications, New Delhi.
- Day, H.C. and S.K. Seth (1952). *Working Plan Code U.P., Lucknow*.
- Osmaston, F.C. (1968). *The Management of Forests Rep. 1984*. International Book Distributors, Dehra Dun.
- Singh, Jarnail (1994). Bio-diversity Afforestation Model - An approach. *Indian Forester*, **120** : 860-867.
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