

# Nagaland Bamboo Policy

GOVERNMENT OF NAGALAND

OFFICE OF THE AGRICULTURE PRODUCTION COMMISSIONER

NAGALAND : KOHIMA

Dated Kohima the 15<sup>th</sup> March, 2004

## NOTIFICATION

No. APC/P-1/2004. With a view to promote and develop **Bamboo** and its potentials as a major Economic activity in the State both as a resource and as an enterprise the Government of Nagaland is pleased to adopt the Nagaland **Bamboo Policy** with immediate effect.

Sd/-

R.S. PANDEY

Chief Secretary to the Government of Nagaland.

No. APC/P-1/2004

Dated Kohima the 15<sup>th</sup> March 2004.

Copy To:-

1. The Special Secretary to the Governor of Nagaland, Raj Bhavan, Kohima.
2. The Principal Secretary to the Chief Minister, Nagaland, Kohima.
3. The PS to Speaker/Deputy Speaker, Nagaland Legislative Assembly, Kohima.
4. The PS to all Ministers/Ministers of State, Nagaland.
5. The PPS to Chief Secretary, Nagaland.
6. The Commissioner, Nagaland.

7. All Additional Chief Secretary/Principal Secretaries/Commissioners & Secretaries to the Government of Nagaland.
8. The Secretary, Nagaland Legislative Assembly/NPSC/Vigilance Commission, Kohima.
9. All Heads of Department, Nagaland.
10. The Publisher, Nagaland Gazette, Kohima.

( ALEMTEMSHI JAMIR )

Agriculture Production Commissioner Nagaland.

### VISION STATEMENT

The Naga people have survived through the centuries with the diverse and varied uses of **bamboo** and its products. From the cutting of the umbilical cord to the mats that have wrapped the dead for burial, **Bamboo** has been integral to the life of the Nagas. It continues to play a predominant role in the life of the people even today in every walk of life that ranges from agricultural tools and implements to shelter, food, and livelihood.

**Bamboo**, the fastest growing and highest yielding renewable natural resource, and found extensively all over the State, constitute one of the most important resources of Nagaland which has to be put to use in the present day context for the benefit, growth and development of the people.

Denudation of forest cover, degradation of environment and fast deteriorating ecology threatens the very existence of man and animal. The development of the natural **bamboo** resources of Nagaland will greatly add to the environment and the ecological balance of the land consequently having great impact on the quality of life of the people.

A planned, scientific and holistic approach to the cultivation and management of bamboos on a sustained basis can be an inexhaustible source of goods and services and can play a significant role in the development of the State.

With increasing demand of timber and wood, which is becoming a scare commodity in the world, bamboos can serve as an alternative to many of the forest products. Its wide range of uses and its great versatility qualifies it to be a multiple use alternative to timber which will add greatly to the rural agricultural economy in general and act as poverty alleviator for the rural poor in particular. Through the processing of such **bamboo** goods

and products and incorporating many other economic uses, bamboos can boost the economy of the State and facilitate the entry of Nagaland into the world economy.

The Nagaland **Bamboo Policy** is thus adopted to attain such goals:

1. **RATIONABLE**

1.2. **Bamboo** has been the basic natural resource that has helped mankind to survive and progress since primitive days. Tribal people, particularly the Nagas, continue to depend on **bamboo** for their existence and sustenance. **Bamboo** qualifies to be a multiple use alternative to timber in the rural agricultural economy in general. Its use have grown over the centuries and the study of **bamboo** has currently identified over 1500 use of **bamboo**.

1.1. Denudation of forest cover, degradation of environment and fast deteriorating ecology threatens the very existence of man and animal because of its adverse impact on climate and ground water resources. Accelerated overuse and mismanagement of our natural forest resources and galloping rise in human and livestock population is leading to fast dwindling of our natural resources with adverse consequences leading to impoverishment of watershed, disruption of ecological balance and consequently having an adverse impact on the quality of life of the rural people who constitute 80% of the population of the state.

1.3. **Bamboo** is one of the fastest growing plants on the planet. Apart from its critical role in maintaining the fragile environment in the forms maintaining the balance of Oxygen and carbon dioxide in the atmosphere, it is the fastest growing canopy for greening of degraded areas and capable of generating more oxygen than equivalent stand of other tree species. It lowers light intensity, protects against ultraviolet rays, and is an atmosphere and soil purifier.

1.4. **Bamboo** is a hardy and versatile species, which is adaptable to a wide range of soil and climate. It responds well to high inputs like irrigation and fertilizers for higher productivity.

1.5. **Bamboo** is a viable alternative of wood as timber. Technology inputs to the qualities of versatility and resilience has given it a totally wider scope of uses in the form of pulping, boards, Ply furniture, handicrafts and many other use including energy alternatives in the form of **bamboo** charcoal and biomass electric generating resource.

1.6. **Bamboo** shoot has been identified as food with a large commercial market the world over. **Bamboo** leaves can promote various forms of medicine, apart from being a rich fodder for domesticated animals.

- 1.7. Bamboos are the fastest growing and highest yielding renewable natural resource. If managed on sustained basis, bamboos can be an inexhaustible source of goods and services and can play a significant role in the restoration and rejuvenation of rural economy.
- 1.8. **Bamboo** is therefore, one of the most important forest resources in Nagaland. Its wide range of uses and its great versatility qualities it to be a multiple use alternative to timber, food in the rural agricultural economy in general and as poverty alleviator for the rural poor and tribal in particular.
- 1.9. Mass propagation of **bamboo** by active involvement of the people for plantation on private and public jhumlands is feasible as the plantation, management and harvesting technique of **bamboo** is well known to the rural people.
- 1.10. A planned and scientific approach to the cultivation and management of bamboos in the state will greatly contribute to the economic development of the state.

## 2. **THE BAMBOO RESOURCE OF NAGALAND:**

- 2.1. **Bamboo** is found extensively all over Nagaland. It occurs as a predominant plant in portions of the districts of Dimapur, Peren, Mon and Mokokchung; while, it is readily found mixed with other forest species in all other districts of the state. The growing stock of **bamboo** been estimated to the around 8.96 million hectares in the country, out of which about 5% of the growing stock is assessed to be available in Nagaland which work out to be about 0.448 million Ha or 4,48,000 Ha.
- 2.2. The predominant species of **bamboo** found in Nagaland are Kakoo (*Dendrocalamus hamitonii*), Daloo (*Teinostachyum dulloa*) and Jati (*Bambusa tulda*). They occur almost all along the lower belts in continuous strips of some length descending down to plains along the border with Assam. While Kakoo and Daloo clumps are characterized in moist localities along the nalas and streams, Jati occupies better-drained sites. In more accessible localities along the roads, bamboos have been over cut while, in other areas they have been left untouched for many years.
- 2.3. There has not been any detailed study made on bamboos in Nagaland, but currently around 22 species have been identified which are spread all over Nagaland.
  - a. *Sinarundinaria griffithiana* (Munro) Chao & Renv.  
(*Arundinaria griffithiana* Munro) Saramti region
  - b. *Sinarundinaria elegans* (Kurz) Chao & Renv.  
(*Arundinaria elegans* Kurz) Puliebadze, near Kohima.

- c. *Sinarundinaria rolloana* (Gamble) Chao & Renv.  
(*Arundinaria rolloana* Gamble) Japfu Range, Kohima.
- d. *Sinarundinaria nagalandiana* Naithani Niriyo Peak, Wokha.
- e. *Chimonobambusa callosa* (Munro)  
(*Arundinaria callosa* (Munro)  
Puliebadze above Kohima and Mao.
- f. *Neomicrocalamus prainii* (Gamble) Keng f.  
(*Arundinaria prainii* Gamble) Puliebadze, Japfu Range.
- g. *Bambusa balcooa* Roxb. Wokha
- h. *Bambusa tulda* Roxb. Kohima, Jalukie region
- i. *Bambusa palliada* Munro Wokha, Kohima and Peren region
- j. *Dendrocalamus hookeri* Munro Kohima, Wokha
- k. *Dendrocalamus hamitonii* Nees et Arn ex Munro  
Dimapur-Kohima Road, and Wokha.
- l. *Dendrocalamus gigantues* Munro Kohima, Mao.
- m. *Dendrocalamus calostachys* (Kurz) Kurz  
Phekerkrima, Dimapur and Kohima.
- n. *Schizostachyum polymorphum* (Munro) Majumdar  
(*Pseudostachyum polymorphum* Munro)  
Longsachu near Wokha
- o. *Schizostachyum dullooa* (Gamble) Majumdar  
(*Teinostachyum dullooa* Gamble) Yikum near Wokha
- p. *Schizostachyum fuchsianum* (Gamble) Majumdar

(Cephalostachyum fuchsianum Gamble)

Kohima, Zulhami – Kilomi area

q. Melocanna baccifera (Roxb.)

Kurz. (M. bambusoides Trin.) Jalukie

## 1. **AIMS AND OBJECTIVES:**

Keeping in view, the ecological significance and vast economic potential of bamboos in the state, the Nagaland **Bamboo Policy** is envisaged to achieve the following Aims & Objectives:

- 1.1. Protection & conservation of rich bio-diversity associated with **bamboo** forests and **bamboo** growth areas in the state.
- 1.2. Sustainable development and utilization of **bamboo** resources through scientific management.
- 1.3. Promotion of **bamboo** plantation (by Government, Individuals and communities) as they key thrust area for future economy of the state.
- 1.4. Promotion of **bamboo** based industries for utilizing the available resources for generating income.
- 1.5. Revitalization and promotion of local traditional **bamboo** craft & art with improved technology & design and value addition for export through industrialized mode of production.
- 1.6. Promotion of **bamboo** as an essential wood substitute by increasing **bamboo** production and promotion of **bamboo** based enterprise in the state in order to reduce pressure on forests.
- 1.7. Promotion of awareness and understanding of **bamboo** as “Green Gold” among farmers, traders, industry, and the people in the state with a view to utilizing its full potential and to galvanize the rural and industrial economy in the state.
- 1.8. Effective exploitation of existing mature bamboos before the impending gregarious flowering.

## 2. **THE STRATEGY:**

The Development of **Bamboo** in Nagaland will be approached in a Mission mode, which shall have two approaches namely:

- a. **Development of **Bamboo** as a Resource**
- b. **Development of **Bamboo** as an Enterprise**

3.

### **DEVELOPMENT OF BAMBOO AS A RESOURCE:**

Strategy for cultivation and management of **bamboo** resources in the state shall be evolved with special focus to the following activities;

- a. Inventorization of the **bamboo** resources, including identification, documentation, demarcation, assessing the extent of various types.
- b. Assess scope and potential of **bamboo** growth and regeneration, both in Government land and in private/community land.
- c. Evolve scientific management practices for naturally occurring bamboos and plantation bamboos to improve productivity and harvesting.
- d. Create massive and consistent awareness of the value of **bamboo** among the people, especially among major stakeholders.
- e. Evolve suitable policies to deal with gregarious flowering of **Bamboo**.
- f. Set up appropriate Institutes for research and development of bamboos, both for regeneration and industrial processing & value addition.
- g. Evolve suitable techniques of multiplication and develop infrastructure for mass production of planting materials for commercial cultivation.
- h. Introduce desirable species of commercial importance for cultivation in the state.
- i. Establish infrastructure and mechanism for dissemination of **bamboo** production technologies to the common man.
- j. Establish network of **bamboo** setum for different agro-climatic zones for ex-situ preservation of **bamboo** germ plasm.
- k. Identify representation natural **bamboo** occurring areas within and outside Government land for in-situ preservation.
- l. Development of communication network for development of **Bamboo** as in industry in Nagaland.

3.1.

### **ACTION PLAN FOR DEVELOPMENT OF BAMBOO RESOURCES:**

#### **(a) Development of Natural **Bamboo** Forest:**

Large tracts of land are covered by clump forming bamboos in the state, Most of which could not be utilized due to absence of extraction road and the difficulty in extraction. Proper management techniques supported by communication network can greatly accelerate the utilization of these already available **bamboo** resources in the state.

- i. Identify, demarcate and quantify the extent of natural **bamboo** area
- ii. Evolve management practice and harvesting techniques for natural bamboos

- iii. Increase area of natural bamboos through aided natural regeneration in the immediate vicinities of the **bamboo** forests
- iv. Improve communication network to access the existing bamboos for harvesting and transportation.
- v. Afford protection to **bamboo** forests and re-growth areas in critical mountain slopes and around village habitations to ensure environmental security. It shall also include such activities that will act as protection of river catchments, regulation of water flow, recharge of water table, conservation of flora and fauna etc. and protection of developmental infrastructure like roads, bridges, hydel projects, habitation area, etc.
- vi. All varieties of native **bamboo** species, ecotypes shall be protected and germplasm preserved through the mechanism of **bamboo** setum, in-situ and ex-situ preservation.
- vii. **Bamboo** resource assessment including mapping and inventorization of bamboos shall be accorded high priority in co-ordination with the institutes such as State Forest Research Institute, Itanagar, Forest Survey of India, National Institute of **Bamboo** & Rattans, National Remote Sensing Agency (NRSA), Nagaland University, State Remote Sensing Application Center, Nagaland, Department of Forest & Environment, Nagaland, etc.
- viii. Areas with potential for commercial cultivation of **bamboo**, both within and outside Government land will be identified for development of **bamboo** plantation on sustained basis.
- ix. All natural bamboos within notified forests/Government acquired lands shall be managed as per approved management plan keeping in view sustainable forest management principles.

**(b) Bamboo Plantation Development:**

Nagaland with 89% of its total geographical area under the ownership of private individuals and communities offers a unique scope for raising **bamboo** plantation. Plantations will be promoted on individual landholdings as well as community lands. The concept of Joint Forest Management, currently promoted by Government of India for all forestry programmes funded by Central Government will also be promoted as listed below.

- i. Promotion of **bamboo** cultivation by individuals and communities on private and community lands which forms 89% of the total area of the state through the active participation of the village Councils, VDBs and VFCs.
- ii. Introduction of bamboos having commercial superior and desirable attributes for large-scale cultivation to augment the existing local varieties of bamboos in the state.



- iii. Development of **bamboo** nurseries and distribution networks in both the Government and the private sector to ensure adequate and timely supply of high quality planting materials.
- iv. Encouraging the participation of private sector wherever Government, private and community land can be made available by way of land lease.
- v. Development of research infrastructures for introduction and adoption of technological innovations.
- vi. Development of mechanism for technology transfer, extension and awareness education.
- vii. Streamlining of finance and credit facilities for **bamboo** plantation, management and harvesting.
- viii. Promotion of Co-operatives Self-Help-Groups and CBOs for the plantation and management of **Bamboo**.
- ix. **Bamboo** cultivation to synchronize with existing farming practices, such as jhuming, ect to maximize interim benefits.
- x. Structural changes within the Government machinery to provide people oriented **bamboo** development programme.

#### 4. **REGULATION OF BAMBOO HARVEST:**

At present, transplantation of unprocessed **bamboo** requires transit pass through the payment of forest royalty. Production and transportation of **bamboo** and its products should be hassle-free and least cumbersome, if mass cultivation and production is to take place. It will be the endeavor to do away with the present systems of transit pass etc. for transportation of **bamboo** through appropriate administrative decision and alternate means of realizing forest royalty evolved.

#### 5. **PROTECTION FROM FOREST FIRE:**

Protection from forest fires can greatly reduce economic loss. Both preventive and control measures need to be resorted to. Advantage will be taken of the existing institutions such as VDBs, JFM, VCs, etc. for awareness and enforcement of preventive measures at the local level. Control measures are possible with the active participation of the government, since financial implications are involved. Adequate financial provision will be required to sustain the efforts of these institutions for their multi-functional roles in overall economic development of the village as well as promoting preventive measures.

#### 6. **BAMBOO FLOWERING AND STRATEGY TO UTILIZE SURPLUS BAMBOO:**

- 6.1. Fullest possible utilization of **bamboo** before flowering shall be encouraged and promoted. Scientific harvesting of **bamboo** inside and outside the Government forests, Jhum lands shall be encouraged.
- 6.2. Construction of extraction road/path network to reduce extraction cost. These networks will facilitate replenishment of the depleted **bamboo** areas.
- 6.3. Increase the use of improved products from **bamboo** for infrastructure development works like construction, road laying, retaining walls, jhum terracing, water harvesting structures and gabions. Improved design and technology shall be obtained from National and International Institute to support and maintain such initiatives.
- 6.4. Conversion of **Bamboo** to other mass scale uses such as **Bamboo** Charcoal and Biomass energy plants for generation of power shall be promoted.
- 6.5. Replenishment of depleted **bamboo** growing stock through artificial regeneration using modern scientific technology of micro-propagation protocols developed for important **bamboo** species.

## 7. **BAMBOO TRADE:**

- 7.1. With the **policy** reform in regard to management, harvesting, utilization of natural **bamboo** resources in the State and promoting **bamboo** plantation development, it is expected that **bamboo** trade shall receive a fillip. With increased **bamboo** harvesting before the flowering and establishment to **bamboo** industries and with support incentive framework, trade in **bamboo** and **bamboo** products within and outside the State shall grow. It shall be the endeavor of the State to promote trade in **bamboo** and **bamboo** products among the people. The **bamboo** traders shall be organized into trade associations with linkages with **bamboo** growers and the **bamboo** processing industries and **bamboo** exporters to rationalize the **bamboo** trade practices.
- 7.2. A study to organize the marketing structure of the **Bamboo** Industry that may evolve in the State is a priority need. Such studies will incorporate issues such as movement of the products from the primary producing point or the cultivation areas to the Industrial location. The various dynamics and the location of activities such as collecting points, wholesale marketing points, auction points etc have to be worked out meticulously. It will ascertain the cost of the raw material, taking into account the difficult terrain and from where the **Bamboo** is to be extracted, the shortage of manpower in the labor. Such a study will be undertaken with the aim to contain the cost of raw material required for promoting the **Bamboo** Industry. This exercise will be directed to ensure that the **Bamboo** products of Nagaland become commercially viable with competitive pricing including comparison with wood-based products as also **Bamboo** products from other parts of the world.

## 8. **INFRASTRUCTURE FOR DEVELOPMENT OF BAMBOO TRADE AND COMMERCE.**

The development of **Bamboo** as an Economy shall entail substantial infrastructure requirements especially relating to road, communication and power to cut down cost of extraction and maximize profit. A very good network of extraction roads is required which need to be tie-up with schemes such as agri-link roads and rural connectivity programmes under PMGSY. In-built component for development of roads also need to be introduced in **bamboo** development programmes for areas not covered by the above schemes. It shall endeavor to initiate special infrastructure programmes for **Bamboo** roads and strengthening the Rural Power programmes to provide special infrastructure for the development of **bamboo** as an industry in Nagaland.

**9. DEVELOPMENT OF BAMBOO AS AN ENTERPRISE:**

Development of “**Bamboo as enterprise**” shall evolve policies and action plans that will focus on the following aspects:

**A. Promote **Bamboo** based Industries:**

- i. Food Products**
- ii. Medicinal, Chemical Products and Alcohol Beverages**
- iii. Craft, handicraft and Art Products**
- iv. Value added products and wood substitutes such as ply, flooring tiles, shuttering, etc.**

**B. Create awareness of the uses and value of **Bamboo** by imparting Training, Seminar, Workshop,etc.**

**C. Promote and Develop traditional usage of **Bamboo****

- 9.1. The **Bamboo Policy** framework shall encourage and promote establishment of **bamboo** enterprises and industries in cottage, small and medium industries sectors linked to the need of **bamboo** produce/products within and outside the State.
- 9.2. Initially the industries shall be established based on the **bamboo** resource of the State suitable for manufacturing of either semi-finished products or simple **bamboo** products such as mat board, chopsticks, **bamboo** shoots, aggarbatti sticks and other handicraft products.
- 9.3. While simple technologies and manufacturing process can be adapted by cottage and handicrafts sectors, import of technology shall also be encouraged and adopted in small and medium sectors industries to produce quality products for sale within and outside the State and for export purposes.
- 9.4. The following will be the broad areas identified for promoting various **Bamboo** based industries:

- a. Finished Industries **Bamboo** products in the form of **Bamboo** ply, **Bamboo** timber, flooring tiles, shuttering, curtain making, etc.
- b. Intermediary **Bamboo** industries and semi finished products for production of chopsticks, toothpicks, skewers, incense sticks, etc.
- c. **Bamboo** Craft, Handicraft and Art.
- d. **Bamboo** Charcoal and **Bamboo** Charcoal Industries Products in the form of active **Bamboo** charcoal filter products.
- e. **Bamboo** Food Products in the form of:
  - i. Raw **Bamboo** shoot food products
  - ii. Finished **Bamboo** shoot food products
- f. **Bamboo** Medicine and chemical products/Alcohol Beverages
- g. **Bamboo** related ancillary activities such as Tourism etc.

11.5 **Bamboo** mat boards and **bamboo** ply boards can be promoted as wood substitute for the growing construction needs within and outside the State. This will not only result in a value addition to **bamboo** products but will also be a wood substitute reducing use of timber within the State.

11.6. Use of **bamboo** and **bamboo** products shall be emphasized in Government constructions where such uses are feasible. Standard housing designs for various constructional purpose shall be evolved taking help of national and international expertise available.

11.7. High value products will necessitate affective and appropriate manufacturing process and market and export linkages. This **policy** shall encourage joint ventures with entrepreneurs outside the State including foreign enterprises with technology, finance and export linkages. This arrangement will channel the resources through local traders and manufacturing industries into domestic and international markets earning revenues for the State. Present export **policy** in agro industry encourages such arrangements. This approach shall also be adopted and encouraged for **bamboo** sector development in the State.

11.8. The State Industrial **Policy** – 2000 will be reviewed to include a framework of incentives and subsidy to encourage establishment of such **Bamboo** industries and enterprises.

11.9. The State Industries department will act as the Nodal Department for the promotion of such **Bamboo** based industries whose role would also cover to promote training, quality control, standardization, assistance, scientific and technical support, market support, publicity, education, incentives and patronizing in **bamboo** related activities as indicated below:

- a. Training to facilitate entrepreneurs by way of arranging short term as well as intensive enterprise oriented training programmes, Turnkey Entrepreneurship Development Programmes, etc.

- b. Collaborate with other institutions/organizations/engaged in **bamboo** related activities. Create awareness, encourage, assist and undertake **bamboo** based trade or business or profession.
- c. Undertake and encourage research, development and application work in **bamboo** sector Industrial development.
- d. Provide Technical Assistance and Undertake comparative study of available technology both indigenous as well imported, vis-à-vis its suitability, cost involvement, ease of operation and adaptability, etc as also undertake identification of machinery, manufacturers and assistance in import and installation.
- e. Undertake Techno-economic feasibility studies and provide assistance for Preparation of project profiles of feasible and viable projects of the various **bamboo** based industries which could be taken up in the State.
- f. Undertake intensive Market study of the marketing prospects of **Bamboo** products that are produced from the Region including engaging Consultancy firms to undertake such surveys and study to identify potential buyers with their basket of purchase items as also tie-up buy back arrangements.
- g. Provide assistance in export of exportable **Bamboo** products.
- h. **Financial assistance:** The Department shall act to explore and obtain fund, assistance, grant, contributions and loans towards development of **bamboo** and **bamboo** utilization. A separate and exclusive fund could be created for promotion and development of **Bamboo** Industries in the state.
- i. Identify and promote **bamboo** usage in both the organized and the un-organized sectors.

**11.10. Usage of existing infrastructure & facilities:**

- a. The mini tool room, which is expected to be operationalised soon, will be geared up to manufacture/fabricate some of the machinery, tools and implements required.
- b. Utilize existing platforms like the IITF, etc for showcasing end products.
- c. Semi-finished products could be produced in clusters or as community projects. Thereafter projects for the finished products or high-end and export oriented **bamboo** products could be set up at the Industrial Growth Center (IGC) and the Export Promotion Industrial Park (EPIP) where all necessary basic infrastructures shall be made available. The proposed IIDCs could also be made available for setting up **bamboo**-oriented projects.

**12. HUMAN RESOURCE AND ENTREPRENEURIAL DEVELOPMENT:**

- 12.1. Adequate pool of trained manpower needs to be created for **bamboo** resource development, Propagation and supply of high yielding planting material to farmers, Harvesting, Management, Industrial production, Infrastructure uses, Marketing and Export. Due emphasis would be given to training of personnel within the State, Central Institutions and outside the country.
- 12.2. The State **Bamboo Policy** will given focus on the following areas for entrepreneur development in the State for development of the **Bamboo** as a resource and as an industry.
- a. Propagation of the modern uses of **Bamboo** among the general people of the State.
  - b. Inclusion of **Bamboo** in the School syllabus and also as specialized subjects in college and University studies.
  - c. One of the it is in the State will be especially structured to impart training and skill on **bamboo** related activities.
  - d. Identification and capacity building of entrepreneurs in **Bamboo** technology with the training programmes confined to the specialized area of usage.
  - e. Appropriate **policy** to promote transfer of technology and transplanting it in the region.
  - f. Infrastructure for marketing, transportation and the necessary infrastructure including roads and communication linkages both for extraction of **Bamboo** and its processing and ultimate marketing will require to be given special attention.
  - g. **An aggressive marketing policy** to propagate and promote the **Bamboo** products and use of **Bamboo** as eco friendly timber will have to be evolved for which substantial expertise and funds have to be made available.
  - h. In the realm of **Bamboo** Craft, Handicraft and Art the following activities will be promoted:
    - (i) Capacity building of existing craftsmen
    - (ii) Promotion of new manpower
    - (iii) Specialization
    - (iv) Diversification
    - (v) Design intervention
    - (vi) Technology inputs such as treatment, bleaching, colourinhg, etc. techniques.
  - i. Consultants shall be hired wherever their inputs are required specially pertaining to survey, assessment of product cost as also aggressive

marketing advertisement and promotion of the **Bamboo** products of Nagaland.

- j. The Government will have to initially play a pro-active role by provision of necessary funds in all the critical areas where the new private entrepreneur are not able to meeting the requirements.
- k. Training programme outside the State and the country shall be promoted in specific and selected field involving **policy** makers, entrepreneurs and people in the handicraft field.
- l. Entrepreneurship will be promoted through organized and volunteered participation of people. The Government shall facilitate the growth of entrepreneurship skills through several means such as education and training, promoting group formation, providing supports such as funding, credit, leases, tenurial security and consultation with people's groups and involving them in management committees.

### **13. RESEARCH AND DEVELOPMENT:**

- 13.1. Research support for **bamboo** sector to improve quality, enhance productivity and value of products, sustainable management, conservation of germ-plasm and diversified products would be promoted through interactive involvement with the National Institute of **Bamboo** and Rattan Development.
- 13.2. An interface with research wing of the Forest Department and technical institutes outside the State would be established for problem specific and site specific research regarding **bamboo** growing, **bamboo**, plantation development, management of natural **bamboo** stands, etc.
- 13.3. appropriate technology and technology transfer would be facilitated through establishment of Technology part to facilitate effective lab to land transfer.
- 13.4. dissemination of technology shall also be through campaigns involving media, exhibitions, demonstration centers, etc.
- 13.5. it is proposed to establish a **Bamboo** & Rattan development institute in the State with support funding by Government of India. The **Bamboo** Institute will cater to the research and development requirement of **Bamboo** development in the State including design intervention in collaboration with existing Institutes such as NID, NIFT, BCDIIPRTI etc.
- 13.6. The various species of **Bamboo** of Nagaland needs to be put under intensive industrial testing to ascertain the industrial use of the various species. This exercise has been partially undertaken by the CBT/UNIDO, Guwahati. It should be further continued for the **Bamboo** of Nagaland. Only after identifying the species, which can be put into commercial use, can we embark on the activity of commercial scale plantations. An Institute will need to be identified or set up to undertake such continuing research works. Linkages with Nagaland University will be explored in this regard.



13.7. For **Bamboo** medicine a specific Research Institute will require to be set up which will not only research on innovative medicinal use of **Bamboo** but also build up on the traditional and inherent knowledge amongst the various tribes of the North-East.

13.8. **Bamboo** food products will be another new area of activity requiring active promotion and development by the Government. A part from tying up the production based of **Bamboo** shoots, various activities involving preservation and processing will have to be given direction through research and development center. This center will also study the traditional methods of preservation and uses of **Bamboo** shoot as food for promoting commercial production. Side by side, specially food products from **Bamboo** shoot identified with the North-East will also be promoted.

#### 14. **INSTITUTIONAL ARRANGEMENT;**

14.1. The implementation of **bamboo policy** and **bamboo** development programmes in the State shall need to be undertaken in a Mission mode. Since it shall be implemented by a number of development departments. Hence it is necessary to coordinate implementation strategy through an apex body under the Chairmanship of Chief Minister, Nagaland under whom a state level **Bamboo** Agency shall be constituted with the Ministers, Commissioners, Secretaries and Head of Department of line departments as representatives from Entrepreneurs, Trade, Commerce, Industries, Banks, NGOs and farmers with the primary function to review and coordinate implementation of **bamboo** development programmes in the State.

14.2. The **Bamboo** Agency shall be assisted in its function by two Task forces for:

**A. Task Force for Development of **Bamboo** as resource and**

**B. Task Force for Development of **Bamboo** as an enterprise**

It shall comprise of the Departments as may be designated and set up by the Government of Nagaland from time to time.

14.3. While the sectoral actions shall be implementation by various development departments, to facilitate the task of co-ordination among the various agencies that will work to promote the uses of **Bamboo** in the State, the **Bamboo** Agency it shall be assisted by a **Nagaland Bamboo Agency Office**.

14.4. Permanent **Bamboo** Development Wing will be set up in the Departments of Environment & Forest and the Industries & Commerce in the State while every other related Departments shall constitute **Bamboo** Cells in their respective Departments. The primary function of the Wings and the Cells would be resource development, providing technical expertise for conservation and management of bamboos plantation within Notified Forests private & community plantations and developing **bamboo** based Industries with appropriate Action Plans.



- 14.5. The existing District level bodies such as the District Forest Committee and the District Agri-Allied Committees which function under the District Planning Boards shall assist the **Bamboo** Agency at the District level. At a later stage, after the **Bamboo** Task forces set up their working teams appropriate District Support Unit shall be set up at the District/Sub Divisional Level to coordinate the activities of the **Bamboo** Agency.

**15. FUNDING OF THE BAMBOO POLICY:**

- 15.1. The **Bamboo** Agency will maintain a **Bamboo** fund to achieve the goals as set out in the Nagaland **Bamboo Policy**. This shall consist of the funds received from the National **Bamboo** Mission, allocations from the State Plan and any other sources as the Agency may so obtain. It may also raise loans from the State Government, the Central Government or from any other sources as may be approved by the State Government of Nagaland for the development of **Bamboo** as an industrial activity in the State.

- 15.2. Funding support to implement the various **policy** initiatives enunciated shall be provided from the programme funds of the various development departments. While **bamboo** resource development within the Notified Forest area shall be supported by **bamboo** development project under CSS, development of **bamboo** plantation in agro forestry sectors shall be supported from respective programme funds of Agriculture, Horticulture and Rural Development Department. Special programme to finance **bamboo** plantation in farmer sector shall be prepared for support institutional finance by NABARD and NEDFI. Establishment of craft centers, training of artisans and craftsman and establishment of cottage and small and medium sector industries can be supported by government subsidies and institutional finance from industrial financing agencies and industrial investors and exporters.

- 15.3. While the State shall provide for the activities of the **Bamboo** Agency from within its Plan and also endeavor to obtain funds out of the National **Bamboo** Mission, funding in the form of Grants and/or Credit will be explored through the various Financial SIDBI, NEDFi, CBTC, Banks and state level institutions like NIDC and NSCB.

- 15.4. There shall be a Nagaland **Bamboo** Fund comprising of the following components

- a. **Bamboo** as Resource Fund
- b. **Bamboo** as Enterprise Fund
- c. Village **Bamboo** Fund (To be used as Micro Credit)
- d. Corpus fund for the **Bamboo** Agency Office.

**16. ACTS AND RULES:**

All the acts and rules promulgated in the State and Center shall be applicable for **Bamboo** development sector in Nagaland.

17. **ACTION PLAN:**

The **policy** shall be implemented through appropriate action plan packages and the implementation of programmes shall be monitored from time to time so that **policy** objectives are achieved.

18. **POLICY REVIEW:**

The **policy** shall be reviewed periodically so that essential **policy** directives and imperatives are evolved from time to time.

19. **SHARING OF BENEFITS:**

The State Government will levy the royalty Sale tax Excise and any other taxes as enforced from time to time on the **bamboo** harvest and the **Bamboo** Products produced in the State.

**THE NAGALAND BAMBOO DEVELOPMENT AGENCY/BOARD**

As outlined in the Nagaland **Bamboo Policy** the Nagaland **Bamboo** Development Agency will be set up to achieve the aims and objectives outlined in the Vision and the **Policy** statement of the Nagaland **Bamboo Policy** working in close conjunction with the National **Bamboo** Mission.

The apex body shall be named the Governing Body of the Nagaland **Bamboo** Agency and shall be constituted as follows:

1. Chief Minister - Chairman
2. Minister Forest
3. Minister Agriculture
4. Minister Horticulture
5. Minister Industry & Commerce
6. Minister RD
7. Minister REPA
8. Chief Secretary
9. Development Commissioner
10. Financial Commissioner

11. Pr. Secy. Agriculture
12. Secretary Industry
13. Representative Joint Secretary or above of the concerned Ministry in GOI
14. Representative of DONOR
15. Representative of the NEC
16. Representative of CBTC/UNIDO
17. Representative of TIFAC
18. DGM SBI (Lead Bank)
29. Representative of NABARD
20. Agriculture Production Commissioner – Member Secretary

Members from the following Institutions shall be co-opted into the **Bamboo** Board:

- a. Nagaland University
- b. SASARD
- c. SARS
- d. ICAR
- e. RFRI Jorhat
- f. RRL Jorhat

The Agency shall sit at least four times in a year to deliberate and draw up the action plans to implement the policies outlined in the **Bamboo Policy**.

It shall set the guidelines for the various Task Forces set up for the purposes of the **Bamboo** Mission as also review its activities from time to time.

It shall draw up the Annual Budget of the Mission as also explore the possibilities of funding the various projects identified by the Task Forces.

It shall review the various incentive programmes for the development and promotion of **Bamboo** as Resource and Enterprise in the State.

**TASK FORCE ON ‘BAMBOO AS RESOURCE’**

The task force for development of **Bamboo** as resource shall consists of the following:

1. Principal Secy. (Forest) - Chairman
2. PCCF - Member Secretary
3. Director (Agri.)
4. Director (Wasteland)
5. Director (Soil & Water Conservation)
6. Director (Horticulture)
7. Director (RD)
8. Director (Industries & Commerce)
9. NEPED

The task force shall have as its mandate and agenda to implement the various policies for development of ‘**Bamboo** as Resource’ as outlined in the **Policy** Statement of the Nagaland **Bamboo Policy**.

#### **TASK FORCE ON ‘BAMBOO AS ENTERPRISE’**

The task force on **bamboo** as enterprise shall consist of the following:

1. Secretary Industry -Chairman
2. Director (I & C) -Member Secretary
3. PCCF
4. CE, Power
5. CE, R&B
6. MD, NKVIB
7. MD, NHHDC
8. MD, NIDC
9. DGM, SBI

## 10. Representative of CBTC

The Task force shall have as its mandate and agenda to implement the various policies for development of ‘**Bamboo** as Enterprise’ as outlined in the **Policy** Statement of the Nagaland **Bamboo Policy**.