



# ASSESSMENT OF BAMBOO PLANTATIONS – 2020

## IN

# MAHARASHTRA STATE

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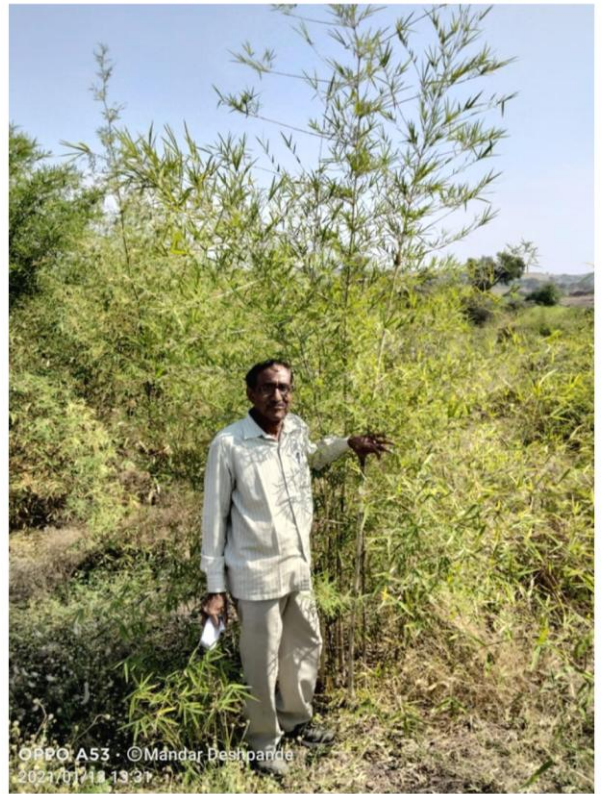
# MBDB



Latitude: 20.596454  
Longitude: 78.878888  
Elevation: 229.35 m  
Accuracy: 6.4 m  
Time: 18/01/2021 11:00



क्षास: 19.199687  
दास: 75.675502  
चुकता: 2836.0 m  
जिमुथ: 118° (आग्नेय)  
न: -14.2° (-3.4°)  
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## TABLE OF CONTENTS

ABBREVIATIONS.....	1
FOREWORD .....	2
ACKNOWLEDGEMENT .....	4
EXECUTIVE SUMMARY .....	5
I. INTRODUCTION .....	7
1. ECO-FRIENDLY BAMBOO.....	7
2. INBAR .....	7
3. BAMBOO ACTION PLAN .....	7
4. BAMBOO MISSIONS.....	7
5. BAMBOO SECTOR IN MAHARASHTRA .....	7
6. FIVE PILLARS OF STRATEGY .....	8
7. FORMATION OF MBDB .....	8
II. ASSESSMENT OF PLANTS SURVIVAL.....	9
8. BENEFICIARY SELECTION.....	9
9. THIRD PARTY AGENCY .....	9
10. MoU .....	9
11. STRATEGY OF ASSESSMENT .....	9
12. GOOGLE FORM APP .....	10
III. BAMBOO SPECIES SELECTED FOR PLANTATION PROGRAMME.....	11
13. Selection of Bamboo Species: .....	11
13.1 Dendrocalamus hamiltonii .....	11
13.2 Dendrocalamus strictus .....	12
13.3 Dendrocalamus longispathus .....	13
13.4 Bambusa balcooa.....	14
13.5 Bambusa polymorpha.....	15
13.6 Pseudoxytenanthera stocksii .....	16
13.7 Dendrocalamus brandisii .....	17
13.8 Bambusa tulda.....	18
13.9 Bambusa vulgaris(Green).....	19



13.10	Bambusa nutans.....	20
13.11	Bambusa bambos.....	21
13.12	Dendrocalamus asper .....	22
13.13	Bambusa cacharensis .....	23
IV.	DATA ANALYSIS .....	24
14.	Area of Assessment .....	24
	Figure 1: <i>District wise Location of Bamboo Plantation Sites Assessed</i> .....	24
15.	Sample Percentage.....	25
16.	Survival of Bamboo Plants .....	25
	Table 1: The abstract of survival of Bamboo plants in 735 assessed sites ....	25
	Figure 2: Plantation Activity (state).....	26
	Figure 3: Plantation Activity (Marathwada Region) .....	26
	Figure 4: Plantation Activity (Vidarbha Region).....	27
	Figure 5: Plantation Activity (Konkan Region).....	27
	Figure 6: Plantation Activity (Western Maharashtra Region).....	28
	Figure 7: Classified Survival Percentage of Bamboo Plantations .....	28
17.	Cluster Formation.....	29
	Table 2: Proposed Cluster Formation Areas .....	29
18.	Health of Bamboo Plants .....	29
	Figure 8: Health of Bamboo Plants in Maharashtra.....	30
	Figure 9: Health of Bamboo Plants (Marathwada Region) .....	30
	Figure 10: Health of Bamboo Plants (Vidarbha Region) .....	31
	Figure 11: Health of Bamboo Plants (Konkan Region).....	31
	Figure 12: Health of Bamboo Plants (Western Maharashtra Region) .....	32
19.	Sustainability of Plantation Sites .....	32
	Table 3: The abstract of sustainability of plantation site.....	33
	Figure 13: Sustainability of Bamboo Plantation in Maharashtra.....	33
	Figure 14: Region wise Sustainability of Bamboo Plantation .....	34



## LIST OF ANNEXURES

ANNEXURE – I (GoM Resolution Creating MBDB) .....	35
ANNEXURE – II (Advertisement for Registration of Beneficiary Applicants by MBDB) .....	43
ANNEXURE – III (MoU between MBDB and SEVAK) .....	44
ANNEXURE – IV (Statement Showing Bamboo Plantation Sites Assessed by SEVAK) .....	46
ANNEXURE – V (Statement Showing Names of Bamboo Plantation Assessors and Sites Assessed By Them).....	48
USES OF BAMBOO .....	1





## ABBREVIATIONS

APP	Application
GoI	Government of India
GoM	Government of Maharashtra
H	Healthy
INBAR	International Bamboo And Rattan Network
MBDB	Maharashtra Bamboo Development Board
MoEF	Ministry of Environment and Forests
MoU	Memorandum of Understanding
R & FD	Revenue and Forest Department
SEVAK	Sevanivrutt Van Karmachari Sangh, Maharashtra
SH	Semi-healthy
UH	Unhealthy



## FOREWORD

The Maharashtra Bamboo Development Board was established vide Government Resolution BBS-2015/CR 139/ F9 of 6<sup>th</sup> August 2016. A high level Committee headed by Shri. V. Giriraj IAS as Chairman and Shri. Vikas Kharge IAS Forest Secretary as its Vice Chairman went through all the aspects of this natural resource and gave a road map for strengthening the bamboo sector in the state.

Two land mark Acts introduced post 1990- The Forest Rights Act 2006 and the Panchayat Extension to Scheduled Areas Act 1996 led to bringing substantial areas under the Community Forest Rights. It brought a new relationship between the Forest and the Villages around forest areas. Bamboo was included as specie for block plantation & Farm Bund plantation under the Employment Generating Program activity of the Social Forest Department. The Social Forest Department has hardly any proper documentation on the success or failure of these Bamboo plantation program under EGS in the state. It was also included as an item under EGS-horticulture program by the state Agriculture Department but did not take off as the agriculture department was ill equipped to handle Bamboo in all its aspects.

The newly constituted Maharashtra Bamboo Development Board had planned to cover 3715 ha. agriculture land under Bamboo plantation during 2020 rains and it identified 3554 beneficiaries. It procured and arranged to supply 14.50 lacs Bamboo Tissue culture seedlings all over the state to plant during 2020 rains. These works were supervised through 11 co-ordinators covering the 11 forest circles and involved training of selected beneficiaries through 26 demonstration plots which were developed for this program. These co-ordinators helped in awareness programs through exhibition, besides holding workshops and farmers meet. The economics of program was also explained.

M/s SEVAK Maharashtra State, Pune, a Non Government Organisation, working in the field of natural resource management and water conservation program evaluation for the past 25 years in the state of Maharashtra was identified by MBDB MS Nagpur for the task of evaluation of their flagship program of Bamboo Plantation in non forest areas through beneficiary selection scheme and a MoU was signed between MBDB MS Nagpur and SEVAK on 31.12.2020 for this task. The MoU also incorporated to suggest measures and ways to make this people's participation program more effective. The field work of physical visit to the selected sites was undertaken during January-February 2021. All these teams were lead by senior level retired Forest Officers. The data so obtained was analysed by experts and is given in the report. The COVID-19 epidemic greatly affected the schedule of field works by the beneficiaries, and its supervision by the Coordinators. Suggestions have been given in the report so that this ambitious program can be further improved. A very





sincere attempt has been made to evaluate this scheme on the lines of Maharashtra Forest Manuel guidelines for the evaluation.

(Shirish Asthana)  
President, SEVAK

Pune-411002

Dated: 8-3-2021



## ACKNOWLEDGEMENT

First of all we at SEVAK are thankful to Govt. of Maharashtra, Forest Department, Maharashtra Bamboo Development Board and National Bamboo Mission for taking this initiative of planting bamboo "the green gold" in the private land. This initiative will certainly help farmers to increase their income and attract more of them to plant bamboo and support bamboo industry in years to come. It is also a great initiative on the part of State bamboo board to get evaluated the work done by them. We are thankful to bamboo board and Managing Director Mr. T S K Reddy in particular to trust us by entrusting this work to us and extending his support for this work.

We are also thankful to Mr. Mahip Gupta the present Managing Director of the board for continuing his support for this work. We are also thankful to Mr. Srinivas Madbhushi and Mr. Rajendra Kulkarni for their support.

We are thankful to circle level coordinators of Bamboo board namely Mr. R. K. Chavan Nagpur, Nitin Kawadkar Gadchiroli, Kishore Kowe Chandrapur, Sanjay Jagtap Amravati, Rajan Tongo Yavatmal, Bhaskar Pawar Nashik, Ajay Pillariseth Thane, R. D. Patil Dhule, A. D. Bhosale Kolhapur, P. B. Bhalekar Aurangabad and Vinay Kolte Pune for their support in the field work.

We are thankful to the field officers of SEVAK for timely completion of the work in spite of COVID-19 situation and limitations of funds. They have completed this large volume of work spread all over the given areas with expected accuracy.

SEVAK is especially thankful to Mr. V. T. Patki our senior member for his planning, execution and analysis of the field data and preparation of this report.

We are thankful to Envision Computer Training Institute, Pune for development of Google Forms App, compilation and analysis of data, bringing out report and keeping liaison with the field assessors.

S. H. Patil  
Executive President  
SEVAK, Pune



## EXECUTIVE SUMMARY

1. The MBDB called online applications from private land owners, for planting tissue culture bamboo plants upto 31st May 2020.
2. The MBDB received 3554 applications, 806 from Vidarbha, 1276 from Konkan and Western Maharashtra and 1472 from Marathwada region of the State.
3. The MBDB appointed for each forest circle a coordinator for assisting the Managing Director of the Board and monitoring the plantation programme.
4. The MBDB purchased tissue culture bamboo seedlings of 13 species for supplying to the applicant farmers, from 7 nursery owners of Madhya Pradesh, Tamilnadu, Chattisgarh, Karnataka and Maharashtra States.
5. The applicants have planted the seedlings in a block or on farm bunds/boundary etc. 400 seedlings for planting 1 ha. area and 10% extra seedlings (40) for casualty replacement were proposed to be supplied to the farmers.
6. A MoU was signed by the MBDB and SEVAK on 31st December 2020 for assessing bamboo plant survival on 20% applicant's plantation sites.
7. The SEVAK assessed through 38 workers, 735 sites, in 67 talukas of 32 districts and gathered information through Google Form Application specially developed by SEVAK with the help of Envision Computer Training Institute, Pune.
8. The abstract of bamboo survival assessment is as under –
  - 8.1. Survival of Plants:
    - 8.1.1. Plantation not done: 21 sites
    - 8.1.2. 0% - 20% survival: 102 sites
    - 8.1.3. Survival >20% to 40%: 63 sites
    - 8.1.4. Survival >40% to 60%: 66 sites
    - 8.1.5. Survival >60% to 80%: 144 sites
    - 8.1.6. Survival >80% to 100%: 339 sites
  - 8.2. Health of Plants:
    - 8.2.1. Healthy: 304 (45.65%) sites
    - 8.2.2. Semi-healthy: 235 (35.29%) sites
    - 8.2.3. Unhealthy: 127 (19.06%) sites
  - 8.3. Sustainability of Plantations:

273 Sites are likely to be highly sustainable, 197 sites sustainable and 265 sites unsustainable. Maximum number of sustainable sites are in Western Maharashtra Region and Maximum number of unsustainable sites are in Marathwada region.
9. Problems shared by applicant farmers with the assessors–
  - 9.1. Late supply of planting stock
  - 9.2. Lack of coordination between farmers and coordinators
  - 9.3. Inadequate guidance in the field



9.4. Untimely rains causing flooding and damage to the plantations

9.5. Supply of small sized seedlings

10. Observations of the assessors –

10.1. Many applicants in the tribal area and non tribal area of the Marathwada region have neglected operations of weeding, mulching and protection of the seedlings.

10.2. In many plantations the drip irrigation has produced excellent results.

10.3. 11 applicants in Yavatmal district have transplanted the seedlings supplied to them in bigger size polybags without consent of the MBDB

10.4. In Jamner, Hinganghat, Samudrapur, Kudal, Shahuwadi, Chandgad, Miraj, Patan, Pombhurna, Chalisgaon, Karjat (Ahamadnagar), Jalna, Ambad, Dindori, Rajapur and Armori Talukas many plantations have shown excellent results.

11. 2020 being the first year of bamboo plantations on private lands, on extensive scale, the outcome is encouraging and the plantation efforts needs to be continued in future.

12. From the success and response by the farmers, it is proposed to create bamboo clusters in Chandrapur, Wardha, Amravati, Yavatmal, Kolhapur, Sindhudurg, Ratnagiri, Palghar, Thane, Nashik and Jalgaon districts of the State.

13. It is also suggested that the circle level coordinator appointed by the MBDB should raise a demonstrative bamboo plantation on 1 ha. site in each district for the benefit of the farmers.

14. In Marathwada region there are 8 districts and hence 2 coordinators should be appointed for that area.

15. Due to long period of lock down due to Corona, the movements of circle level coordinators appointed by MBDB was restricted, adversely affecting quality of field work in all districts of Marathwada, Thane, Palghar, Raigad districts of Konkan region and Pune, Solapur districts of Western Maharashtra regions.

16. In spite of restrictions, the performance of circle level coordinators in Gadchiroli, Chandrapur, Wardha, Jalgaon, Amravati, Kolhapur, Sangli, Sindhudurg, Nashik districts was appreciable. In Yavatmal circle, the coordinator did not look into the non planting of bamboo seedlings by 11 applicants in Ner tahshil of Yavatmal district. In Latur district, it was noticed that many applicant farmers did not receive seedlings for plantation. In Beed district, some applicant farmers informed supply of lesser seedlings for plantation.

17. The assessors could not understand the job responsibility of the circle level coordinators for monitoring the bamboo mission programme.



## I. INTRODUCTION

### 1. ECO-FRIENDLY BAMBOO

Maharashtra is Gold mine of Teak wood, Tendu leaves and Bamboo varieties. Govt. has been managing Teak & Tendu crop by adopting silvicultural practices over long period; however, Bamboo crop could not attract desired attention from foresters due to many attributes. Now, Bamboo has drawn attention of many because of its remarkable properties, variety of uses, its fast growth, livelihood of forest dwellers in rural areas of the State. Bamboo sector promotes Economic Development, Environmental Sustainability, Equity of developing weaker communities in the backward areas and Employment Generation.

### 2. INBAR

Since 1980's there has been many International Congress and Conventions to exchange notes and strengthen scientific, technical knowledge and skills in Bamboo. The International Bamboo and Rattan Network (INBAR) is an international organization with 41 member countries, with headquarter in China. The Indian Govt. is a member of INBAR.

### 3. BAMBOO ACTION PLAN

The interest in Bamboo as a "Resource" started in the late 1990's, when India became a member of INBAR. Gol, MoEF prepared an action plan for Bamboo & Cane sector and held a big seminar in August 1999. The UNDP started injecting substantial funds during 1998-2004 for development of Bamboo sector and supported many Govt. organizations.

### 4. BAMBOO MISSIONS

Gol set up two Bamboo related missions in the last decade. The first was the National Mission for Bamboo Applications, set up under the Ministry of Science & Technology. Another was National Bamboo Mission under the Ministry of Agriculture, Horticulture division. In 2006 there was another significant development, namely enactment of the "Recognition of Forest Rights Act, 2006" involving local communities in Bamboo management.

### 5. BAMBOO SECTOR IN MAHARASHTRA

Maharashtra state has about 21% area under forests and Bamboo grows copiously the forests along with other plant species. It is reported that about 4800 km. forest area is under good Bamboo cover. Outside the forests, Bamboo is also grown widely on farm bunds. Specially, it grows profusely in much of the linear Konkan coastal belt and also in Vidarbha and tribal areas of Northern Maharashtra. However, neither the



Central/State missions have been able to meet the expectations and the Bamboo sector is stagnating at the same level. With right type of policy and financial support, the Bamboo sector will boom in future.

## **6. FIVE PILLARS OF STRATEGY**

- Creation of Bamboo Board to promote Bamboo sector within Forest Department & Govt.
- Increase Bamboo production and productivity in forest areas and allowing communities to manage Bamboo.
- Earmark forest bamboo for various categories of downstream industries for at least ten years.
- Intensively promote about 10-15 compact Bamboo Clusters in various parts of the State.
- Fully remove transit pass restrictions, or if it is not possible, keep it to barest minimum in selected pockets of the State.

## **7. FORMATION OF MBDB**

The GoM, R & FD, vide Resolution No.BBS 2015/Case No.139, dt. 06-08-2016 created the Maharashtra Bamboo Development Board (Annexure-I), to perform the 15 functions enlisted in paragraph 6 of the Resolution. The listed function No. 7 is "To give encouragement for plantation of proper and standard Bamboo species on forest/private lands for improving quality of Bamboos in the State". Accordingly, the MBDB attempted to promote Bamboo plantations on private lands in 253 talukas of all districts in the State by identifying 3554 beneficiaries and providing them quality tissue culture planting material for planting in the 2020 monsoon season. The planting stock was procured from 7 nursery growers of Maharashtra, Madhya Pradesh, Karnatak, Tamilnadu and Chattisgarh States. The plant suppliers were finalized by inviting tenders to receive competitive purchase rates. The MBDB also provided 10% extra planting stock to beat casualties.



## II. ASSESSMENT OF PLANTS SURVIVAL

### 8. BENEFICIARY SELECTION

2020 monsoon was the first year of Bamboo plantations on private lands attempted by the MBDB. The MBDB invited online as well offline proposals for registration of the beneficiaries (Annexure – II). It is reported that 3554 applicants made registration. The target was very tall in the first year and challenging too but the entire team of the MBDB worked sincerely & successfully to complete the target in 253 talukas of 36 districts. The MBDB was enthusiastic to evaluate the outcome of success/failure of Bamboo plantations on private land for improving and strengthening its further line of action and hence decided to engage a third party agency to assess the survival, growth of plantations.

### 9. THIRD PARTY AGENCY

The MBDB was on the lookout for experienced, knowledgeable and genuine Third Party Agency to carry out assessment of bamboo plant survival. Generally very few agencies are willing to work in the rural & remote area spread over entire State due to unestablished network of workers in all districts of the State to function. The "Sevanivrutta Van karmachari Sangh, Maharashtra," a NGO registered on 28-01-997 by the State Charity Commissioner, Pune, having working members in all districts of the State to carry out the assessment of plant survival, was selected by the MBDB as a Third Party Agency to complete the task.

### 10. MoU

The SEVAK & the MBDB signed a Memorandum of Understanding on 31-12-2020 for assessment of Bamboo plants survival, planted in 2020 monsoon season on private land of the beneficiaries. The MoU is attached as Annexure-III to the report. According to the MoU the plant survival is to be done on land of 20% beneficiaries. District is the unit for selecting 20% beneficiaries.

As the members of the Third Party Agency are retired forest employees, the SEVAK decided to complete the assignment on No Profit-No Loss principle and quoted the charges. This will not only achieve objective of the MBDB but shall enhance brotherly gesture between both.

### 11. STRATEGY OF ASSESSMENT

The TPA decided to select the 20% beneficiaries in 2-3 talukas in each selected district for assessment. It was also decided to record health of plants, growth of plants, reasons for failure, if any etc.



Photos were taken by assessors on site preferably with the beneficiary or his representative. The selected farmers were communicated assessment programme in advance through mobile phone. In the thickly tribal populated talukas preference was given to select beneficiaries from tribal community e.g. Gadchiroli, Armori, Wada, Shahapur, Vikramgad, Akole, Chikhaldara taluka. The MBDB had supplied 10% extra seedlings for causality beating and hence the plant survival percentage was assessed excluding the 10% extra seedlings. The health of plants was classified into Healthy, Semi-Healthy & Un-Healthy.

## 12. GOOGLE FORM APP

The SEVAK created a Google Form App for collecting field assessment information from the assessors for maintaining uniformity of the data and fast verification of speed of work. The App has following details -

- First name of beneficiary
- Middle name of beneficiary
- Surname of beneficiary
- Gender of beneficiary
- Village
- Taluka
- District
- Survey No./Gat No.
- Plantation area in ha.
- No. of seedlings planted
- Percentage of surviving plants
- Species planted
- Health of plants
- Remarks
- Photographs
- Date of assessment
- Name of Assessor

Daily online data was sent by the assessors. In some village sites internet connectivity was a bottleneck. In such area the data was sent from the places where internet facility was available. By and large this technology worked well. The site wise / beneficiary wise data. Is tabulated and is attached as Annexure-IV to the report.

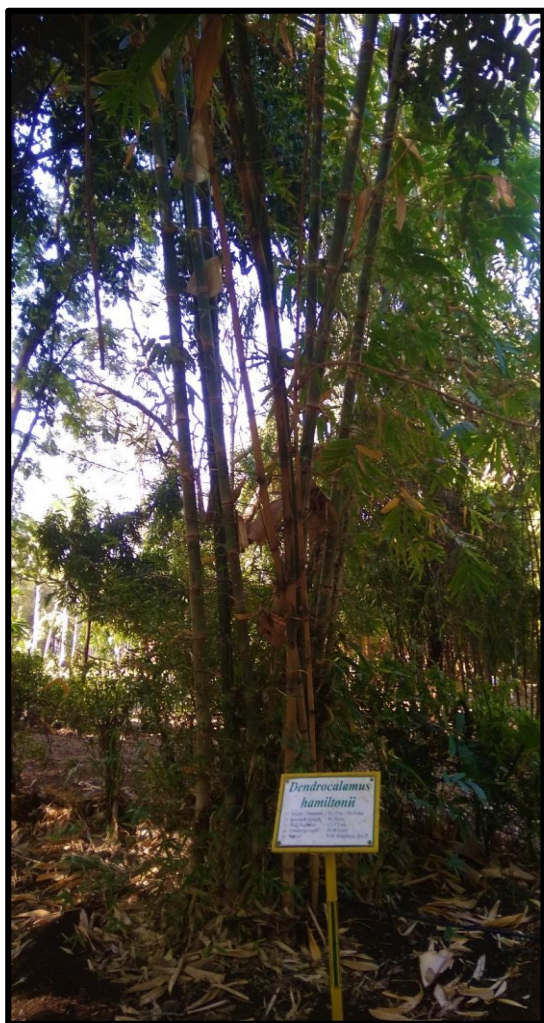


### III. BAMBOO SPECIES SELECTED FOR PLANTATION PROGRAMME

#### 13. Selection of Bamboo Species:

The MBDB supplied tissue culture bamboo seedlings of 13 species suitable for agro climatic conditions of Maharashtra, for planting in 2020 monsoon season to the applicant farmers. The description of these 13 species along with their photograph is given below –

#### 13.1 *Dendrocalamus hamiltonii*



##### **Habitat –**

It is widely found across South and Southeast Asia, particularly India, Nepal, Bangladesh, Myanmar, and Thailand. It is also found in Cuba.

##### **Soil & climate –**

A plant of the moist tropics, where it is found at elevations up to 1,000 meters. It grows best in areas where annual daytime temperatures are within the range 20 - 29°C, but can tolerate 15 - 34°C. It prefers a mean annual rainfall in the range 1,800 - 3,600mm, but tolerates 700 - 4,500mm. Succeeds in full sun and in light shade. Prefers a medium to heavy soil of at least moderate fertility. Prefers a pH in the range 5 - 6, tolerating 4.5 - 6.5.

##### **Appearance –**

It is also known as Tama bamboo in India. It is an evergreen, clump-forming bamboo with woody culms that are often very pendulous and can grow 12 - 25 meters tall. The culms are 9 - 20cm in diameter at the base, with internodes 30 - 50cm apart and walls 12–20 mm thick. Culms are dull green covered with whitish-brown hairs, which become dull brownish-green when dry. Whitish bands occur below and above the nodes. Culms are noticeably zig-zag. Branching occurs from the base to top.

##### **Uses –**

Young shoots are widely consumed as a vegetable. A sour pickle, known as 'hiyup', is made from the shoots in India. The culms are used for temporary constructions (houses, bridges) and various household utensils such as water containers.

### 13.2 *Dendrocalamus strictus*



#### **Habitat –**

It is widely found across South and Southeast Asia, particularly India, Nepal, Bangladesh, Myanmar, and Thailand. It is also found in Cuba.

#### **Soil & climate –**

This species is mainly found in semi dry and dry deciduous forests, or as understory in mixed forests and teak plantations. It grows on hill slopes, ravines and alluvial plains from sea level up to 1,200 m. It prefers a low relative humidity and mean annual temperatures between 20°C-30°C, but can withstand extreme temperatures (as low as -5°C and as high as +45°C). The optimum annual rainfall is 1,000 - 3,000 mm, but is very drought resistant and grows rather well with only 750 - 1,000 mm rainfall per year. The species does not grow well on water-logged or heavy soils such as pure clay or a mixture of clay and lime. It rather prefers sandy loam soils with good drainage and a pH between 5.5 - 7.5

#### **Appearance –**

It is a medium-sized bamboo with culms of about 8-20 m tall and 2.5-8 cm in diameter. The internodes are 30-45 cm long and thick-walled. Culms are hollow when growing under humid conditions, but nearly solid under dry conditions. This species has pale blue - green culms when young, and dull green or yellow culms on maturity, which can slightly zig-zag from the middle towards the top. Its nodes are somewhat swollen and basal nodes are often rooting.

Many clustered branches with 1 larger dominant branch. The lower nodes often have branches.

Leaf size is variable as they are smaller in dry locations and bigger in moist areas, sizes vary between 5-25 cm long and 1-3 cm broad.

#### **Uses –**

*Dendrocalamus strictus* is extensively used as raw material in paper mills and also for a variety of purposes such as light construction, furniture, bamboo board, mats, sticks, agricultural implements, rafts, baskets, woven wares and household utensils. Young shoots are edible and used as food. Leaves are used as forage, and decoction of leaves and nodes and silicious matter is used in traditional medicine.

### 13.3 *Dendrocalamus longispathus*



#### **Habitat –**

The long-sheath bamboo, species which grows up to 20 m tall. It is native to Bangladesh, Myanmar, and Thailand. It has now become an exotic species all over the South Asia.

#### **Soil & climate –**

A plant of the moist, lowland tropics and subtropics, where it is found at elevations up to 1,000 meters. It grows best in areas where annual daytime temperatures are within the range 20 - 27°C, but can tolerate 15 - 34°C. It prefers a mean annual rainfall in the range 1,800 – 3,600mm, but tolerates 1,200 - 4,500 mm. Prefers a pH in the range 5 - 6, tolerating 4.5 –7. Grows best in full sun or light shade.

#### **Appearance –**

*Dendrocalamus longispathus* is an evergreen, clump-forming bamboo producing culms usually 10 - 20 meters tall. The culms are 6 - 12cm in diameter, with internodes 25 - 60cm. long and a wall 12mm thick.

#### **Uses –**

The culms are used for making temporary constructions, baskets, furniture, mats and containers. This specie is generally used as a source of pulp for the manufacture of paper.

The culms have been found to be an ideal material for the manufacture of good quality tooth picks.

### 13.4 *Bambusa balcooa*



#### **Habitat –**

It is a clumping bamboo native from the Indian subcontinent to Indo-China. *Bambusa balcooa* also known as **Female Bamboo** is a tropical clumping bamboo originating from Northeast India.

#### **Soil & climate –**

It grows up to an altitude of 700 m in tropical monsoon climates with an annual rainfall of 2,500 - 3,000 mm. It grows on any type of soil but prefers heavy textured soils with good drainage and a low pH of about 5.5.

#### **Appearance –**

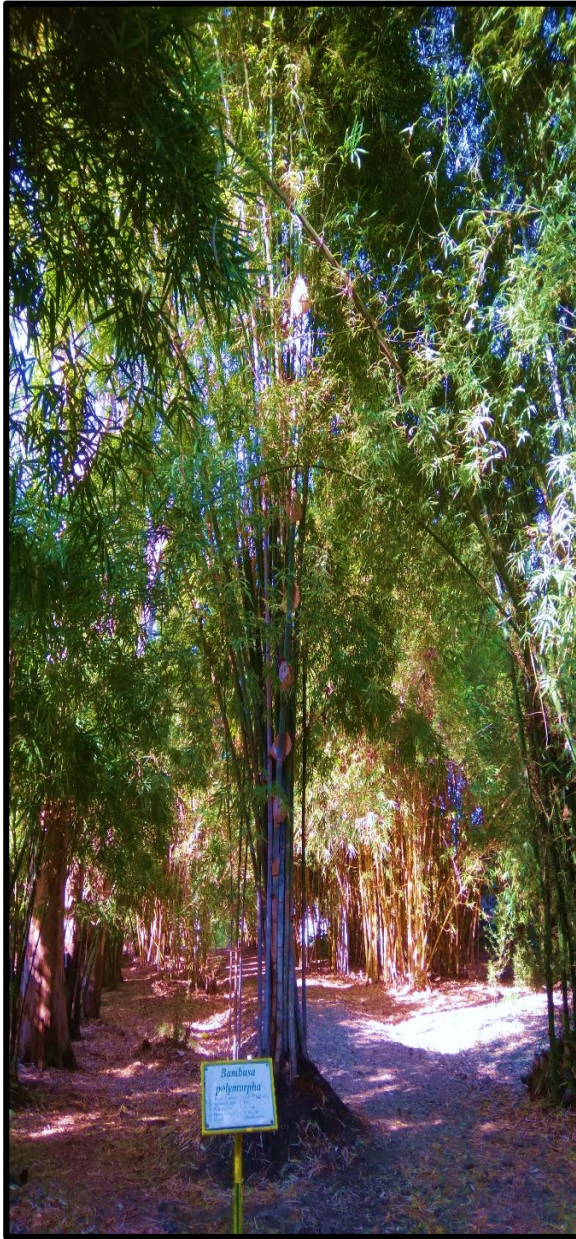
The culms of *Bambusa balcooa* are on average between 16-20 m high and 7-15 cm in diameter. Culms are grayish green and thick walled, where the diameter of the cavity is about one-third of that of the culm. Nodes are thickened with a whitish ring above, and have short small hairs below. Culm internodes are on average between 40-45 cm long. Several too many clustered branches with 1-3 larger dominant branches. Branches usually occur from middle of the culm to the top. Branches from the lower nodes are leafless and hard, and sometimes thorn-like.

Leaves are narrow and are on average 15-30 cm long and 25-50 mm broad.

#### **Uses –**

Stems are used as a building material for houses, bridges, fishing floats, is much used for scaffolding, frames of rickshaw hoods, baskets, woven mats and for agricultural and fishing implements. This bamboo species also serves as a raw material for the wood chip industry, paper pulp, shoots are consumed as a vegetable and leaves are used as fodder.

### 13.5 *Bambusa polymorpha*



#### **Habitat –**

*Bambusa polymorpha* is a large dense clumping tropical bamboo native to Myanmar, Thailand and Bangladesh. It is a bamboo of many uses with sweet tasting edible shoots.

#### **Soil & climate –**

*Bambusa polymorpha* grows naturally in semi-humid areas on deep, fertile, well-drained alluvial and loamy soil. It usually occurs on low hill slopes along valleys, mixed with deciduous forests and among teak (*Tectona grandis*). *Bambusa polymorpha* is a clump-forming, usually evergreen bamboo with erect stems that curve outward at the top. It grows 15 - 25 meters tall with canes that are up to 15cm in diameter. Plants can become deciduous when growing under drier conditions. A very useful bamboo, it is of major importance in rural areas of its natural range.

#### **Appearance –**

This is a medium to large size densely tufted bamboo with culms between 15-25 m tall. Culm internodes are on average 40-60 cm long with 7-15 cm in diameter. The color of the culms is light green or white grey when young to grayish-green and have relatively thick walls of 1-2 cm (occasionally solid near the base). The thick lower nodes are rooted. Young shoots have a brownish-green colour, and are covered with dark brown hairs. *Bambusa polymorpha* has several too many clustered branches with 1-3 larger dominant branches. Branches usually occur from middle of the culm to the top.

#### **Uses –**

Culms are used for house construction, woven matting, baskets, furniture, handicrafts, and as a raw material for paper pulp and board making. This bamboo produces edible shoots with a distinctly sweet taste. It is also a graceful species suitable for landscaping.

### 13.6 *Pseudoxytenanthera stocksii*



#### **Habitat –**

*Pseudoxytenanthera* is a genus of Asian bamboo in the grass family native to India, Sri Lanka, and Indochina. *Pseudoxytenanthera stocksii*, a bamboo species hitherto thought to be confined to Karnataka and Goa, is reported for the first time from Kerala, based on a collection from Silent Valley National Park.

Introduced to: Maharashtra, Karnataka, Kerala, Tamil Nadu, Goa. In Konkan this specie is predominantly present in Sindhudurg district and to a relatively lesser extent in Ratnagiri, Raigad, Thane and Palghar districts. It is also present on the leeward side of the Western Ghats especially in the tahsils of Satara, Pune and Kolhapur districts of Maharashtra.

#### **Soil & climate –**

Typically, the species grows from sea level to altitudes of 800 m.

#### **Appearance –**

Culms of this species are thorn less with non-prominent nodes with better cw:cd (culm wall thickness to culm diameter) ratio, making it the most suitable species for furniture and construction industry in the lower diameter (<5 cm) category and it attains a height of 7 to 12 m. Culms of this species are thorn less with non-prominent nodes with better cw:cd (culm wall thickness to culm diameter) ratio, making it the most suitable species for furniture and construction industry in the lower diameter (<5 cm) category and it attains a height of 7 to 12 m. Culms of this species are thorn less with non-prominent nodes with better cw:cd (culm wall thickness to culm diameter) ratio, making it the most suitable species for furniture and construction industry in the lower diameter (<5 cm) category and it attains a height of 7 to 12 m. Culms of this species are thorn less with non-prominent nodes with better cw:cd (culm wall thickness to culm diameter) ratio, making it the best suitable for construction & furniture industry in the lower diameter (<5cm) category and it attains height 7 to 12 mtrs.

Culms of this species are thorn less with non-prominent nodes with better cw:cd (culm wall thickness to culm diameter) ratio, making it the most suitable species for furniture and construction industry in the lower diameter (<5 cm) category and it attains a height of 7 to 12 m.

#### **Uses –**

Furniture & Construction industry.

### 13.7 *Dendrocalamus brandisii*



#### **Habitat –**

E. Asia - Southern China, Bangladesh, Myanmar, Thailand, Laos, Vietnam, Andamans

#### **Soil & climate –**

A plant of the warm, moist tropics, where it can be found at elevations up to 1,300 meters. The plant is frequently found on limestone, but it also grows well on well-drained loamy soils.

In the case of some mature tropical species the new stem could be as much as 30 meters tall, with daily increases in height of 30cm or more during their peak growth time. This makes them some of the fastest growing species in the world.

#### **Appearance –**

*Dendrocalamus brandisii* is a perennial, clump-forming, evergreen bamboo with erect culms that can be 19 - 33 meters tall. The woody culms are 13 - 20cm in diameter with walls 25 –50mm thick and internodes 30 – 38 cm long, aerial roots are produced at the nodes

#### **Uses –**

The young shoots are used as a vegetable. The culms are used for building purposes, furniture, farm implements, baskets and other woven wares and handicrafts

This is one of the strongest and largest bamboos for construction purposes.

### 13.8 *Bambusa tulda*



#### **Habitat –**

It is native to the Indian subcontinent, Indochina, Tibet, and Yunnan, and naturalized in Iraq, Puerto Rico, and parts of South America.

#### **Soil & climate –**

Mixed deciduous forest in plains, valleys, and along streams, up to elevations of 1,500 meters. Common on flat alluvial land along streams in the mixed deciduous forests and along the banks of dry water-courses in Myanmar

#### **Appearance–**

*Bambusa tulda* is an evergreen or deciduous, clump-forming bamboo with stems 6 - 20 meters tall. The thin-walled canes are about 50 - 100mm in diameter with internodes 36 - 60cm long. This is one of the most important bamboos in many parts of its range, especially India, Bangladesh and northern Thailand, where it provides food and material for construction, baskets etc.

It is often grown commercially for use mainly within its natural range.

#### **Uses-**

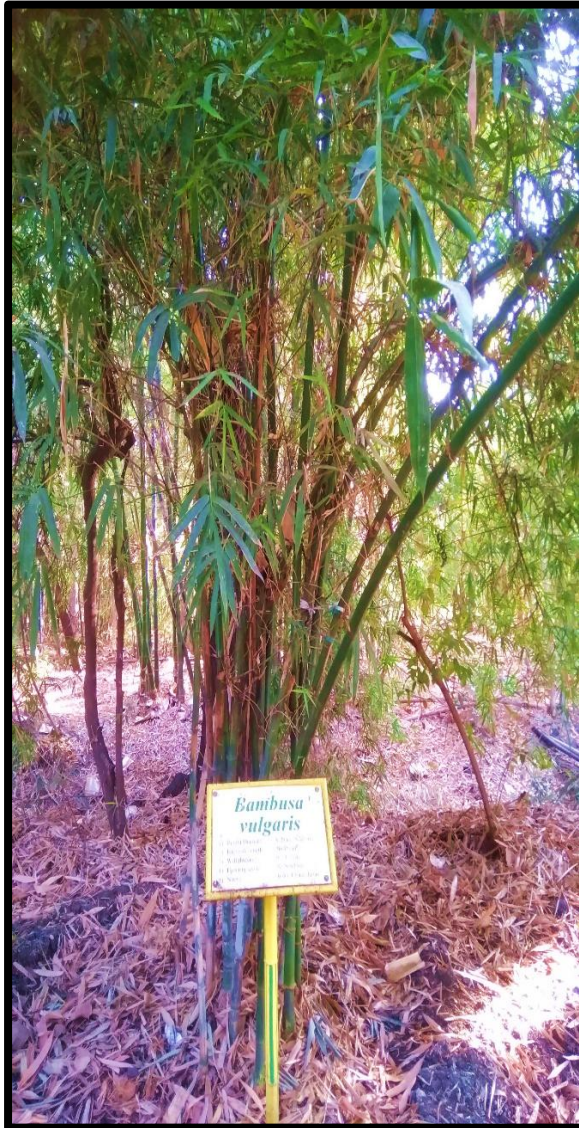
The young shoots are edible but taste slightly bitter, therefore they are often pickled

The young shoots are harvested as they emerge from the soil.

In its natural area *Bambusa tulda* is also often planted as a wind-break around farms and fields. The culms are generally used for construction, scaffolding, furniture, boxes, basketry, mats, household utensils, handicrafts and as raw material for paper pulp.



### 13.9 *Bambusa vulgaris*(Green)



#### **Habitat –**

It is native to Indochina and to the province of Yunnan in southern China, but it has been widely cultivated in many other places. This species is cultivated extensively in many parts of the world.

#### **Soil & climate –**

*Bambusa vulgaris* often occurs spontaneously or naturalized on river banks, roadsides, wastelands and open ground, generally at low altitudes. In cultivation it grows very vigorous on moist soil and under humid conditions but tolerates a wide range of climatic conditions and soil types up to 1,200 m altitude. This bamboo species can survive low temperatures up to -3°C and has a high adaptation to semi-arid areas, and on degraded and flooded lands.

#### **Appearance–**

*Bambusa vulgaris* culms are bright green, glossy, erect below and arching above and have an average height between 10-20 m. Internodes are 25-35 cm long, and have an average diameter of 4-10 cm. Wall thickness ranges between 7-15 mm. Nodes are prominent, of which the lower ones often with a narrow ring of roots and covered with brown hairs.

#### **Uses –**

*Bambusa vulgaris* is widely planted and used for a variety of purposes, primarily for use in light construction such as houses, huts, boats (masts, rudders, outriggers, boating poles), fences, scaffolding, furniture, musical instruments and handicrafts.



### 13.10 *Bambusa nutans*



#### **Habitat –**

E. Asia - India, Bangladesh, Myanmar, Thailand

#### **Soil & climate –**

Moist hill slopes and flat uplands in well-drained sandy loam to clayey loam soils at elevations from 700 - 1,500 meters. Suitable pH: acid, neutral and basic (alkaline) soils. It can grow in semi-shade (light woodland) or without shade. It prefers moist soil.

#### **Appearance –**

Medium sized elegant bamboo. Culms-6-15m tall, 5-10 cm diameter, loosely clumped, much branched above, usually unbranched below, straight, green, smooth, not shining, white ring below the node; node slightly thickened, often hairy, lower one bearing rootlets; inter nodes usually 25-45 cm. long, thick walled.

Culm-sheaths-10-23 cm long, up to 30 cm wide at base, with appressed scattered black hairs on the back. Leaves-15-25 cm long and 2-3.5 cm broad.

#### **Uses –**

The culm is good, strong, straight. It is used locally for various purposes, mainly as house construction, paper, mat and poles. It is a major source of fiber for the paper industry in India. The plant is sometimes used to provide shelter for tea plantations



### 13.11 *Bambusa bambos*



#### **Habitat –**

The giant thorny bamboo, Indian thorny bamboo, spiny bamboo, is a species of clumping bamboo native to southern Asia. (India, Bangladesh, Sri Lanka and Indochina).

#### **Soil & climate –**

*Bambusa bambos* prefers a humid tropical climate and grows best along river banks or river valleys with a rich, moist soil. It reaches its best development in moist deciduous forests up to an altitude of 1,250 m. and receiving nearly 2,000-2,500 mm rainfall a year.

#### **Appearance –**

The fast growing, strong woody culms of *Bambusa bambos* have an average diameter between 10-18 cm, and are between 20-30 m tall (although the tallest recorded culm measured 40 m). The internodes are dark green coloured with very thick walls. Nodes are slightly swollen and some lower nodes produce short aerial roots.

#### **Branches –**

Nodes contain a central dominant branch with one or two lateral branches and are often spine-like. Thorny lower branches are long and wiry, and usually bent towards the ground. The upper leafy branches produce a fan like plume and bearing small spines.

#### **Leaves –**

Leaves are lance-shaped with a long-pointed tip. They measure between 15-30 cm long and 8-15 mm broad.

#### **Uses –**

Culms are used for house construction, scaffolding, rafters, thatching and roofing, handicrafts and art objects, basket making, bows and arrows, furniture, floating timber and rafting, cooking utensils and fencing. The raw material of this bamboo is also an important source for paper pulp and panel products. Shoots and seeds are edible and leaves are used as fodder and medicine.

### 13.12 *Dendrocalamus asper*



#### **Habitat –**

It is found commonly in India, Sri-Lanka, Southwest China and Southeast Asia and more recently in Latin America and warmer regions in the United States.

#### **Soil & climate –**

A plant of moist areas in the tropics and subtropics, where it can be found from low elevations up to 1,500 meters, though it grows best at an elevation of 400 - 500 meters. It grows best in areas where annual temperatures are within the range 20 - 27°C, but can tolerate 15 - 34°C. It prefers a mean annual rainfall in the range 1,800 - 3,600 mm, but tolerates 1,200 - 4,500 mm. Succeeds in any type of soil of at least moderate fertility, though it grows better on heavy soils with good drainage. Prefers a pH in the range 5 - 6.5, tolerating 4.5 - 7

#### **Appearance –**

Giant bamboo is an evergreen, clumping bamboo with a short, thick rhizome and densely tufted, erect stems that can be 15 - 30 meters tall. The stems can be 8 - 20cm in diameter, producing aerial roots from the nodes, and with internodes 40 - 50cm long

#### **Uses –**

It is used as a vegetable, pickled or preserved. It can be cut into strips and used as a substitute for macaroni in soups. They are used as building material for houses and bridges, for making furniture, boards, musical instruments, household utensils, crafts, outriggers of fishing boats and for paper making.

### 13.13 *Bambusa cacharensis*



#### **Habitat –**

Asia-tropical: India.

The species is reported to be endemic to Assam but also widely distributed in the west and Sipahijala district of Tripura found at an altitude 24 to 38 mtrs.

#### **Soil & Climate –**

Sandy loamy & tropical forests.

#### **Appearance –**

Culms erect; 20-21m long; 5-10 cm diam.; woody; without nodal roots. Culm-internodes terete; thin-walled. Lateral branches dendroid. Culm-sheaths 12-15 cm long; 0.5 times as long as wide; Culm-sheath blade ovate; erect. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate; 16-20 cm long; 15-25 mm wide

#### **Uses –**

Among them *Bambusa cacharensis* locally known as Boom bans is extensively used by local bamboo artisans for their domestic as well as commercial purpose in making furniture, incense stick and mats.

## IV. DATA ANALYSIS

### 14. Area of Assessment

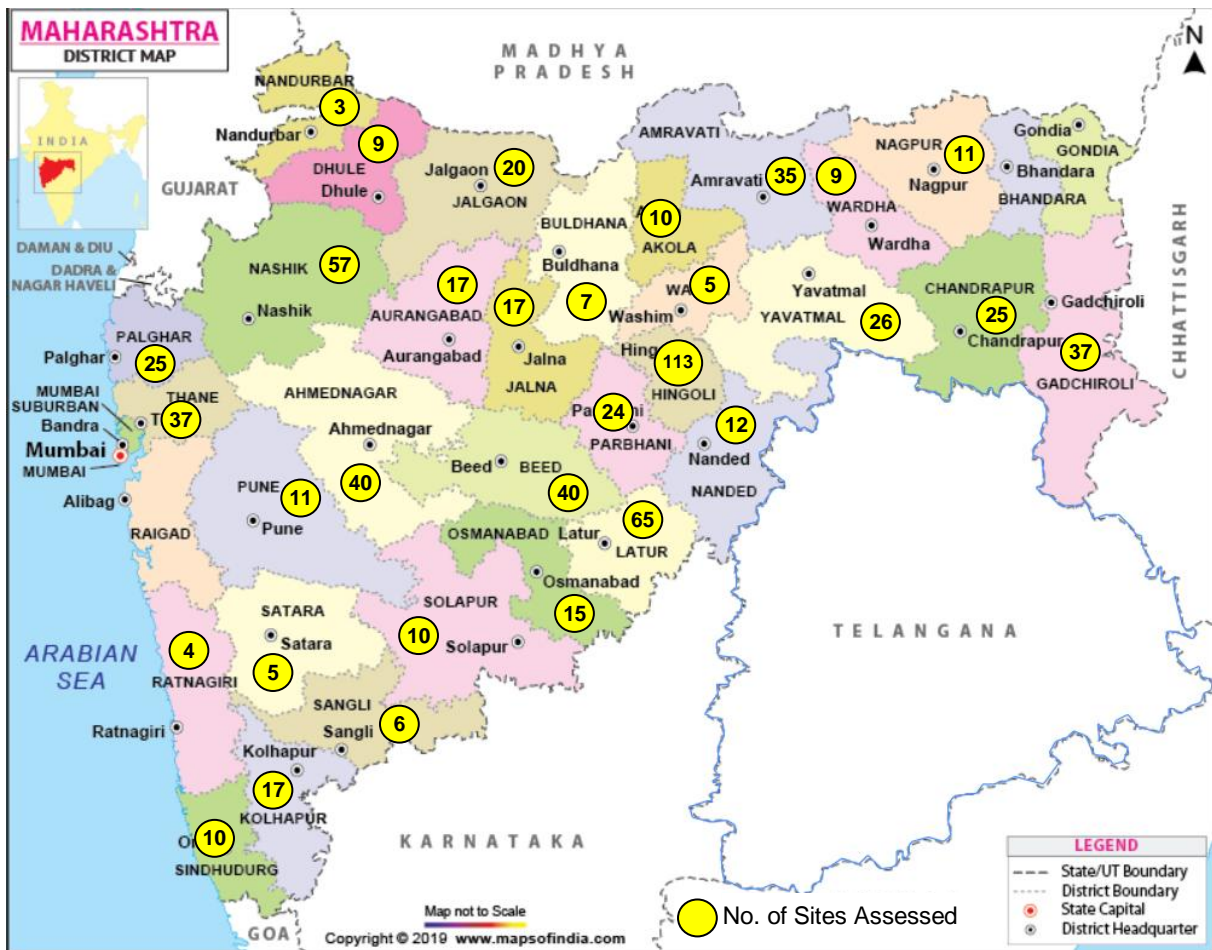


Figure 1: District wise Location of Bamboo Plantation Sites Assessed

There are 4 important geographical regions in Maharashtra State, namely –

14.1 Vidarbha Region: There are 11 districts falling in this region, namely Amravati, Akola, Buldhana, Washim, Yavatmal, Wardha, Nagpur, Bhandara, Gondia, Chandrapur and Gadchiroli. 806 applicants were supplied Bamboo seedlings of different species for planting in this region, out of which 165 applicants were selected in 23 talukas for assessment. No applicant from Bhandara and Gondia district was selected for assessment. In these, Chikhaldara, Pombhurna, Armori, Gadchiroli, Wadsa talukas are thickly tribal populated.

14.2 Marathwada Region: There are 8 districts falling in this region, namely Aurangabad, Jalna, Parbhani, Hingoli, Beed, Nanded, Latur and Osmanabad. 1472 applicants were supplied Bamboo seedlings for planting in this region as reported by the MBDB, out of which 303 applicants were selected in all the districts falling in 18 talukas for assessment. No thickly



tribal populated taluka was selected for assessment, however, most of the applicants in this region fall in category of economically weaker section.

14.3 Konkan Region: There are 7 districts falling in this region, namely Sindhudurg, Ratnagiri, Raigad, Thane, Palghar, Mumbai City and Mumbai Suburban. 426 applicants were supplied Bamboo seedlings for planting in this region, out of which 89 applicants were selected in 5 districts and 8 talukas for assessment. No applicant in Mumbai City and Mumbai Suburban district was selected for assessment. Shahapur, Wada, Vikramgad, Karjat talukas are thickly tribal populated areas.

14.4 Western Maharashtra Region: There are 10 districts falling in this region, namely Kolhapur, Satara, Sangli, Pune, Solapur, Ahamadnagar, Nashik, Dhule, Jalgaon and Nandurbar. 850 applicants were supplies bamboo seedlings for planting in this region, out of which 178 applicants were selected in 18 talukas of all the districts for assessment. Peint, Dindori, Akole, Shahada, Welhe are thickly tribal populated talukas.

## 15. Sample Percentage

In all the 4 regions, 3554 applicants were supplied Bamboo seedlings for planting in 2020 season as reported by the MBDB, out of which 735 applicants were selected for assessment of Bamboo plant survival, health of plants and sustainability of plantations. The sampling percentage is 20.65. The assessment was done in 32 districts, 67 talukas of the State. The number of thickly tribal populated talukas are 14.

## 16. Survival of Bamboo Plants

Table 1: The abstract of survival of Bamboo plants in 735 assessed sites

Region	No. of Assessed Sites	No. of Non Plantation Sites	No. of Planted Sites	Bamboo Plant Survival Sites				
				0%	>20-40%	>40-60%	>60-80%	>80-100%
Vidarbha	165	12	153	14	10	8	37	84
Marathwada	303	9	294	75	39	39	64	77
Konkan	89	0	89	6	12	15	21	35
Western Maharashtra	178	0	178	7	2	4	22	143
<b>Total</b>	<b>735</b>	<b>21</b>	<b>714</b>	<b>102</b>	<b>63</b>	<b>66</b>	<b>144</b>	<b>339</b>
Bamboo Seedlings Planted			287713	41106	25389	26598	58032	136588

The Bamboo plantation programme implemented in 2020 planting season, on private lands can be classified as –

- Highly successful in Western Maharashtra Region



- Successful in Vidarbha Region
- Partly successful in Konkan Region
- Need efforts to achieve success in Marathwada Region.

In spite of many restrictions due to COVID-19 Pandemic, the joint efforts by MBDB and applicant farmers in the 1<sup>st</sup> year of planting has produced encouraging results, though some strategy improvement changes will be required to increase percentage of success in the coming seasons.

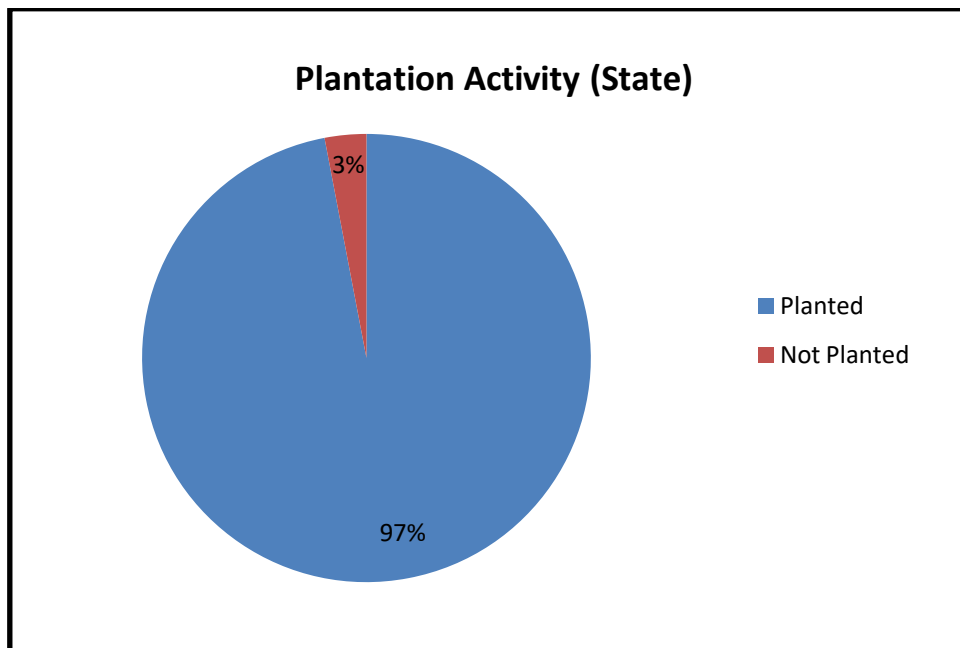


Figure 2: Plantation Activity (state)

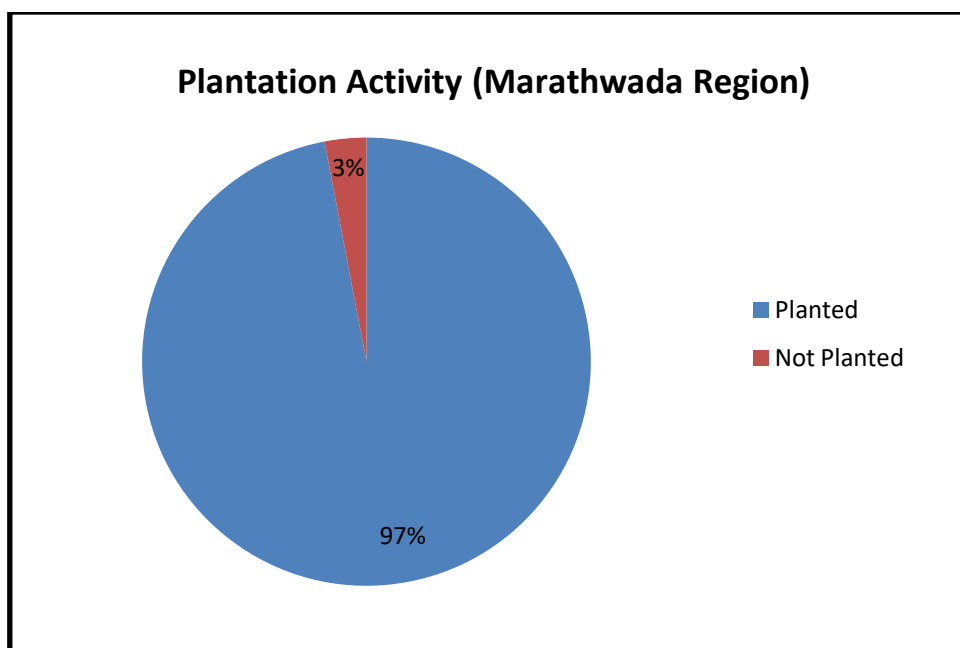


Figure 3: Plantation Activity (Marathwada Region)



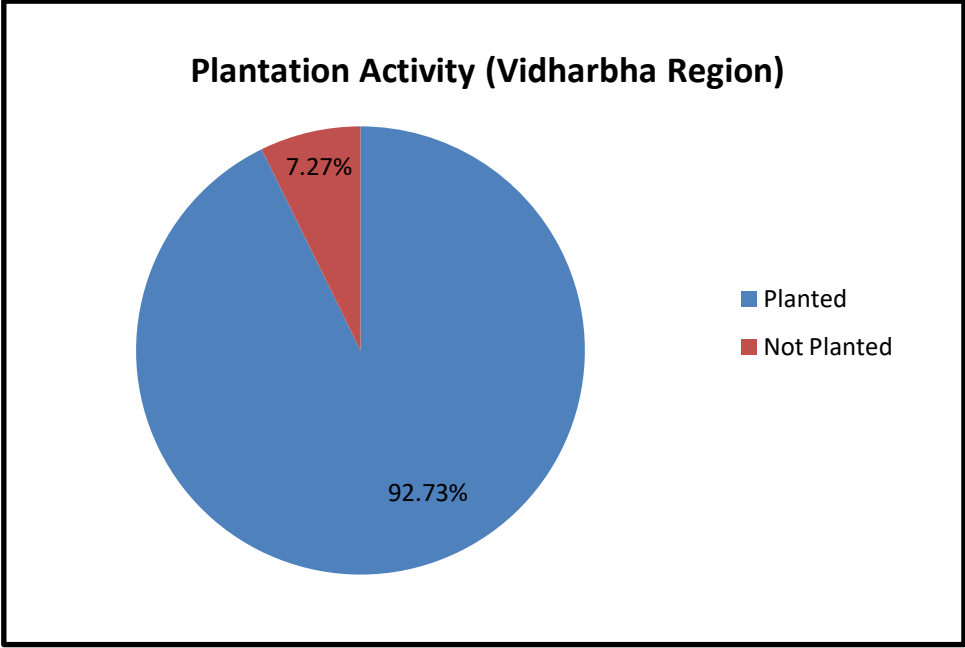


Figure 4: Plantation Activity (Vidarbha Region)

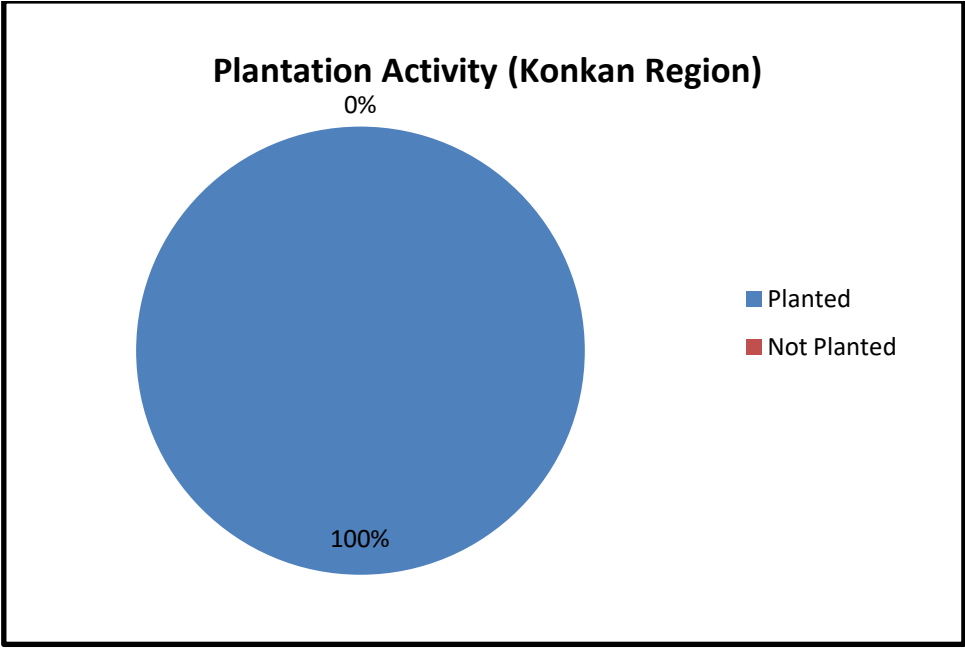


Figure 5: Plantation Activity (Konkan Region)

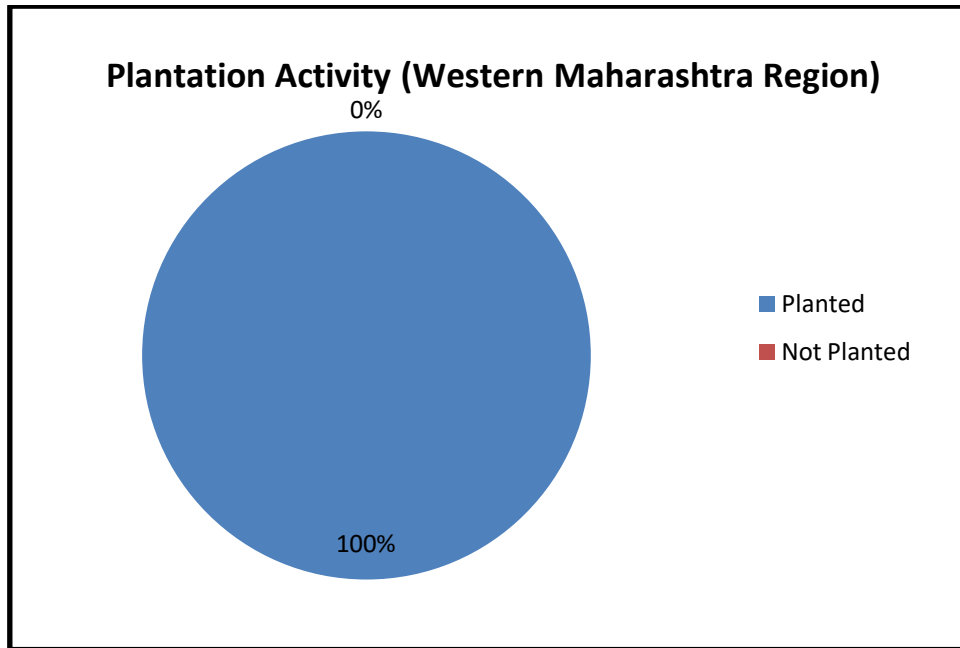


Figure 6: Plantation Activity (Western Maharashtra Region)

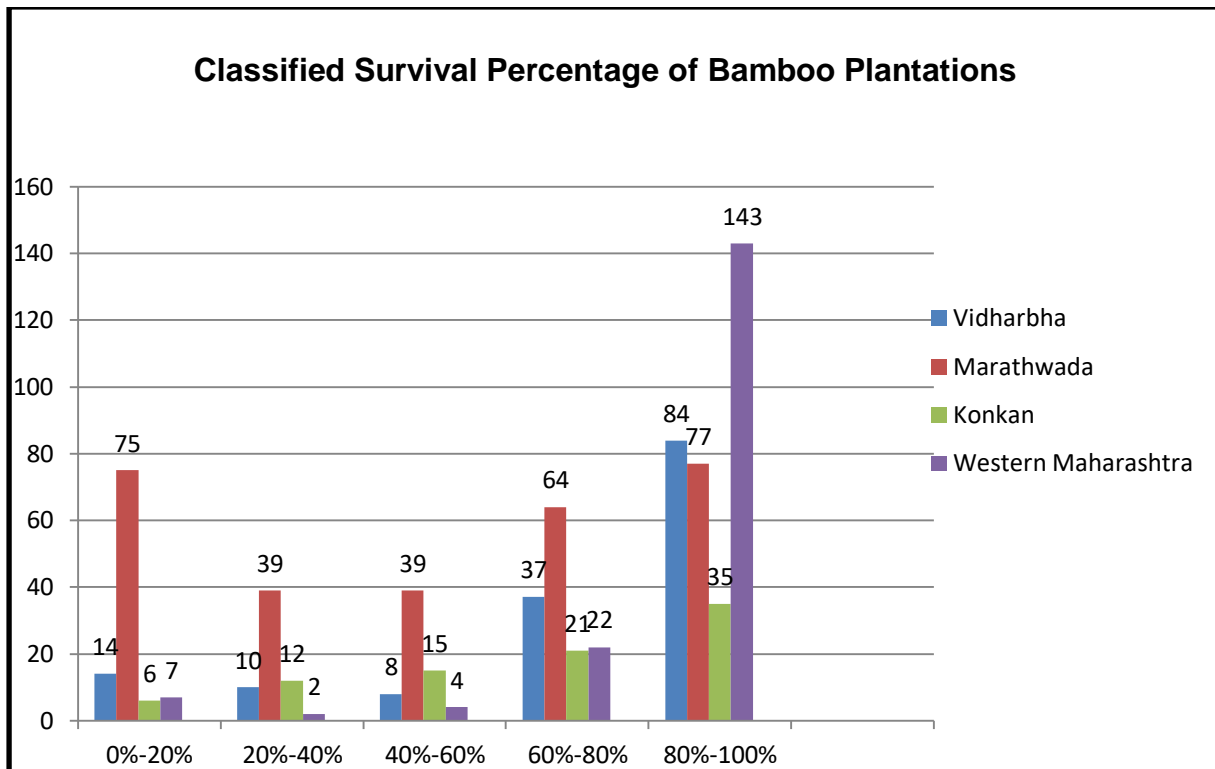


Figure 7: Classified Survival Percentage of Bamboo Plantations



## 17. Cluster Formation

From the outcome of assessment, of 20.65% farmers it is suggested to consider following talukas for developing cluster of Bamboo plantations.

**Table 2: Proposed Cluster Formation Areas**

Region	District	Taluka
Western Maharashtra	Kolhapur	Shahuwadi and Changad
	Nashik	Dindori
	Jalgaon	Jamner and Chalisgaon
Vidarbha	Amravati	Chikhaldara
	Wardha	Hinganghat and Samudrapur
	Chandrapur	Pombhurna and Ballarshah
	Gadchiroli	Gadchiroli and Armori
Konkan	Sindhudurg	Kudal
	Ratnagiri	Rajapur
	Palghar	Wada
	Thane	Murbad
Marathwada	Jalna	Jalna and Ambad
	Beed	Gevrai

## 18. Health of Bamboo Plants

The health of bamboo plants was classified into 3 categories namely,

- **Healthy Plant Sites (H):** The plants producing 1 or multiple new shoots and healthy new culms are classified in this category. Generally, the plant survival percentage is more than 60% and the farmers have made effort to irrigate the plantations and carry out proper weeding and soil mulching.
- **Semi-healthy Plant Sites (SH):** The planted seedlings have begun to produce new shoots in more than 40% of planted seedlings. Generally, no irrigation is provided but weeding, soil mulching and protection is provided. These sites are likely to be sustainable in future.
- **Unhealthy Plant Sites (UH):** The growth of planted seedlings is very slow and silvicultural operations as well as protection is neglected. Sustainability of plantations is doubtful.

It was observed the distribution of health of plants is as under –

- Healthy plant sites: 45.65% (304 Sites)
- Semi-healthy plant sites: 35.29% (235 Sites)
- Unhealthy plant sites: 19.06% (127 Sites)

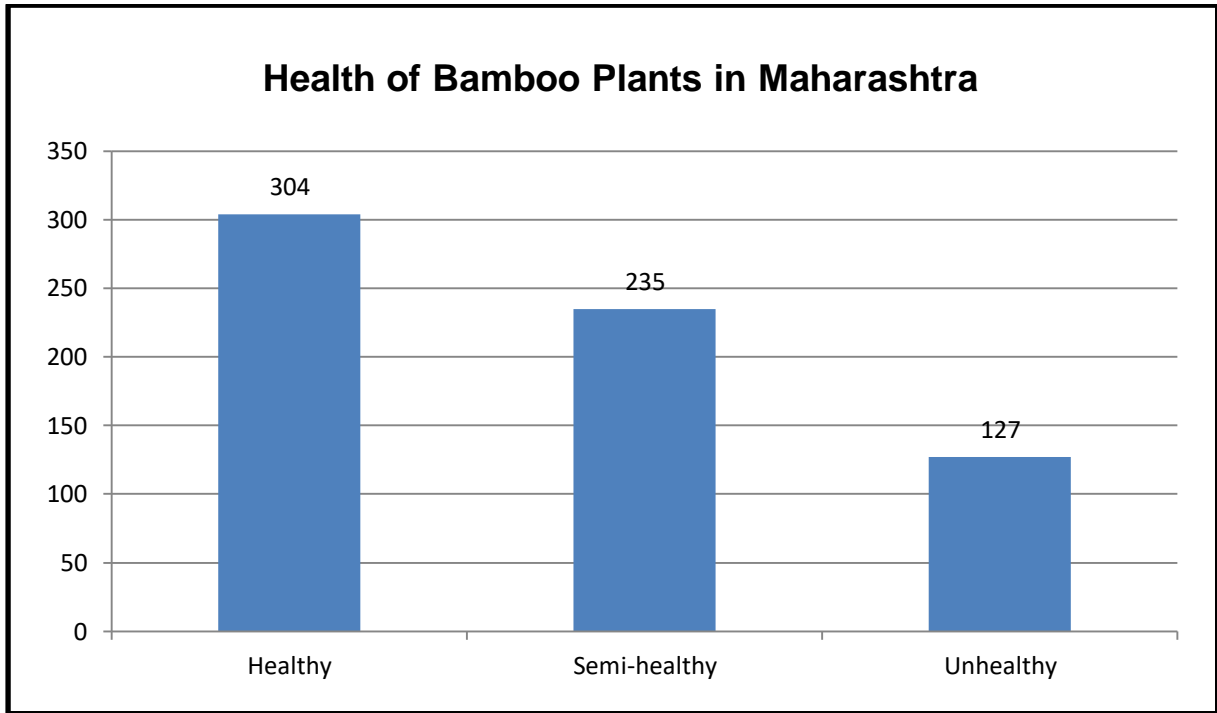


Figure 8: Health of Bamboo Plants in Maharashtra

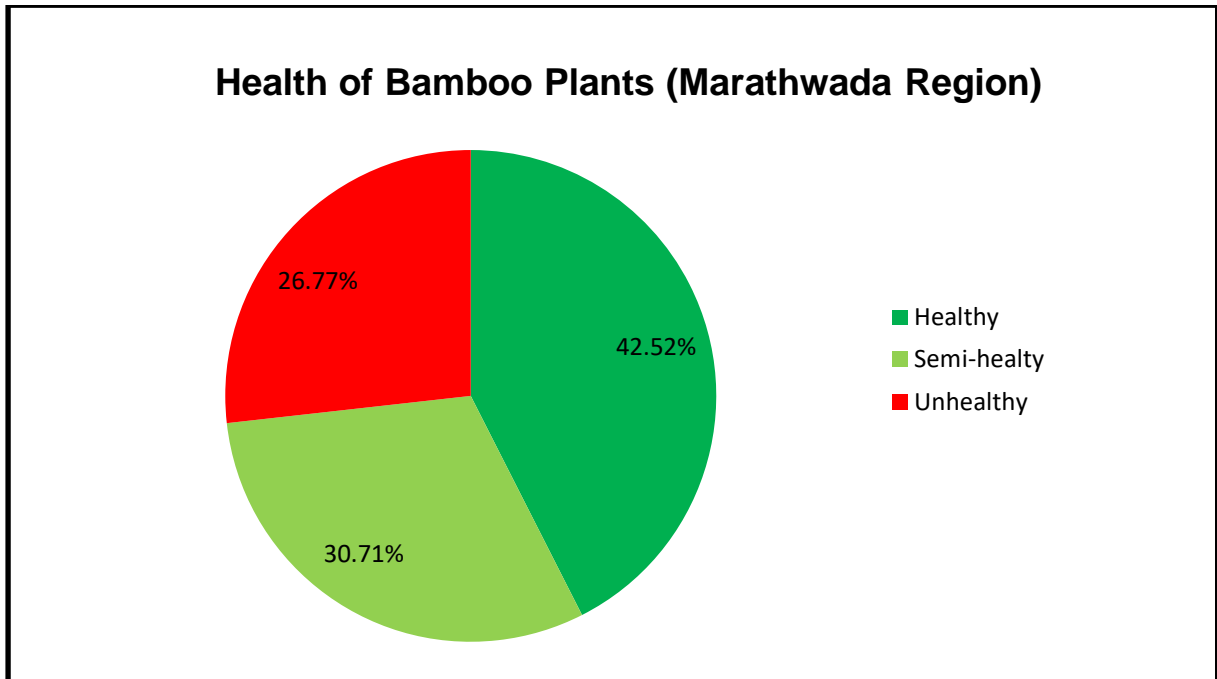


Figure 9: Health of Bamboo Plants (Marathwada Region)

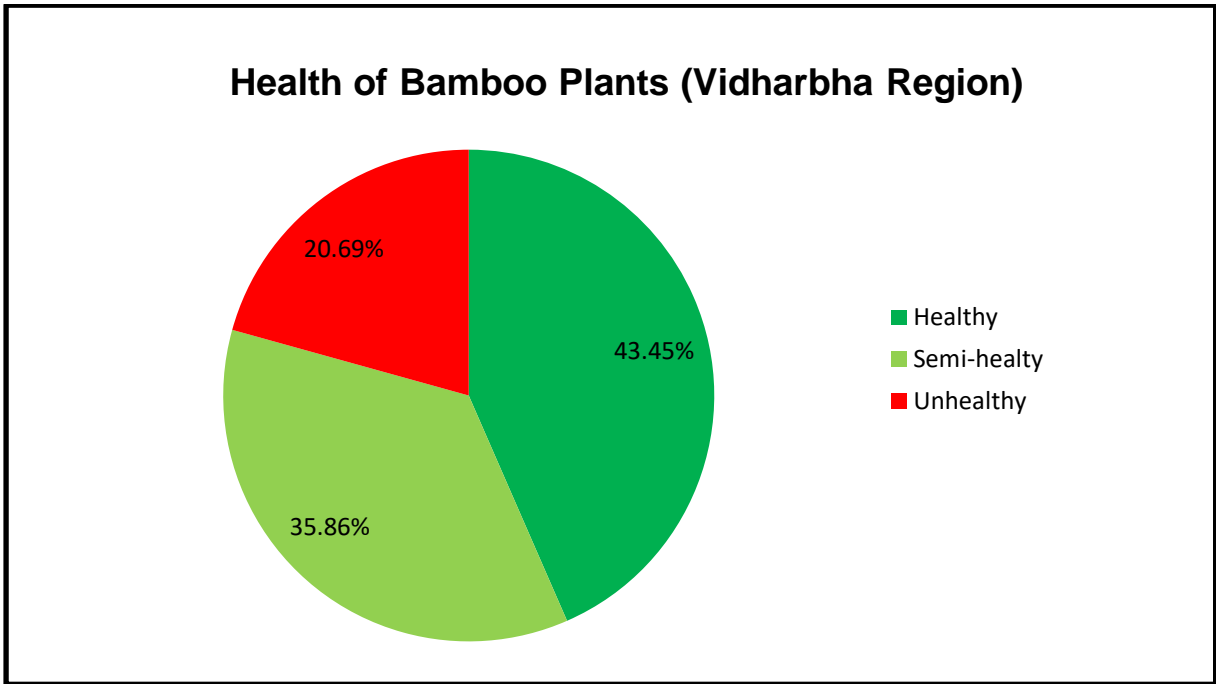


Figure 10: Health of Bamboo Plants (Vidarbha Region)

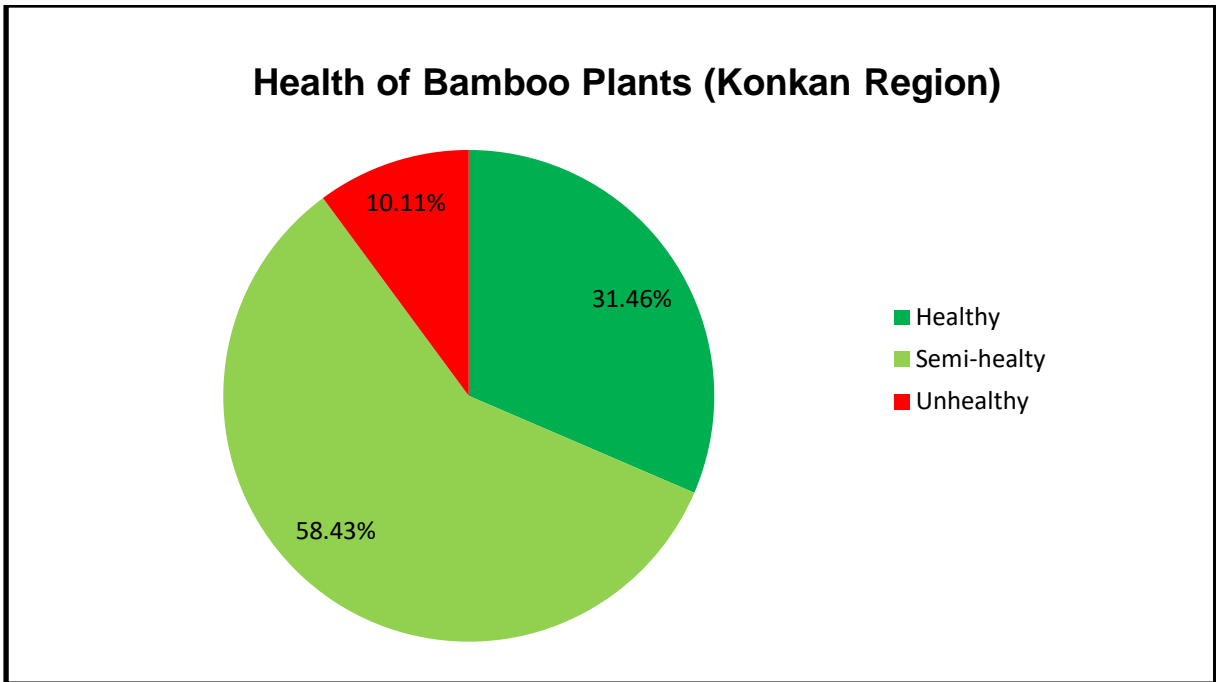
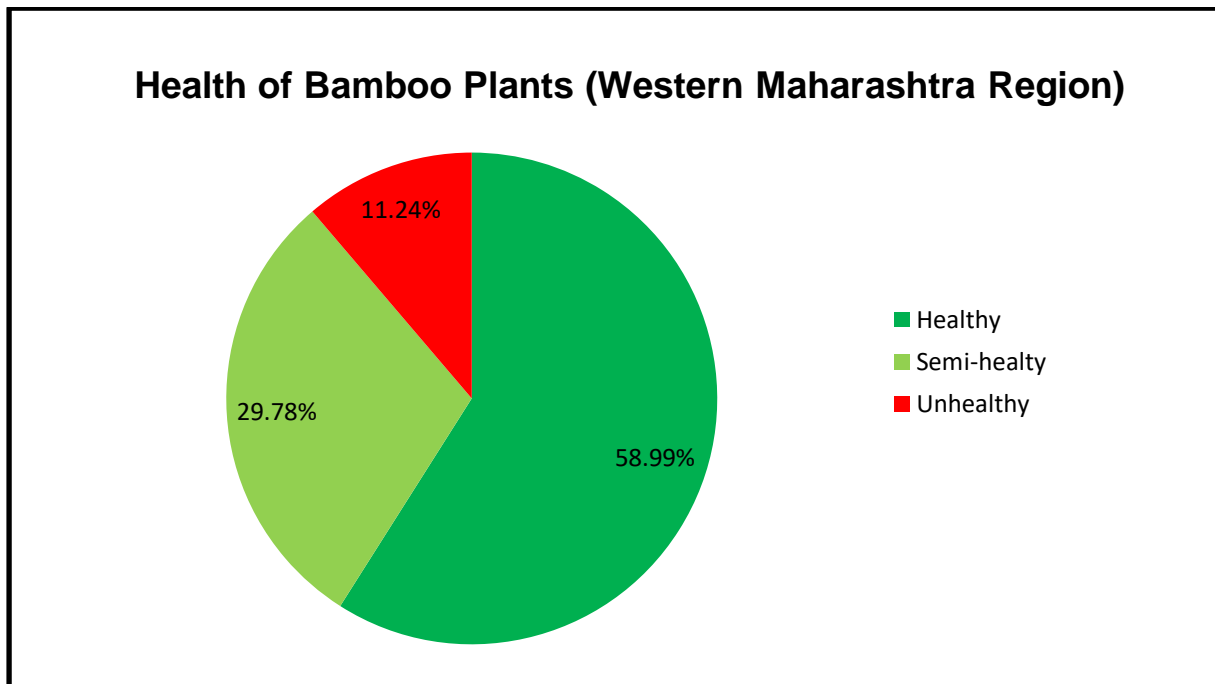


Figure 11: Health of Bamboo Plants (Konkan Region)



**Figure 12: Health of Bamboo Plants (Western Maharashtra Region)**

Many applicant farmers informed to the assessors the reasons for unhealthy plant status namely, late supply of planting stock, supply of small size seedlings, non availability of irrigation facilities, untimely rains causing flooding, lack of technical guidance and monitoring.

The assessors noticed that the applicants in many UH and SH sites failed to carry out weedings, mulching of soil, protection of plantations etc. In some villages of Latur district, the applicants informed that they did not receive seedlings for plantation.

Many applicant farmers have raised excellent bamboo plantations in Jamner, Chalisgaon, Dindori, Hinganghat, Samudrapur, Shahada, Gadchiroli, Armori, Kudal, Rajapur, Shahuwadi, Changad, Meeraj, Gevrai, Pombhurna and Ballarshah taluka of the State.

## **19. Sustainability of Plantation Sites**

The sustainability is classified into –

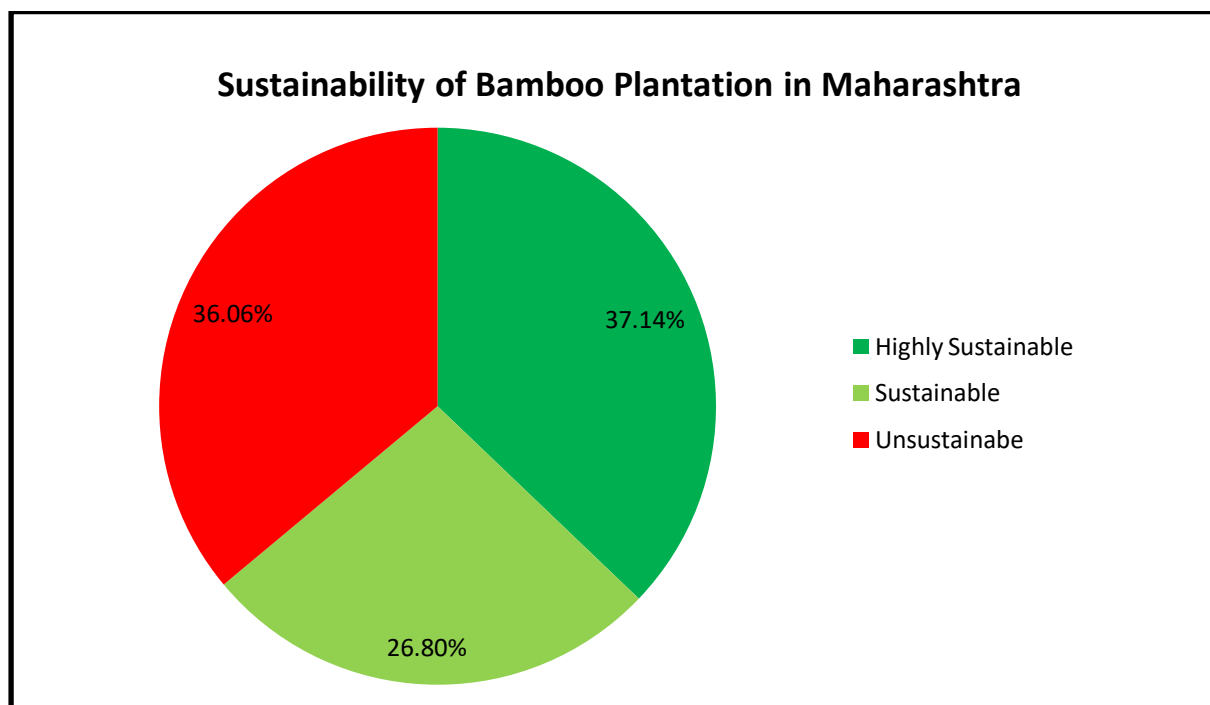
- Highly Sustainable: With plant survival more than 80-100% and with healthy plants.
- Sustainable: With plant survival more than 60% and with H or SH plants.
- Unsustainable: With survival of less than 60% and SH or UH plants.



**Table 3: The abstract of sustainability of plantation site**

Region	No. of Sites Assessed	Highly Sustainable Sites	Sustainable Sites	Unsustainable Sites
Vidarbha	165	63	52	50
Marathwada	303	77	64	162
Konkan	89	28	28	33
Western Maharashtra	178	105	53	20
<b>Total</b>	<b>735</b>	<b>273</b>	<b>197</b>	<b>265</b>

The 21 Sites where no plantation is carried out and the 48 sites where the plant survival is 0% are classified into unsustainable category.



**Figure 13: Sustainability of Bamboo Plantation in Maharashtra**

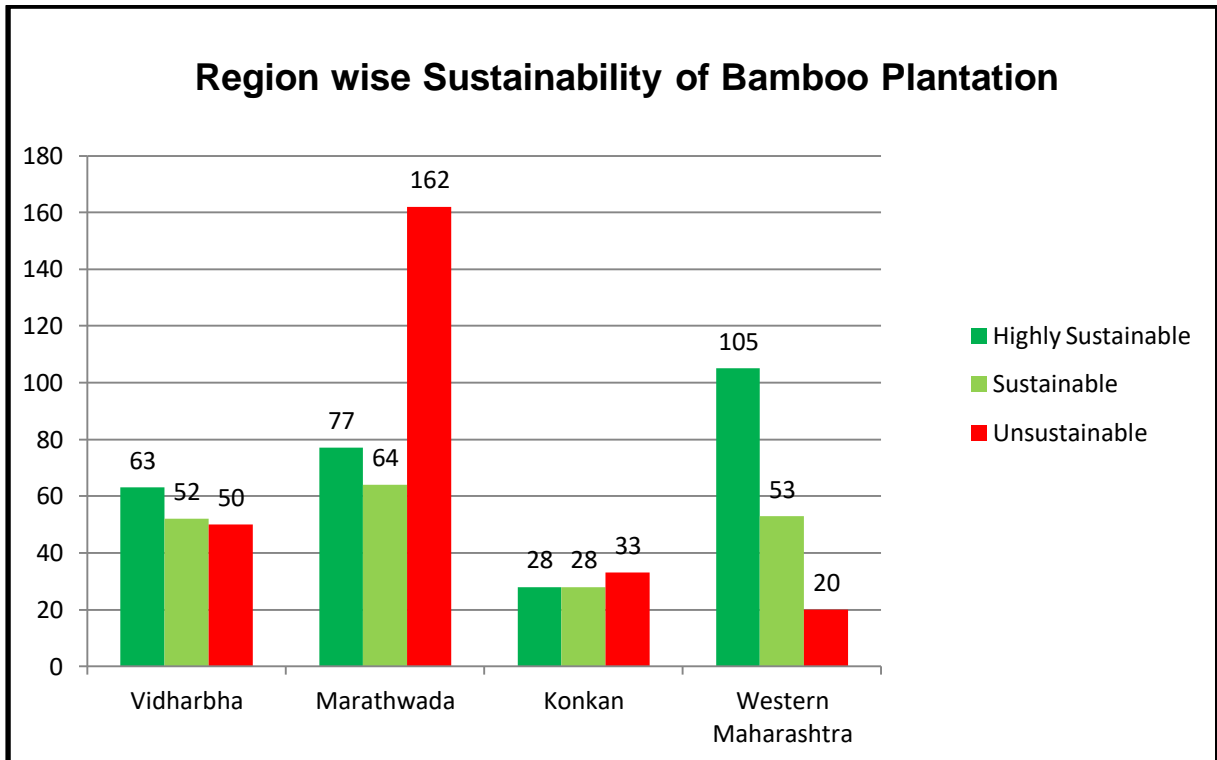


Figure 14: Region wise Sustainability of Bamboo Plantation





## ANNEXURE - I (GoM Resolution Creating MBDB)

महाराष्ट्र बांबू विकास मंडळ स्थापन करणेबाबत.

महाराष्ट्र शासन  
महसूल व वन विभाग  
शासन निर्णय क्रमांक : बांबूसा-२०१५/प्र.क्र.१३९/फ-९  
मंत्रालय, मुंबई ४०० ०३२  
दिनांक :- ०६ ऑगस्ट, २०१६

- वाचा :- १) महसूल व वन विभाग, शासन निर्णय क्रमांक-इएसटी-२०१३/प्र.क्र.६४/भाग-२/फ-९,  
दिनांक ४.१२.२०१४
- २) प्रधान मुख्य वनसंरक्षक (उत्पादन व व्यवस्थापन), महाराष्ट्र राज्य, नागपूर यांचे क्र-कक्ष-  
१६/आर-१/प्र.क्र. १०१/२०१४-१५ या सम नस्तीचे दिनांक ८.४.२०१५, दिनांक ३.३.२०१६,  
दिनांक १६.४.२०१६, दिनांक २६.४.२०१६ व दिनांक २४.५.२०१६ चा पत्र व्यवहार.

### प्रस्तावना :-

बांबू हे एक बहुपयोगी वनउपज असून आर्थिकदृष्ट्या अत्यंत महत्वाचे असल्यामुळे त्यास “हिरवे सोने” (Green Gold) असे संबोधले जाते. त्याचे गरीबांचे जीवनात व ग्रामीण उद्योगात विशेष स्थान आहे. मानव जातीच्या लाकुड विषयक मूलभूत गरजा पूर्ण करण्याकरीता सहज उपलब्ध होणारे व परवडणारे वनउपज आहे. म्हणून बांबूला “गरीबांचे लाकुड” (Timber of the Poor) असेही म्हटले जात असून त्यात उपजिवीका निर्माण करण्याची भरघोस क्षमता आहे. बांबू भारतातील डोंगराळ व सपाट प्रदेशात आढळून येतो. बांबू जलद वाढणारी, सदाहरीत व दिर्घायु प्रजाती आहे. संपूर्ण जगामध्ये बांबूच्या एकंदर १२०० प्रजाती असून त्यापैकी भारतामध्ये १२८ प्रजाती आढळतात. बांबू संसाधनाच्या बाबतीत भारत जगामध्ये दुस-या क्रमांकावर आहे.

बांबूची भौगोलिक व्याप्ती असमान असून तो प्रामुख्याने उष्ण, दमट व समशीतोष्ण प्रदेशात आढळतो. भारतामध्ये *Bambusa*, *Arundinacea*, *Dendrocalamus*, *Gigantochola*, *Indocalamus*, *Melocanna*, *Phyllostachys*, *Ochlandra*, *Schizostachyum*, *Sinobambusa*, *Oxytenanthera* या जनेरा आढळतात. त्यापैकी महाराष्ट्रामध्ये प्रामुख्याने *Dendrocalamus*, *Bambusa*, *Oxytenanthera* या जनेराच्या प्रजाती आढळतात. महाराष्ट्रातील एकूण वनक्षेत्र ६१,९३९ चौ. किमी. असून त्यापैकी ८४०० चौ. कि.मी. म्हणजे वनक्षेत्राच्या जवळपास १३% बांबूक्षेत्र आहे. महाराष्ट्रात बांबू प्रामुख्याने गडचिरोली, चंद्रपुर, अमरावती, भंडारा, गोंदिया जिल्हयामध्ये आढळत असून, यापैकी ९० टक्के पेक्षा जास्त बांबूचे उत्पादन गडचिरोली व चंद्रपूर जिल्हयात होते.

बांबूच्या उपयोगीतेची विविधता व्यापक प्रमाणात आहे. बांबूद्वारे आर्थिक सबलीकरण करण्याची क्षमता मोठ्या प्रमाणात आहे. या देशात बांबूची बाजारपेठ (Market) सुमारे रु. २६ हजार कोटी असून त्यामध्ये बांबू फर्निचर, बांबू पल्प, बांबू मॅट बोर्ड, कॉटेज इंडस्ट्रीज, प्लाय बोर्ड इत्यादी समाविष्ट आहे. त्यामुळे बांबूला अर्थव्यवस्था व सामाजिक विकासाचे आधारस्तंभ म्हणून समजल्या जात आहे. तसेच बांबूचा उपयोग फर्निचर व टिंबरचा पर्याय म्हणून मोठ्या प्रमाणात वापर केल्यास फारच जास्त गतीने कार्बन शोषण करून ग्लोबल वॉर्मिंगलाही मात देण्याचीही बांबू मध्ये असिमित क्षमता आहे. भारत हा बांबू उत्पादनामध्ये जगात दुस-या क्रमांकाचा देश आहे. या सर्व बाबींचा विचार करून बांबूचा समुचित



शासन निर्णय क्रमांक: बांबूसा-२०१५/प्र.क्र.१३९/फ-९

विकास करणे व बांबूच्या क्षमतेचा पुरेपुर उपयोग गरीब जनतेचा आर्थिक व सामाजिक विकास करून संपूर्ण देशाचा विकास साधण्याकरिता केंद्र शासनाने राष्ट्रीय बांबू मिशन (N.B.M.) ची स्थापना केलेली आहे.

बांबू याला परिवर्तन घडविणारा (Change Agent) म्हणून समजून त्यांच्या उत्पादनात वाढ करणे, बांबू जंगलाची उत्पादकता वाढविणे व त्याचे योग्यरित्या विपणन (Marketing) करण्याकरिता संकेद्रीत प्रयत्नाची (Concentrated efforts) आवश्यकता आहे. राष्ट्रीय बांबू मिशनचा मूळ हेतू साध्य व्हावा, बांबूच्या उत्पादनामध्ये वाढ व्हावी व विपणनाची समस्या दूर व्हावी, बांबूवर आधारीत पारंपारिक व आधुनिक उद्योग चालविणा-या उद्योजकांना सवलत मिळावी, जंगलातील बांबूचे उत्पादन व उत्पादकते मध्ये भरीव वाढ व्हावी, जंगलातील बांबू लागवडीमध्ये दर्जेदार बांबू प्रजातीची लागवड व्हावी. वनक्षेत्राबाहेरील शासकिय / खाजगी जमिनीवर बांबू क्षेत्राचा विकास व्हावा, बांबूच्या मूल्यवर्धीत वस्तु निर्मितीमध्ये वाढ व्हावी, मूल्यवर्धीत वस्तु निर्मित करणा-या इच्छुक लोकांना त्याबाबतचे प्रशिक्षण मिळावे, जनतेला चांगल्या प्रजातीची व उच्च दर्जाची बांबू रोपे वाजवी दरावर उपलब्ध करून व्हावीत, मूल्यवर्धीत उद्योगासाठी आवश्यक असणारा ट्रिटमेंट केलेला बांबू उपलब्ध व्हावा, ग्रामिणस्तरावरून तयार केलेला मूल्यवर्धीत वस्तुचे योग्य प्रकारे विपणन व्हावे, इत्यादी सर्व बाबींचा विचार करून बांबू धोरणाला नवीन दिशा देणे अत्यंत आवश्यक आहे. याबाबत, शासनाने विचारपूर्वक पाऊल उचलले असून, दिनांक ४.१२.२०१४ च्या शासन निर्णयान्वये नवीन बांबू धोरण जाहीर केलेले आहे. या धोरणाची व्यापक अंमलबजावणी करण्याचा भाग म्हणून चिचपल्ली, जिल्हा चंद्रपूर येथे बांबू संशोधन व प्रशिक्षण केंद्राची स्थापना केलेली आहे. बांबू क्षेत्राचा सर्वांगीण विकास होण्याच्या दृष्टीने त्यावर विशेष लक्ष देण्याकरिता एक वेगळी स्वायत्त संस्था स्थापित करण्याची बाब शासनाच्या विचाराधीन होती. त्याची पूर्तता होण्यासाठी महाराष्ट्र बांबू विकास मंडळाची स्थापन करण्याचा खालील प्रमाणे निर्णय घेण्यात येत आहे.

#### शासन निर्णय :-

१. या शासन निर्णयान्वये "महाराष्ट्र बांबू विकास मंडळ" एका संस्थेच्या रूपाने संस्थांची नोंदणी अधिनियम- १८६० अंतर्गत स्थापन करण्यास व नोंदणी करण्यास मान्यता देण्यात येत आहे. मंडळाचे नियामक मंडळ (Governing Council), कार्यकारी समिती (Executive Committee) यांच्या उप विधीबाबत वेगळ्याने आदेश जारी करण्यात येतील.
२. सदर मंडळाचे धोरणात्मक निर्णय घेण्यासाठी मा. मंत्री (वने), महाराष्ट्र राज्य यांच्या अध्यक्षतेखाली नियामक मंडळ गठीत करण्यात येत आहे.

#### ३. नियामक मंडळ (Governing Council)

मंडळाचे धोरणात्मक निर्णय घेण्यासाठी मा. मंत्री (वने) यांच्या अध्यक्षतेखाली नियामक मंडळ गठीत करण्यात येईल. मेमोरंडम ऑफ असोसिएशन मध्ये नियामक मंडळाची संरचना, कर्तव्ये व अधिकार त्याच प्रमाणे अध्यक्षाने कर्तव्ये व अधिकार देण्यात आले आहेत.

पृष्ठ ८ पैकी २



शासन निर्णय क्रमांक: बांबूसा-२०१५/प्र.क्र.१३९/फ-९

नियामक मंडळाची रचना खालील प्रमाणे राहिल :-

१. मंत्री (वने)	:- अध्यक्ष
२. सचिव (वने)	:- सदस्य
३. सचिव (आदिवासी विकास किंवा त्यांचे प्रतिनिधी)	:- सदस्य
४. सचिव (उद्योग विभाग किंवा त्यांचे प्रतिनिधी)	:- सदस्य
५. सचिव (कृषी किंवा त्यांचे प्रतिनिधी)	:- सदस्य
६. प्रधान मुख्य वनसंरक्षक (वनबल प्रमुख), नागपूर	:- सदस्य
७. प्रधान मुख्य वनसंरक्षक (उत्पादन व व्यवस्थापन), नागपूर	:- सदस्य
८. व्यवस्थापकीय संचालक, वन विकास महामंडळ, नागपूर	:- सदस्य
९. प्रधान मुख्य वनसंरक्षक (संशोधन, शिक्षण व प्रशिक्षण), पुणे	:- सदस्य
१०. प्रधान मुख्य वनसंरक्षक (सामाजिक वनीकरण), पुणे	:- सदस्य
११. अपर प्रधान मुख्य वनसंरक्षक (अर्थसंकल्प, नियोजन व विकास), नागपूर	:- सदस्य
१२. व्यवस्थापकीय संचालक, एम.एस.एस.आय.डी.सी.	:- सदस्य
१३. व्यवस्थापकीय संचालक, महाराष्ट्र खादी व्हिलेज इंडस्ट्रीज कॉरपोरेशन	:- सदस्य
१४. व्यवस्थापकीय संचालक, महाराष्ट्र हस्त शिल्प व हस्तमाग शिल्प महामंडळ	:- सदस्य
१५. व्यवस्थापकीय संचालक, महाराष्ट्र बांबू विकास मंडळ	:- सदस्य सचिव
१६. उप विधीनुसार सर्व नामनिर्देशित सदस्य	:- नामनिर्देशित सदस्य
१७. अध्यक्षीयच्या मान्यतेने घ्यावयाचे विशेष निमंत्रित	:- विशेष निमंत्रित

#### ४. कार्यकारी समिती

सर्वसाधारण सभेने ठरवून दिलेल्या धोरणांतर्गत मंडळाची कार्यविधी अंमलबजावणी करण्यास प्रधान मुख्य वनसंरक्षक (वन बल प्रमुख) यांच्या अध्यक्षतेखाली कार्यकारी समिती राहिल व मेमोरंडम ऑफ असोसिएशन मध्ये दिल्यानुसार समितीवर इतर सदस्य राहतील तर सदस्य-सचिव हे व्यवस्थापकीय संचालक, महाराष्ट्र बांबू विकास मंडळ राहतील.

#### ५. कार्यकारी समितीची रचना खालील प्रमाणे राहिल :-

१. प्रधान मुख्य वनसंरक्षक (वनबल प्रमुख)	:- कार्यकारी अध्यक्ष
२. प्रधान मुख्य वनसंरक्षक (उत्पादन व व्यवस्थापन)	:- पदसिध्द सदस्य
३. प्रधान मुख्य वनसंरक्षक (संशोधन, शिक्षण व प्रशिक्षण)	:- पदसिध्द सदस्य
४. प्रधान मुख्य वनसंरक्षक(सामाजिक वनीकरण), पुणे	:- पदसिध्द सदस्य
५. अपर प्रधान मुख्य वनसंरक्षक (अर्थसंकल्प, नियोजन व विकास)	:- पदसिध्द सदस्य
६. व्यवस्थापकीय संचालक, महाराष्ट्र बांबू विकास मंडळ	:- सदस्य सचिव

पृष्ठ ८ पैकी ३



शासन निर्णय क्रमांक: बांबूसा-२०१५/प्र.क्र.१३९/फ-९

#### ६. मंडळाची सर्वसाधारण कार्ये

- १) राज्यात बांबूच्या क्षेत्रात प्रवर्धन यंत्रणा (Promotional Agency) म्हणून बांबू धोरण प्रभावीपणे कार्यान्वित करणे.
- २) बांबूविषयक धोरण, योजना व कार्यपध्दती सुसंगतपणे राबविण्यासाठी शासनास प्रस्ताव सादर करणे.
- ३) बांबू उत्पादन व उद्योगवाढीसाठी सर्व संबंधितामध्ये परस्पर हितवाहकसंबंधाचे बळकटीकरण करणे.
- ४) राष्ट्रीय बांबू मिशनचा मूळ हेतू साध्य करणे.
- ५) राज्यात उत्पादित होणा-या बांबूच्या दर्जात व उत्पादनात भरीव वाढ करण्यासाठी प्रोत्साहन देणे.
- ६) बांबूआधारीत पारंपारीक व आधुनिक उद्योगासाठी उद्योजकांना प्रोत्साहित करणेकामी योजना सुचविणे.
- ७) राज्यातील बांबूची प्रतवारी सुधारण्यासाठी सुयोग्य दर्जेदार बांबू प्रजातींच्या लागवडीला वनक्षेत्र / खाजगी जमिनीवर प्रोत्साहन देणे.
- ८) मूल्यवर्धीत उद्योगासाठी आवश्यक उपचारित बांबू उपलब्ध करून देणे, मूल्यवर्धीत वस्तु निर्मितीकरिता इच्छुक लोकांना प्रशिक्षण देणे, बांबूच्या मूल्यवर्धीत वस्तु निर्मितीमध्ये वाढ करणे, ग्रामिणस्तरावर निर्मित मूल्यवर्धीत वस्तुंचे योग्य प्रकारे विपणन करण्यास यंत्रणा उभी करणे.
- ९) जनतेला चांगल्या व उपयोगी प्रजातींची उच्च दर्जाची बांबू रोपे वाजवी दरात उपलब्ध करून देणे.
- १०) बांबू संदर्भात परिसंवाद, संमेलन, उद्योजक मेळावे, प्रदर्शन, प्रशिक्षणाचे आयोजन करणे, तसेच अन्य यंत्रणाद्वारे आयोजित केलेल्या समरूप कार्यक्रमात सहभागी होणे.
- ११) चिचपल्ली जिल्हा चंद्रपूर येथे बांबू संशोधन व प्रशिक्षण केंद्रात बांबू कारागिर यांना प्रशिक्षण देऊन उद्योजकांच्या समन्वयाने रोजगार निर्मिती वाढविणे.
- १२) आंतरराष्ट्रीय पातळीवर बांबूवर आयोजित प्रशिक्षण /कार्यक्रम/ अभ्यास दौ-यात भाग घेणे.
- १३) बांबू उद्योगास चालना देणेकामी राज्यात बांबू क्षेत्रात प्रभावीपणे काम करणा-या अशासकीय संस्था, खाजगी उद्योजक व शासन यांचे समन्वयाने प्रवर्तन यंत्रणा (Company) स्थापन करणेकामी अभ्यास करून शासनास प्रस्तावित करणे.
- १४) राज्यात वनक्षेत्रात / लगत बांबू आधारीत सुरु असलेल्या लघू उद्योगांना जसे गडचिरोली अगरबत्ती प्रकल्प इत्यादींच्या विकासासाठी आवश्यक त्या उपाययोजना करणे.
- १५) मंडळाचे उद्दिष्ट पूर्तीसाठी गरजेची किंवा सोईची असलेल्या कोणत्याही चल-अचल संपत्तीचा ताबा घेणे, खरेदी करणे, भाड्याने किंवा भाडेपट्टीने घेणे, बदलवून घेणे, बांधणे अथवा मिळविणे.

#### ७. महाराष्ट्र बांबू विकास मंडळाचे कार्यक्षेत्र:-

सदर मंडळ हे राज्यातील वन, वन्यजीव, वन विकास महामंडळ, इतर शासकीय क्षेत्र तसेच खाजगी क्षेत्रावर बांबू विकासाचे नियोजन व नियमन करेल. बांबू संदर्भात हितसंबंधी, शासनाचे विभाग,

पृष्ठ ८ पैकी ४



शासन निर्णय क्रमांक: बांबूसा-२०१५/प्र.क्र.१३९/फ-९

इतर राज्यातील वन / कृषी विभाग, केंद्र शासन व बांबूशी निगडित आंतरराष्ट्रीय संस्थाशी समन्वय साधून कार्य करेल.

८. प्रधान मुख्य वनसंरक्षक (वनबल प्रमुख), नागपूर यांच्या कार्यालयातील मुख्य वनसंरक्षक (दक्षता व कर्मचारी कल्याण) या पदाचे नामकरण व्यवस्थापकीय संचालक, महाराष्ट्र बांबू विकास मंडळ असे करण्यास मान्यता देण्यात येत आहे.

९. महाराष्ट्र बांबू विकास मंडळाचे मुख्यालय नागपूर येथे राहिल.

१०. महाराष्ट्र बांबू विकास मंडळ संस्था अधिनियमाखाली एक संस्था म्हणून पंजीकृत केले जाईल.

११. महाराष्ट्र बांबू विकास मंडळाकरिता आवश्यक असलेली सोबतच्या विवरणपत्रात नमूद केल्याप्रमाणे वन विभागाच्या संबंधित संवर्गातील पदांना वळतीकरण करून, भरण्यास मान्यता देण्यात येत आहे.

१२. महाराष्ट्र बांबू विकास मंडळासाठी नवीन लेखाशिक्ष उघडण्यात येईपर्यंत मंडळासाठी आवश्यक असलेल्या पदांचे वेतन, भत्ते व अनुषंगीक खर्च तसेच इतर कार्यालयीन खर्च सोबतच्या विवरणपत्रात नमूद केल्यानुसार शिर्षांतर्गत भागविण्यास मान्यता देण्यात येत आहे.

१३. शासन निर्णय दिनांक २४.७.२०१५ नुसार स्थापित बांबू समितीचा अहवाल समितीचा अंतिम अहवाल प्राप्त झाल्यावर त्या अहवालानुसार शासनाने मान्य केलेल्या शिफारशीचे कार्यान्वयन बांबू विकास मंडळ करेल.

१४. महाराष्ट्र बांबू विकास मंडळाद्वारे करण्यात येणारी कामे वनहक्क कायद्यातील तरतुदी व अनुसूचीत क्षेत्रातील कायदेशीर तरतुदी विसंगत राहणार नाही याची दक्षता घ्यावी.

१५. सदर शासन निर्णय वित्त विभागाच्या सहमतीने आणि वित्त विभाग अनौपचारिक संदर्भ क्रमांक २५३/२०१५/व्यय-१०/ दिनांक ०९.०८.२०१५.अन्वये निर्गमित करण्यात येत आहे.

१६. सदर शासन निर्णय महाराष्ट्र शासनाच्या [www.maharashtra.gov.in](http://www.maharashtra.gov.in) या संकेतस्थळावर उपलब्ध करण्यात आला असून त्याचा संकेतांक २०१६०८०६१५३०५६२८१९ असा आहे. हा आदेश डिजिटल स्वाक्षरीने साक्षांकित करून काढण्यात येत आहे.

महाराष्ट्राचे राज्यपाल यांच्या आदेशानुसार व नावाने,

Prakash Kashinath  
Mahajan

Digitally signed by Prakash Kashinath Mahajan  
DN: c=IN, o=Government Of Maharashtra,  
ou=Joint Secretary, postalCode=400032,  
st=Maharashtra, cn=Prakash Kashinath  
Mahajan  
Date: 2016.08.06 15:36:18 +05'30'

( प्रकाश महाजन )  
सह सचिव (वने)  
महसूल व वन विभाग

प्रति,

१. मा. मुख्यमंत्री यांचे प्रधान सचिव, मंत्रालय, मुंबई.

पृष्ठ ८ पैकी ५



शासन निर्णय क्रमांक: बांबूसा-२०१५/प्र.क्र.१३९/फ-९

२. मा. मंत्री (वने) यांचे खाजगी सचिव, मंत्रालय, मुंबई.
३. मुख्य सचिव, महाराष्ट्र राज्य, मंत्रालय, मुंबई.
४. अपर मुख्य सचिव, नियोजन विभाग, मंत्रालय, मुंबई.
५. अपर मुख्य सचिव, वित्त विभाग, मंत्रालय, मुंबई.
६. सचिव, उद्योग विभाग, मंत्रालय, मुंबई.
७. सचिव, कृषी विभाग, मंत्रालय, मुंबई.
८. सचिव, आदिवासी विभाग, मंत्रालय, मुंबई.
९. महासंचालक, माहिती व प्रसिध्दी, मंत्रालय, मुंबई.
१०. प्रधान मुख्य वनसंरक्षक (वनबल प्रमुख), महाराष्ट्र राज्य, नागपूर.
११. प्रधान मुख्य वनसंरक्षक (वन्यजीव), महाराष्ट्र राज्य, नागपूर
१२. प्रधान मुख्य वनसंरक्षक (उत्पादन व व्यवस्थापन), महाराष्ट्र राज्य, नागपूर
१३. प्रधान मुख्य वनसंरक्षक (संशोधन, शिक्षण व प्रशिक्षण), महाराष्ट्र राज्य, नागपूर
१४. प्रधान मुख्य वनसंरक्षक (सामाजिक वनीकरण), महाराष्ट्र राज्य, पुणे.
१५. व्यवस्थापकीय संचालक, एफ.डी.सी.एम.लिमिटेड, नागपूर.
१६. अपर प्रधान मुख्य वनसंरक्षक (अर्थसंकल्प, नियोजन व विकास), महाराष्ट्र राज्य, नागपूर
१७. अपर प्रधान मुख्य वनसंरक्षक (संसाधन उपयोग), महाराष्ट्र राज्य, नागपूर
१८. अपर प्रधान मुख्य वनसंरक्षक (अकाष्ट वनोपज, सनियंत्रण व मुल्यांकन), महाराष्ट्र राज्य, नागपूर
१९. अपर प्रधान मुख्य वनसंरक्षक (कॅम्पा), महाराष्ट्र राज्य, नागपूर
२०. अपर प्रधान मुख्य वनसंरक्षक (वन्यजीव), नागपूर / मुंबई (बोरीवली)
२१. सदस्य सचिव, महाराष्ट्र राज्य जैव विविधता मंडळ, नागपूर.
२२. सदस्य सचिव, महाराष्ट्र राज्य प्राणी संग्रहालय प्राधिकरण, नागपूर.
२३. व्यवस्थापकीय संचालक, महाराष्ट्र निसर्ग पर्यटन मंडळ, नागपूर.
२४. अपर प्रधान मुख्य वनसंरक्षक सर्व
२५. विभागीय आयुक्त (सर्व महसूल विभाग)
२६. आयुक्त, आदिवासी विभाग.
२७. जिल्हाधिकारी (सर्व)
२८. व्यवस्थापकीय संचालक, एम.एस.एस.आय.डी.सी. मुंबई.
२९. व्यवस्थापकीय संचालक, महाराष्ट्र खादी व्हिलेज इंडस्ट्रीज कॉरपोरेशन
३०. व्यवस्थापकीय संचालक, महाराष्ट्र हस्त शिल्प व हस्तमाग शिल्प महामंडळ
३१. सर्व मुख्य कार्यकारी अधिकारी.
३२. मुख्य वनसंरक्षक (प्रादेशिक/वन्यजीव/सामाजिक वनीकरण)(सर्व)
३३. मुख्य वनसंरक्षक (कांदळवन), मुंबई.
३४. मुख्य कार्यकारी अधिकारी, जिल्हा परिषद (सर्व)
३५. उपवनसंरक्षक (सर्व)

पृष्ठ ८ पैकी ६



शासन निर्णय क्रमांक: बांबूसा-२०१५/प्र.क्र.१३९/फ-९

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३६. विभागीय वन अधिकारी (स्वतंत्र विभाग)(सर्व)
३७. उपसंचालक सामाजिक वनीकरण विभाग (सर्व)
३८. उप विभागीय वन अधिकारी (स्वतंत्र उपविभाग)(सर्व)
३९. महालेखापाल-१/२ (लेखा परिक्षण, लेखा व अनुज्ञेयता), महाराष्ट्र राज्य, मुंबई/ नागपूर
४०. वित्त विभाग (व्यय-१०), मंत्रालय, मुंबई-३२
४१. नियोजन विभाग (कार्यासन-१४७५), मंत्रालय, मुंबई-३२
४२. निवड नस्ती, फ-९ कार्यासन, महसूल व वन विभाग, मंत्रालय, मुंबई-३२.



शासन निर्णय क्रमांक: बांबूसा-२०१५/प्र.क्र.१३९/फ-९

**शासन निर्णय क्रमांक बांबूसा-२०१५/प्र.क्र.१३९/फ-९, दिनांक ०६ ऑगस्ट, २०१६ चे विवरणपत्र**

महाराष्ट्र बांबू विकास मंडळाकरीता वळतीकरणद्वारे उपलब्ध करून द्यावयाची पदे खालील प्रमाणे आहेत :-

अ.क्र.	पद व शिर्ष	पदाची संख्या	वळतीकरणद्वारे उपलब्ध करून देण्यात येणारी पदे
१	व्यवस्थापकिय संचालक लेखाशिर्ष २४०६ ००२२	१	सध्या अपर प्रधान मुख्य वनसंरक्षक (प्रशासन-दुय्यम संवर्ग), नागपूर यांचे अधिनस्त मुख्य वनसंरक्षक (दक्षता व कर्मचारी कल्याण) पद
२	व्यवस्थापक लेखाशिर्ष २४०६ ०४५२	१	मुल्यांकन शाखेतील सहाय्यक वनसंरक्षक यांचे एक पद.
३	मुख्य लेखापाल लेखाशिर्ष २४०६ ००२२	१	अपर प्रधान मुख्य वनसंरक्षक (प्रशासन-दुय्यम संवर्ग), नागपूर यांचे अधिनस्त मुख्य वनसंरक्षक (दक्षता व कर्मचारी कल्याण) यांचे पद वळती केल्याने मुख्य लेखापाल यांचे एक पद.
४	लिपीक १) लेखाशिर्ष २४०६ ००२२ २) लेखाशिर्ष २४०६ ०४५२	२	१) अपर प्रधान मुख्य वनसंरक्षक (प्रशासन-दुय्यम संवर्ग), नागपूर यांचे अधिनस्त मुख्य वनसंरक्षक (दक्षता व कर्मचारी कल्याण) यांचे पद वळती केल्याने त्यांच्या अधिनस्त असलेले पद. २) मालमत्ता अधिकारी यांचेकडील लिपीकाचे १ पद.
५	स्टेनो टायपिस्ट (लघु टंकलेखक) लेखाशिर्ष २४०६ ००२२	१	अपर प्रधान मुख्य वनसंरक्षक (प्रशासन-दुय्यम संवर्ग), नागपूर यांचे अधिनस्त मुख्य वनसंरक्षक (दक्षता व कर्मचारी कल्याण) यांचे पद वळती केल्याने त्यांच्या अधिनस्त असलेले स्टेनो ग्राफरचे पद.
६	वाहन चालक १) लेखाशिर्ष २४०६ ००२२ २) लेखाशिर्ष २४०६ ००९६	२	१) अपर प्रधान मुख्य वनसंरक्षक (प्रशासन-दुय्यम संवर्ग), नागपूर यांचे अधिनस्त मुख्य वनसंरक्षक (दक्षता व कर्मचारी कल्याण) हे पद वळती केल्याने त्यांच्याकडील वाहनचालकाचे एक पद २) वनसंरक्षक, वाहतूक व विपणन, बल्लारशाह स्थित कार्यशाळेतील एक वाहनचालकाचे पद
७	शिपाई १) लेखाशिर्ष २४०६ ००२२ २) लेखाशिर्ष २४०६ ०४५२ ३) लेखाशिर्ष २४०६ ००९६	३	१) अपर प्रधान मुख्य वनसंरक्षक (प्रशासन-दुय्यम संवर्ग), नागपूर यांचे अधिनस्त मुख्य वनसंरक्षक (दक्षता व कर्मचारी कल्याण) यांचे पदाशी जुळलेले शिपाईचे एक पद २) अपर प्रधान मुख्य वनसंरक्षक (व्यवस्थापन व उत्पादन), नागपूर यांचे कार्यासनातील शिपाईचे एक पद ३) वनसंरक्षक, वाहतूक व विपणन, बल्लारशाह स्थित कार्यशाळेतील शिपाईचे एक पद

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पृष्ठ ८ पैकी ८





## ANNEXURE - II (Advertisement for Registration of Beneficiary Applicants by MBDB)

राष्ट्रीय बांबू मिशनअंतर्गत २०२० चे पावसाळ्यात बांबू टिश्यू कल्चर रोपांची लागवड करण्यासाठी अनुदान योजना महाराष्ट्र बांबू विकास मंडळातर्फे अमलात आणण्यात येत आहे. योजनेची माहिती महाराष्ट्र शासनाचे [mahaforest.gov.in](http://mahaforest.gov.in) या संकेतस्थळावर उपलब्ध आहे. तरी इच्छुकांनी यरील संकेतस्थळावर ऑनलाईन अर्ज करावेत. ऑफलाईन अर्ज आपले नजीकचे वनपरिक्षेत्र अधिकारी (प्रा.) यांचे कार्यालयात सादर करावेत. (अर्ज करण्याची अंतिम तारीख ३१/०५/२०२०)

स्वा/-  
अपर प्रधान मुख्य वनसंरक्षक तथा  
व्यवस्थापकीय संचालक,  
महाराष्ट्र बांबू विकास मंडळ, नागपूर

डॉजीआयपीआर/२०१९-२०/५०४१



## **ANNEXURE – III (MoU between MBDB and SEVAK)**

### **MEMORADUM OF UNDERSTANDING**

This MoU is drawn between

**Party-I:**

Managing Director

and

The Additional Principal Chief Conservator of Forests,  
Maharashtra Bamboo Development Board, Nagpur

who is monitoring the Bamboo Planting Programme on Farmers land in Maharashtra State, under the National Bamboo Mission, through the Bamboo Development Board, Maharashtra, ( hereafter called as Board)

**&**

**Party-II:**

**The Seva nivrutt Van Karmachari Sangh,  
Maharashtra,**

The party No.II is Non Government Organization of retired forest employee from Maharashtra State, registered with the Charity Commissioner of Maharashtra on 28-01-1997,(hereafter called as Sevak),

The scope of MoU is to carry out evaluation of survival of bamboo plants supplied to the identified farmers for planting on their Farm lands and report to the Board in the time period agreed by both parties.

2. The broad terms and conditions agreed by both the parties are as under;
- 2.1 The Sevak shall carry out counting of bamboo plants surviving on the day of evaluation in the presence of beneficiary farmer.
- 2.2 The bamboo plants survival counting shall be carried out in 35 districts, 61 talukas, on farms of 721 farmers.
- 2.3 The bamboo plants survival noticed on the day of evaluation shall be recorded in a standard format and signed by Sevak evaluator and beneficiary farmer.



- 2.4 Where the plant survival on the day of evaluation is less than 80% of the seedlings supplied by the Board, Geo tagging photos should be recorded on smart phone and sent to the Board,
- 2.5 The day to day programme of evaluation shall be jointly drawn by the Sevak evaluator & Coordinator of the Board,
- 2.6 The Board Shall pay to Sevak an amount of Rs. Four Lakhs sixty Thousand on account of charges for transport, lodging & boarding of field workers engaged by Sevak and their remuneration, report generation, printing and supply 5 hard copies to board.
- 2.7 18% GST shall be payable by the Board to Sevak at the time of releasing remuneration,
- 2.8 The Board shall pay the remuneration cost with the GST in three instalments as below;
- 2.8.1 First Instalment 50% on signing the MoU and before starting evaluation to mitigate transport cost of evaluators.
- 2.8.2 Second Instalment 30% on completion of field work.
- 2.8.3 Third Instalment 20% on compilation of data and submission of report in five copies.
- 2.9 Any dispute regarding plant survival between the farmer and the evaluator shall be resolved by the Board and shall be binding on both parties.
3. Sevak has authorized Shri G. K Washishtha ,the Joint President of Sevak Nagpur Branch for signing MoU, Coordinating the evaluation, Raising claims vis-à-vis invoice etc. He shall receive day to day feedback from the Sevak Evaluator and apprise to the Board & Executive Body of Sevak.
4. No penalty shall be charged by the Board to Sevak on delay due to non cooperation by farmers, natural calamities including endemic corona and unforeseen reasons.

Signed on this 31<sup>st</sup> day of December 2020 at Nagpur

**Party-I.**

(Board).

Managing Director  
Additional Principal Chief Conservator of Forest  
Maharashtra Bamboo development Board, Nagpur

**Party-II**

(Sevak)

(G. K. Washishtha)  
Joint President, Nagpur Branch  
Seva Nivrutt Van Karmachari Sangh  
Maharashtra

Witness:- 1) Name:

Signature:

2) Name:

Signature:



**ANNEXURE – IV**  
**(Statement Showing Bamboo Plantation Sites**  
**Assessed by SEVAK)**

Sr. No.	Forest Circle	District	No. of Applicants	20% Applicants	Site Assessed	Talukas of Assessed Sites
1	Amravati	Amravati	172	34	35	Amravati, Achalpur, Chikhaldara, Chandur Railway
2	Amravati	Akola	46	09	10	Akot, Akola
3	Amravati	Buldhana	29	06	07	Lonar, Mehekar
4	Chandrapur	Chandrapur	126	25	25	Ballarshah, Pombhurna, Warora
5	Gadchiroli	Gadchiroli	179	36	37	Gadchiroli, Armori, Wadsa
6	Yavatmal	Yavatmal	125	25	26	Yavatmal, Ner, Arni
7	Washim	Washim	24	05	05	Karanja, Washim
8	Nagpur	Nagpur	54	11	11	Bhiwapur, Hingna
9	Nagpur	Wardha	45	09	09	Hinganghat, Samudrapur
10	Nagpur	Bhandara	05	01	00	-
11	Nagpur	Gondia	01	00	00	-
	<b>Subtotal 1 – 11</b>		<b>806</b>	<b>161</b>	<b>165</b>	
12	Aurangabad	Aurangabad	63	13	17	Aurangabad, Paithan
13	Aurangabad	Jalna	92	18	17	Jalna, Ambad
14	Aurangabad	Hingoli	558	112	113	Sengaon, Wasmat
15	Aurangabad	Parbhani	125	25	24	Parbhani, Manwat
16	Aurangabad	Beed	180	36	40	Mazalgaon, Parali, Gevrai, Beed
17	Aurangabad	Osmanabad	66	13	15	Osmanabad, Paranda
18	Aurangabad	Nanded	73	15	12	Umri, Biloli
19	Aurangabad	Latur	315	63	65	Latur, Ausa
	<b>Subtotal 12-19</b>		<b>1472</b>	<b>295</b>	<b>303</b>	
20	Dhule	Dhule	40	08	09	Dhule
21	Dhule	Jalgaon	98	20	20	Jamner, Chalisgaon
22	Dhule	Nandurbar	09	02	03	Shahada
23	Kolhapur	Kolhapur	79	16	17	Shahuwadi, Chandgad
24	Kolhapur	Sangli	30	06	06	Miraj
25	Kolhapur	Satara	25	05	05	Patan
26	Kolhapur	Sindhudurg	41	08	10	Kudal, Sawantiwadi
27	Kolhapur	Ratnagiri	22	04	04	Rajapur
28	Nashik	Nashik	284	57	57	Peint, Dindori
29	Nashik	Ahamadnagar	197	39	40	Akole, Sangamner, Karjat
30	Pune	Pune	56	11	11	Baramati, Welhe
31	Pune	Solapur	32	07	10	Madha, Malshiras, Karmala



32	Thane	Thane	171	34	37	Shahapur, Murbad
33	Thane	Palghar	118	24	25	Wada, Vikramgad
34	Thane	Mumbai City	03	00	00	-
35	Thane	Mumbai Suburban	07	01	00	-
36	Thane	Raigad	64	13	13	Karjat
	<b>Subtotal 20 – 36</b>		<b>1276</b>	<b>255</b>	<b>267</b>	
	<b>Grand Total 1 – 36</b>		<b>3554</b>	<b>711</b>	<b>735</b>	



**ANNEXURE - V**  
**(Statement Showing Names of Bamboo Plantation Assessors and Sites Assessed By Them)**

Sr. No.	Name of Assessor	District	Talukas	Sites Assessed	Remarks
1	V. B. Nimbhorkar	Amravati	Amravati	03	
2	V. B. Nimbhorkar	Amravati	Chandur Railway	01	
3	A. N. Gawande	Amravati	Amravati	02	
4	N. A. Dhavak	Amravati	Achalpur	10	
5	H. M. Awandkar	Amravati	Amravati	01	
6	H. M. Awandkar	Amravati	Achalpur	01	
7	M. K. Nirmal	Amravati	Chikhaldara	09	Tribal Area
8	M. G. Suroshe	Amravati	Chikhaldara	08	Tribal Area
9	N. A. Dhavak	Akola	Akola	03	
10	N. A. Dhavak	Akola	Akot	01	
11	H. M. Awandkar	Akola	Akola	01	
12	H. M. Awandkar	Akola	Akot	05	
13	S. P. Kakde	Buldhana	Lonar	02	
14	S. P. Kakde	Buldhana	Mehekar	05	
	<b>Subtotal 1-14</b>			<b>52</b>	
15	V. B. Nimbhorkar	Yavatmal	Ner	11	
16	P. K. Lakde	Yavatmal	Arni	04	
17	G. S. Gadpande, Satish Gawande	Yavatmal	Yavatmal	07	
18	A. T. Talokar	Yavatmal	Arni	04	
19	Shivaji Bhagat	Washim	Washim	02	
20	R. D. Bundhade	Washim	Karanja	03	
	<b>Subtotal 15-20</b>			<b>31</b>	
21	S. A. Battulwar	Chandrapur	Pombhurna	14	
22	S. A. Battulwar	Chandrapur	Ballarshah	10	
23	S. A. Battulwar	Chandrapur	Warora	01	
	<b>Subtotal 21-23</b>			<b>25</b>	
24	U. Dhopeswarkar	Gadchiroli	Armori	19	Tribal Area
25	U. Dhopeswarkar	Gadchiroli	Gadchiroli	17	Tribal Area
26	U. Dhopeswarkar	Gadchiroli	Wadsa	01	Tribal Area
	<b>Subtotal 24-26</b>			<b>37</b>	



27	G. S. Khandekar	Nagpur	Hingna	03	
28	B. V. Selukar	Nagpur	Bhiwapur	04	
29	T. R. Nandeshwar	Nagpur	Bhiwapur	04	
30	A. S. Khune	Wardha	Hinganghat	04	
31	K. O. Semeskar	Wardha	Samudrapur	05	
	<b>Subtotal 27 – 31</b>			<b>20</b>	
32	R. N. Waghmare	Aurangabad	Aurangabad	11	
33	S. A. Jarange	Aurangabad	Paithan	06	
34	R. N. Waghmare	Jalna	Jalna	08	
35	R. N. Waghmare	Jalna	Ambad	09	
36	S. R. Khupse	Parbhani	Parbhani	12	
37	S. R. Khupse	Parbhani	Manwat	12	
38	S. P. Bavaskar	Hingoli	Sengaon	88	
39	P. P. Dongarkedkar	Hingoli	Wasmat	25	
40	S. A. Jarange	Beed	Mazalgaon	16	
41	S. A. Jarange	Beed	Gevrai	11	
42	S. A. Jarange	Beed	Beed	10	
43	C. U. Marade	Beed	Parali	03	
44	G. P. Garad	Osmanabad	Osmanabad	14	
45	G. P. Garad	Osmanabad	Paranda	01	
46	P. P. Dongarkhedkar	Nanded	Biloli	08	
47	P. P. Dongarkhedkar	Nanded	Umri	04	
48	B. R. Challare	Latur	Latur	33	
49	G. K. Nikam	Latur	Ausa	32	
	<b>Subtotal 32 – 49</b>			<b>303</b>	
50	S. K. Gawali	Dhule	Dhule	09	
51	S. K. Gawali	Nandurbar	Shahada	03	Tribal Area
52	S. S. Dole	Jalgaon	Jamner	10	
53	S. S. Dole	Jalgaon	Chaliskaon	10	
	<b>Subtotal 50 – 53</b>			<b>32</b>	
54	Nikhil Kulkarni, Sayali Kulkarni	Kolhapur	Shahuwadi	07	
55	Nikhil Kulkarni, Sayali Kulkarni	Kolhapur	Chandgad	10	
56	Nikhil Kulkarni, Sayali Kulkarni	Satara	Patan	05	
57	Nikhil Kulkarni, Sayali Kulkarni	Sangli	Miraj	06	
58	Nikhil Kulkarni, Sayali Kulkarni	Sindhudurg	Sawantwadi	05	
59	Nikhil Kulkarni, Sayali Kulkarni	Sindhudurg	Kudal	05	
60	Nikhil Kulkarni, Sayali Kulkarni	Ratnagiri	Rajapur	04	
	<b>Subtotal 54-60</b>			<b>42</b>	



61	R. T. More	Nashik	Peint	44	Tribal Area
62	R. T. More	Nashik	Dindori	13	Tribal Area
63	S. K. Gawali	Ahamadnagar	Akole	20	Tribal Area
64	S. K. Gawali	Ahamadnagar	Sangamner	10	
65	S. K. Gawali	Ahamadnagar	Karjat	10	
<b>Subtotal 61 – 65</b>				<b>97</b>	
66	V. G. Davare	Pune	Baramati	07	
67	V. G. Davare	Pune	Welhe	04	Tribal Area
68	Vilas B. Patil	Solapur	Mhada	02	
69	Vilas B. Patil	Solapur	Mhalshiras	02	
70	Vilas B. Patil	Solapur	Karmala	06	
<b>Subtotal 66 – 70</b>				<b>21</b>	
71	D. B. Patil	Palghar	Wada	21	Tribal Area
72	D. B. Patil	Palghar	Vikramgad	04	Tribal Area
73	R. K. Adkar	Thane	Shahapur	15	Tribal Area
74	R. K. Adkar	Thane	Murbad	22	
75	V. G. Davare	Raigad	Karjat	13	
<b>Subtotal 71 – 75</b>				<b>75</b>	
<b>Grand Total 1 – 75</b>				<b>735</b>	

**Note:**

Total number of Assessors – 38

Assessment done in 66 talukas falling in 32 districts of the State.





## USES OF BAMBOO

1.	Furniture Making	26.	Fishing Traps	51.	Water Carrier Pipes
2.	House Construction	27.	Knife Handles	52.	Laptop/Mobile Covers
3.	Eco Tourism Cottages	28.	Kitchen Knives	53.	Cloth Hangers
4.	Earthquake proof houses	29.	Kitchen Spoons	54.	Bamboo Boxes
5.	Lamp Shades	30.	Dining Plates	55.	Road Making
6.	Curtains	31.	Dining Bowls	56.	Slope Stabilization
7.	Wall Hangings	32.	Dining Tables & Chairs	57.	Architecture Material
8.	Wall Claddings	33.	Baskets	58.	Hanging Bridges
9.	Flooring	34.	Farm Fences	59.	Tree Houses
10.	Garden Benches	35.	Vegetable Garden Props	60.	Ladders
11.	Pagodas	36.	Bamboo Vanshlochanm	61.	Agriculture Ploughs
12.	Bridges	37.	Bamboo Rice	62.	Storage Silos
13.	Desktop Articles	38.	Bamboo Tender Shoots	63.	Paper Making
14.	Toys	39.	Bamboo Pickles	64.	Pellet/Briquette Making
15.	Flutes	40.	Bamboo Beer	65.	Green House Construction
16.	Bullock Carts	41.	Bamboo Agarbatti Sticks	66.	Sliding Shutter/Awning
17.	Boat Building	42.	Bamboo Gasifiers	67.	Kites
18.	Truck Body Building	43.	Scaffolding	68.	Kanvar/Shoulder Beam
19.	Cycles	44.	Shamiana/Pendal	69.	Hats/Caps
20.	Tooth Pricks	45.	Bamboo Charcoal	70.	Blow Guns
21.	Chop Sticks	46.	Ethanol, Acetic Acid	71.	Smoking Ancillaries
22.	Bows	47.	Textile Making	72.	Room Dividers
23.	Arrows	48.	Activated Carbon	73.	Wind Mills
24.	Catapults	49.	Bamboo Sign Boards	74.	Winnower
25.	Fishing Rods	50.	Vertical Gardens	75.	Bullet Proof Jackets

# सेवानिवृत्त वन कर्मचारी (सेवक) संघ, महाराष्ट्र



Sevanivrut Van Karmachari  
(Sevak) Sangh, Maharashtra  
(Retired Forest Employees Association,  
Maharashtra)

नोंदणी क्रमांक - एफ-१३३१२ दि. २८.०१.१९९७

व्यवसाय कर नोंदणी क्र. 99503241874P

नोंदणीकृत कार्यालय -

ब-८, सारसनगर सोसायटी, शुक्रवार पेठ,

पुणे - ४११ ००२

ईमेल - mahasevak3@gmail.com

Website :

www.mahasevaksangh.com

## कार्यक्षेत्र :

महाराष्ट्र राज्य हे संस्थेचे कार्यक्षेत्र आहे. महाराष्ट्र राज्यात स्थाईक असणाऱ्या सर्व सेवानिवृत्त / भूतपूर्व वनकर्मचाऱ्यांना संघाचे सभासद होता येते.

## उद्देश व ध्येय -

- १) वन, वन्यजीव व पर्यावरण संवर्धनासाठी काम करणे.
- २) वन प्रशिक्षण संस्थांमध्ये प्रशिक्षण कार्यक्रमासाठी सहाय्य करणे व आवश्यक प्रशिक्षण साहित्याची निर्मिती करणे.
- ३) सार्वसाभान्या लोवन व वन कर्मचाऱ्यांसाठी प्रशिक्षण आणि कार्यशाळांचे आयोजन करणे.
- ४) वन विकास यंत्रणा व जलयुक्त शिवार अभियानात करण्यात आलेल्या कामांचे मूल्यांकन करणे.
- ५) वन संवर्धनामध्ये स्वारस्य असलेल्या विविध यंत्रणांसाठी वन संवर्धन आराखडे तयार करणे.
- ६) वनासंबंधी पुस्तके, घडीपत्रिका इ. साहित्य प्रकाशित करणे.
- ७) कर्मचाऱ्यांना त्यांच्या उत्कृष्ट कामाबद्दल प्रोत्साहित करणे. तसेच त्यांच्या पाल्यांचा शैक्षणिक क्षेत्रात उत्तम कामगिरी केल्याबद्दल गौरव करणे.
- ८) सेवानिवृत्त वन कर्मचारी व त्यांचे कुटुंबीय यांच्या सेवा विषयक समस्यांची सोडवणूक करण्यास मदत करणे.

## सेवक संघाने केलेली काही ठळक कामे

सन २००४-०५ - महाराष्ट्र राज्य वन विकास यंत्रणांमार्फत केलेल्या कामांचे मूल्यांकन केले.

सन २०१० - मे. अदानी पॉवर महाराष्ट्र लिमिटेड यांचेकरीता तिरोडा, जि. गोंदिया, महाराष्ट्र, येथील दहा किलोमीटर परिक्षेत्रातील वनस्पती व वन्य प्राणी यांचे संवर्धनासाठी आराखडा तयार केला.

सन २०११ - सिंधुदुर्ग मायनिंग कॉर्पोरेशन प्रायव्हेट लिमिटेड जिल्हा सिंधुदुर्ग महाराष्ट्र राज्य येथील दहा किलोमीटर परिक्षेत्रातील वनस्पती व वन्य प्राणी यांचे संवर्धनासाठी आराखडा तयार केला.

सन २०१२-१५ - जपान इंटरनॅशनल को-ऑपरेशन एजन्सी या संघटनेद्वारा अर्थसहाय्यित "वन कार्मिक क्षमता विकसन व प्रशिक्षण आणि वन व्यवस्थापनाचे बळकटीकरण" या प्रकल्पांतर्गत ३.५ वर्षे कालावधीच्या प्रशिक्षणविषयक गरजांचे विश्लेषण करून, प्रशिक्षकांचे प्रशिक्षणासाठी साहित्याची निर्मिती केली.

सन २०१५-१६ - (अ) वन विभागातील वन विकास यंत्रणा अंतर्गत केलेल्या कामांचे मूल्यांकन केले (ब) वनविभागास पुरवठा करण्यासाठी दुर्मिळ औषधी वनस्पतीची ५०००० रोपे तयार केली.

सन २०१७ - (अ) जलयुक्त शिवार अभियान अंतर्गत पुणे जिल्ह्यात १३ तालुक्यांमध्ये केलेल्या वन तळ्याच्या कामांचे मूल्यांकन केले.

(ब) धुळे जिल्ह्यातील लामकानी, पुरमेपाडा, जुनवणे या गावांचे ग्राम वने व्यवस्थापन सूक्ष्म आराखडे तयार केले व त्यास संबंधित ग्राम समित्यांची मान्यता घेतली.

(क) धुळे जिल्ह्यातील पिंपरखेड येथे असलेल्या वन पर्यटनाचा दहा वर्षे कालावधीसाठी सूक्ष्म व्यवस्थापन आराखडा तयार केला व त्यास संबंधित ग्राम समित्यांची मान्यता घेतली.

(ड) श्री. संजय जगताप, सह अध्यक्ष, अमरावती शाखा लिखित "वन अपराधांचा तपास, चौकशी आणि न्यायालयीन प्रक्रिया" या पुस्तकाचे प्रकाशन केले.

(इ) वन विकास यंत्रणेमार्फत केलेल्या कामांचे मूल्यांकन केले.

(फ) महाराष्ट्र कॅम्पाअंतर्गत केलेल्या रोपवन कामांचे मूल्यांकन केले.

(ग) नंदुरबार वन विभागातील तोरणमाळ राखीव वन संवर्धन क्षेत्रातील कामांचे मूल्यांकन केले.

(ह) नंदुरबार वन विभागातील ग्रीन इंडिया मिशन कामांचे मूल्यांकन केले.

सन २०२१ - महाराष्ट्र बांबू विकास मंडळाचे मार्फत शेतकऱ्यांच्या जमिनीवर करण्यात आलेल्या बांबू लागवडीतील जिवंत रोपांचे मूल्यांकन केले.

सन २०१७ पर्यंत "निसर्गवाणी" हे नियतकालिक व आता "सेवक वार्ता" या संघाने केलेल्या कामांचे दर महिन्याला प्रकाशन करून वानिकी, वन्यजीव संवर्धन जनजागृती याबाबत उपक्रम चालू आहे.

रानभाज्यासंबंधी माहिती पुस्तिकेचे प्रकाशन केले.

महाराष्ट्र राज्याबाहेर डेडिकेटेड एग्रीकल्चरल सर्विसेस (DAS) मुंबई या संस्थेच्या सहाय्याने तांत्रिक कामे घेण्यासाठी अहवाल तयार केले.