

CULTIVATION AND DISTRIBUTION OF *Dendroclamus strictus* IN GONDIA DISTRICT MAHARASHTRA INDIA

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Abstract

Bamboo is poor man's gold cultivated by farmers on their farm bunds as a fencing and extra source for utilising as a commercial use. In Gondia district according to FRA (Forest Rights Act) areas report given by Forest Department allotted lands to tribal called as (van patta) these tribal utilise this land for bamboo cultivation major species are in this area is Dendroclamus strictus commonly called as male bamboo is a middle sized, densely tufted bamboo. Often gregarious, sub-deciduous, culms attaining 8 to 16 m height and 2.5 to 8.0 cm diameter according to the locality. The culms are almost solid in dry areas and hollowed with thick walls in moist areas. Inflorescence is a large panicle of dense globular heads 4 to 5 cm apart, sterile, and intermixed with 2 to 3 fertile flowers. The seedling cycle normally in this species is between 20 to 60 yr. It is used for house construction and making baskets, mats. Furniture, agricultural implements, tool handles and chicks for doors and windows. The main importance at present lies in its use as a raw material for paper and rayon manufacture in India.

Key words: - *Bamboo, cultivation, utilization*

INTRODUCTION

Maharashtra is distributed in different five regions in that Vidharbha is the main hub of Bamboo cultivation by Farmers specially tribal people planted Bamboo on land given by Forest Department under FRA (Forest Right Act 2006). They formed one committee this committee run by Chairmen of that village mainly they have two species i.e. *D. Strictus*, *Bambusa balcooa*.

Observations recorded regarding these two specie's is they planted most of the species on farm bund, near about 40 hector area utilised by farmers which is sanctioned by Forest Department to villagers. Villagers utilise that land for their wealth. Most of the bamboo harvested after 5 years. Harvested bamboo utilised by Paper industry for making pulp and paper. These industry getting this bamboo from auction and provide a good amount to the farmers.

This belt followed Agroforestry system for production Rice + Bamboo is the main cropping pattern adopted by farmers because, this region is highly productive according to climate. Gondia experiences extreme variations in temperature with very hot summers and very cold winters and it has an average relative humidity of 62 percent. Also records average rainfall more than 1200 mm each year in rainy season.

During month of May daytime average temperatures will generally reach highs of around 42 °C that's about 108 °F. At night the average minimum temperature drops down to around 28 °C, that's 82 °F. In recent times the highest recorded temperature in May has been 48 °C that's 118 °F, with the lowest recorded temperature 20 °C, about 68 °F.

During the month of December end / January temperatures will generally reach highs of around 29 °C that's about 84 °F. At night the average minimum temperature drops down to around 13 °C, that's 55 °F. In recent times the highest recorded temperature in January has been 38 °C that's 101 °F, with the lowest recorded temperature 0 °C, about 32 °F.

Now Government organizations, NGOs, Research Institutes focusing on this District to develop the wealth of Tribal People. In 2006 the Ministry of Panchayati Raj named Gondia one of the country's 250 most backward districts (out of a total of 640). It is one of the twelve districts in Maharashtra currently receiving funds from the Backward Regions Grant Fund Programme (BRGF). Bamboo is "Poor man's timber" the main objective of this study is to carried out proper silvicultural operations on Farmers Farm to get higher yield of Bamboo and increasing the wealth of Farmers.

MATERIALS AND METHODS

Selection criteria

1. Species identification
2. Insect free and pest free bamboo
3. Year of that species
4. Diameter of that clump
5. Present moisture content of the bamboo
6. Uniformity identification
7. Basel area
8. Canopy
9. Avoid abiotic factor during selection
 1. Cracks/ splits
 2. Weathering
 3. Fire / burned bamboo

Bamboo Species	Height of the species	Bowl/Dia (cm)	Bowl height not less than	Collar diameter	Canopy spread not less than (feet)	No of Branches min	Age	Quantity Clumps

Soil:-

Acidic soil recommended for Bamboo cultivation the pH of the soil in between 4.5 to 6.0.

Irrigation:- 500 ml water for per plant is required

Table 1. Observations Recorded from Field

Field Visit Report	Date: 14/07/18
Parameters	Details/ Observation Recorded
Location (Village, Taluka, District)	Navejhari Gadchiroli (MH)
Road Connectivity	Average
GPS Co-ordinates	Lon- 80°22.28 80' E, Lat- 21°03.13 20' N
Harvesting Period	Nov-Jan
Species Identification	<i>Dendrocalamus strictus</i>

Infestation	Insect-Borer and Pest-Fungus
Year of the species	4-5 yers
Diameter of the Clump	25-30 cm
Moisture Content	Bottom- 80-85 present, Middle-50-65 present, Taper-30-40 present
Uniformity of the Clump	Segregate in form
Height	20-25 feet
Canopy	well Spread

Cracks & Splits	Aged clumps have cracks due to less moisture content
Weathering	Not seen
Fire/Burned Bamboo	Not seen
Field Visit Report	Date: 20/07/18
Parameters	Details/ Observation Recorded
Location (Village, Taluka, District)	Futana, Deori, Gondia (MH)
Road Connectivity	Good

GPS Co-ordinates	Lon- 80°24.36 40' E, Lat- 20°59.64 01' N
Harvesting Period	After 2 years as per Forest Department Rules and Regulations
Species Identification	<i>Dendrocalamus strictus</i>
Infestation	Insect-Borer and Pest-Fungus mild attack
Year of the species	More than 5 years
Diameter of the Clump	30-35 cm
Moisture Content	Bottom- 75-80 percent, Middle-45-50 percent, Taper- 30-40 percent

Uniformity of the Clump	Segregate in form
Height	20-25 feet
Canopy	well Spread
Cracks & Splits	Aged clumps have cracks due to less moisture content
Weathering	Not seen
Fire/Burned Bamboo	Not seen

CONCLUSION

Bamboo is Green gold having great tensile strength more than 400 kg/m^3 . *D.Strictus* is a male bamboo having good strength it will use full for Handicraft, Bamboo houses, Bamboo interiors, etc. it will help full to farmers wealth because it is "Poor Man's Timber" fast growing. If we need farmer's wealth then cultivation of the Bamboo is highly useful.

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REFERENCES

- Acevedo-Rodríguez P; Strong MT, 2012. Catalogue of the Seed Plants of the West Indies. Smithsonian Contributions to Botany, 98:1192 pp. Washington DC, USA: Smithsonian Institution. <http://botany.si.edu/Antilles/WestIndies/catalog.htm>
- Clayton WD; Govaerts R; Harman KT; Williamson H; Vorontsova M, 2015. World Checklist of Poaceae. Richmond, UK: Royal Botanic Gardens, Kew. <http://apps.kew.org/wcsp/>
- Filgueiras TS, 2015. Dendrocalamus in Lista de Espécies da Flora do Brasil (Dendrocalamus in the list of species of the flora of Brazil). Rio de Janeiro, Brazil: Jardim Botânico do Rio de Janeiro.
- Flora of China Editorial Committee, 2015. Flora of China. St. Louis, Missouri and Cambridge, Massachusetts, USA: Missouri Botanical Garden and Harvard University Herbaria. http://www.efloras.org/flora_page.aspx?flora_id=2
- Flora of Pakistan, 2015. Flora of Pakistan/Pakistan Plant Database (PPD). Tropicos website. USA: St. Louis, Missouri and Cambridge, Massachusetts. <http://www.tropicos.org/Project/Pakistan>
- Oviedo Prieto R; Herrera Oliver P; Caluff MG, et al. , 2012. National list of invasive and potentially invasive plants in the Republic of Cuba - 2011. (Lista nacional de especies de plantas invasoras y potencialmente invasoras en la República de Cuba - 2011). Bissea: Boletín sobre Conservación de Plantas del Jardín Botánico Nacional de Cuba, 6(Special Issue 1):22-96.
- USDA-ARS, 2015. Germplasm Resources Information Network (GRIN). Online Database. Beltsville, Maryland, USA: National Germplasm Resources Laboratory. <https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomysearch.aspx>
- USDA-NRCS, 2015. The PLANTS Database. Baton Rouge, USA: National Plant Data Center. <http://plants.usda.gov/>
- Varmah JC; Bahadur KN, 1980. Country report and status of research on bamboos in India. India Forest Records, Botany, 6(1):vii + 28 pp.; See also FA 44, 2235; FPA 6, 1087; 115 ref.
- Wagh RG; Rajput JC, 1994. Comparative performance of bamboo and horticultural crops in Konkan. In: Bamboo in Asia and the Pacific. FAO, Bangkok, FORSPA Publication No. 6, FAO, Bangkok: 85-86.
- Wood CD; Tiwari BN; Plumb VE; Powell CJ; Roberts BT; Gill M, 1992. Interspecies differences in tannin activity of leaves from thirteen species of Nepalese browse trees. Banko Janakari, 3(2):42-44; 3 ref.