



TRIPURA BAMBOO MISSION

ANNUAL PROGRESS REPORT

2015-16

Submitted to:

Department of Industries & Commerce

Government of Tripura

Shilpodyog Bhawan, Khejur Bagan, Agartala-06

Submitted by:



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Table of Contents

1. Outline of the Project.....	3
1.1. Introduction	3
1.2. Vision, Objectives & Strategy	3
1.3. Governance Structure & Monitoring Mechanism.....	4
1.4. Project Implementation Agency & Project Team.....	5
2. Recap of TBM Activities during 2007 to 2016	7
3. Action taken on the Decisions of Second Governing Body Meeting	11
4. Progress Achieved in FY 2015-16	13
4.1. Financial Progress.....	13
4.1.1. Total Fund Mobilized.....	13
4.1.2. Financial Status of Ongoing Projects.....	14
4.1.3. Sub-sector Specific Turnover Targets & Achievements.....	15
4.2. Physical Progress.....	16
4.2.1. Geographical Footprints of TBM	16
4.2.2. Performance vis-à-vis Target as per Annual Action Plan 2015-16	17
4.2.3. TBM- Partners in Progress	18
4.2.4. Incense sector (Agarbatti).....	19
4.2.5. Handicrafts & Furniture	32
4.2.6. Industrial Application.....	41
4.2.7. Resource Generation	42
4.2.8. Skill Development.....	53
4.2.9. Design & Product Development.....	54
4.2.10. Creation of Production Infrastructure.....	58
4.2.11. Marketing & Trade Facilitation	59
4.2.12. Institution Building & Community Development Programme	63
4.3. Findings of Market Study by MART	64
5. TBM Evaluation 2015 by CII- GKAFRC.....	71
6. New Projects Submitted	83
7. Annual Action Plan for FY 2016-17	85

1. Outline of the Project

1.1. Introduction

Tripura Bamboo Mission (TBM) is an initiative of the Government of Tripura to focus on enhancement of turnover of Bamboo sector coupled with promotion of livelihood opportunities. The Mission's objectives of scaling up turnover of Bamboo sector and simultaneously increasing livelihood opportunities for poor are sought to be achieved through cluster development approach involving institution building, industrial linkages, better market and credit facilities coupled with resource upgradation, working on a project mode.

Tripura Bamboo Mission, launched by the Government of Tripura during 2007, had an initial objective of enhancing turnover of bamboo sector from Rs. 27.9 crores to Rs. 75.85 crores. Basing on the pace of reforms and taking advantage of the extension of the project, the TBM has revised its target of turnover achievement to Rs. 200 crores at the end of FY 2016-17. The TBM has so far exceeded in not only consolidating the bamboo sector in Tripura but has also initiated a number of activities for value addition and scaling up of the production to realize the market potential of the sector. The initiatives in scaling up production of polished sticks, rolled sticks and perfumed sticks with corresponding capacity building, institution development and market linkage are noteworthy. The initiative of promoting clusters and supplementing infrastructure facilities with an eye on efficient marketing through the concept of common facility centers and producers, growers and marketers society is praise worthy.

Genesis

- Govt. of Tripura in association with NMBA (National Mission on Bamboo Application) launched the Tripura Bamboo Mission for integrated development of the Bamboo Sector in the state
- A detailed Strategy Plan was prepared by IL&FS Cluster Development Initiative in 2006
- To operationalize the Strategy , An MoU was signed by The Industries & Commerce dept., Govt. of Tripura with IL&FS Clusters in April 2007 with a clear set of objectives

1.2. Vision, Objectives & Strategy

Vision

To make Tripura as the hub of bamboo based sustainable micro, small and medium industries in the country by mobilizing the local natural and human resources and enable structured growth in the sector by strong institution building and market linkage.

Objectives

- To sustain the growth achieved in the bamboo sector and increase the current turnover from Rs. 95 crores to 200 crores over by March 2017.

- Build the bamboo sector as a major livelihood provider and provide employment opportunities to 20,000 poor producers in the sector.
- Provide critical production and commercial infrastructure, technology, marketing support, capacity building and product diversification, to build competitiveness and ensure sustainable development of the clusters.

Strategy

- Build sustainable bamboo based livelihoods based on a cluster based approach
- Develop an institutional structure owned and managed by grassroots producers & their federations
- Build their enterprises based on commercially sustainable business models
- Provide infrastructure, skill training, design support and direct market linkages
- Mobilize private investment in the bamboo sector in areas like bamboo composites, mechanized sticks and other industrial products
- Promote plantation in non-forest areas, private land holdings and homestead plantations

1.3. Governance Structure & Monitoring Mechanism

Governance Structure of Tripura Bamboo Mission

The strategy for Tripura Bamboo Mission is formulated by a Mission Steering Committee (MSC) headed by the Chief Secretary of Tripura, representatives of Government of Tripura, project management agency (IL&FS CDI), important national agencies, experts in the bamboo sector and producers of representatives.

The committee oversees the mission activities and provides the necessary guidance. Three sub committees have been formed under the main committee. Those are as follows:

- State steering committee on plantation sector
- State steering committee on handicrafts sector
- State steering committee on bamboo industrial application sector

TBM is the nodal agency of the Government of Tripura for implementation of bamboo value addition development projects in the State. The institutional structure of TBM has been strengthened to the level of a society in 2012. Tripura Bamboo Mission is a registered Society under the Societies Registration Act 1860. TBM Governing Body is headed by the Chief Secretary, Government of Tripura and the General Body comprises of Secretaries and Head of Departments of Forests, Industry, Handicrafts, Rural Development, Social Welfare, Tribal Welfare and Finance, Financing institutions etc. The TBM is being implemented in a Private-Public Partnership (PPP) mode. The Government of Tripura has engaged IL&FS Cluster Development Initiative Ltd. to implement Tripura Bamboo Mission in April 2007, in view of proven expertise and experience in designing, executing and implementing of projects in cluster development and livelihood promotion in various parts of the country. The Company has deployed a

multi-skilled team in Tripura and has built a network of partners and domain experts to undertake the implementation of the Tripura Bamboo Mission.

Monitoring Mechanism

The project implementation is undertaken in close coordination with the Mission Director and the Government of Tripura team of officials in the Tripura Bamboo Mission. Detailed progress reports are submitted on a quarterly basis to the Mission coordinator.

Additionally the progresses achieved are monitored by the State Mission Steering Committee and the various sector specific sub- committees annually.

Accreditation, Recognitions & Awards

- Tripura Bamboo Mission Awarded the “North East Business Excellence Award – 2009” GOI
- Tripura Bamboo Mission was awarded by the Bihar Innovation Forum Award
- Tripura Bamboo Mission- ISO 9001:2008 certified
- Finalist in NE Social Impact Award 2015
- Case study in ‘Niti Ayog’ and National Skill Mission

TBM Programme Timeline



1.4. Project Implementation Agency & Project Team

Project Implementation Agency

IL&FS Cluster Development Initiative Ltd. has been appointed by the Government of Tripura as the Project Implementation Agency (PIA) of Tripura Bamboo Mission in 2007. Initially the engagement was for 3 years which was extended for 2 more years upto FY 2011-12. The engagement was further extended for 5 years till March 2017 when the Government decided to extend TBM activities to maintain the growth trajectory of bamboo sector.

A wholly owned subsidiary of Infrastructure Leasing & Financial Services (IL&FS) (www.ilfsindia.com), IL&FS Cluster Development Initiative Ltd. (www.ilfscusters.com) has been set up to provide commercially sustainable integrated solutions for development of Micro, Small and Medium Enterprises (MSMEs), through a cluster based and Private-Public Partnership (PPP) approach that would enable them to become globally competitive. IL&FS CDI implements pioneering sustainable livelihood models for the rural poor located in remote areas and dispersed across a scattered production base. The focus is on an integrated approach to strategically linking mainstream

markets, building grassroots institution through effective organization & integration, providing access to information, technology, skills, credit, infrastructure & social security and forging strong linkages with multiple stakeholders.

Work Distribution within Project Team

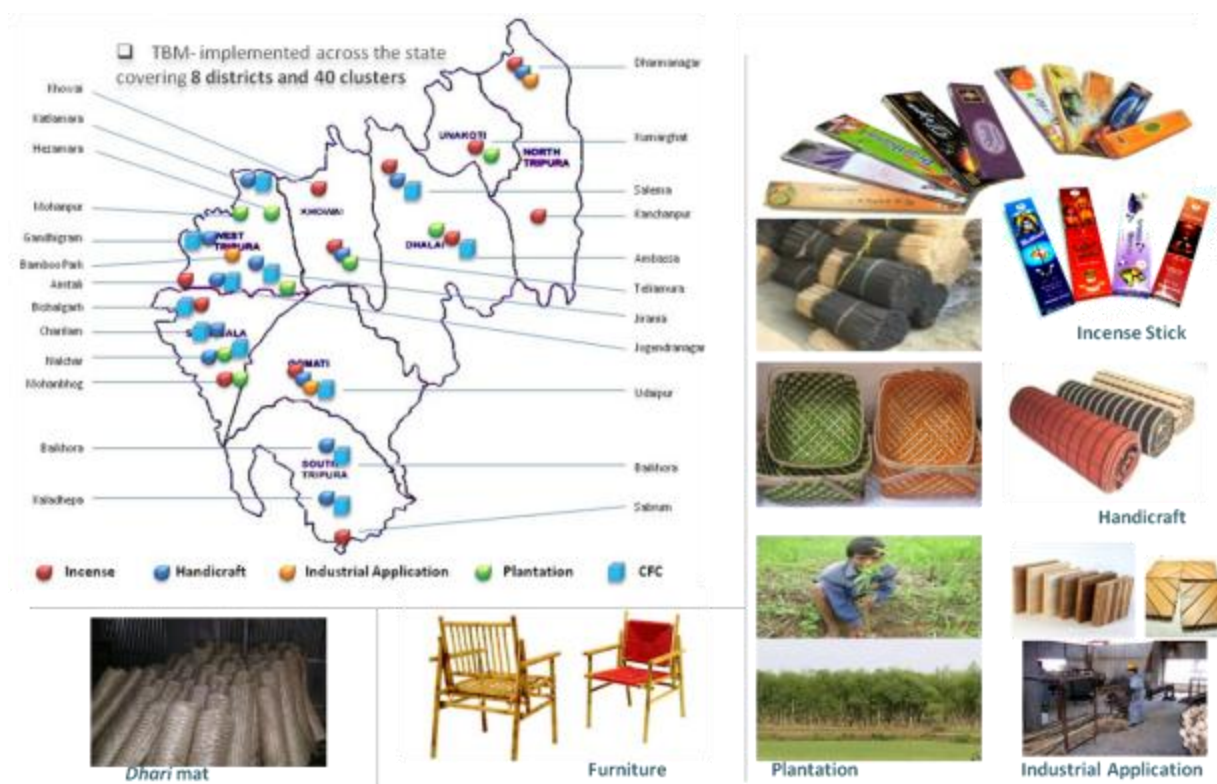
Sl. No.	Name	Designation	Place of posting
<i>Government of Tripura</i>			
1	Mr. V. George Jenner, IFS	Mission Director	Tripura
2	Ms. S. Debnath	Addl. Director	Tripura
3	Mr. Sujib Das	Project Officer (DDO & Technology)	Tripura
4	Mr. Swarajit Sarma	Project Officer (Resource)	Tripura
<i>Project Management Team</i>			
1	Mr. R. C. M. Reddy	Project Head	New Delhi
2	Dr. A. K. Krishnakumar	Head- Strategy	New Delhi
3	Ms. Sharmistha Mohapatra	Mission Manager	New Delhi
4	Mr. Gaurav Srivastav	Accounts Head	New Delhi
5	Mr. Siddhartha Choudhury	Regional Head & AVP	Tripura
6	Mr. Saurabh Dey	Senior Officer	New Delhi
<i>Project Implementation Team</i>			
1	Mr. Kedar K. Panda	Project Manager (Deputy Mission Manager & Member Secretary-TBM Executive Committee)	Tripura
2	Mr. Santanu Banik	Dy. Project Manager & Team Leader- Handicrafts	Tripura
3	Mr. Timir Chowdhury	Team Leader- Incense	Tripura
4	Mr. A. B. Fazal Ali Majumdar	Admin & MIS Officer	Tripura
5	Mr. Deepshankar Chatterjee	Accounts Officer	Tripura
6	Mr. Sukanta Das	Trade Facilitation Officer	Tripura
7	Ms. Rama Reang	Sr. Cluster Coordinator- Handicraft	Tripura
8	Ms. Sutapa Chakraborty	Sr. Cluster Coordinator- Handicraft	Tripura
9	Mr. Tanmoy Majumder	Marketing Manager	Tripura
10	Mr. Dipankar Debnath	Asst. Marketing Manager	Tripura
11	Mr. Tapas Dey	Cluster Coordinator- Gomati	Tripura
12	Mr. Lab Datta	Cluster Coordinator- Dhalai	Tripura
13	Mr. Rajib Saha	Cluster Coordinator- Plantation Sepahijala	Tripura
14	Mr. Suman Paul	Cluster Coordinator- Plantation West	Tripura
15	Mr. Kirat Debbarma	Cluster Coordinator- Plantation West	Tripura
16	Mr. Gautam Debnath	Cluster Coordinator- Unakoti & North	Tripura
17	Mr. Priyabrata Chakraborty	Cluster Manager- Dharmanagar	Tripura
18	Mr. Litan Das	Cluster Manager- Salema	Tripura
19	Mr. Abhijit Sutradhar	Cluster Manager- Teliamura	Tripura
20	Mr. Jayanta Deb	Cluster Manager- Gandhigram	Tripura
21	Mr. Ganesh Nama	Cluster Manager- Nalchar	Tripura
22	Mr. Tamash Kangdai	Cluster Manager- South	Tripura

Sl. No.	Name	Designation	Place of posting
	Mr. Sujit Debnath	Master Craftsman- TBM DC	Tripura
23	Mr. Ashutosh Debnath	Technician- Incense	Tripura
24	Mr. Biplab Pal	Technician- Incense	Tripura
25	Mr. Somya Subhra Roy	Engineer- Civil works	Tripura
26	Mr. Debajyoti Bhowmik	Data entry operator	Tripura
27	Mr. Shubhprakash Dey	Asst. MIS Officer	Tripura

2. Recap of TBM Activities during 2007 to 2016

Major Bamboo Sub-sectors

Major Sub-sectors of bamboo value addition & resource generation, as strategized by TBM, are as follows.



Incense or Agarbatti sector

Incense sector occupies a very important space in the development of bamboo sector in the state. It is estimated that this sector employs over 2 Lakhs rural artisans and generates annual revenue over Rs. 85-90 crores. Tripura Bamboo Mission has been working in various clusters across the state to bring a change in the Agarbatti Stick sector by encouraging artisans to produce higher value fibreless polished stick from non-polished fibrous stick by addressing needs of artisans through provision of better technology, training, forming artisans owned enterprises, facilitating infrastructure needs and providing market linkages etc. The higher levels of value additions in incense sector such as Raw Agarbatti production and Perfuming & Packaging are also the integral part of TBM strategy. New enterprises are being promoted in raw agarbatti production which generates livelihood to large number of community.

Handicraft (including furniture)

Tripura's Arts and Crafts have a rich and historical tradition. The handicrafts in Tripura are famous all over India. Rich varieties of handicraft items are made by the local people all over the state. This rich tradition of the Tripura handicraft not only enriches the culture of the state but also contributes to the economy of the state. The state has produced 20(twenty) master artisans (highest in the country) who have received National Award from President of India for best skills in bamboo & cane work; among them 3 (three) have received 'Shilpa Guru' award, the highest recognition for master craft persons in India. The commercial craft practices (with bulk production & marketing) in Tripura with presence of numerous craft pockets forming different bamboo handicraft clusters are located across length & breadth of the state. There are twenty three clusters of bamboo based handicraft in the state, most of which are under intervention by TBM. Tripura Bamboo Mission has been working towards development of this sector in a very organized manner. The key objective of TBM is to generate sustainable livelihoods for bamboo handicraft artisans by enabling them to build & operate their own institutions and production centers. The turnover of the handicraft sector has been estimated to be more than Rs 38 crore (2015-16) that supports more than twenty thousand households in the state.

Bamboo Plantation

Resource is the backbone of the bamboo based activities of the state. Under the TBM resource generation program, the focus has been to address the resource requirement of the various bamboo value addition in the clusters. While Bamboo Plantation in the state is being undertaken by the Forest department in forest areas, TBM is implementing Bamboo Plantation in private lands/ RoFR lands through cluster development approach. Out of 19 species, 10 species of higher commercial importance are being promoted by TBM. TBM plantations are being recognized in the state for the fact that it has adopted High Density Bamboo Plantation (HDBP) technology for the first time. Beside its limited scope, TBM is organizing the bamboo growers & farmers engaged in commercial bamboo plantation & nursery into Bamboo Producers' Societies.

Industrial Application of Bamboo

Industrial Application in bamboo in Tripura has recently gained momentum with establishment of Bamboo Park in the state. Technology intensive bamboo engineered products are the future of bamboo industry. TBM is providing maximum priority to this sector that has potential to sustain over a long period in future.

The Government of Tripura has launched Tripura Bamboo Mission for integrated development of Bamboo sector in the state. The implementation of the Project started in August 2007 in PPP mode with IL&FS Clusters. The Mission is focused on development of sub-sectors, namely, Bamboo Plantations, Bamboo Handicrafts, Bamboo Incense Sticks and Bamboo Industrial Applications. The catalytic role played by TBM has resulted in increased turnover as well as sustainable livelihood generation. Value addition is taking place in Agarbatti sector, new handicraft products have been designed and launched, marketing of products has been organized. Some significant achievements of the Mission are as follows:

Growth of Commercial Bamboo Value Addition sector:

Year	2006-07	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Rs. crore	27.90	56.56	76.99	93.07	107.22	116.07	122.40	103.55	83.70

Institution Development: The artisans & producers are being organized to form their own grassroot institutions. So far, more than 1000 SHGs, 90 Producer Societies/ Cooperatives and community owned institutions have been supported and promoted by TBM since 2007.

Capacity Building: Over 45,000 artisans have been trained by TBM on various aspects of bamboo plantation to production to marketing.

Technology Induction: The Project has introduced technologies in bamboo treatment, dyeing, use of Japanese Juki machines/ Taiwanese stick-making machines/ Power tools/ Semi-mechanized/ mechanized Agarbatti Rolling/ Finishing machines/ semi-mechanized tools for bamboo stick-making, etc. Induction of improved & customized techniques & tools has greatly helped the producers to enhance their product quality & productivity.

Common Facility Centers (CFCs): 19 cluster level CFCs have been set up in state. Also more than 60 small village level units owned by the artisan community have been established and promoted/ supported through various interventions by TBM. 3 more CFCs are being set up.

Design & Product Development: An exclusive “Design & Product Development Cell” has been set up by TBM at AD Nagar I.E., Agartala. Dedicated team of designers, Master artisans & Marketing Experts has been deployed to develop very trendy yet user friendly craft ideas and prototyping of the same. The designs are tested in the market and transferred to potential producers/entrepreneurs after prototyping. By partnering with eminent design institutes & designers, TBM has created a large range of contemporary designs, especially in handicraft & furniture that has resulted in complete facelift from low value age old products to high value utility products that have wider market in the urban areas. Apart from product development, standardizing the production process on lean manufacturing technique is integral to the activities of TBM’s Design & Product Development Cell.

Agarbatti Sector: TBM has made very significant impact in ‘agarbatti sticks’ sector. TBM has introduced Mechanization in Incense sector by adopting the globally acceptable technology. TBM’s interventions have resulted in extensive level value addition of bamboo stick to Raw & Perfumed Agarbatti. More than 650 agarbatti rolling machines have been installed by TBM across various Agarbatti clusters in the state; 250 more machines will be installed soon. Tripura is gradually transforming itself from manual stick producer to mechanized Round Stick producer reciprocating to the change in global business regime and market demand.

Trade facilitation and Market Linkage: TBM Trade Facilitation Cell has been set up support the grassroot producers through central supply chain management between buyers & producers. Major steps taken by TBM Trade Facilitation for improvement of marketing of bamboo product are- a) Marketing Tie up with NEHHDC, THHDC, ITC, NRRS, Mother Earth, Giskaa and many other private players, b) B2C marketing through eBay.in, flipkart,

snapdeal, realshoppee.com etc. c) B2B marketing through Indiamart.com, Tradeindia.com, Indiatradezone.com, d) Launch of revamped TBM portal with payment gateway facilitating direct online selling of products. One private Limited Company (Simanta Handicraft Products Pvt. Ltd.), represented by the producer groups, has been registered to facilitate the marketing of bamboo products outside the state in a sustainable manner.

Bamboo plantation: Under the TBM resource generation program, the focus has been to address the resource requirement of the various bamboo value addition clusters. While Bamboo Plantation in the state is being undertaken by the Forest department in forest areas, TBM is implementing Bamboo Plantation in private lands, mostly RoFR lands through cluster development approach. 10 species of higher commercial importance are being promoted by TBM. TBM plantations are being recognized in the state due to the fact that, it has adopted High Density Bamboo Plantation (HDBP) technology for the first time. Besides its limited scope, TBM is organizing the bamboo growers & farmers engaged in commercial bamboo plantation & nursery into Bamboo Producers' Societies. TBM has so far implemented plantation of around 1000 Ha of commercially important bamboo species across various rural development Blocks of Tripura.

Bamboo Park: In order to facilitate setting up of technology intensive bamboo-based industries in the State, a Bamboo Park has been set up at Bodhjunnagar industrial growth center, on the outskirts of Agartala, covering an area of about 135 acres. This is India's first & only Bamboo Industrial Park. One Bamboo Floor Tiles unit has already been set up at Bamboo Park while 2 more units on bamboo round stick, furniture are operational.

Impacts

- Sustained Bamboo activity in the state with focused intervention on product, technology & market
- Expansion of Bamboo based activity in non-traditional areas/clusters
- Improved infrastructure facilitating production of quality bamboo products
- Community empowerment with artisan managed societies & producer groups
- Regained market share by Tripura Products
- Direct market linkage with buyers enabling producers to earn maximum profit

3. Action taken on the Decisions of Second Governing Body Meeting

The Second Governing Body Meeting of Tripura Bamboo Mission was held on 6th August, 2015 at Secretariat, New Capital Complex Agartala under the Chairmanship of the Chief Secretary, Government of Tripura. The action taken by TBM-IL&FS Clusters on the decisions of the meeting is as follows.

Key Decisions	Action Taken
1. The raw & perfumed agarbatti sector has huge potential for growth. The state is gradually adopting the mechanized technology in agarbatti production. Finished Agarbatti products to be promoted.	<ul style="list-style-type: none"> - TBM has installed 650 rolling machines so far in the state; another 250 machines have been procured and will be installed shortly - ITC has agreed to re-start procuring raw battis made with round stick only; accordingly the groups are shifting from using handmade sticks to round sticks; Sample products has been sent to ITC for inspection - 6 more bamboo round sticks units have been made operational in the state - One new unit of perfumed Agarbatti started operation
2. Focus shall be given on developing new designs on utilitarian handicraft products and taking up aggressive marketing. Promotion of bamboo craft products to be done through display in prominent locations.	<ul style="list-style-type: none"> - A study conducted by 'Mart' Identified 20 products to be produced & marketed in bulk - A private ltd. company has been formed to facilitate aggressive marketing of the contemporary handicraft products - New products developed are displayed at locations like Heritage Park, Urban Haat apart from leading craft stores of the state
3. More coordination and convergence between Tripura Bamboo Mission and Directorate of Handloom, Handicrafts & Sericulture.	<ul style="list-style-type: none"> - The marketing infrastructure such as the Purbasha showrooms of THHDCL is being used for promotion & sales of contemporary bamboo products developed - However, discussion is going on for creating an exclusive gallery of products developed by TBM
4. Bamboo plantation shall largely be done by RD dept. or Forest dept. TBM can provide technical support to the respective agencies	<ul style="list-style-type: none"> - Though last year TBM could mobilize fund in 5 Blocks for about 780 ha plantation, however, because of uncertainty in MGNREGA fund the plantation could not be taken up. It was decided that TBM will be extending technical support to RD & Forest depts. Accordingly, BDO Belbari has sought technical support from TBM. Thus Belbari Block could raise 67 ha of tissue cultured <i>B.balcooa</i> during last planting season. - However, with increasing fund flow, TBM has taken initiative to raise about 640 ha plantation in this planting season and also creating 3 lakh nursery bamboo plantlets for plantation in next planting season
5. Production base for handicraft & agarbatti to be expanded through fresh skilling and upskilling. Flagship programmes	<ul style="list-style-type: none"> - Apart from strengthening existing clusters (upskilling), TBM has taken up both handicraft & agarbatti activity in non-traditional areas (new skilling) in order to increase the production base

Key Decisions	Action Taken
of MoSD&E can be followed. TBM may become a knowledge partner and it may also try to source fund from the ministry	as well as to provide income opportunities to more people - TBM is coordinating with the Directorate of Skill Development to prepare new projects on skill development. Accordingly, one proposal has been submitted under BADP through Skill Directorate
6. Higher levels of skills such as that on industrial application, enterprise development etc. shall be given emphasis. TBM to set up skill development centre at Bamboo Park	- Skill training on industrial operation of bamboo was conducted where the trainees were trained in bamboo wood furniture and round stick making operations at two units in the Bamboo Park, R. K. Nagar - Training on turning lathe machine operation for waste utilization in Round stick units was also imparted - A workshed has been allotted to TBM at Bamboo Park for setting up a skill development centre. Currently, procurement of machinery & equipments is under process. An MoU has been signed with Sangaru Design Objects, Bengaluru to run the skill development centre once it is established
7. There is a huge scope of TBM to go beyond bamboo and explore into other natural fibres. A diagnostic study to be conducted on natural fibres to find its viability and long term impact	- A diagnostic study has been conducted on potential of natural fibre sector in Tripura - However, the raw material availability & accessibility has been found to be the biggest constraint - Along with bamboo, focus is given on other natural fibres such as banana, pineapple etc. - Two proposals on integrated development model have been submitted to O/o the DC(Handicrafts) and NER Textile Promotion Scheme

4. Progress Achieved in FY 2015-16

4.1. Financial Progress

4.1.1. Total Fund Mobilized

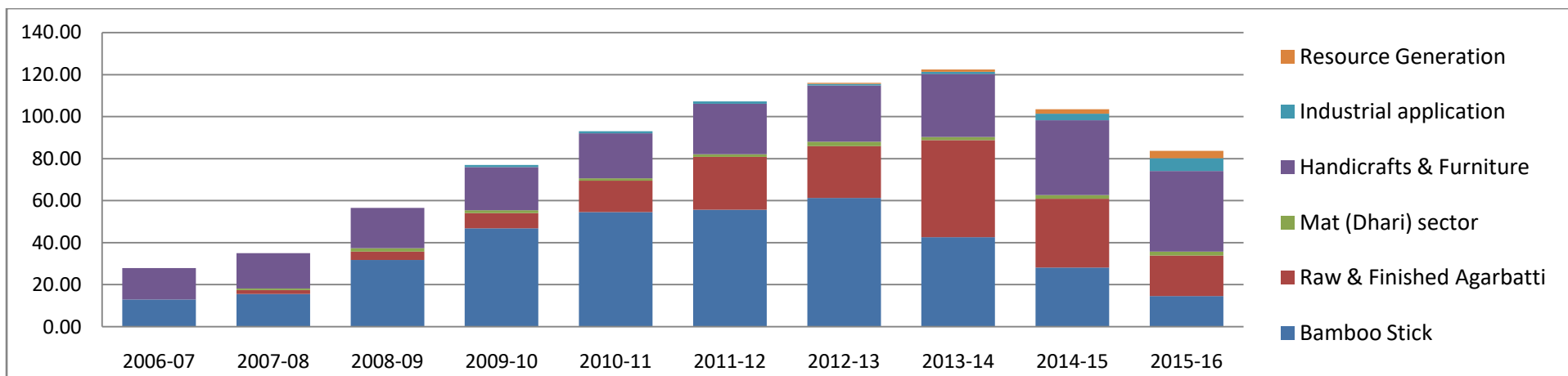
Sl. No.	Source	Fund Mobilized, Rs. Lakh (sanctioned/ approved amount)									
		2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Total
1	Special SGSY	188.73		400.00		97.61					686.34
2	NMBA	112.54		108.48							221.02
3	National Bamboo Mission	120.00	15.00	1.80	22.50		10.00	12.30	3.71		169.30
4	DRDA	17.08		16.80	23.30	13.71					70.89
5	MDoNER		121.78		107.00						228.78
6	NE Council						441.25	779.90			1221.15
7	National Innovation Council						23.64				23.64
8	Tripura JICA				69.39		47.00	60.00	18.77		125.77
9	MGNREGA							278.76	185.08	504.35	968.19
10	DC Handicrafts						9.00				9.00
11	Indo German Dev. Project							24.67			24.67
12	Others		6.00	40.00	84.00	67.29		10.10	3.67		211.06
13	Bamboo Park, MoC , GoI			2935.98							2935.98
	Total , Rs. Lakh	438.35	142.78	3503.06	236.80	178.61	530.89	1153.43	207.52	504.35	6895.79

4.1.2. Financial Status of Ongoing Projects

Project Name	Sanction Date	Release of first Installment	Implementation started in	Fund Sanctioned, Rs. Lakh	Fund Received, Rs. Lakh	Fund Utilized, Rs. Lakh	UC Submitted, Rs. Lakh
NEC-Handicraft: (3 years)	23 rd March, 2012	November, 2012	January, 2013	441.25	245.90	245.90	210.99
NEC- Incense (4 years)	3 rd October, 2013	24 th March, 2014	March, 2014	779.90	351.96	351.96	214.76
Tripura JICA-Handicraft	21 st January, 2015	23 rd January, 2015 (to TBM)	-	18.77	9.09	9.09	9.09
NBM	16 th January, 2014	20 th January, 2014	February, 2014	17.29	17.29	14.03	13.54
TIDC	14 th August, 2015	7 th September, 2015	September, 2015	11.75	11.75	11.75	-
MGNREGA							
Mohanpur	20th February, 2016	February, 2016	February, 2016	145.22	79.67	79.67	NO
Hezamara	9th March, 2016	–	March, 2016	275.31	–	–	NO
Mohanbhog	8th February, 2016	February, 2016	February, 2016	36.02	35.93	35.93	NO
Nalchar	8th February, 2016	–	–	32.08	–	–	NO
Charilam	8th February, 2016	–	–	13.75	–	–	
<i>Figures as on 31st March, 2016</i>				1771.34	751.58	748.32	448.38

4.1.3. Sub-sector Specific Turnover Targets & Achievements

	Sector/ Sub-sector	Target			Baseline	Achievement (Value of Export from State)								
		2009-10	2011-12	2016-17	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1	Bamboo Stick	30.93	56.19	90.00	12.90	15.55	31.77	46.79	54.52	55.62	61.30	42.60	28.10	14.63
2	Raw/Finished Agarbatti		10.00	50.00	0.00	1.84	4.00	7.24	15.00	25.20	24.70	46.25	32.80	19.20
3	Mat (Dhari) sector	10.50	5.50	4.00	0.00	0.78	1.57	1.44	1.05	1.32	2.10	1.50	1.75	1.93
4	Handicrafts & Furniture	33.12	32.70	50.00	15.00	16.88	19.22	20.56	21.50	24.02	26.68	30.03	35.62	38.42
5	Industrial application	1.30	3.30	6.00	0.00	0.00	0.00	0.96	1.00	1.06	0.78	0.94	3.15	6.08
	Resource Generation										0.51	1.08	2.13	3.45
	Total	75.85	107.69	200.00	27.90	35.05	56.56	76.99	93.07	107.22	116.07	122.40	103.55	83.70



Basis of Estimation of Turnover

- Information on sticks dispatched from the Churaibari Forest Beat office at the Churaibari check gate in North Tripura which is the only transit gate for goods traded outside the state.
- Information on volume of polished sticks traded by major Stick Cooperative societies.
- Information on the business volumes reported by the major local entrepreneurs, producer groups & societies, Purbasha in the state in the case of handicrafts and raw batti along with sample survey conducted by TBM.

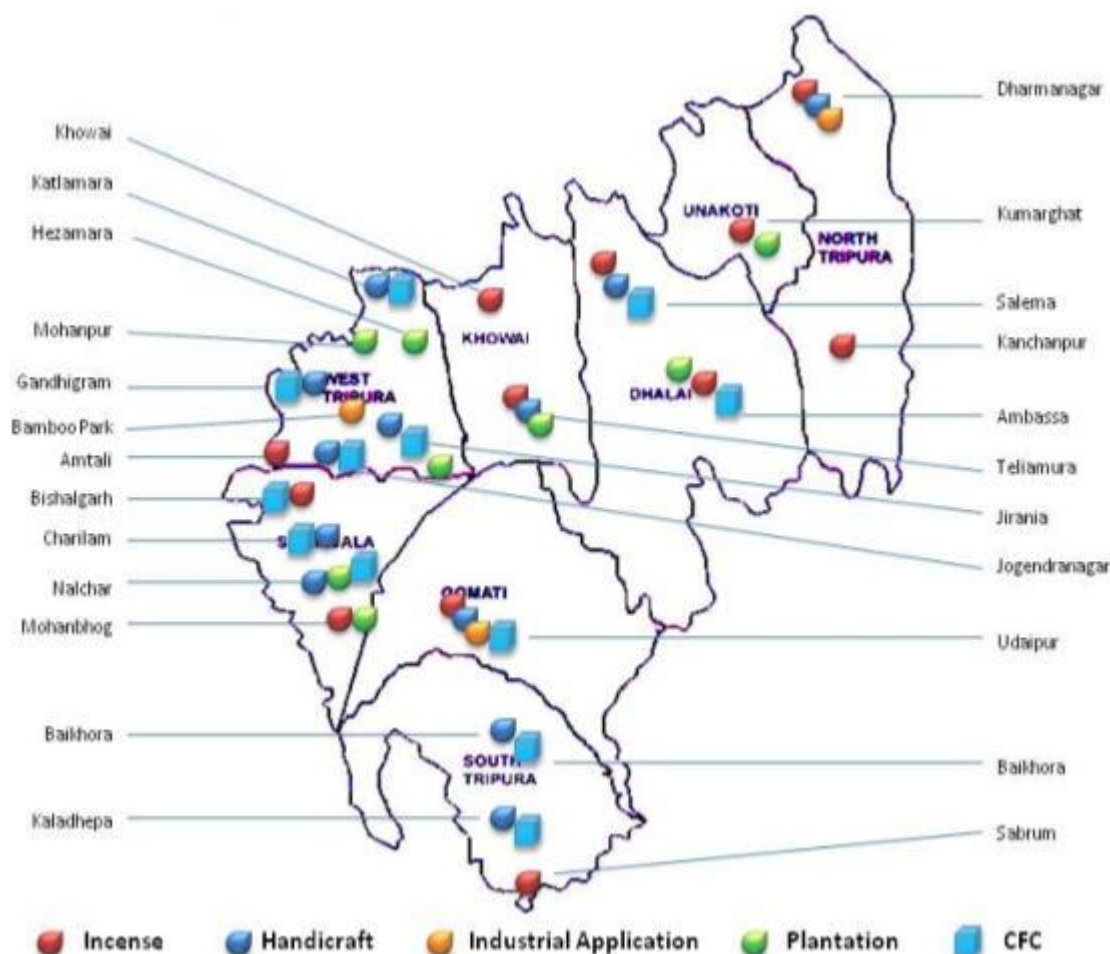
4.2. Physical Progress

4.2.1. Geographical Footprints of TBM

The projects undertaken by Tripura Bamboo Mission are implemented across the state covering all the 8 districts. The strategy has been to

- Strengthen existing production base by enhancing productivity & quality
- Expanding production base by creating, developing & sustaining new clusters in non-traditional areas
- Creating income opportunities for additional number of people

A glimpse of the major bamboo based clusters and producer bases is given below.



4.2.2. Performance vis-à-vis Target as per Annual Action Plan 2015-16

	Activities to be undertaken	Target	Achievement
1	Incense- Bamboo Stick		
1.1	Community managed production units to be established	15	2 (Kalibazar , Kumarghat)
1.2	No. of persons to be trained	600	60
1.3	No. of improvised stick making tools to be installed & operationalized	300	1 bamboo polishing machine installed at Bagmara
2	Incense- Raw & Finished Agarbatti		
2.1	Community managed production units to be established	25	15
2.2	No. of persons to be trained	1000	383 (North Ganganagar, Algapur, Emrapassa, Kulai, Teliamura, Amtali, Modhupur, Konabon)
2.3	No. of agarbatti making machines to be installed & operationalized	500	200 installed
3	Handicraft & furniture		
3.1	Community managed production units to be established	20	20 (Nalchar-2, Kalibazar-1, Dharmanagar-1, Mungiakami-4, Matabari-2, Salema-3, Durlavnarayan-4, Gandhigram-3)
3.2	No. of persons to be trained	1200	947 (Dharmanagar, Mungiakami, Gandhigram, Durlavnarayan, Matabari, Salema, Kaladhepa,)
3.3	Cluster level CFCs to be established	6	Construction of 1 CFC Completed & 2 CFC under progress.
4	Marketing & Trade		
4.1	Operationalization of Producer Company		Simanta Handicraft Products Pvt. Ltd started business operation
4.2	Engagement of Strategic Marketing Partner		Market Study done with MART. Final report to be submitted soon
4.3	Organizing Buyer Seller Meet	2	1
5	New Initiatives/ Projects		
5.1	Project for strengthening of bamboo mat based cluster under SFURTI- Rs. 279 lakh		Field verification Completed by KVIC

	Activities to be undertaken	Target	Achievement
5.2	Proposal for placement linked and self employed training program in Bamboo Plantation and value addition under Ministry of DoNER- Rs. 250-300 lakh		DPR Submitted; awaiting for approval

4.2.3. TBM- Partners in Progress

The progress & achievement by TBM over the years has been possible due to partnership with various organizations, institutes & agencies. Some of the partners of TBM are mentioned below.

Funding Partners

- Directorate of Industries & Commerce, Government of Tripura <http://www.industries.tripura.gov.in>
- Directorate of Handloom Handicraft sericulture, Government of Tripura <http://www.purbash.nic.in>
- Rural Development Department, Government of Tripura <http://tripurarural.nic.in>
- Forest Department, Government of Tripura <http://forest.tripura.gov.in>
- Tripura, Japan International Co-operation Agency (JICA) www.tripurajica.com
- Indo-German Development Co-operation Project (IGDC) <http://www.tigproject.in/>
- Tripura Industrial Development Corporation Ltd. <http://www.tidc.in/>
- Ministry of Development of North Eastern Region, Government of India <http://mdoner.gov.in/>
- North Eastern Council, Ministry of DoNER, Government of India <http://necouncil.nic.in/>
- Ministry of Textiles, Government of India <http://texmin.nic.in>
- Development Commissioner (Handicrafts) Ministry of Textiles, Government of India <http://handicrafts.nic.in>
- National Mission on Bamboo Applications (NMBA), Department of Science & Technology, Government of India <http://www.bambootech.org>
- National Innovation Council, Office of Adviser to the Prime Minister on Public Information Infrastructure & Innovations, Govt. of India. <http://www.innovationcouncil.gov.in>

Design & Technology Partners

- National Institute of Design <http://www.nid.edu/>
- Bamboo and cane Development Institute (BCDI), Agartala <http://www.bcdi.in>
- Indian Institute of Craft & Design, Jaipur <http://www.iicd.ac.in/>
- National Institute of Fashion Technology <http://www.nift.ac.in/>
- National Institute of Technology, Agartala <http://www.nita.ac.in/>
- CSIR- Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow <http://www.cimap.res.in>
- Central Mechanical Engineering Research Institute (CMERI), Durgapur <http://www.cmeri.res.in>
- Fragrance & Flavour Development Centre (FFDC), Kannauj www.ffdindia.org
- Sangaru Design Objects, Bengaluru www.sangaru.com

Major Marketing Partners

- ITC- SBU Agarbatti <http://www.itcportal.com>
- NRR & Sons (Cycle Brand) <http://www.cyclepure.in>
- Mother Earth <http://www.motherearth.co.in/>
- Shop for a Cause, Bangalore <http://www.shopforacause.in/>
- Ebay India www.ebay.in
- IndiaMart www.indiamart.com
- THHDC Ltd. www.purbasha.nic.in
- NEHHDC Ltd. www.nehhdc.com
- Catena Technologies, www.giskaa.com

4.2.4. Incense sector (Agarbatti)

Overview

India is the largest producer, consumer and exporter of finished Agarbatti in the world. While the Indian Agarbatti sector is growing @ 14-17% every year, there has been a fast transition from hand made products to semi-mechanized and mechanized products in last 2-3 years. Tripura used to be the leading supplier (more than 70%) of Bamboo Stick, the basic raw material for Agarbatti industry, in India. But due to shift from manual (handmade sticks) to mechanized manufacturing process (round sticks), Tripura has lost its position with demand of handmade bamboo stick reducing drastically. This has affected the bamboo economy of the state and resulted in many households getting jobless. However Tripura is still the largest producer of handmade bamboo stick for Indian incense industries, producing around 5000 mt/year. It is slowly shifting to mechanized production of bamboo stick and at present around 10 units are working in the state.

Till 2006

- Low value fibrous hand made bamboo stick
- Negligible value of value addition

2007-2011

- Conversion into polished bamboo stick
- Aggressive value addition in the form of hand rolled Agarbatti

2011-2014

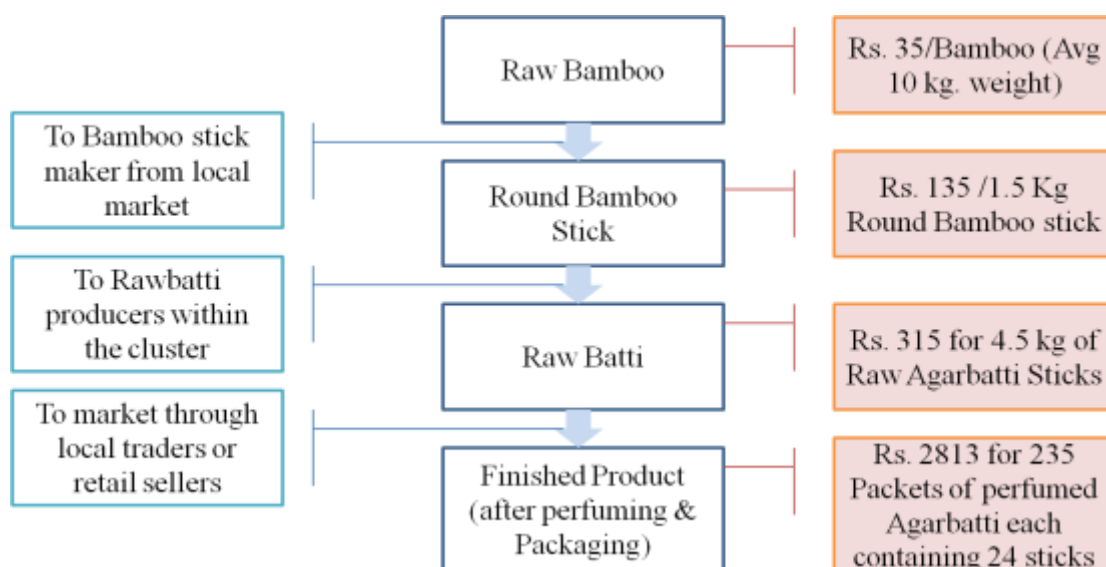
- Paradigm shift in global incense market: from hand made to mechanized Agarbatti
- Demand for hand madesticks & hand rolled agarbattis declined drestically
- Import duty on Agarbatti slashed from 30% to 10%

2014-Till date

- Tripura Incense sector gradually adopting the mechanized way of Bamboo sticks and rolled agarbatti
- The production volume is gradually increasing with significant level of value addition within the state
- Many local entrepreneurs have started producing and marketing finished Agarbatti

Value Chain & Income Potential

Value chain for Agarbatti/ Incense Sticks is given below:

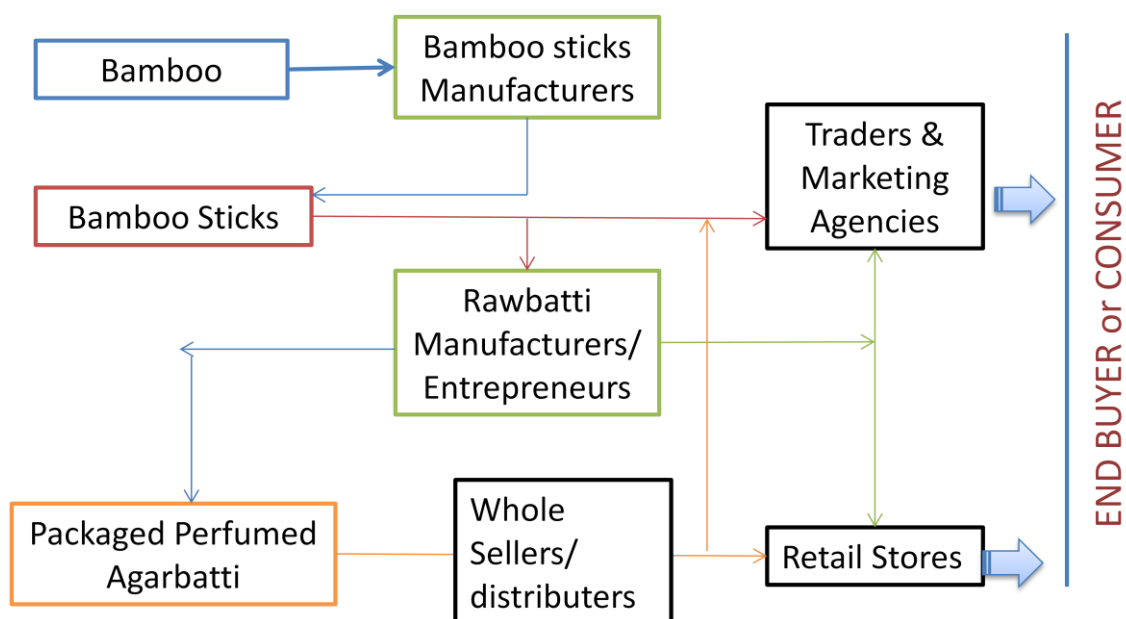




Average Earnings of Artisans

S No	Job Role	Approx. Monthly Income, Rs.	Approx. Annual Income, Rs.
1	Bamboo Round Stick Maker	3,000 – 5,000	35,000-50,000
2	Rawbatti Maker	2,500 - 3,000	25,000-30,000
3	Finished Agarbatti maker	3,000 - 3,500	30,000 - 35,000

Market Channel for Agarbatti at various levels of Value Addition



Focus Product & Technology



Handrolling of Agarbatti



Hand-rolled Agarbatti



Mechanized Rolling of Agarbatti



Machine-rolled Agarbatti

Comparison between Hand Rolled & Machine Rolled Batti

	Existing Rolling process	Hand	Mechanized Rolling Technique
Quality of Agarbatti	Low, non-uniform surface, often have burnout issue		High, uniform surface with negligible burn out issue
Production Capacity	3-4 kg per day per artisan		12-15 kg per day per artisan
Wastage of raw material	10%		Less than 5%
Earning potential for artisan	Rs. 30-40 per day		Rs. 100-140 per day
Investment on tools & equipment	Below Rs. 500 per artisan		High; minimum Rs. 25,000 per machine
Operation	Highly unorganized		Mostly organized
Product Demand in Market	Decreasing Demand		Increasing Demand

The basic material of Agarbatti, i.e. Bamboo Sticks used to be mostly handmade and Tripura was the leading supplier of handmade bamboo sticks. However in last 3-4 years, the market has shifted its preference towards using machine made round sticks. Therefore, there is huge demand of round sticks as against declining demands for handmade sticks.



Handmade sticks for Agarbatti



Round Sticks for Agarbatti

Comparison between Handmade Sticks & Mechanized Round Sticks

	Existing Sticks	Handmade	Mechanized Sticks	Round
Quality of Bamboo Stick	Low, surface	non-uniform	High, uniform surface	
Production Capacity	5-6 kg per artisan	day per	80-100 kg per shift per machine	
Wastage of raw material	30-35%		70-80% (if unutilized)	
Earning potential for artisan	Rs. 50-60 per day		Rs. 200-300 per day	
Investment on tools & equipment	Below Rs. 700 per artisan		High; minimum Rs. 15 lakh per unit	
Operation	Highly unorganized		Mostly organized	
Product Demand in Market	Very Low Demand		Very High Demand	
Suitability in machine rolled batti making	Not suitable with significant rejection		Suitable for machine rolling with almost no rejection	

Major Producer Base

Bamboo Round Stick units in Tripura

Sl. No	Name of Unit	Location/ Cluster	Capacity per month
1	Unokoti ASC Ltd. (U-1)	Kumarghat	2 MT
2	Unokoti ASC Ltd. (U-2)	Kumarghat	2 MT
3	Unokoti ASC Ltd. (U-3)	Kumarghat	2 MT
4	Unokoti ASC Ltd. (U-4)	Kumarghat	2 MT
5	Banik Agro Forest Products	Kumarghat	2 MT
6	P.S.GreenGold Bamboo	Dharmanagar	2 MT
7	Manoram Bamboo Industry	Bamboo Park, Agartala	2 MT
8	Biswas Domestic Products	Udaipur	1 MT

The total capacity of all the units together is around 15 MT per month; however, average production per month was around 8-10 MT per month

Raw Batti Producers

Sl. No.	Cluster	District	Total no. of Rolling machines installed
1	Dharmanagar	North	100
2	Kumarghat	Unakoti	80
3	Ambassa	Dhalai	120
4	Salema	Dhalai	40
5	Teliamura	Khowai	90
6	Amtali	West	180
7	Madhupur	West	60
8	Champamura	West	60
9	Bishalgarh	Sepahijala	50
10	Udaipur	Gomati	80
		Total	860

Perfuming units

Sl. No.	Name	Location	Status
1	Banik Agro (ITC authorized)	Agartala	Production stopped temporarily
2	Tirupati Agarbatti	Agartala	Operational
3	Ashirbad Paul Industry	Bishalgarh	Operational
4	Bhakti Agarbatti	Agartala	Operational
5	Biswas Domestic Products	Udaipur	Operational
6	Debnath Agarbatti	Udaipur	Operational
7	Ganapati Agarbatti	Agartala	Operational
8	Sashikiran Industries	Teliamura	Operational
9	TRIBAC	Agartala	Operational
10	J. D. Agarbatti	Dharmanagar	Operational
11	Sourabh Agarbatti Cottage Ind	Kailashahar	Operational
12	Crafts & More	Teliamura	Operational
13	Sree Balaji Udyog	Kumarghat	Operational
14	Om Agarbatti	Agartala	Operational

15	North East Fragrance	Kailashahar	Operational
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Agarbatti Masala unit

<i>Sl. No.</i>	<i>Name</i>	<i>Location</i>	<i>Capacity</i>
1	Sree Balaji Udyog	Kumarghat	50 MT per month

Key Achievements during the year

- Installed more than 500 pedal type rolling machines during the year
- 6 new Bamboo round stick units became operational in the state, including one at Bamboo Park
- 383 artisans trained in Raw Batti; 60 artisans trained in Bamboo Stick
- Marketing tie up with ITC Ltd. for procuring extruded raw batti in round stick
- 1 new perfuming unit came up at Dharmanagar basing on the raw batti cluster developed by TBM

Ongoing Project

INTEGRATED DEVELOPMENT OF INCENSE CLUSTERS IN TRIPURA

The project “Integrated Development of Incense Clusters in Tripura” has been approved by the North Eastern Council, Government of India. The total project cost is Rs. 779.90 lakh (NEC: 90%, GoT: 10%). Implementation of the project started in the 3rd quarter of FY 2013-14.

The project aims to develop integrated incense clusters at 30 locations in the state of Tripura. It entails establishment of incense stick production centres, introduction of community friendly technology, skill development of artisans, capacity building of the producers to run their own grass root organization and establishing linkage with mainstream markets.

The Key activities/interventions under this project are- Mobilizing & identifying beneficiaries, organizing beneficiaries into group & institutionalizing them as incense stick producer groups, Technological intervention including skill development and capacity development, Marketing interventions- exploring different marketing channels and penetrating into mainstream & upscale markets.

Project Locations

<i>District</i>	<i>Location/ Cluster</i>	<i>Proposed Activity</i>
Dhalai	Ambassa, Manu, Salema, Kamalpur	Stick, Rolled Batti
North	Dharmanagar, Damcherra, Kadamtala, Kanchanpur	Stick, Rolled Batti



<i>District</i>	<i>Location/ Cluster</i>	<i>Proposed Activity</i>
Unakoti	Kumarghat, Pecharthal, Kailashahar	Stick, Masala, Rolled Batti
Khowai	Kalyanpur, Teliamura, Khowai	Stick, Rolled Batti
South	Jolaibari, Satchand, Santirbazar	Stick, Masala, Rolled Batti
Gumati	Amarpur, Ompi, Matabari, Kakraban	Stick, Rolled Batti
Sepahijala	Melaghar, Kathalia, Bishalgarh, Baxonagar	Stick, Masala, Rolled Batti
West	Agartala, Hejamara, Mandwi, Mohanpur, Jirania	Stick, Rolled Batti

Physical Progress

Sl. No.	Component	Physical Target	Target Achieved	Balance
1	Mobilization, Baseline and Institution building			
1.1	Mobilization & Baseline -(No. of participants)	1760	1442	318
1.2	Institution building (Exposure, Accounts Management, Workshop-Entr. Dev.) -(No. of participants)	800	693	107
2	Capacity Building	2745	1132	1613
2.1	Capacity building on semi mechanized incense stick production -(No. of participants)	1500	423	1077
2.2	Capacity building on Mechanized Incense Rolling -(No. of participants)	900	542	358
2.3	Capacity building on Jigget extraction, charcoal making & masala mixing -(No. of participants)	100	0	100
2.4	Capacity Building on Agarbatti perfuming and packaging -(No. of participants)	40	0	40
2.5	Capacity Building on Agarbatti Raw Material Banking and Branding (ToT & ToE) -(No. of participants)	205	167	38
3	Marketing Interventions	100	0	40
3.2	Organizing Seminar and Symposium cum Buyer Seller Meet -(No. of participants)	100	60 (4 programmes incl. one at Chennai)	40
4	Technological Intervention	2137	658	1479
4.1	Slicing cum Stick Making tools to be installed -(No. of machines)	300	219	81
	Cross Cutting machine to be installed -(No. of machines)	15	4	11
	Stick Making tools to be installed -(No. of machines)	900	25	875
	Weighing machine to be installed -(No. of machines)	15	0	15

Sl. No.	Component	Physical Target	Target Achieved	Balance
	Polishing machine to be installed -(No. of machines)	1	0	1
4.2	Pulverizing machine to be installed -(No. of machines)	3	0	3
	Masala Mixing machine to be installed -(No. of machines)	3	0	3
4.3	Pedal Type agarbatti rolling machine to be installed -(No. of machines)	900	562	338
	Masala Mixing machine to be installed -(No. of machines)	15	22	
	Weighing machine to be installed -(No. of machines)	15	20	0
	Rack for drying to be installed -(Quantity)	150	0	150

Snapshot of Project Activities



Mobilization Camp with the members of Agarbatti Stick Making Unit



Mobilization Camp with the members of Agarbatti Rolling Unit



Production Activities at Agarbatti Stick Making Unit



Production Activities at North Ganga Nagar Agarbatti Rolling Unit



Production Activities at Anabik SHG, Emrapassa, Kumarghat, Unakoti



Production Activities at Udayan Agarbatti Producer Group, Teliamura



Production Activities at Kulai Agarbatti Society, Ambassa, Dhalai



Production Activities at Maa Sarada Agarbatti Producer Group, Harihardala, Kunaban



Production of Agarbatti Rolling at Karunamoyee SHG, Ballavpur, Amtali



Production of Agarbatti Rolling at Omkar SHG, Shiv Bari, Amtali



Round Bamboo Stick Units at Kumarghat

Present Status of Incense sector in Tripura and reviving action taken by TBM

The average annual production & exports of bamboo sticks from Tripura to the Agarbatti Industry of India was around 25,000 MT few years back which has now reduced to less than 8,000 MT. This is basically due to change in technology adopted by the Global Agarbatti sector, change in International trade regime etc. A large number household of the state and the district in particular, are dependent on bamboo stick making for their livelihood. Bamboo stick making is a traditional village industry of Tripura which dates back to last 30-40 years.

India is the largest producer, consumer and exporter of finished Agarbatti I the world. While the Indian Agarbatti sector is growing @ 14-17% every year, there has been a fast transition from hand made products to semi-mechanized products in last 2-3 years. Tripura used to be the leading supplier (more than 70%) of Bamboo Stick, the basic raw material for Agarbatti industry, in India. But due to shift from manual (handmade sticks) to semi mechanized manufacturing process (round sticks), Tripura has lost its position with demand of handmade bamboo stick reducing drastically. This has affected the bamboo economy of the state and resulted in many households getting jobless.

While the state is gradually shifting towards semi-mechanized production process, the state government, through Tripura Bamboo Mission, is taking steps to revive the sector in a war footing manner.

Due to shift from handmade bamboo sticks to round bamboo sticks and reduction in import duty from 30% to 10%, the demand for the sticks produced in the state started decreasing. In last 3-4 years, the production of Bamboo Stick has reduced to one fifth of its capacity. Reciprocating to this situation, the local entrepreneurs with active support from Tripura Bamboo Mission established few round bamboo sticks unit as experimental basis. However, as of now the technology has been customized by the local entrepreneurs and with huge market demand both outside & within the state, the bamboo round stick production need to be adopted in a large way.

Movement of sticks produced in Tripura for export has been gradually reducing. As a result, the stock of holding sticks at warehouses is increasing day by day thereby increasing vulnerability of loss due to huge capital investment and other risks. As mentioned by the society members, good quality bamboo stick (mostly machine made) in large volumes are being imported to India from South East Asian countries like Vietnam etc. After declaration of cut in the import duty from 30% to 10% by the Central Government about 2 years back, cost competitiveness for import to India has increased giving stiff competition to the stick traders from NE states especially Tripura.

Year	Bamboo Stick supplied from Tripura, MT	Import of Bamboo Stick, MT	Other States, MT	Total, MT	Share of Tripura, %
2006-07	20508	3093	5000	28601	72%
2007-08	22105	1781	5500	29386	75%
2008-09	25195	662	6000	31857	79%
2009-10	28589	789	7000	36378	79%
2010-11	23177	2069	9000	34246	68%
2011-12	21393	4268	9000	34661	62%
2012-13	17490	7007	6000	30497	57%
2013-14	9749	8147	4000	21896	45%
2014-15	6291	128835	3000	138126	5%
2015-16	4063	20328	2500	26891	15%

Source: Import Export Data by Ministry of Commerce & Industry

The estimated business turnover of bamboo stick though has increased from Rs. 12.90 crore (in 2007) to Rs. 61.30 crore (in 2013), but profitability of the business as a whole and return to the artisans in particular has not increased significantly considering increased cost of raw material, labour and inflation. The business received a huge setback when import duty was cut in 2011 forcing local traders to reduce selling price of sticks to ensure continuous outflow of sticks. This situation directly impacted livelihoods of about 1.50 lakh artisans of the state. The table & chart below describe the situation more clearly.

It is obvious that the profession of bamboo stick making as rural livelihood has become very low remunerative. Many artisans have already left the job and a large number of existing artisans are in the verge of leaving the job. Their livelihoods are at stake which will in turn provide a major setback to the economy of the state/region.

This is to be mentioned here that, with changing demand of the market, Tripura Bamboo Mission has introduced appropriate technology (in terms of improvised tools, techniques etc.) to match the quality of sticks at par with imported sticks.

Meeting with ITC on marketing aspects of Bamboo Round Stick & Raw Batti from Tripura:-

Due to change in incense global business regime, the incense sector has seen a paradigm shift from manual process mechanized process. Due to this, the incense sector in Tripura, which was mostly manual based, experienced a downfall in production and turnover. Reciprocating to this, TBM has introduced, disseminated and expanded the industry acceptable technology in the incense clusters of the state. The state is gradually gearing up to reach the volumetric production of bamboo stick and raw batti as it was doing earlier.

On the above context, the marketing linkage for the clusters is also being intervened by TBM in a cohesive manner. A meeting was held between a team, comprising of the Director- Industries, Dy. Mission Manager- TBM & the local vendor of TBM and the officials of ITC- SBU-Safety matches & Agarbathi business at ITC office in Chennai on 29th December, 2015.

The meeting was fruitful in terms of ITC agreeing to purchase bamboo stick and raw batti in bulk from Tripura. It was decided that, export of round bamboo stick and raw batti of ITC specification in truckloads from Tripura will be started within this financial year. The perfuming unit may be re-started after reaching critical volume of 25 MT raw batti per month.

New Projects in pipeline for Round Bamboo Stick Production

Considering huge demand from market and having experience in bamboo stick trading by entrepreneurs of Tripura, the Bamboo Round Stick sector is expected to have huge opportunities. Thus, to revive the sector, Tripura Bamboo Mission is planning to establish round bamboo stick manufacturing hub consisting of 50 round stick machine. Two such hubs are proposed to be developed at Kumarghat and Bamboo Park. Fund for these projects are being sought from sources like SFURTI (MoMSME), NE Council & Ministry of DoNER.

4.2.5. Handicrafts & Furniture

About Bamboo & Cane Handicraft of Tripura

Tripura's Arts and Crafts have a rich and historical tradition. The handicrafts in Tripura are famous all over India. Rich varieties of handicraft items are made by the local people all over the state. The items are mostly made up of bamboo and cane. This rich tradition of the Tripura handicraft not only enriches the culture of the state but also contributes to the economy of the state. It is known that Maharani Kanchan Prabha Devi of the royal family of Tripura, a great patron of the handicraft works, used to patronize the bamboo craftpersons of the state.

After the partition of Bengal, geographical location became the greatest hindrance for the economic development of Tripura. The inhabitants depended on the locally available natural resources for their livelihood. Bamboo being available in plenty at every nook & corner of the state became the source for food, shelter and livelihood. The skills gradually evolved and various trading channels opened up, initially within the state and later in other parts of the country with help of the State Government. With passage of time, the bamboo handicraft of Tripura set strong foothold in the country. The goodwill & passion of the crafts persons of Tripura along with continuous support from the Government have further strengthen the bamboo handicraft sector of the state. Tripura is now a leading state in bamboo handicraft in the country. The state has produced 20(twenty) master artisans (highest in the country) who have received National Award from President of India for best skills in bamboo & cane work; among them 2(two) have received 'Shilpa Guru' award, the highest for a master craftperson in India.

The commercial craft practices (with bulk production & marketing) in Tripura are still largely unorganized with presence of numerous craft pockets forming different bamboo handicraft clusters across length & breadth of the state. The capacity levels of the artisans and the institutional capacity in most of the rural clusters bamboo based clusters are grossly inadequate to mobilize optimal scales of operations in synchronization with the requirements of the mainstream markets. This coupled with limited access to markets, market information, latest technology developments in the sector and infrastructure requirements have resulted in a "low productivity, low volume and low value scenario".

Overview of first phase

During the first phase (2007-12) of TBM, the focus was more on development of new designs and training of artisans. Most of the interventions were short term. Also various projects sought by TBM had to be implemented as per the rigid guidelines of the funding agency. Most of the projects had components of trainings, design development, exposure, participation in fairs etc.. Though some infrastructure in terms of buildings/production shed has been built across the state, there was no significant long term intervention for production management, institution building and marketing for them.

The success of the phase-I can be noted as

- Slow but gradual change in product facelift for few product categories such as mat based utility products, utility baskets and furniture

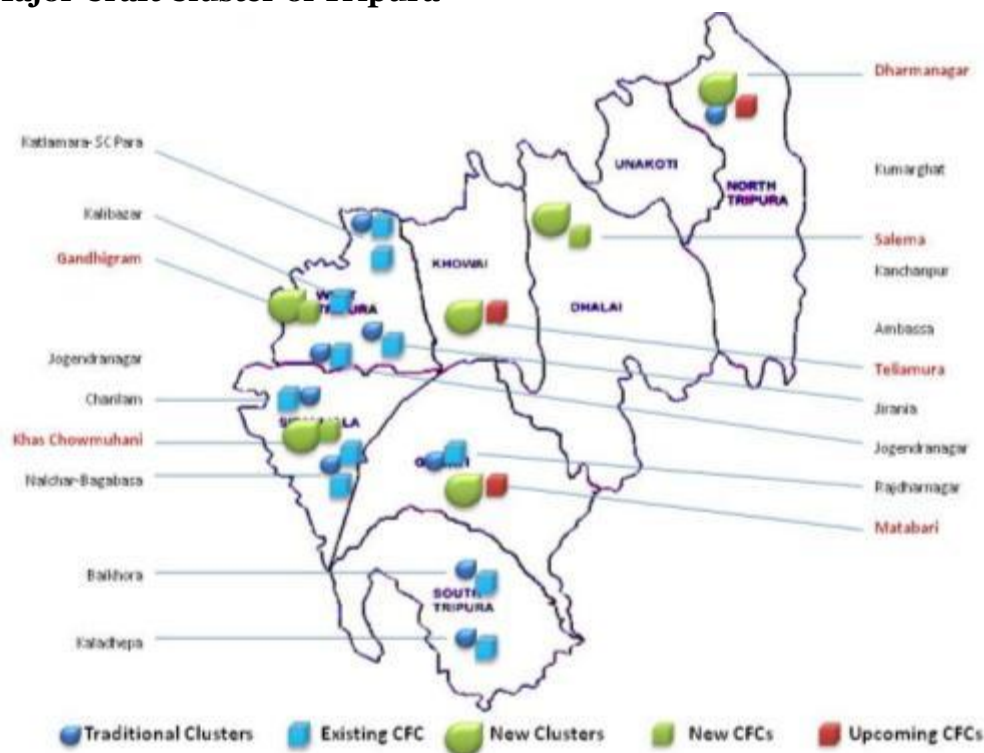
- Set up of community owned production centers- some of the centers have come up well though not very profitable
- Direct/indirect support to producer groups/entrepreneurs in marketing & exposure within limited capacities of TBM.

Learning from phase-I can be noted as

- Strong institution building exercise is needed for the community
- Direct & aggressive marketing support for the producer groups/production centers round the year
- Production process has to be streamlined based on specific product & skill levels of artisans
- Technology has to be brought in and customized as per Tripura condition.

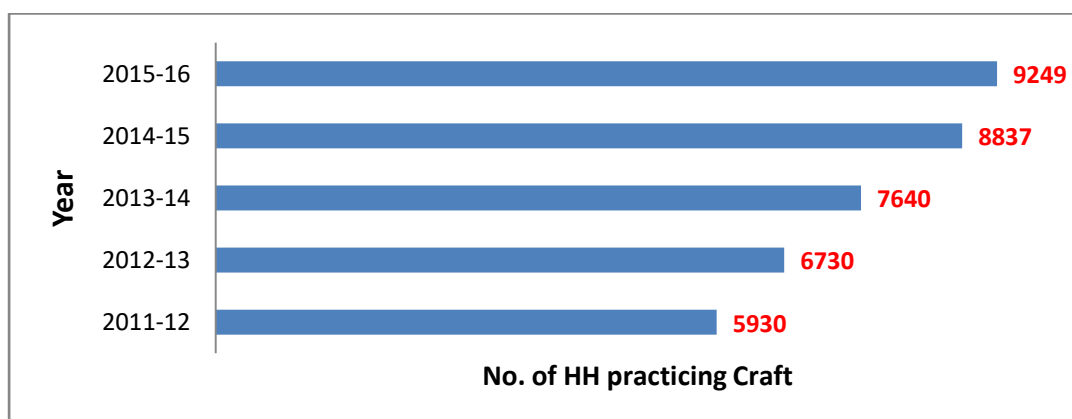
Tripura Bamboo Mission has been working towards development of this sector in a very organized manner. The key objective of TBM is to generate sustainable livelihoods for bamboo handicraft artisans by enabling them to build their own institutions and production centers and by building their capacities as the skill levels and the institutional capacity in most of the rural clusters bamboo based clusters are grossly inadequate to mobilize optimal scales of operations in synchronization with the requirements of the mainstream markets. Amidst availability of various schemes/facilities of govt. as well as opportunities from other sectors, sustaining existing livelihood and engaging additional livelihoods in bamboo & cane handicraft is a big challenge in Tripura unless we focus on product, process, technology and market in an integrated approach with a long term intervention strategy. Handicraft, rather than a livelihood option for poor, shall be highlighted as a robust business option in the state

Major Craft Cluster of Tripura



Artisan Base

<i>District</i>	<i>No. of Households</i>
North Tripura	188
Unakoti	170
Dhalai	410
Khowai	218
West Tripura	2610
Sipahijala	4795
Gomati	408
South	450
TOTAL	9249



Major Craft Categories

<i>Major Craft Categories</i>	<i>Artisans involved</i>	<i>Turnover contribution</i>
Mat & mat based utility	25%	27%
Baskets & Chatai	55%	37%
Furniture incl. cane	6%	10%
Others incl. turning, pasting, carving etc.	15%	26%
TOTAL	100%	100%

Key Achievements during the year

- 20 new producer groups formed and have started production
- 947 persons trained in different aspects of handicraft
- 3 new Common Facility Centre set up in the state under NEC project
- An SPV. Simanta Handicraft Products Pvt. Ltd., started operation during the year
- Study on marketing strategies for handicrafts of Tripura was conducted by MART
- More focus was given on online marketing of products through leading online portals of the country apart from TBM's own website

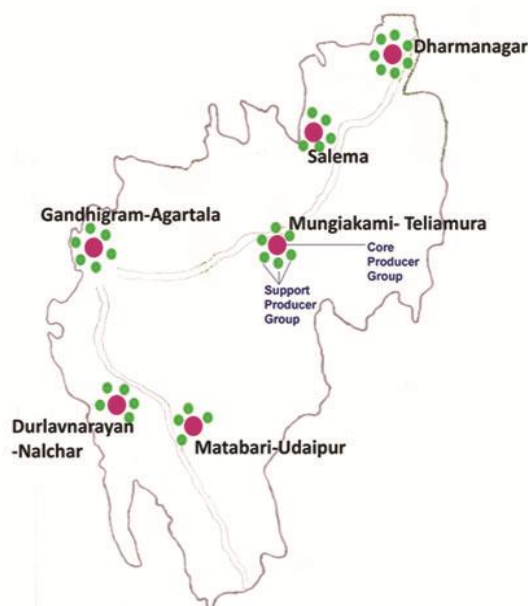
Ongoing Projects

INTEGRATED DEVELOPMENT OF BAMBOO HANDICRAFT CLUSTERS IN TRIPURA

About the Project:

The project “Integrated Development of Bamboo Handicraft Clusters in Tripura” has been approved by the North Eastern Council vide their letter no.NEC/IND/TR/13/2011 dated 23/03/2012. The total project cost is Rs. 441.25 lakh (NEC: 90%, GoT: 10%). Implementation of the project started in the 3rd quarter of FY2012-13.

The project aims to develop integrated bamboo handicraft clusters at 6 locations in the state of Tripura. It entails establishment of bamboo craft production centres, development of new designs, skill development of artisans, capacity building of the producers to run their own grassroot organization and establishing linkage with mainstream markets. The major craft category includes basketry, mat, mat based utility, carving, pasting, furnishing crafts.



The project locations are- 1) Dharmanagar, 2) Salema, 3) Teliamura-Mungiakami, 4) Gandhigram- Agartala, 5) Durlavnarayan-Nalchar & 6) Matabari-Udaipur.

The Key activities/interventions under this project are- Mobilizing & identifying beneficiaries, organizing beneficiaries & institutionalizing them as craft producer groups, Technological intervention including design & skill development and capacity development to industry standards, Marketing interventions- exploring different marketing channels and penetrating into mainstream & upscale markets, Financial support to build producers’ working capital.

Project Implementation & Progress

The project implementation started in the FY 2013-14 with baseline survey at the selected project locations. The project is a challenging one as the project locations does not have any traditional bamboo commercial activity in large scale. However, TBM’s strategy to expand the handicraft production base is portrayed from undertaking of this project.

Tripura Bamboo Mission has deputed a dedicated team of professionals including livelihood experts, designers, marketing expert etc. to provide holistic support for inclusive growth of the clusters; a full time cluster manager has been deputed at each location. Craft producer groups have been formed at the clusters as the core producer

of finished goods and several bamboo intermediate product support groups formed in the catchment areas to support the core producer groups.

- Mobilization & Identification potential craft pockets & beneficiaries- mobilization camps organized at each project locations
- Institution Building- formation of artisan community producer organizations has been undertaken. 21 craft producer groups have been formed in all the clusters. The group members have been trained in different aspects of group formation & management. As the core strategy of TBM, all these producer groups are linked to an SPV/Company for sustainable business operation in the long run.
- Technological Intervention: The group members have been trained under the programmes a) design & technical development workshop, b) skill development workshop c) integrated design & technical development workshop. Apart from this, exposure visit to various clusters, markets & institutes have also been arranged.
- Marketing Intervention: As per the project guideline, various initiatives have been undertaken to market the handicraft products produced by the groups. While TBM Trade Facilitation cell supports them exclusively for getting orders, promotion & publicity has been undertaken using catalogues, posters, internet/online marketing, video documentary etc. The handicraft products have been exhibited in various national & international fairs & exhibitions like IITF, Kerala Bamboo fest etc. to name a few.
- An SPV named Simanta Handicraft Products Pvt. Ltd. has been registered and it has started business operations for exclusively marketing the products produced by the craft producer groups.
- Financial Intervention: Full time cluster managers to support the producer groups have been deputed. The margin money for the artisan members are being gradually released based on the production requirement & performance of the group.
- Cluster specific infrastructure related intervention: six common facility centres are to be built in each cluster under the project. 3 CFCs have been constructed while construction of 3 other CFCs is to be taken up shortly.

Physical Progress Achieved				
	<i>Project Activity</i>	<i>Key Project Mandate</i>	<i>Progress Achieved</i>	<i>Remarks</i>
1	<i>Mobilization & Baseline</i>			
	Mobilization & Baseline	12 camps(two camps in each cluster)	12 camps (2 camps in each cluster)	
2	<i>Technological Intervention</i>			
	Design & Technical Development Workshop - 15 days	480 artisans	344 artisans	136 artisans to be trained
	Skill Development Training for Handicraft Artisans- 4	320 artisans	288 artisans	32 artisans to be trained

Physical Progress Achieved				
	Project Activity	Key Project Mandate	Progress Achieved	Remarks
	months			
	Integrated Design & Technical Development Programme- 6 months	400 artisans	315 artisans	85 artisans to be trained
	Organizing Seminar and Symposium	1 State level Seminar		State level seminar to be organized
3	Institution Building			
		Formation of Artisan owned producer organization	21 Producer Groups formed till date who have started commercial production.	After construction of CFC at 6 locations, the higher level value addition activities will be shifted
4	Marketing Interventions			
	Organizing Exhibitions & participations in Fairs	4 exhibitions(2 outside the state & 2 within the state)	8 exhibitions outside the state. Participation in State level SARAS Fair, Industry Fair. Participation in IITF-New Delhi, Home Expo Noida, Kerala Bamboo Fest, 2013, 2014 & 2015.	Key artisans members have participated in fairs & exhibitions
	Publicity through printing and electronic media	Printing of Catalogues, Brochures, Folders, Craft Maps, Craft Directory,B2B e-portal, CD Rom, Video Film ,Printing of Books on Craft, advertisement through posters	Marketing tie up with NEHHDC, THHDC, Whiteknife.com, Giskaa. B2B marketing through eBay, Flipkart, Snapdeal, Quickr.com, Indiamart.com, tradeindia.com.Indiatradezone.com. Revamping of TBM Portal with payment gateway facilitating direct online selling. Printing of Tripura Directory, Catalogues, Craft Maps. Video Documentary prepared	
	Exposure Cum Study Tour	Exposure Visit Outside the State- 20 artisans	20 artisans participated in Study Cum Exposure Visit at Industree Crafts Foundation, Bangalore	
	Enterprise Development Programmes	2 training Programme	2 training Programme	At TBM resource centre
5	Financial Intervention			
	Margin Money Support	650artisans	62 artisans 4 artisans at Mungiakami, 17 artisans at Durlavnarayan,	After the construction of CFCs, the margin money will

Physical Progress Achieved				
	Project Activity	Key Project Mandate	Progress Achieved	Remarks
			30 artisans at Salema , 11 artisans at Gandhigram	transferred to the groups to use it as their working capital
	Wage compensation to Cluster Manager	Wage of 6 cluster managers	6 cluster managers deputed	
6	<i>Cluster Specific Infrastructure</i>			
	CFC Building	CFC at 6 locations	Construction of CFC at Gandhigram-Narsingarh, Salema- Bamancherra & Nalchar-Khas Chowmuhani Completed	Construction of 3 other CFCs at Dharmanagar, Teliamura and Matabari will be started shortly

Project Snapshot





Common Facility Centre at Gandhigram- Narsingarh Cluster



Common Facility Centre at Khas Chow, Nalchar Cluster



Construction of Common Facility Centre at Salema Cluster

REVIVAL OF NALCHAR CCFC, SUPPORTED BY NTFP CENTRE OF EXCELLENCE, TRIPURA JICA

The proposed project aims to develop the Nalchar CCFC as a vibrant centre for bamboo handicraft production and market facilitation in the cluster by developing new products, building capacity of the local artisans and providing market linkages.

Project Interventions:

- 60 artisans to be identified (20X3 batches) - 10 products to be developed & disseminated in the cluster. - Identified artisans to be trained (1 month skill training & 2 month production management training). - The artisans to be federated by

forming their own enterprise such as producer society. - A full time cluster development executive (CDE) to be engaged for implementation of the project at cluster level.

Progress Achieved:

- A basic field survey of 100 artisans has been done and a data has been prepared
- Classification of the Skill grade of the identified artisans
- Ready basic Infrastructure at the CCFC
- Developed new products
- Prototype & Sampling done
- One Skill Up gradation Workshop has been done for seven days by engaging 56 artisans. The artisans were trained on proper treatment and dyeing procedure, proper weaving pattern of bamboo lamp, proper finishing, packaging etc.
- Start commercial production.
- Artisans are regularly working in CCFC
- Product samples have been distributed in different offices for market promotions and have also been added in TBM official's website..
- Principal Secretary, Industry & Commerce also visited the centre and review the activities are going in centre.
- Three members from South African visited the Nalchar CCFC and are pleased to see how the female artisans are working and are earning their livelihood through bamboo based activities.
- One producer group has been formed namely "Biswakarma Bamboo Craft Producer Group" with 28 artisans consist of President, Secretary & Treasurer.
- A separate bank account has been oped in the name of the group where all the group related transactions are done.
- Three new designs of products have been developed.
- Commercial productions are going in CCFC and artisans are now regularly involved in production and developed their capacity in production on respective products
- Artisans are earning average Rs.3000- 5000 per month



New designs of Bamboo Lamp developed at Nalchar CCFC





Production Decorative Products at Nalchar CCFC



Visit of Mission Director, Tripura Bamboo Mission at Nalchar CCFC

4.2.6. Industrial Application

Tripura's unique bamboo resources have created a rich and varied bamboo culture of long standing, and have formed a cornerstone for the development of the bamboo industry in the state. The rapid development of the bamboo industry in the past decade has aroused increased enthusiasm for the utilization of bamboo resources. Both the government as well as private sector players are now emphasizing on industrial application of bamboo. Bamboo resources in Tripura are relatively abundant, fast-growing and high yielding. It is of practical significance to develop the bamboo industry in order to use bamboo as a substitute for steel and timber. The development of the bamboo industry also has far-reaching significance for the maintenance of the environment on which mankind relies for subsistence. The bamboo plywood industry also offers social benefits. The raw material of bamboo plywood (bamboo mats) is supplied by forest-dwellers.

In the past decade, breakthroughs have been made in the use of bamboo. As a new type of structural material, bamboo wood is experiencing a boom in both its production and marketing. The Government of Tripura has established a Bamboo Park, first of its kind in the country. The bamboo park has attracted many investors from outside the state as well as from within the state to set up high technology intensive bamboo based industrial units such as bamboo wood & flooring tiles,

bamboo round stick, bamboo briquette etc. indicating that the sector has become an important component of the robust bamboo based economy.

While the Bamboo Park has become the hub of bamboo industrial activity in Tripura, there are other units being set up at different parts of the state by local entrepreneurs. Due to factors like change in international trade regime, customer preference for quality etc., the bamboo sector is gradually shifting towards mechanization mode replacing the hand tools & traditional techniques.

The Bamboo Wood manufacturing unit of Mutha Industries is the largest private run bamboo industry in India. There is also a bamboo round stick unit operational in the Park.

Recently, TBM has signed an MoU with Bangalore based Sangaru Design Objects Pvt. Ltd. to run a bamboo furniture based production cum skill development centre.



4.2.7. Resource Generation

Overview

Bamboo is a vital element of India's North Eastern region comprising the states of Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. Bamboo is no longer seen as a poor man's timber, it is growing to be the most promising substitute for wood and there is great scope for further generating rural employment. India's current demand for bamboo is an estimated 27 million tones. However, only 50 per cent of that demand can be met because of lack of facilities for value addition and transportation. In view of the global market trends in bamboo usage coupled with the fact that India has the largest recorded bamboo resources globally; the need to prioritize this sector is of great significance.

Demand and supply mismatch

The demand for bamboo is increasing in Tripura with growing demands of value added bamboo products such as agarbatti sticks and handicraft items. However the available bamboo resource is not adequate to meet the future demand. It is estimated that over 2 lakhs people in Tripura are directly dependant on bamboo based activities for their livelihood. Depleting bamboo resource not only affects the livelihood but also increases relative poverty of people involved in these activities. The Bamboo resource in the state is dwindling despite the on-going programmes of Tripura bamboo mission and other government led initiatives. One of the main reason can be attributed to the bamboo flowering and extensive promotion of other tree plantations in the state. There is need for an organized and scientifically managed bamboo plantation programme in the state. Most value added applications of bamboo require specific species of bamboo, the supply of which is currently limited and the price is at the higher side, making the final product uncompetitive in the market. In last few years, supply of bamboo has been affected in the state due to following reasons.

- Deforestation of lands for other cash crop/agricultural/forest based plantations.
- Cutting of huge number of young bamboo shoot which is sold in the market as an edible item.
- Gregarious flowering of *Muli* (*M. baccifera*) bamboo, which covered the largest area compared to other species; over-utilization of natural resource base of bamboos like Mritinga, Paura, Bom, etc in the bamboo handicrafts industry has resulted in serious resource crisis of economically important non-Muli bamboo species in the state.

The above factors have adversely affected the smooth supply of quality mature bamboo; due to the demand supply mismatch, cost of raw bamboo pole has been increasing roughly by 15-20% every year (varies species to species). The industrial sector (including cottage industries) is the worst affected as evident from the fact that, production of some of the major bamboo products such as bamboo stick is in declining trend. The domestic use of bamboo has also been affected; for example, traditional household fencing in Tripura, which is usually made from bamboo, is now being replaced by G. I. sheets.

The present supply & trend of generation of bamboo are inadequate to meet the demands of the future; moreover when most of the units in Bamboo Park start functioning, regular supply of bamboo need to be ensured.

Bamboo Plantation Activities by Tripura Bamboo Mission

Resource is the backbone of the bamboo based activities of the state. Under the TBM resource generation program, the focus has been to address the resource requirement of the various bamboo value additions in the clusters. It is evident that the present approach of resource generation will not help in meeting future requirement of bamboo. There is a need for focused approach to promote bamboo as a commercial crop in the state. The scope of bamboo plantation has to go beyond forest jurisdiction to non-forest areas and be practiced in private lands as a viable business operation. Furthermore there is a need of captive plantation in a sustainable manner, which will

not only yield higher bamboo per ha compared to existing plantations and also to realize the need for species diversification.

Of late, the state government has taken the issue of bamboo depletion more seriously and has taken decision to propagate bamboo plantation in large scale. In a review meeting held on 31st August, 2012, the issue of shortage of bamboo was widely accepted and it was decided to adopt a project approach in development and creation of bamboo plantation in the state both in the government lands and also include individuals with small holdings. The preliminary assessment based on demand & supply gap for bamboo in the state indicated that 56,000 Ha will have to be brought under commercial and scientific plantation to bridge the deficit. As scientific plantation is new in the state, it was decided that, a pilot project to be launched by TBM in 5,000 Ha for a period of 5 years. While forest department will continue its activity, the target for TBM will be achieved largely through RoFR land, small holdings and also in Govt./Forest land. In the said meeting, the committee advised the Tripura Bamboo Mission to prepare a Detail Project Report to obtain formal approval indicating means of finance and implementation arrangements.

Bamboo Plantation Executed by Tripura Bamboo Mission

Year	Plantation Area, Ha	Beneficiaries Person
2010-11	75.34	139
2011-12	64.22	163
2012-13	157.28	356
2013-14	287.56	380
2014-15	362.00	524
2015-16	85.00	168
2016-17 (sanctioned)	544.92	1084
Total	1576.32	2814

From 2010-11 to 2015-16, Tripura Bamboo Mission has executed bamboo plantation in 1031.40 ha land covering different commercial bamboo in non-forest area and mostly in private land including RoFR lands. The total number of beneficiaries covered under the bamboo plantation programme is 1730. 544.92 ha of HDBP was sanctioned in 2016-17 covering 1084 beneficiaries.

Model Plantation at Bamboo Park

Bamboo Plantation in the Bamboo Park at Bodhjunga Nagar implemented by TBM-II& FS Clusters with funding support of Tripura Industrial Development Corporation

<i>Activity</i>	<i>Scope</i>
-----------------	--------------

Bamboo Plantation in 2 plots covering 13 Ha (Opposite to Mutha Group of Industries -5 Ha) & Back side of Mutha Group of Industries -(8 Ha)	Four important commercial species of bamboo namely Mirtinga (B. Tulda) Rupai (B. Longispatis) Barak (B. Balcooa) Muli (Melocanna Beccifera)
---	--

Location: Bamboo Park at Bodhjeng Nagar, Agartala, Tripura West

Achievement: Bamboo Plantation has been done at Bamboo Park, Bodhjeng Nagar in two plots covering 13 Ha (opposite to Mutha Group of Industries -5 Ha & Back side of Mutha Group of Industries -8 Ha). Important commercial bamboo species planted with scientific method both through seeds and poly bag plantation method. The details are given below:-

Plot No-1 Opposite to Mutha Group of Industries	Name of Bamboo Plantlets	Type of Bamboo Plantlets	Spacing	No of plants	Area covered (Ha)
	B. Balcooa	Tissue culture	2 mtr X 4 mtr	2000 Nos	1.6
	B. longispatis	Seedling	2 mtr X 4 mtr	2250 Nos	1.8
	B. Tulda	Seedling	2 mtr X 4 mtr	1250 Nos	1
	M. Beccifera	Seeds	1 mtr X 2 mtr	3000 Nos	0.6
Total				8500 Nos	5 Ha

Plot No-2 Back side of Mutha Group of Industries	Name of Bamboo Plantlets	Type of Bamboo Plantlets	Spacing	No of plants	Area covered (Ha)
	B. Balcooa	Tissue culture	2 mtr X 4 mtr	3875 Nos	3.1
	B. longispatis	Seedling	2 mtr X 4 mtr	2625 Nos	2.1
	B. Tulda	Seedling	2 mtr X 4 mtr	2000 Nos	1.6
	M. Beccifera	Seeds	1 mtr X 2 mtr	6000 Nos	1.2
Total				8500 Nos	8 Ha

Engaging of SHG's

Two SHG's were engaged for bamboo plantation namely Pragati SHG and Sristi SHG.

- Pragati Self Help Group, Gandhigram, Subash Nagar, West Tripura District, has vast experience in managing bamboo nursery since last two years. This SHG is represented by its president Mr. Sajal Sarkar involved in nursery preparation, Tissue Culture bamboo plantation hardening, plantation of bamboo etc under the

direct supervision of Forest Research Office, Gandhigram. The SHG was engaged for the work in Bamboo park. Plot No 1 of its vast experience.

- Sristi Self Help Group, R.K Nagar, West Tripura District, represented by its president Mr. Bikash Majumder involved in number of nursery and plantation activities in and around RK Nagar since last three years. It has developed bamboo plantation at Rubber Park and is managing the same. The plot no 2, back of Mutha Industry at Bamboo Park was developed by Sristi SHG.

Process undertaken during plantation:

Choice of species:

TBM planted four important bamboo species namely *Bambusa balcooa*, *Bambusa longispatis*, *Bambusa tulda* and *Melocanna beccifera* in the selected plots to demonstrate the production and productivity of the commercial bamboo plantation in the bamboo industrial park. TBM planted TC b *balcooa*, seedling poly bags of *Bambusa longispatis*, *Bambusa tulda* and direct seed plantation of *Melocanna beccifera*.

Type of Planting Material:

Healthy Polybag seedlings not less than 2 feet with at least 3 shoots and healthy root were used for plantation.

Selection of land:

As suggested by TIDC officials, the valley and slope, not suitable for setting of industry was selected for bamboo plantation.

Preparation of land for plantation

First of all clean the selected plot, free from weeds, Jungle etc. All these dry stubbles burned at the plots. The highly undulated land was leveled and cleaned by using JCB machine for better look and management of the garden in the latter stage.

Lay out & Spacing:

Contour lining were done in slope areas. The planting density were 1250 plants per ha in the case of *Bambusa tulda*, *Bambusa longispatus*, *bambusa balcooa* and for the *Melocanna baccifera* 4000 plants. The distance between the lines is 4 meters and distance between the plants in a line is 2 meters.

Pitting and Refilling

The sizes of the pit were 60cm x 60cm x 60 cm (2 x 2 x 2 feet). While digging, the topsoil was kept on one side and the subsoil on another side. Filling was done with the top fertile soil as far as possible.

Fencing

Fencing was made using bamboo and plastic net for protecting cattle grazing. This fencing was the additional fencing to the existing barbed fencing around bamboo park which was broken at many places by the local people for grazing the cattle in the industrial campus. The broken barbed fencing was also repaired by TBM many times at three locations.

Three round of meeting was organized with the community, in presence of the local public representatives and the General Manager of TIDC seeking their cooperation in developing this bamboo garden around the bamboo industrial park. The managing SHG, Sristi, also officially lodged complain at the local police station regarding continues breaking of fencing and stealing of plastic nets around the bamboo garden and uncontrolled grazing of cattle by the local community.

Engaging persons for watch & ward duty

After failing on all the measures, TBM in consultation with Asst Engineer of TIDC decided to engage five watch and ward man at all the plots including the plot at rubber park. The local person from the RK nagar were engaged by the SHGs.

By engaging the above persons, the grazing of cattle could be controlled to extents but the local communities leave the cattle during the night time in the absence of the watch and ward staff. The plastic net fencing was stolen number of times, though TBM replaces it on continue basis.

Irrigation facility

The bamboo planted by TBM is now protected but the growth has hampered because of continues grazing during the initial time of plantation. TBM requested TIDC to provide water points in 2/3 locations so that the plants can be irrigated during this dry period and growth can be enhanced to some extent.

High Density Bamboo Plantation (HDBP) at West Tripura & Sepahijala District

During the quarter Tripura Bamboo Mission have actively worked in five RD blocks of Sepahijala district & West Tripura District . The R.D Blocks are namely: Charilam, Nalchar, Mohanbhog under Sepahijala District and Mohanpur & Hezamara under West Tripura District.

Progress achieved from January to March, 2016:

- A mobilization Camp was organized by Tripura Bamboo Mission on High Density Bamboo Plantation (HDBP) in different GP/ADC Villages under MGNREGA at Mohanpur & Hezamara Block, West Tripura on 17th March, 2016.
- During the quarter an Exposure Visit Programme was organized on 12th March, 2016 by involving the 3 Gram Panchayats including all the ADC villages of Charilam R.D Block. Gram Panchayat Pradhans & village chairmen of Charilam R.D Block visited model bamboo plantation of Hezamara & Mohanpur R.D Block to view the successful bamboo plantation and its value addition.
- An Exposure visit programme for Village Chairmen and interested persons of Mohanbhog R.D. Block, Sepahijala was organised by TBM on 25th March, 2016 to model high density bamboo plantations at Hezamara & Mohanpur R.D Block, West Tripura to view the successful bamboo plantation and its value addition.

- Programme on Implementation of High Density Bamboo Plantation was organized on 30th March, 2016 under the Convergence of Tripura Bamboo Mission & MGNREGA with the Technical Supervision Committee & Monitoring Committee in the presence of Block Chairman & Block Development Officer at Hezamara R.D Block, West Tripura.
- TBM has initiated to take 80 ha of land covering around 120 beneficiaries in the six ADC village and one gram panchayat under Mohanbhog R.D Block, Sepahijala District namely: South Taibandal, North Taibandal, Chandul, Anandpur, Dasaratahbari and Purba Chandigarh. Most of the beneficiaries are preferring to use their RoFR allotted land for bamboo plantation. As B balcooa, Barak, bamboo has high demand followed by Mritinga and Rupai, so TBM is providing plantlets of the above species in the villages. This intervention is in the process of providing 28,720 MD of job in the seven ADC villages.
- To meet the planting material requirement for the plantation season 2017, TBM has procured Tissue Culture Planting material of B Balcooa, (Barak), and *Bambusa Tulda* (Mritinga) and are being hardening in the Chandigarh grampanchayat under Mohanbhog R.D Block through four local entrepreneurs. These planting materials will be multiplied through Vegetative Propagation during this year and will be made ready for the planting season 2017. In addition to the above two priority species, TC bamboo plantlets of two commercially important species for Tripura have also been procured namely *B cacharensis* (Betu/Bom/Betua) and *D asper* on experimental based in small volume. The total planting material that can be generated through this initiative is around 2,00,000 (Two lakhs) which will be sufficient for planting in more than 200 ha of area in the next planting season 2017. The project is supported by MGNREGA funding.
- Proposal has been submitted for 80 Ha Bamboo Plantation for 5 ADC villages and one Gram Panchayat under Mohanbhog R.D Block.

Snapshot of Activities:



Mobilization Camp on High Density Bamboo Plantation (HDBP) at Ishanpur Gram Panchayat under Mohanpur R.D Block , West Tripura on 17th March, 2016



Mobilization Camp on High Density Bamboo Plantation (HDBP) at Bidyasagar Gram Panchayat under Mohanpur R.D Block , West Tripura on 17th March, 2016



Mobilization Camp on High Density Bamboo Plantation (HDBP) at Meghliband ADC Village under Hezamara R.D Block , West Tripura on 17th March,2016



Mobilization Camp on High Density Bamboo Plantation (HDBP) at Bharat Chowdhury Para ADC Village under Hezamara R.D Block , West Tripura on 17th March,2016



Exposure Visit Programme by involving the 3 Gram Panchayats including all the ADC villages of Charilam R.D Block. to view the successful bamboo plantation and its value addition at Mohanpur & Hezamara R.D Block





Exposure visit programme for Village Chairmen and interested persons of Mohanbhog R.D.Block, Sepahijala to model high density bamboo plantations at Hezamara & Mohanpur R.D Block, West Tripura



Programme on Implementation of High Density Bamboo Plantation was organized in the presence of Block Chairman & Block Development Officer at Hezamara R.D Block



Development of Bamboo Nursery at Purba Chandigarh GP, Mohanbhog R.D Block under the convergence of Tripura Bamboo Mission & MGNREGA

4.2.8. Skill Development

Skill Development is an important intervention by TBM whereby it is focused on both developing new skills (in new clusters) and re-skilling (strengthening existing clusters).

TBM has structured its skill development programme basing exclusively on industry requirements and in line with National Skill Development Corporation (NSDC). TBM skill development models have greatly contributed in formulating National Occupational Standards (NOS) for 15 (fifteen) bamboo based job roles approved by Handicrafts & Carpets Sector Skill Council (HCSSC) under NSDC framework.

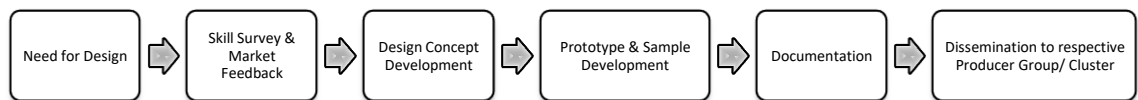
A glimpse of skill trainings undertaken by TBM is given below.

<i>Total number of people trained so far by Tripura Bamboo Mission</i>										
<i>Subject of training</i>	<i>2007 - 08</i>	<i>2008- 09</i>	<i>2009 - 10</i>	<i>2010 - 11</i>	<i>2011 - 12</i>	<i>2012 - 13</i>	<i>2013 - 14</i>	<i>2014-15</i>	<i>2015- 16</i>	<i>Total trained</i>
Raw & Perfumed Agarbatti	2400	2169	1068	1960	962	271	1911	1140	738	12619
Bamboo Stick	0	739	679	1787	2607	190	944	322	429	7697
Industrial Mat (Dhari)	300	620	1304	262	948	0	0	0		3434
Handicraft & Furniture	552	470	1308	829	1032	1988	792	788	457	8216
Preservation & Treatment	260	1035	0	0	0	0	0	-		1295
Bamboo Cultivation & Propagation	490	2532	1259	0	2303	0	1288	-		7872
Exposure visit outside state	0	451	451	0	537	0	223	220	39	1921
Training of field functionaries	442	197	0	0	301	58	222	237	535	1992
Enterprise Development	0	313	0	0	103	0	0	134		550
Industrial Application									22	22
Total	4444	8526	6069	4838	8793	2507	5380	2841	2220	45618

4.2.9. Design & Product Development

Design development is an important activity of TBM to keep the clusters updated about the latest trends in handicraft. An exclusive 'Design Cell' (TBM-DC) has been set up at the TBM Craft Skill Resource Centre at A. D. Nagar where dedicated designer and master artisans have been deployed to develop very trendy yet user friendly craft ideas and prototyping of the same. The reasons behind setting up the Design Cell are to provide design prototype support to the clusters as well as improve marketing intervention. The designs are tested in the market and transferred to potential producers/entrepreneurs after prototyping.

The activities of design Cell are as follows:-



A glimpse of new products developed by TBM Craft Skill Resource Centre, A. D. Nagar, which have been produced during the year, is given below:-



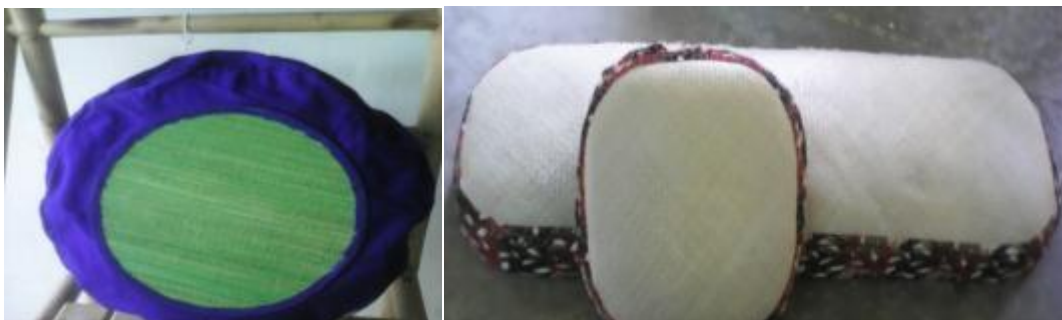
Ladies Purse



Mat based Jewellery Box



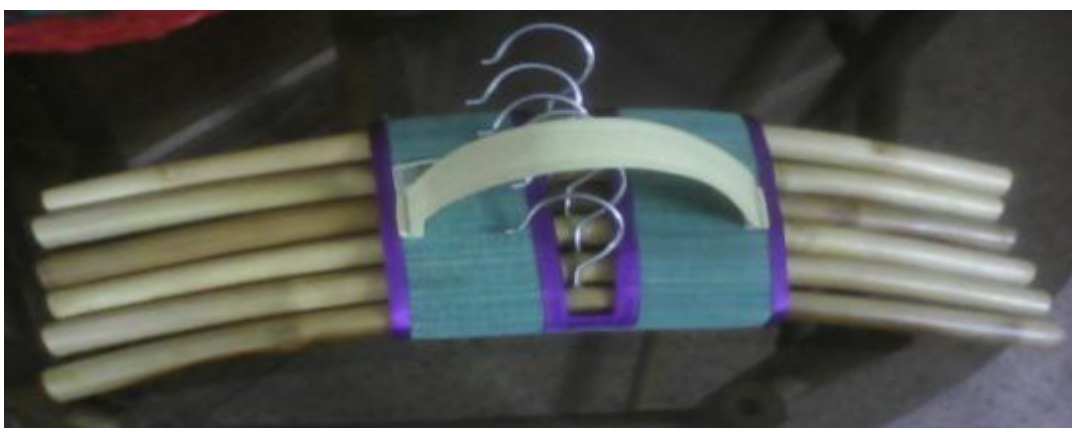
Bamboo Mat Based Pouch



Mat & Sheetal Pati based Cushion



Bamboo basketry Products



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Bag & Lamp



Lamps

Bamboo Craft Skills Resource Centre

Bamboo Craft Skill Resource Centre has been set up at Shed No. 3, A. D. Nagar Industrial Estate, Agartala. The producers located at different parts Tripura need a central facility for managing raw material & finished product flow, demonstration of techniques, quality testing lab for different materials, warehousing, hands-on-training so that. Apart from being a support centre, it is a model demonstration centre for handicraft & agarbatti. Considering a state level private limited company is being formed by the producers, the proposed Resource Centre is essential to manage the entire operation centrally.

Facilities to be available at TBM Resource Centre for SHGs, Producer Societies, Enterprises, NGO s etc. are,

- Product Development: Stitching, Cutting, Pasting & Weaving based Bamboo Handicraft
- Demonstration & Testing Facility: Raw Agarbatti, Agarbatti Perfuming, Quality Testing
- Raw Material Bank: Dye, Treatment materials, essential material for bags & accessories, Fragrance, Agarbatti packaging material, Spares
- Training & Exposure: Demonstration & Hands-on-training for artisans, NGOs, Entrepreneurs, SHGs
- Warehouse: Finished Goods (Handicraft & Agarbatti) inventory, central supply chain management
- Enterprise Development programme was organized by involving the artisans from different producer groups involved in the production of Bamboo handicraft products like bamboo mat based products , basketry, furniture, turning products etc and agarbatti stick and raw agarbatti producing artisans .





Activities at TBM Bamboo Craft Skill Resource Centre – A.D Nagar

4.2.10. Creation of Production Infrastructure

- 19 cluster level Common Facility Centers with Modern Infrastructure & Tools for enhanced productivity & production capacity has been established by TBM across the state; during 2015-16, 3 CFCs were established at Narsingarh, Khas Chowmuhani and Salema under NEC supported handicraft project.
- The centers are managed by community owned enterprises.
- 3 more such CFCs are being built



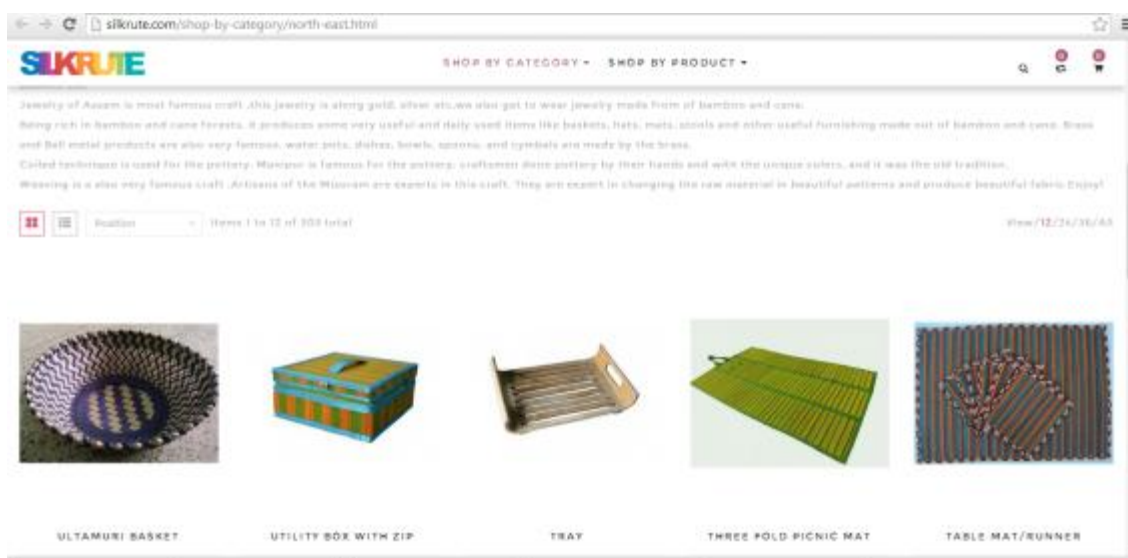
4.2.11. Marketing & Trade Facilitation

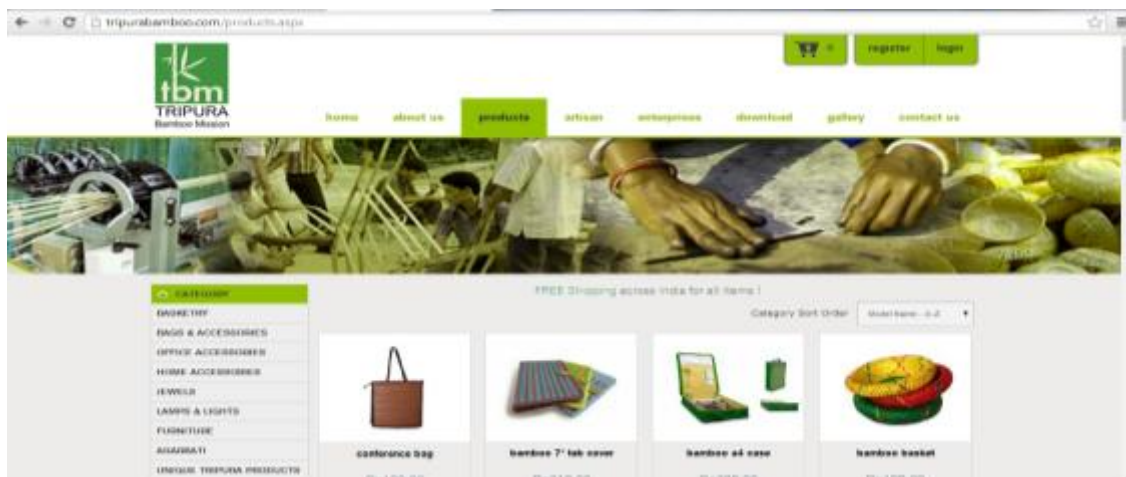
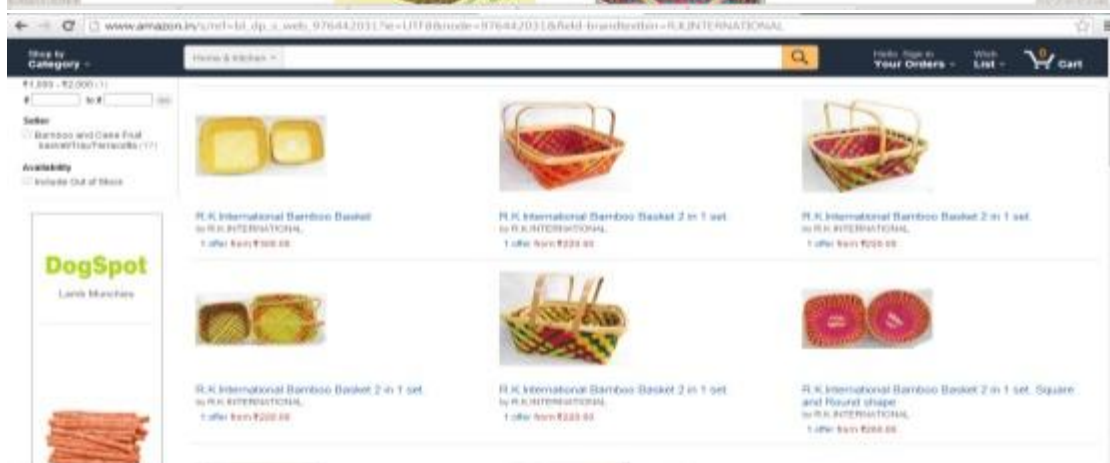
TBM Trade Facilitation Cell has been set up for supporting central supply chain management between buyers & producers. The Cell undertakes strategic marketing activities to facilitate bulk orders for the producers.

A company named “Simanta Handicraft Products Pvt. Ltd.” (SHPPL) has been registered and has started functioning since October, 2015. SHPPL is the SPV formed with its Directors & Shareholders are the artisans group leaders. SHPPL is managed with support & guidance from Tripura Bamboo Mission. A dedicated team of CEO & marketing executives have been appointed by SHPPL.

Major Steps taken for improvement of marketing

- Marketing Tie up with NEHHDC, THHDC, ITC, NRRS, Mother Earth, Giskaa any many other private players
- B2C marketing through eBay.in, flipcart, snapdeal, realshoppee.com etc.
- B2B marketing through Indiamart.com, Tradeindia.com, Indiatradezone.com
- Revamping of TBM portal is in progress with payment gateway facilitating **direct online selling** of products.
- Card payment terminal for ease of retail sales

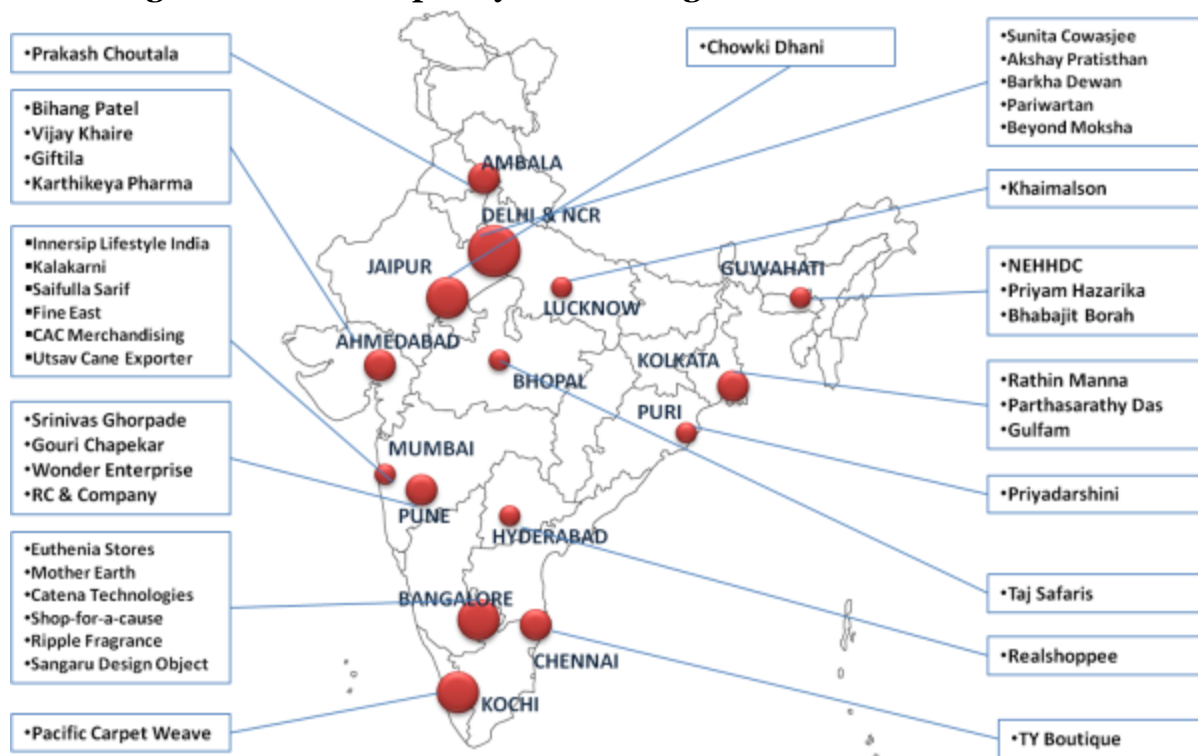




Key products marketed –

- Mat based Utility Bags
- Baskets with handle
- Hand fan
- Table Mat
- Jewelry Box
- Gift box & pouches
- Bamboo briefcase
- Jhola bags (multi-utility low cost bag)
- Traveling Pouch
- Low cost Conference bags
- Sheetal pati File Folder
- File Cover
- Various types of hand bags & purses

Marketing Network Developed by TBM through SHPPL



Major Fairs & Exhibitions participated

- India International Trade Fair 2015 in New Delhi
- Kerala Bamboo Fest 2015, Kochi
- Bamboo Fest at Aizawl, Mizoram on World Bamboo Day
- Tripura Industries & Commerce Fair, Agartala
- Purbasha Exhibition at Agartala

Snapshot of Activities



TBM participated in 3 days Exhibition Cum Sales at Purbasha Complex, Agartala from 1st January to 3rd January, 2016.



TBM participated in 26th Tripura Industry & Commerce Fair at Agartala



Participation in Exhibition in Aizawl Mizoram on Bamboo Day



TBM participated in IITF, 2015 at Pragati Maidan, New Delhi



Board Meeting of Simanta Handicraft Products Private Limited (SHPPL) at its corporate office at AD Nagar, Agartala



Visioning Exercise of Simanta Handicraft Products Private Limited (SHPPL)

4.2.12. Institution Building & Community Development Programme

Institution building is an important activity undertaken by TBM at different levels of value chain in the bamboo sector. The process of institution building starts at the grassroots level by organizing individual artisans into producer groups. A producer group is of similar structure that of SHG. Main activity of the producer groups is production of bamboo based products such as handicraft, agarbatti, furniture etc. Each group has 10 to 30 artisan members. Every group has a bank account on its name and all financial transactions are done through this account.

Institution Building is a continuous process starting from members selection to group leaders selection, group rules & regulation framing, savings, conflicts resolving, trust building, business planning, production planning etc. The assets like machineries, tools, buildings etc. are handed over to the producer groups, which are basically community owned enterprises. Apart from technical trainings, TBM trains and nurtures the groups to create a empowered and commercially viable enterprise. While, the groups take the responsibility for their business/ production operation, TBM supports them by providing backward and forward linkages.

At higher levels of value chain, TBM organizes the entrepreneurs/ aggregators within the cluster so that they are empowered with better bargaining power, smoother market penetration and fairer business deals.

At state level, TBM has promoted a special purpose vehicle (SPV), Simanta Handicraft Products Pvt. Ltd. (SHPPL). SHPPL provides marketing support to the producer groups with the outside state markets, especially for handicraft & furniture products.

4.3. Findings of Market Study by MART

Despite rich & long & rich tradition, pool of highly skilled artisans and array of contemporary designs, the handicrafts sector has not been scaled up significantly. Highly diversified market and consumer taste limits newly designed handicrafts to be marginally low volume produce. In this scenario, the price competition, investment and market risks are higher. Handicraft has more or less has been perceived as unique limited edition items and most of the time it is marketed with this same perception. On the contrary, there are handicraft products like Tripura Basket and Roll mat, which are produced and marketed in large volumes and undoubtedly, Tripura is the leading supplier of products of these categories in Indian market symbolizing high volume and cost competitiveness.

During mid 2015, TBM engaged Noida based leading consulting firm MART to undertake a study on marketing strategy and implementation plan for Bamboo Handicrafts of Tripura.

Objective of the study

- To study the existing supply chain and issues and challenges with primary producers associated with TBM
- To map the demand and market trends across state and national level market for identified bamboo handicrafts
- To develop a data base of existing and potential market players for establishing linkages across national markets
- To suggest an appropriate futuristic business plan for the producers including a detailed marketing and implementation plan

Methodology

- Discussion with TBM team
- Stakeholder discussion
- Discussion with artisans and manager of Production Clusters
- Selection of products for market study
- Market Study in select geographies

Findings of the Study

i) Tax regime and Taxation Mechanism

- Central sales tax rate for handicraft items is 0%. This tax is chargeable by the seller and payable by the seller.
- The seller needs to be a registered handicraft dealer to take benefit of the 0% tax otherwise the sale should be charged as per alternate tax rate applicable to similar items listed under non-exempt category.
- This alternate tax rate shall vary with the category of the product of TBM.
- Tax chargeable by TBM will also vary based on the nature of the purchaser in case of entities not registered as handicraft dealers.
- If the purchaser intends to use the product for in-house consumption the tax rate will be different. Similarly, if the purchaser is able to issue a "C" form the tax rate will be much lower viz. 2% in most cases.
- However, all these considerations undergo further modifications based on the various states and the associated goods movement permits required for passing through them. In most cases, the seller insists that the buyer organize all paper works and send them across before dispatch of goods.
- Ideally, an organization should engage a tax consultant to identify the applicable laws and rules of business and guide the enterprise in dealing with legal compliances like taxation.
- It becomes more important because taxation rules are not static and undergo frequent changes without reference to any calendar schedule.
- TBM or the proposed private limited company should look for a person to be engaged as a tax consultant for receiving such guidance and safeguarding the business from penalties and risk of closure.

ii) Major Insights from Stakeholders Consultation

- All production clusters are registered as not-for-profit Societies
- Production clusters follow decentralised production system with a central workshop for assembly and finishing
- The workshop often runs below capacity due to paucity of orders
- Production process is largely driven by supply side factors instead of market factors
- Production of traditional products is determined mainly based on raw material and skill availability rather than market demand
- Availability of right quality and adequate quantity of bamboo is a huge challenge

- Cost of procuring other inputs like Rexene (foam) sheets, adhesives, etc. is very high as they need to be brought from Kolkata
- Traditional artisans are reluctant to adapt themselves towards producing new design products
- Quality maintenance especially those related to size and structure is a challenge as production processes are mostly manual
- Artisans or traders do not have knowledge of established markets for the new design products
- Cost of production for new generation products are very high due to low output of artisans and high cost of inputs other than bamboo

iii) Awareness among customers and sellers

- The basis of mapping is rapid market scan with specific focus on wholesalers and retailers dealing with bamboo based items in the major markets viz. Bhubaneswar, Bhopal, Pune, Hyderabad, Bangalore and Kolkata.
- Poor response received on the emailed catalogue by TBM does not give significant understanding on the awareness part.
- However, neither the new age products are practically known among sellers and nor are they interested in the same. They are more interested to take products as per their own designs and specification and look at TBM only as contract manufacturer with practically no requirement or role on design front.
- However, on the online platforms including e-commerce sites TBM has the independence to sell its own designed products
- Market segmentation of buyers has not come out as a relevant aspect since the limited numbers of traders that operate in bamboo based product cater to all segments of customers. Further, there are very few exclusive outlets (like Purbasha) that majorly deal in Bamboo items only.

iv) Functional similarity to existing products in the market including similarity in price points

- Products selected under this study are currently found in the market either as bamboo based items or jute or totally of synthetic make.
- Table mat set or pen stand or folders: All these items are available in variety of forms like plastic, cloth, jute leather etc., their functional aspects are similar.
- On the other hand, products like coloured bamboo baskets, lamp shade, various boxes, ladies hand bags, mat based purses are not viewed as mainstream saleable items. Such nouveau items are considered unsuitable for functional purposes by buyers in mainstream market and find buyers only in market places like exhibitions or fairs.

- Therefore, the new age products of TBM have low uptake and are priced at a level much higher than the competition.
- The primary assumption of having a mainstream (regular) market for high value and high margin products does not stand up to our scrutiny, as the market scan clearly indicates. During the course of our market scan, we have not found any ready buyer for the items designed by TBM.
- Regardless of these findings, TBM either may at its own initiative talk to specific boutiques to find out if they are interested to trade in items designed by TBM or test its products on online platforms

v) Market Findings

- The market share of Tripura handicrafts (many a times, Tripura handicrafts marketed by players located in various states assumes the name of the supplying location and not of the production location) is negligible in the states though the retailers express that the demand is apparently very good in craft melas organized at state level throughout the year.
- The market of exclusive bamboo handicrafts is mostly limited to urban areas (largely Tier 1 cities) of many states e.g. Delhi in Delhi, Bhubaneswar and Cuttack in Odisha; Hyderabad in Telangana; Vishakhapatnam and Vijayawada in Andhra Pradesh, Chennai in Tamil Nadu, Kolkata in West Bengal, Mumbai and Pune in Maharashtra, Bhopal in Madhya Pradesh and Bangalore in Karnataka etc.
- Main marketing platforms for handicraft goods are the state level exhibitions organized by the Directorate of Handlooms and handicrafts, Societies, NGOs, and Artisans
- Mainstream supply chains are typically wholesaler, retailer centric
- Wholesaler and retailers based out of major cities are dependent on certain hubs (e.g. Odisha ones depend mainly on the Kolkata market and Assam for a host of other centres) for raw materials and finished bamboo craft products
- Big traders receive regular consignments of bamboo handicrafts from North East including Tripura and cater to the retailers. They have ties with traders based out at Kolkata, Guwahati, Agartala besides Hyderabad, Delhi, Punjab etc.
- Sale is mainly dependant on foreign visitors and tourists resulting in low scale of business
- Traders and retailers operating on such a low scale with limited marketing avenues are not willing to invest particularly when cost of transportation from Tripura would most definitely act as a deterrent in price competitiveness.
- Potential demand for north eastern bamboo handicrafts in various markets that are mostly sold out from collection by retailers and traders
- Irregular flow of handicrafts products is the major constraint

- Most of the traders and retailers are supported with grants under department of DC Handicrafts and state govt supported Artisan societies to promote state specific handloom and handicraft products so they cannot promote or sell handicrafts of other states freely in exhibitions or in open market retail outlets due to these compulsions.
- The retailers which are based at District Headquarters have small investments and sell handpicked traditional handicrafts having ready demand. They are not aware of all the contemporary products range available in Tripura and other states, nor are they willing to experiment with new products on a large scale.
- We found limited marketing support facilitation by the Tripura State Government to popularize and market the unique propositions of handicraft products. There is a perception among all the traders that the raw material from Tripura is of good quality but it has not been popularized enough to create a brand name.
- At least in the eastern corridor all products are synonymous with products from Assam, which enjoys an undisputed brand name in bamboo handicrafts in the country

Recommendations

i) Product Recommendations

- The 6 products selected have not been available in the mainstream markets, though few products are sold in national level exhibition cum sales organized at the state level. Hence, test marketing of all these products can give an opportunity to assess demand among the customers.
- Moreover, coloured bamboo mat sticks as raw materials are in demand and are procured from Kolkata market by retailers to value add (stick terracotta figurines of animals, birds etc) and sell it as wall hangings. Such raw material linkages can be thought by TBM.
- TBM has to individually liaise with the buyers to get their design specifications. The rates also vary accordingly. Order volumes vary as stocking at the wholesalers' end is minimal.
- Further, orders often come with short gestation and varying design requirements. Therefore, the production clusters of TBM has to maintain a ready stock of the basic inputs so that fabrication may be undertaken within the shortest possible time and orders serviced within the target period (entails provision of working capital to do this).

ii) Price Recommendations

- Price rationalization is critical, otherwise catering to markets (both conventional and niche) through established marketing channels would not materialise.
- Moreover, niche marketing through e-commerce platforms by registering on top notch selling portals may allow TBM to reap dividends.

- A dedicated team to explore and continuously follow up the sales would only provide boost to the sales.

iii) Price Recommendations

- Tripura being a landlocked state with practical challenges of communication and transportation involved in physical trading, it is suggested that online selling platform should be focused as 'one of the major channels of marketing'. Online platform for handicraft products with clarity on eco-friendly attributes of products.
- Bamboo craft marketing channels is predominantly through exhibitions that contribute to 60-70 percent of total sale across the state and is also applicable to India.
- Major players (state handicraft societies) have stalls in international market exhibitions for northeast at Greater Noida and there are two major seasons- autumn and spring fair when selling of bamboo crafts happen.
- There international and national traders, wholesalers based out at major cities who place orders and procure bamboo craft items.

iv) Promotion Recommendations

- Creating a platform for promoting entrepreneurs / wholesalers for Tripura bamboo products at state and Greater Noida level. Partnership with north east states as a whole for product marketing would be a viable strategy at least to partially overcome the transport and communication issues of Tripura
- Tie ups with e-commerce / online platforms for better promotion

Marketing Outlook

- 5 buyer categories have been identified based on interaction with market players and discussion with TBM team keeping in view the 6 products identified under this study. They are
 - Boutique
 - Aggregators
 - Government Corporations
 - NGOs
 - Training Institutes

Characteristic Features

- It was found that boutiques and aggregators procure products based on their own specifications and designs.
- Government corporations, NGOs and training institutes generally don't provide their own design. However, they specify sizes and dimensions for the products.
- On the pricing front, boutiques and aggregators negotiate based on market linked prices. This leaves low margins for the suppliers in most cases.

- Government corporations and training institutes procure through open tenders, annual rate contracts or shopping procedures based on the purchase value and type of items.
- NGOs mostly procure based on organizational and personal linkages.
- It was found that sale of handicraft and fashion items require deep engagement with the buyers.
- Incorporation of customer feedback in designs along with seasonal changes in design requirements necessitates such engagements.
- Regular buyer interactions are also essential to secure orders because lead time between order and delivery is very short.
- Further, it was found that each buyer has a purchase limit based on their selling potential and financial capacity.
- Therefore, adequate numbers of buyers need to be scouted from each category to achieve desired sales volume and value.
- Financial projections have been drawn based on

Way Forward

- Create a dedicated team for undertaking marketing activities and utilise their services for SHPPL
- Place samples of products with various buyers to solicit their feedback and seek orders
- Engage with established aggregators and manufacturers in mainstream markets for refining existing product designs and paring costs.
- Engage with government bodies including training institutes to understand their requirements and participate in their procurement processes.
- Undertake modifications to the production processes, raw material procurement and usage and packing and transport services to reduce costs.
- Undertake skill development of artisans to enhance productivity and quality while reducing wastages
- Create a quality control process covering material usage, workmanship and costs for achieving standardisation across product batches
- Invest towards brand development highlighting social and environmental contribution of SHPPL's products
- Consider various certifications like fair trade, handicraft mark, craft mark etc. to enhance brand's prestige and appeal among the affluent buyers.
-

5. TBM Evaluation 2015 by CII- GKAFC

Need for TBM Evaluation in 2015

With changing international trade regime, and a rapid change in market dynamics, there was a compelling need for TBM to revisit its strategy formulated at the time of its inception. The purpose of the Evaluation is to **assess the strategy, focus, process, progress and future scope of TBM**. Based on the findings of the evaluation, the way forward and the long term strategy for the bamboo sector development in the state will be prepared. The mission will equip itself to meet the challenges of the bamboo sector in the state and lead an example for the rest of the country.

Scope of TBM Evaluation 2015

- Revisiting TBM Strategy
- Assessing the Progress Achieved
- Recommendation & Future Strategy for 2025

Evaluation Team

CII GKAFC has constituted the following experts as the evaluation team to review the working of TBM. The team initiated the Evaluation in the month of December 2015.

- **Dr. Ram Prasad, IFS**, Former Principal Chief Conservator of Forests, Govt. of Madhya Pradesh and Former Director, Indian Institute of Forest Management, Bhopal.
- **Mr. K. Srinivasa Murthy**, Director - Confederation of Indian Industry (CII) and Head - Gujarat Knowledge Application & Facilitation Centre (GKAFC), Ahmedabad

Methodology

- i. Stakeholders Consultation
- ii. Field Visits and Extensive Discussions with project Beneficiaries
- iii. Review of all relevant project documents

Key Observations

- i. The Tripura Bamboo Mission (**TBM**) launched in 2006 was a very timely and bold initiative as it envisioned developing sustainable bamboo resources for the well being of its people. The people connected with the management of bamboo have known about the richness and quality of bamboo in the entire NE states followed by Central Indian States. In case of Tripura, the climate and soil are so favorable that it can

produce maximum bio-mass in a period which is unthinkable in any other patch of land in the country. In such a unique landscape with so varied and rich flora, including 19 species of bamboo, the decision to launch Tripura Bamboo Mission could be termed as a decision taken “***Ahead of Time***”.

- ii. Gregarious flowering of *Mellocana bacciferra* (Muli) had fully set in which was definitely going to affect short supply of such widely used bamboo in the state for some time till the species in flowering got fully rehabilitated. Most of the rural population used this bamboo for household needs and for converting them in to small and medium sized cottage items giving employment to workers and artisans.

In addition to Muli undergoing widespread gregarious flowering a number of other prominent species also flowered. The information on gregarious flowering of other species was as follows:

- ✓ Melocanna bacciferra (Muli) all over Tripura since 2002 to 2014
 - ✓ Bambusa tulda (Mirtinga) : In West and North Tripura in 2010, 2011
 - ✓ Schizostachyum dulloa (Dollu): in 2001,2002, 2010 Dhalai and North Tripura
 - ✓ Dendrocalamus longispathus (Rupai), 2010-14 Dhalai, North Tripura
 - ✓ Gigantochloa andamanica (Kaliya)- 2006-08: majority area in South Tripura
- a. Implementation of Forest Right Act, 2006 had seen large scale diversion of forest land, most of which was bamboo bearing (about 1750 sq. km forest area / 175,000 ha) was transferred for other uses. Many bamboo bearing areas in both south and north districts were being cleared by FRA allottees who preferred Rubber rather than bamboo.
 - b. Due to gregarious flowering of bamboo in central Indian states the pressure on supply of bamboo for incense sticks had additionally come upon on Tripura and other North-Eastern States.
 - c. Formulation of JICA Project promised huge investment in afforestation of bamboo for employment generation and income to the rural poor. However, protection of the plantations proved to be major challenge. It was challenge to persuade FRA allottees to plant bamboo rather than Rubber. For some years this did not appear to be succeeding, but now with constant efforts of TBM and forest department, supported by strong political will, the trend of bamboo plantation has started gaining acceptance & momentum among the people. This was in tune with the objectives of setting up of TBM a decade back. This will continue to require promotional support from TBM as it promises

livelihood security of large number of small and marginal land holders getting remunerative returns beginning in a short period of 2-3 years.

- iii. The generosity of Nature is well exhibited by about 19 species of natural and cultivated varieties of bamboos. Nature has been equally magnanimous in creating most hospitable edaphic and climatic conditions that productivity of the eco-system is comparable to any other similar landscape in the country. In respect of bamboo people and particularly the foresters are often quoting China ahead of all other bamboo growing Regions of the world. However, their visit to some farmer's field will comprehensively convince them that recruitment of new culms ranging from 30-50 numbers on an average, with an estimated overall height of 20-25m and each new Culm weighing about 25 kg will annually add to about a quarter of a ton per clump. Presuming a stocking of only 50-75 clumps per hectare will have an assured yield of 50 ton/ha/year. TBM sponsored high density bamboo plantations have also been assessed to yield about 20 t/ha/year at the end of 3 years. This was based on our observation visiting some of the kanakkaich bamboo plantations raised by TBM in Hezamara. There it was observed that the clumps have grown to a height of 7-8 m within one and half year of plantation. Each clump contains 8-12 bamboo poles with average weight of 3-4 kg. Considering the average stand of 3500 plants per ha and 5 harvestable poles with average weight of 3 kg, the average productivity comes to 52 MT per ha. These two examples, one based on farmland and another on TBM's high density plantation, clearly demonstrate that the bamboo yield in Tripura is comparable to high density bamboo plantations elsewhere, particularly in China and Vietnam.
- iv. It is being observed that the quantum of Agarbatti sticks produced in Tripura and supplied to the Indian manufacturers has drastically declined from about 30,000 MT/year about 4-5 years back to current demand of less than 5000 MT/year. This scenario has been the result of uninterrupted large import of round bamboo stick & raw batti from Vietnam and China. It is reported that, the two foreign countries, Vietnam & China have set up units for manufacture of quality products. As compared to them, Tripura has not been able to make commensurate investment in setting up modern units. If Tripura has to regain its place of pride in respect of these products, an estimated investment of about Rs. 150 crores to set up at least 2000 round stick machines in about 40 units (each unit with 50 machines). This would mean that, by investing Rs. 150 crores, the state could bring a gross revenue of more than Rs. 350 crores per annum. In terms of employment each such unit may generate direct employment to about 200 persons. Indirectly through higher investment in

plantation and allied activities would additionally generate employment for another 300 persons. Thus, setting up of 40 units may get employment for about 20,000 persons. With the existing schemes of skill development and make in India programme, this venture thus offers huge economic and employment. If part of this production is value added through masala batti, perfuming, packaging & selling, may bring a return of Rs. 800-1000 per kg of finished products. It is to be noted here that, up scaling of this magnitude would require a dedicated team of industrial & marketing team to assist TBM at least in the initial 2-3 years.

- v. The Tripura Bamboo Mission has been implementing the various activities outlined in the strategic document prepared in 2006 for about a decade. The Mission has been largely implemented by a professional organization IL&FS with great efficiency despite many challenges mostly on account of financial constraints and to some extent lack of manpower. The Mission has focused on all activities provisioned in the Mission Document. These are resource development, cluster development & technology induction, institution development, capacity building, mobilization of financial resources, resource augmentation through private plantation, market development etc. They have successfully demonstrated the model of using MNREGA resources for the benefit of creating resource in shortest possible time. About 1000 ha of bamboo plantations have been raised on beneficiary's fields and this tempo continues to build up on by implementation team. Despite many eyebrow raised about the involvement of a private agency like IL&FS it appears that government has fully recognized the efforts of present form of TBM which is a right mix of foresters and professionals performing without any scope of conflicts in implementation strategy.
- vi. All this and more can be expected only from a State like Tripura which is unique and therefore call it **"God's own country"** in true sense of the word. These opportunities have been converted into rural employment and income of the dependent poor families through a number of promotional activities. These have to be up-scaled by invigorated efforts. Precisely, for these reasons and more it is strongly recommended to continue TBM and the present implementation mechanism with desired doses of enrichment.
- vii. In the past about 10 years of working, TBM has brought in over 100 agencies / consultants / partners / experts etc for taking their help and advice in promoting the bamboo sector in the state. Broadly this is continuing even now. The time has come for TBM to further focus on reviving the relations for promoting bamboo based business in the state. Further, TBM may also study and adopt practices of successful ventures / initiatives across the country and forge linkages with them. Also such an understanding

shall help TBM in designing a means and mode of bringing convergence across different departments of Tripura aligning with the mandate of strategic plan 2006.

- viii. It was decided by government of Tripura to formalize an institutional structure with a team of small number of executives and field workers who could understand the cross cutting issues of bamboo development sector in the state. This team has to take into consideration the resources available in respect of bamboo and artisans who could create livelihood opportunities for the speedy socio economic development of the state. The choice fell on IL&FS. This organization has continued to implement the objectives, mission and goals set in strategy document. The past ten years have been a very rewarding association for TBM and implementing agency IL&FS. There is no short coming noticed in the present arrangement and therefore it should continue

ix. **Livelihoods of the artisans practicing Commercial Handicraft**

The extent of livelihood from various economic activities based on bamboo processing has been given in following Table

Table: Extent of livelihood from some bamboo processing work

Category of Handicraft	Approx. No. of artisans	Turnover, Rs. Lakh	Wage component % in the craft	Total Amount disbursed as wage to artisans, (in Rs. Lakh)	Avg. Earnings per artisan per year, Rs.	Avg. Earnings per artisan per month, Rs.
Mat	2312	1037.55	40%	414.94	17945	1495
Baskets	5087	1421.56	70%	995.09	19562	1630
Furniture	555	384.21	40%	153.68	27693	2308
Other crafts	1295	998.93	40%	399.57	30858	2572
TOTAL	9249	3842.05		1963.29		

Source: TBM Reports for the year 2015-16

x. **Some observations and responses**

Sl. No.	Observations	Responses
1	Whether TBM could have done better? Is the strategy of apportioning the role between TBM & Dept of Forests for value addition and resource generation (plantation)	The present strategy of TFD efforts on raising bamboo plantations in forest areas should continue. TBM continues to mobilize the communities, particularly the cluster of farmers of SC / ST / BPL / small and marginal category. TBM is better equipped for raising bamboo plantations on RoFR

Sl. No.	Observations	Responses
	respectively a correct strategy?	lands through participatory approach. For value addition the current efforts of TBM have shown good results which need to be up scaled. The coordination and assistance of TFD to TBM may further help in achieving the objectives of state, because it is a right mix of ecological & socio-economic needs of the state.
2	How TBM could address the challenge and concern of the industry for ensuring sustained supply of raw material which is critical to investment in this sector?	There is a degree of uncertainty in procurement of raw material for private industries. In Karnataka for example the private particle boards with capacity of 2 m sq m or more have come up based on private Eucalyptus plantations. They are facing stiff competition for same material going to paper mills. The particle board industry is flourishing based on private supplies. Therefore, the activities of TBM with proper government incentives will ensure sustained supply of raw material to the existing & upcoming industries.
3	How to replicate the Anji county model of China in resource generation, industrial infrastructure development, Industrial policy etc in Tripura?	A delegation may be sent to China & Vietnam for study of their resource generation strategy and industrial tie up. Based on the learning from their plantation strategy. However, on the scale matching to the present capacity of TBM it has innovated the concept of asset creation – bamboo plantations on private lands through MNREGA funds. They have started inter cropping of turmeric, ginger etc. They could be encouraged to take vegetable cultivation also particularly in first year. The present TBM model is good.
4	Is it desirable to identify focused Blocks in districts for concerted efforts on collective action which may include fund raising & convergence, resource generation and subsequent activities to be more effective strategy in future?	Yes, it is a good initiative. This will help to have outreach to most desirable locations. It will also reduce administrative hassles in approaching authorities in faraway places. The projects implemented by the district authorities can be converged for a singular outcome. For example MGNREG fund can be utilized for creation of large scale bamboo plantation and Industrial estates in the state can be improved to facilitate establishment of bamboo industries by the Dept. I&C. Local entrepreneurs can be encouraged to avail the national and state level schemes for setting of units by District Industries centre. Entrepreneurs from outside the state can be encouraged to establish bamboo based factories where they will get required raw material from the nearby area and the state govt can extend the incentive schemes available for promotion of industries in the focused block.
5	Local youth earning profit out of bamboo nursery and	The NLFT has been more or less rehabilitated and therefore the villagers particularly the youth have

Sl. No.	Observations	Responses
	plantation	taken bamboo nursery and plantations in Kanchanpur, Mohanbhog & Belbari. The farmers who were once engaged with Paddy and Vegetable cultivation are now turning in to bamboo growers as it is more profitable and there is a huge demand for bamboo made products traditionally as well as in industrial and construction activities. A number of locals (youth) in Kanchanpur area have started this on SHG scale and are earning profits. It is important for TBM to identify such SHGs to mobilize youth for raising nursery and plantations of bamboo. The experience in this area is very rewarding and worth emulation elsewhere.

Key Recommendation

- i. The TBM has so far concentrated on growing Kanakaich bamboo (*T.oliveri*). They need to take up other species like *B.balcooa*, *B.tulda*, *B.cacharensis*, *D.longispathus*, *B.polymorpha*, *M.bacciferra* in different clusters where the demand for these specific species of bamboo are in high demand. As the seed of these species are not available in large scale, so the mission can explore creating tissue culture nurseries hardened in local conditions for better survival and growth of the plants and quicker return to the farmers.
- ii. The MNREGA plantation raised on farmers fields have been more or less a free of any charges to beneficiaries. This needs to be re-examined to ensure creation of a dedicated fund for the benefit of other farmers. TBM should organize the bamboo growers into institutions and encourage the institutions to create a bamboo rhizome bank. This bank can help upcoming plantations when there is no MNREGA or other financial support from Govt.
- iii. Inter-cropping of Sugandhmantri, ginger and turmeric promises annual returns to the beneficiaries from the first year itself which may offset the cost incurred by them in the maintenance of plantations. This will create interest among the farmers to maintain the plot in a better way.
- iv. Private bamboo nursery should also be encouraged under the on-going program of TBM, particularly the species for which planting material is not readily available. The species may be *B.balcooa*, *B.tulda*, *B.cacharensis*, *D.longispathus*, *B.polymorpha*.
- v. In the basketry and other artisan units full and effective participation of members

need to be ensured so that one particular person/limited no. of persons will not be able to take the whole benefit themselves. This observation is based on a visit to a unit at Udaipur. The infrastructures created by TBM are generating income part of which should be contributed to a special fund for further development and welfare activities. This may ensure long term sustainability of the efforts of TBM.

- vi. The exposure visits of artisans/ entrepreneurs to China, Vietnam and even within India will help them acquire knowledge about the variety and quality of products being produced through different technology & process to meet the requirement of international & national market.
- vii. The TBM should plan opening out-lets on commission basis in major Indian markets outside and within the State of Tripura.
- viii. The continued declining trend of production & demand of bamboo sticks from Tripura on account of large scale import from Vietnam & China is a serious trade issue to which TBM with the attention & support of Industry department take measures to regain the pride of place in this respect. This requires more round bamboo stick units with desired modernization and skill up gradation to cope up with this unprecedented happening. The skill development ministry needs to be approached because it is connected with employment of large workforce and trade balance.
- ix. The TBM has great relevance in creating private participation models in resource generation, value-addition and development of market linkage. There cannot be a period prescribed for the existence of TBM. It has performed well in addressing the ecological, social and economic dimensions by their Mission approach. They will always have this relevance so long there are bamboo resources and market for the products and services from Bamboo.
- x. TBM was a concept of development of green economy for the land locked state of India. It has endured the long cherished objectives of developing bamboo sector in all its facets. It continues to do so even now and beyond and therefore it cannot be bound in a time frame of 5-10 years. Let this mission -mode program continue serving the sector and people dependent upon this in the State as well as elsewhere.
- xi. TFD has been raising large scale bamboo plantation and generally they are of good quality. However, in view of free access to resources which are contrary to the requirements of Sustainable Forest Management enunciated by working plans prepared in the state protection and productivity of bamboo resources will continue to be a great challenge. Thus the TBM model involving needy communities will

continue to be relevant and a good alternative to not responsibly managed government owned bamboo forests of the state.

- xii. Bamboo based industrialization has truly commenced with Bamboo-wood manufacturing units. More such units have to be encouraged. TBM has been constantly pursuing the task of attracting prospective entrepreneurs. This with full backing government may start giving results soon.
- xiii. R&D team within IL&FS team has become important and is strongly recommended.
- xiv. The implementing agency IL&FS has developed replicable model of peoples participation in growing bamboo to augment dwindling resources. The efforts have so successfully tried to reverse the ongoing craze for converting bamboo into Rubber plantations. People are gradually convinced about planting bamboo as against Rubber as it has better economics, short gestation period and from initial investment points it is more suitable to farmers having small and marginal farm lands currently not used for agriculture and other crops.
- xv. It has been further demonstrated that a mean and lean organization like IL&FS could be more effective than a full fledged down-the line forest cadre. Thus, there is a felt need that the present association between TBM and IL&FS should continue for the good of the sector and people of this state.
- xvi. There are a number of organizations working on different aspects of bamboo sector in the state of Tripura. Some of the prominent organizations engaged in bamboo sector are as follows:
 - Tripura Bamboo & Cane Development Centre (TRIBAC)
 - Centre for Forest Livelihood & Extension (Centre under ICFRE Dehradun)
 - Bamboo & Cane Development Institute
 - Tripura JICA Forestry Project
 - THHDC- Purbasha
 - Tripura IGDC
 - Dept. Of Handloom, Handicraft & Sericulture

To ensure effective convergence which will be critical to ensure better impact of programmes and higher returns on investments, TBM should be the single point platform/ institution. For all bamboo related activities, the other organizations should place the budget to TBM for effective implementation and monitoring at the state level.

- xvii. TBM should try to access international assistance and co-operation for sustainable

development of bamboo based socio-economic development of state.

- The international agencies like International Tropical Timber Organization (ITTO) to which India is a prominent member has been supporting some projects in the country.
 - Bilateral cooperation with China and Vietnam could also have been useful for development and use of technology for production of goods for accessing international markets.
- xviii. In North- East also the TBM could play an important role by extending consultancy services. It was indicated that IL& FS has been considered by Government of Nagaland for helping them in their initiatives in Bamboo.
- xix. In many states of India, State Bamboo Missions have come up. TBM with about 10 years of field experience, it could take-up consultancy and networking for promotion of bamboo based enterprises so that no bamboo without processing goes out of the state. Also, this shall help TBM & different states to come out with exclusive bamboo outlets & supply chains – as a collective effort.
- Bamboo sector has tremendous economic potential and therefore developing all aspects of this sector- social, ecological and economy would require more attention in the coming years and therefore it would not be feasible to divert the attention to other fibres and NTFPs. The present set up of NTFP Center of Excellence is well placed to take care of the medicinal plants and NTFP sectors.
- xx. Tangible and intangible benefits have been flowing out of the activities of TBM. It may be necessary and desirable to assess these benefits for demonstrating the effectiveness of people's participation in greening of waste/ wastelands particularly for generating sustained livelihood to rural poor. **Since this requires a kind of third party assessment to be credible, it is proposed that this type of technical work could be outsourced.**
- xxi. TBM's efforts of greening are supplement to the efforts of forest department. Thus, this should also be considered as a modest effort in minimizing the harshness of climate change in the state.
- xxii. More vigorous efforts in creating bamboo based entrepreneurs is essential. IL&FS should consider a group of dedicated personnel with expertise in enterprise development. The state government should also provide necessary support for this effort. This is in the interest of economic development and for economic utilization of growing bamboo resources in the state.

Way Forward

- i. Since the state has witnessed that the existing revenue & employment potential of Bamboo Round Stick has gone to Vietnam & China in last 3-4 years, it is high time that Government of Tripura, IL&FS and TBM take aggressive measures to set up 40 units with 2000 round stick machines to produce about 30,000 MT of sticks which used to be the total annual production of the state only a few years back. This would require an investment of about Rs. 150 crores which if materializes will bring revenue of more than Rs. 400 crores and direct employment of about 8000 persons. We, therefore, strongly recommend that the state (TBM) should approach the Ministry of Skill Development and Make in India programme. This is a case as to how the economic opportunity from one of the North Eastern states with lot of bamboo resources has gone to our neighbouring nations probably due to lack of our competitiveness. If we have to match this competitiveness, then the proposed investment of above magnitude is needed for setting up of appropriate units with modern facilities & technology.
- ii. Bamboo based industrial development is today faced with the legal & policy hurdle on account of requirements of multiple point transit pass. The present transit rules should, therefore, be revisited and in collaboration with other North Eastern states attempt should be made to make them smooth and amenable. The private grower also feels disappointed on account of levy of royalty which is unjustified.
- iii. There is a need for **Rapid Resource Assessment** (RRA) of different types and location of availability of bamboo resources. It will be desirable to document supply and value chain of bamboo and its products. This will be helpful in attracting entrepreneurs. Appropriate organizations could be contracted to complete this assessment in next 6 months or so and prepare a detailed inventory of resources and other infrastructure available in the state (communication- road & rail, connectivity, ease of doing business, uninterrupted power supply, water, land, labour etc.).
- iv. There is a need for forest certification for sustainable management practices in bamboo forest/ plantations. There is no government sponsored agency in India. There are a few private agencies who could be contacted to take up this work. Similar work has been done in Tripura Forest Development Corporation and many other forest corporations. Recently, Madhya Pradesh Forest development Corporation has given this work to **Woodcert**. There are other agencies like **Rain Forest Alliance**, **SGS** and some more.

With several positives (e.g. abundance of resources, communication & connectivity, infrastructure, good governance and legal & policy framework etc.) there is no reason why industry should not use the opportunity to invest in Tripura. It appears that, the state should aggressively market Tripura, its resources and potential for industrial development. It is strongly recommended to identify **Mentors** for providing necessary assistance in this regard.

Turnover Projection FY 2025

Sub-sector	Turnover Target (Rs Crore)	Infrastructure/ units to be set up	Estimated Production Volume / turnover	Estimated Livelihood Support, no. of households	Required Investment (Rs Crore)
Bamboo Round stick	215	850 round stick machines; Rs. 3.5 cr per unit of 50 m/c incl. building/workshed	15,300 MT (60 kg per m/c x 300 days)	3400	60
Perfumed and Packaged Agarbatti	85	10 perfuming units (incl. existing) with capacity to consume 7-8 MT raw batti each per month	1000 MT of Agarbatti (Approx. 1.2 billion sticks)	600	23
Industrial Application of Bamboo	130	Atleast 3 large scale units & 3 medium scale/ ancillary units	Each large unit turnover of Rs 30 – 35 crore per annum; each ancillary unit turnover of Rs 8-10 crore per annum	800	25
Handicrafts & Furniture	60	100 units (incl. existing entrepreneurs, CFCs)	Per unit turnover of Rs 30 lakh – Rs 1 crore per annum	5000	90
Processed Bamboo	10	10 units with modern equipments & tools (including existing units)	20 lakh poles per annum valued at Rs 50 per pole	350	3
Total	500			10150	200

6. New Projects Submitted

Sl. No.	Submitted to	Scheme	Project Name	Project Cost, Rs. Lakh	Duration of Project	Status
1	KVIC	SFURTI	Bamboo mat based utility product cluster West Tripura Major Cluster under SFURTI	317.49	2 Years	DPR submitted, SPV formed, awaiting response from KVIC
2	Ministry of DoNER	CB&TA	Skill Training and Technical Assistance on High Density Bamboo Plantation for rural women of Tripura for self Employment	156.4	2 Years	Revised proposal sent in March 2016
3	Ministry of DoNER	CB&TA	Skill Training and Capacity Building technology Intensive Industrial Application of Bamboo	144.08	2 Years	Revised proposal sent in March 2016
4	NE Council	Industries & Tourism sector	Strengthening of Kumarghat Round Sticks Cluster	242.11	2 year	proposal sent in March 2016
5	NE Council	Agri Allied sector	1000 ha HDBP	884.5	3 years	proposal sent in March 2016
6	KVIC	SFURTI	Bamboo Round Stick Cluster Kumarghat	324.54	2 Years	proposal submitted in Feb '16
7	BDO- Old Agartala	BADP	Development of bamboo furniture & craft cluster at Tulakona	112.12	1 year	Proposal submitted

Sl. No.	Submitted to	Scheme	Project Name	Project Cost, Rs. Lakh	Duration of Project	Status
8	Ministry of Textiles, Govt. of India	NERTPS	Proposal for Integrated Development of Bamboo, Natural Fibre & Artistic Textiles based Clusters of Tripura	2192.65	3 years	next SSC meeting of NERTPS
9	Secretary, TW & Labour, GoT	VKY	Economic Development of Tribal community of Tripura through Bamboo Plantation	1231.77	5 Years	No response
10	Secretary, TW & Labour, GoT	VKY	Proposal of Skill Training on Bamboo Value Addition	502.5	5 Years	No response
11	O/o DC(Handicrafts)	BAHVV	Integrated development of bamboo & natural fibre based handicrafts of tripura	1444.37	3 Years	No response
12	DM/BDOs	MGNREGA-HDBP	HDBP in private land in 3 districts 390 ha, 900 beneficiaries	507.00	1 year	sanctioned

7. Annual Action Plan for FY 2016-17

As per decisions taken at the Steering Committee cum Governing Body meeting of Tripura Bamboo Mission, held on 27th July, 2016 under the chairmanship of the Chief Secretary, the annual action plan for TBM has been prepared focusing the 3(three) sub-sectors namely i) Resource Generation, ii) Industrial Application and iii) Handicrafts. The detail of activity along with target to be achieved & expected outcome for each of the three sub-sectors during FY 2016-17 is mentioned below.

Sl. No.	Activity	Target	Expected Outcome
1.	RESOURCE GENERATION		
1.1	High Density Bamboo Plantation to be raised during Planting Season 2017	980 ha	Creation of resource base of with 10-15 MT/ha yield apart from creating income opportunities for about 2000 households
1.2	No. of Nursery Plantlets to be prepared	7.50 lakh	Fulfilling the planting material requirements of HDBP to be raised by TBM in planting season 2017 through TC as seedling in bulk may not be available
1.3	Training & Capacity Building	2000 farmers/ growers/ field functionaries to be trained	Building capacities to plant, manage & harvest bamboo as a commercial crop
1.4	Species to be covered	<i>B.tulda</i> , <i>B.cacharensis</i> , <i>B.longispathus</i> , <i>B.balcooa</i> , <i>T.oliveri</i>	Meeting the preferred species requirement of existing and upcoming industries
1.5	Convergence on funding	MGNREGA	Effectively utilizing the scheme to create Plantation as well as generate direct employment for rural poor
1.6	Programme Coverage	Covering all the 8 districts in 18 RD Blocks namely Hezamara, Mohanpur, Belbari, Jampuijala, Mohanbhog, Nalchar, Durga Chowmuhani, Salema, Kumarghat, Gournagar, Chandipur, PecharthalKalacherra, Jubarajnagar, Mungiakami, Killa, Bagafa, Hrishyamukh & Rajnagar	Catering to the needs of bamboo based industries all over the state
1.7	Assessing programme impact/ achievement	3 rd party impact/ sustainability assessment	Finding out the actual growth, survival rate, income realization, challenges etc. on

Sl. No.	Activity	Target	Expected Outcome
			the HDBP developed by TBM
2.	INDUSTRIAL APPLICATION (incl. Incense Sticks)		
2.1	No. of round stick machines to be installed	300 machines	Production volume of about 350 MT per month to be achieved
2.2	No. of Entrepreneurs to be mobilized to set up village scale round sticks units	50 entrepreneurs	Establishment of about 40-50 round sticks production units across major clusters of Tripura providing employment for more than 1000 HH
2.3	No. of Cluster Scale round sticks unit to be set up	1 unit	Cluster level resource centre enabling bulk production, common facilities of maintenance, capacity building & marketing
2.4	Skill Training & Capacity Building	600 persons	Creation of skilled manpower for round sticks sector
2.5	State level/ District level Stakeholders' Meet	8 workshops	Building awareness among the investors, financiers, support agencies, govt. dept etc. so as to augment the establishment of new bamboo based units
2.6	Exposure Visit for stakeholders to source technology/ knowhow market	1 programme	Gathering the up-to-date information on market as well as customizing the technology to suit the product quality and enhance productivity
3.	HANDICRAFTS (incl. Furniture)		
	Design Development		
3.1	Design Development Workshop	5 workshops involving 100 craft persons	Developing products that would be scalable & packaging friendly. This will be followed by batch production and market testing.
3.2	No. of designs to be developed	75 designs	
3.3	No. of Designs to be commercialized	40 designs	
	Training & Capacity Building		
3.4	Total artisans to be trained	900 artisans	Capacity building of producers to produce products with quality conformance
	Establishment & Operationalization of CFCs		
3.5	CFCS to be established & operationalized	3 CFCs at Teliamura, Dharmanagar, Matabari	Commercial operation will be started by facilitating orders to the producers
3.6	Registering Production Units under MSME	25 units	Enabling the CFCs and other production units to get UAN so as to become eligible for various govt. support schemes
	Skill Exchange Programme		

Sl. No.	Activity	Target	Expected Outcome
3.7	Exposure visit for the artisans & cluster stakeholders	5 programmes	Building awareness to effectively manage production units, enterprise management and create market linkage
3.8	No of artisans to be covered	150 artisans	
Market Development			
3.9	Online marketing platform	Separate e- commerce site for SPV	Providing gateway for online B2B & B2C marketing in purely commercial mode so as to comply and compete with mainstream markets
3.10	Participation in Fairs & Exhibitions	6 programmes incl. one international level exhibition	Displaying newly developed products and getting buyer linkages from major cities