

# STRC NEWSLETTER

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## SCIENCE & TECHNOLOGY RESOURCE CENTRE GONDWANA UNIVERSITY, GADCHIROLI

A centre of excellence for sustainable value creation, conceived and funded by Rajiv Gandhi Science and Technology Commission (RGSTC), Mumbai, Govt. of Maharashtra.



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From the CPO's Desk

### Bamboo for a Green Economy

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# Bamboo for a Green Economy



**Shri. Ashis Gharai**  
Chief Program Officer & Head,  
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*'You (farmers) grow bamboo, I will give you a market'* urges Shri Nitin ji Gadkari, Union Minister for Road Transport and Highways, Govt of India, an enthusiast and flag-bearer of innovative use of Bamboo, himself. Considering the multifarious use of bamboo, including as a structural material, promoting cultivation of and entrepreneurial activities around raw bamboo has incredible potential, and hence, makes it a viable and sustainable resource to boost rural economy.

The area under bamboo cultivation in India is estimated to be more than 13.96 million hectares with more than 136 distinct species, according to National Bamboo Mission (NBM). Cultivation of Bamboo will certainly ensure a return of over INR 40,000/- per acre / year, which is thrice as lucrative compared to many other agriculture crops being cultivated. In fact, the average return per acre in farming is less than INR 10,000/- per season with many problems and uncertainty in the realizable income.

Ensuring Bamboo is grown in large scale, we also need to understand that, science behind the cultivation of bamboo is equally, if not more, important than the art and craft of it, post-harvest. Bamboo can be grown in a wide variety of soil and climatic conditions and Bamboo flourishes in valleys, on the lower slopes of hills, and in the vicinity of streams, rivers, ponds, and other water bodies. Generally, rainfall promotes the growth of bamboo however, a combined effect of high temperature and

rainfall promotes the growth. And multiple climatic zones in our country is conducive to the growth of bamboo. Except rocky soil, Bamboo shoots can be planted and grown in a range of soil types, including degraded soil.

Bamboo is typically propagated through culms, cuttings, or rhizomes. Bamboo seedlings are raised on nursery beds and then allowed to grow in poly pots for up to a year. Some of these methods ensure a good survival percentage. Establishing a bamboo nursery in a suitable place close to the plantation area is good for starting large-scale bamboo plantation. However, nurseries can be established at different scales of production and activity, and also depending on its objectives. Bamboo nursery sites should be well-drained along with facilities for irrigation, composting, potting shed, seed germination beds, and rhizome propagating area. Scientific harvesting of bamboo is another important aspect to ensure better income and sustainability.

The recent thrust in the large-scale cultivation of bamboo is now evident and has been in the forefront. The restructured National Bamboo Mission (2018) envisages to promote holistic growth of bamboo sector by adopting area-based, regionally differentiated strategy and to increase the area under bamboo cultivation and marketing. NBM has also identified industrially important species such as; *Bambusa tulda*, *B. bambos*, *B. balcooa*, *B. nutans*, *Dendrocalamus hamiltonii*, etc. for extensive plantation on non-forest land. Similarly, Maharashtra Bamboo Development Board (MBDB), established in 2016 (having its headquarters at Nagpur), with a mandate to oversee the plantation of bamboo in the state, with larger emphasis on plantation on farm lands and supplement farm income. MBDB launched the *Atal Bamboo Samridhi Yojna* in 2019 to boost the economic security to farmers through end to end support in bamboo cultivation in the state. The Maharashtra state government has also promoted bamboo cultivation under the *Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGA)* and appealed farmers to come forward for bamboo cultivation.

STRC is mandated to promote extensive bamboo plantation in the region as a sustainable resource development approach. STRC is engaged in creating a decentralized entrepreneurial eco-system with an artisan / farmer centric approach to boost the local economy and envisages to curate specialized skill development program in craft and structural application of bamboo.

As an experiment in 2019, STRC initiated bamboo plantation on a barren piece of CFR land and managed to successfully sustain a healthy plantation through a public private partnership model in Gadchiroli and believes that such models can be replicated across the district. This year, STRC is introducing a specialized skill course i.e.; Bamboo Grower, under the *Maharashtra State Skill Development Society (MSSDS)*, skill development scheme to create a cadre of trained human resource to be engaged in nursery development and extensive bamboo plantation activities.





# Reviving Traditions

## Gadchiroli artisans transforming livelihoods through the craft

Gadchiroli, Maharashtra's Greenland, boasts of a rich tradition of bamboo craftsmanship. Traditional bamboo artisans engaged in making utility items such as; *Supada*, *Topali*, *Bendwa*, are witnessing a resurgence through collaborative efforts between local artisans and the Science & Technology Resource Centre (STRC) at Gondwana University, Gadchiroli.



**Shri. Nikhil Borse**

Jr. Scientific Officer,  
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### A Heritage of Craftsmanship:

For generations, Gadchiroli's bamboo artisans have crafted essential household items from locally sourced bamboo. *Supada*, a winnowing fan, *Topali*, a basket, and *Bendwa*, a sturdy container, are integral to the region's daily life. These items, known for their durability and utility, are crafted with techniques handed down through the ages.

### A Paradigm Shift:

Recognizing the need to preserve and rejuvenate this cultural heritage, STRC at Gondwana University has taken the mettle through comprehensive skill training and production program to boost artisan economy. This program blends traditional techniques with modern design and production methods, providing artisans with the tools to innovate and diversify their products. Training sessions cover advanced bamboo processing techniques, contemporary design principles, and quality control measures, enabling artisans to create more refined and marketable products.



### **Change of Perspective: From Traditional Articles to Contemporary Designs:**

*With upgraded skills and newfound confidence, local bamboo artisans have expanded their repertoire. Beyond traditional items, they now produce an array of handicrafts appealing to modern tastes. Intricate baskets, decorative items, and stylish home accessories showcase their enhanced craftsmanship. For these contemporary bamboo handicrafts, STRC facilitating business linkages in urban centres where there is a growing appreciation for eco-friendly handcrafted products. This fusion of tradition and modern aesthetics breathes new life into the craft.*



### **A Boon for Artisan Economy:**

*The shift from traditional bamboo products to a broader range of handicrafts has significantly impacted the artisans' livelihoods. With STRC's support, many have seen their incomes rise as their products fetch better market prices. The ability to produce diverse goods has opened new avenues for business, from local fairs to online marketplaces.*



### **Looking Forward:**

These initiatives have gradually contributed in preserving vital cultural tradition, restored faith and economically empowered communities. The success of Gadchiroli's bamboo artisans exemplifies how traditional crafts can be revitalized through awareness, skill upgrade and innovation. As artisans continue to hone their skills and expand their product lines, there is optimism and pride in the community. The support from STRC and the resulting economic benefits underscore the potential of traditional craft to contribute to sustainable development and cultural preservation. In Gadchiroli, bamboo artisans are more than craftsmen; they are the custodians of a rich heritage, now poised to thrive in the modern world.



## Bamboo for A Green Economy Roundtable at BAIF, Pune

Following the first roundtable conference, 'Bamboo for a Green Economy', organized by Science and Technology Resource Centre (STRC), Gondwana University, Gadchiroli, held during January this year, BAIF Development Research Foundation, Pune in collaboration with Rajiv Gandhi Science and Technology Commission (RGSTC), Mumbai, Govt. of Maharashtra and Maharashtra Bamboo Promotion Foundation (MBPF), Mumbai, organized the subsequent roundtable conference at BAIF Headquarters, Warje, Pune, on May 27, 2024. Padma Vibhushan Dr. Anil Kakodkar, Chairman, RGSTC was present at the event as the keynote speaker. Dr. Kakodkar in his address stressed on bamboo as 'a great tool for economic development'.

The roundtable brought together a multi-disciplinary panel of experts from various institutions, universities and NGOs. Many senior academicians, industry experts, start-ups, individual entrepreneurs pro-actively participated and shared invaluable perspectives and strategic recommendations to unlock bamboo's potential specifically in bamboo resource rich areas of Maharashtra. An in-depth deliberation on the scientific aspects and research findings on bamboo cultivation, current trends of nursery management and govt schemes, took place during the conference.

STRC participated in the discussion and presented its significant efforts and positive impact of community-level bamboo initiatives in the Gadchiroli region. STRC also presented a white paper summarizing the outcomes of the first roundtable discussion, which was circulated among all attendees. This document served as a foundation for further dialogue and action plans. Along with state wide efforts in bamboo, STRC's initiatives in the Gadchiroli region received commendation for their significant community-level impact, highlighting the organization's commitment to fostering sustainable bamboo practices. The scope of collaboration demonstrated at the roundtable discussion underscore the importance of continued partnership and innovation in leveraging bamboo as a resource for economic and environmental sustainability.





## STRC Explores Markets for Forest Produces in South-Western Chhattisgarh

A two-member team led by Shri Gandharv Pilare, Scientific Officer, STRC visited Manpur and Gotatola tehsils in south-western Chhattisgarh to explore potential sales avenues for Non-Timber Forest Produce (NTFP) under STRC's NTFP Collectivization Project at Kharkadi. The visiting team interacted with various vendors to establish contacts and gather crucial insights of NTFP business.

A significant takeaway from the visit was the realization that dynamic pricing aligned with market fluctuations can maximize profits, rather than a fixed or minimum selling price. The strategy moving forward would involve close monitoring of market trends and timing for optimum returns *(Current market rates prevailing in Chhattisgarh for few commodities have been given in the box below).*

This approach is expected to enhance the profitability and sustainability of NTFP sales, benefiting primary collectors and the broader market. The insights gained from this visit would surely guide future strategies and strengthen our position in the NTFP market. We look forward to implementing these new strategies to ensure continued success for the PPC project at Kharkadi.

Our primary focus will be on selling the collected produce and to achieve that, STRC would ensure sale of the remaining produce through identified buyers and begin procuring Non-Timber Forest Products (NTFPs) for the current season.



### \* Current Market Rates (Approx.) Prevailing in Chhattisgarh

Mahua	Hirda	Tori	Baheda
INR 40/-	INR 14/-	INR 32/-	INR 12/-

\* Rates stated are for raw commodities per kg

## Collectivization of Selected Forest Produce

NTFP collectivization project at Kharkadi, Dhanora is a community-led project for a 10 village cluster catering to 365 house holds aimed at generating sustainable livelihoods through scientific collection of 05 commercially important forest produce employing good storage practices, primary processing, and marketing.

### Collection and Sale of Produce

<b>65</b>	<b>70</b>	<b>2.4</b>	<b>2000</b>
Mohua Seeds (Qtls)	Mohua Flowers (Qtls)	Wild Honey (Qtls)	Raw Bamboo (Poles)







## STRC Collaborates with Zilla Parishad, Gadchiroli to Address Bamboo Farmers of Mendha Lekha

On May 7, 2024, STRC participated in a community interaction held at Mendha Lekha, organized by Zilla Parishad, Gadchiroli. The event was organized to assess the current scenario of bamboo and

other plant resources in the Mendha Lekha area. Ms. Ayushi Singh, I.A.S., Chief Executive Officer, Zilla Parishad, Gadchiroli, addressed the farmers in the audience to understand community perspective and apprised them on the extensive plantation proposal under MGNREGA, in this regard.

During the interaction, Shri Ashis Gharai, Chief Program Officer & Head, STRC, shared insights on how STRC can significantly contribute to extensive bamboo plantation and nursery management. Ms. Singh, expressed her keen interest in knowing STRC's initiatives and possible role it can play in this context. The discussion is expected to pave the way for further collaboration between STRC and the Zilla Parishad, Gadchiroli, aimed at enhancing the region's sustainable development through effective resource management and innovative practices.

## District Collector, Nagpur, Assures Space for STRC's Gondwana Craft Outlet

On May 21, 2024, STRC got an opportunity to interact with Dr. Vipin Itankar, I.A.S., District Collector, Nagpur. STRC apprised the District Collector about various activities under its Gondwana Craft initiative and submitted a request for allocation of a small space in the office premises to display and promote contemporary craft items, such as; Bamboo Craft, Dokra Craft, Gond Painting, Earthen Pottery, etc., created by local artisans.



Shri Ashis Gharai, Chief Program Officer & Head, STRC, along with Scientific Officers, Shri Gandharv Pilare and Shri Nikhil Borse, interacted with other concerned authorities in this regard and highlighted the outlet's potential to showcase traditional art forms and contribute to the cultural and economic development of the region. STRC is grateful to Dr. Itankar, as he was considerate enough to extend support for the initiative and provide space for the outlet in the office premises. STRC believes such opportunities can surely help Gondwana Craft to reach a wider audience.

### Gondwana Craft

An initiative by Science & Technology Resource Centre (STRC) Foundation Gadchiroli, to bring traditional art-forms of the region under one umbrella brand, 'Gondwana Craft', with an artisan centric approach to preserve and promote these unique yet dying art-forms on a sustainable and viable social entrepreneurship platform.

**Craft Categories**

Currently Five

**Cadre of Artisans**

312 & counting

**Proposed Outlets**

Four (Gadchiroli, Chandrapur, Nagpur)



**Gondwana Craft**  
We preserve, promote & practice...

Bamboo Craft



Earthen Pottery



Rock Dhokra



Gond Paintings





# Bamboo for Craft and Structural Applications



## Multipurpose Sheds

STRC under its structural application of Bamboo initiatives envisages to utilize local bamboo as a structural material. An inspired group of young STRC Bamboo Artisans and Diploma Students have erected the University Yoga Centre as an internship project. Various Sit-outs, Shop Extensions and Bus-stops can be designed and executed under the effort.



## Polyhouse / Nutri Gardens

A RGSTC, Mumbai initiative on development of Bamboo Polyhouse in collaboration with CTARA, IIT-Bombay and SASMIRA. The first polyhouse of 125 sq. mtr. size has been erected at STRC premises. STRC wishes to demonstrate these for controlled farming and nutri-garden purposes.



## Poultry Sheds

STRC under its in-house R&D initiative, has developed Bamboo Composite Poultry Sheds using bamboo and other locally available materials, intend to provide a cost-effective solution for backyard poultry and promote Integrated Fish Farming practices (Fish and Poultry) for local fish farmers.



## Women Centric Community Enterprise

STRC's efforts to inculcate entrepreneurship aptitude among local women along with progressive technical and business facilitation has led to the establishment of multiple small enterprises in bamboo.

**05**  
Blocks

**120**  
Women Artisans

**INR 3.50 Lakh**  
Revenue Generated





## Gondwana University Celebrates Maharashtra Day

On May 1, 2024, Maharashtra Day was celebrated at Gondwana University, Gadchiroli. To commemorate the occasion, Dr. Prashant Bokare, Hon'ble Vice-Chancellor, hoisted the national tricolor and addressed the audience highlighting state's history and accomplishments.

On this occasion, along with the Dr. Sriram Kawale, Pro Vice-Chancellor, Dr. Anil Hirekhan, Registrar, Dr. Anil Chitade, Dean, Science & Technology, and Dr. A. S. Chandramouli, Dean, Humanities, along with senior faculties and students were in attendance.

May 1 is globally recognised as International Labour Day, celebrated world wide.

## Traditional Artisans of Maldugi were Trained on Bamboo Coiling Technique

Under the Manav Vikas Mission supported project, 'Bamboo Common Facility Center (B-CFC) at Maldugi', STRC is involved in training the local communities on the bamboo coiling technique. In a hands-on approach, series of training sessions have been planned to provide advanced skills with a focus on coiling techniques, a technique which creates bamboo coils with intricate design, used in developing multiple products.

Around 63 house-holds are set to benefit from the project, which will create a sustainable income generation model for the local artisans.



STRC Notebook for the FY 2024-25 was unveiled by senior faculties of College of Fisheries, MAFSU, Nagpur, during a recent interaction held at Nagpur. A collaborative research project on value addition of fish was discussed during the meeting.



# STRC Assistance for S & T Application Scheme

This scheme presents an unique opportunity for R & D inclined short term, small grant for relevant, applicable research projects to support STRC mandate and to help create an R & D eco-system.

## Nature of Projects Under the Scheme

- 1 S & T Studies and Surveys
- 2 Locale Specific Research & Innovative Technology Development
- 3 Pilot Scale Demonstration Project
- 4 Replication of Successful Models
- 5 Joint Programs
- 6 Awareness and Training
- 7 Projects with Students Participation



## Who Can Apply ?

Ph.D. Scholars, Researchers, Faculties, Master Students, NGOs and Exceptionally Relevant R & D based Proposals from Independent Individuals / Institutes

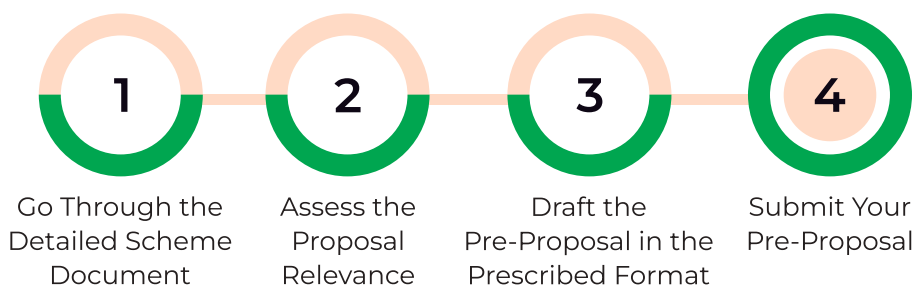
## Project Duration

Up to 6 Months

## Research Grant

Up to INR 1.0 lakh

## How to Apply ?



*Application are invited throughout the year*

Please visit our website for scheme details and proposal format



प्रवेश देणे

सुरु आहे..!

2024-2025

1 जुलै पासून शैक्षणिक सत्र सुरु

आदिवासी व ग्रामीण तरुणांना बांबू क्षेत्रात भविष्य घडविण्याची संधी तथा सक्षम व कुशल मनुष्यबळ तयार करण्याच्या दृष्टीने गोंडवाना विद्यापीठाद्वारे सुरु करण्यात आलेला एक वर्षीय पदविका अभ्यासक्रम

# बांबू उद्योजकता आणि रचना

## अभ्यासक्रमाची प्रमुख वैशिष्ट्ये



बांबू उद्योजकता केंद्रित अभ्यासक्रम



बांबू संशोधन व विकासाकरिता आधुनिक व सुसज्ज सुविधा



बांबू क्षेत्रातील कुशल तज्ञांद्वारे प्रशिक्षण



बांबूवर आधारित उद्योगाच्या स्थापनेसाठी आर्थिक सहाय्य मिळविण्याची संधी



प्रवेश क्षमता

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