

STRC NEWSLETTER



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.

TECHNOLOGY | ENTERPRISE | DEVELOPMENT



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A Pathway for Sustainable Growth
in Gadchiroli and Chandrapur**



Shri Swapnil Girade
Chief Program Officer & Head, STRC

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From the CPO's Desk

Circular Bioeconomy:

A Pathway for Sustainable Growth in Gadchiroli and Chandrapur

As Gadchiroli and Chandrapur stand on the verge of a large economic transformation, a critical question emerges: Can industrial expansion co-exist with ecological preservation and tribal livelihoods? The answer lies in adopting a Circular Bioeconomy—an economic model that regenerates natural systems, minimises waste, utilises renewable biological resources, and generates jobs without degrading the environment.

Why is Circular Bioeconomy Important Now?

Both districts are rich in forests, minerals, water, biodiversity, and traditional knowledge systems. At the same time, they are witnessing major industrial investments—particularly in the steel sector, where Gadchiroli is projected to contribute up to 20–25% of India's future steel production. The upcoming iron ore mining, pellet plants, integrated steel units, and mineral processing will create employment, but also increase pressure on forests, land, water, and tribal livelihoods.

A circular bioeconomy provides a balanced development path through

- Industrial growth with reduced resource consumption
- Use of waste as raw material
- Protection of biodiversity and tribal economies
- Sustainable livelihoods through bamboo, NTFP, and agro-based enterprises

The Natural Strength of Gadchiroli and Chandrapur

- 78% forest cover (one of the highest in Maharashtra)
- Major rivers: Godavari, Wainganga, Indravati, Pranhita – supporting agriculture and fisheries
- Rich deposits of high-grade iron ore
- Largest bamboo-producing districts in the state
- Language and Dialects: Gond, Madia, Kolam tribes with deep traditional ecological knowledge

These unique assets make the region ideal for a bio-based, circular growth model.



Shri Swapnil Girade
Chief Program Officer and
Head, STRC



Where Circular Bioeconomy Can Transform the Region

1. Sustainable Bamboo Economy

Bamboo can significantly drive a circular bioeconomy in the region through its use in construction, crafts, furniture, and lifestyle products. Even bamboo waste can be converted into biochar, briquettes, and boards, creating value without generating waste. By linking processing units with tribal SHGs and cooperatives, local enterprises and employment can grow. Training programmes in bamboo will further strengthen the skilled workforce needed for this expanding sector.

2. Forest-Based Livelihoods & NTFP Processing

Forest resources such as mahua, tendu leaves, honey, and medicinal plants offer strong livelihood opportunities when value addition is introduced. Establishing Ayush and Ayurveda product clusters can enhance market access and product diversity. With decentralized packaging and branding by village-level enterprises, communities can retain higher value locally while creating sustainable income and small-scale rural businesses.

3. Industrial Symbiosis with the Steel Sector

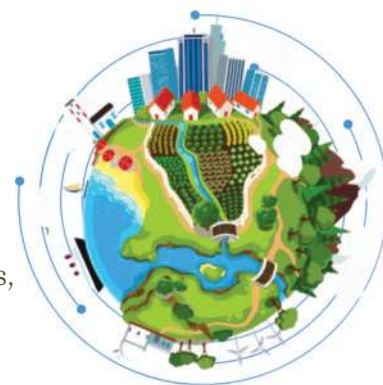
Steel plants generate large quantities of by-products that can be converted into useful materials like slag for bricks, blocks, roads, and cement blending; fly ash for construction and composites; and scrap for recycling and fabrication units. This approach reduces landfill and environmental pollution while creating new MSME opportunities and local manufacturing jobs.

4. Agri-Bioeconomy

Agri-waste and forest biomass can be converted into bio-fertilisers, compost, and biochar, creating valuable organic inputs for farming. These products improve soil health, enhance crop yields, and reduce dependency on chemical fertilisers. Such circular practices support sustainable agriculture while lowering costs for farmers.

Challenges that Circular Bioeconomy helps solve

- Deforestation due to mining and land conversion
- Soil erosion, water pollution, biodiversity loss
- High rural poverty, limited livelihood opportunities
- Low industrial employment absorption of local youth
- Circular systems reduce environmental damage, reuse resources, and create new income streams locally.



Potential Scope for STRC in Transformation

STRC, Gondwana University, is positioned to function as a Centre of Excellence in Circular Bioeconomy for the region. As a hub of research, training, and technology demonstration, STRC will focus on value chains rooted in local natural resources—particularly bamboo, NTFP, biochar, waste recycling, and sustainable land use. The Centre will build skilled manpower by training youth and tribal communities in green enterprises, establish technology models such as bamboo treatment, and promote industry–community partnerships for decentralized manufacturing.

A New Development Approach

A shift from a resource-extractive to a resource regenerative model can redefine Gadchiroli and Chandrapur - reducing waste, protecting biodiversity, and strengthening forest livelihoods through circular bioeconomy.

Article

Rebuilding Community Connections Through Digital Storytelling

STRC Gadchiroli's Model of Communication and Outreach

In Gadchiroli, a region known for its diversity and rich culture, true connectivity goes far beyond roads and networks. It's about people - about building dependable relationships that share knowledge, extend help, and make sure every voice is heard.

At Science & Technology Resource Centre (STRC), Gondwana University, Gadchiroli, our mission has always been to take science and innovation to the grassroots and over time, we have realized that the heart of this effort lies in communication — in speaking and listening with empathy. That understanding led us to adopt digital storytelling as a powerful way to strengthen our bonds with the community.



Shri Rushikesh Dakre

Communication for Development
through ICT, STRC

The Changing Landscape of Rural Communication

Not very long ago, communication in our rural areas meant wall writings, pamphlets, and occasional meetings in the village square. These were meaningful, but they couldn't always reach the scattered populations across distant areas.

Today, the picture is completely different. With affordable data and the spread of smartphones, even young farmers and artisans in remote villages are connected through platforms like Instagram and Facebook. This isn't just about new technology - it's a cultural shift.

At STRC, we realized that to stay connected, we must meet people where they already are on their mobile screens. For us, these screens are not just tools; they are new spaces for learning, collaboration, and sharing.

Visual Storytelling as Empowerment

For many in our community, topics like soil health, new farming techniques, or government schemes can seem complicated when explained only through written materials. Visual storytelling helps bridge that gap. Through short films, simple reels, and focused campaigns, we share scientific and practical knowledge in ways that feel real and easy to relate to.

Our 60-second videos capture true stories - artisans shaping bamboo into beautiful crafts, women adding value to forest produce, youth exploring aquaculture or traditional healing. Each story

reflects real transformation and makes science and innovation part of everyday life.

These digital stories don't just inform; they inspire. They highlight skill, dedication, and the quiet strength that drives rural progress.

Building Digital Bridges and Grassroots Networks

Our communication is not a one-way stream. It's a conversation. Through online platforms, we keep in touch with artisans, farmers, and young people - sharing updates, asking for feedback, and listening to their stories.

This growing digital bridge connects STRC directly with communities across Gadchiroli. These virtual spaces have become meeting points where ideas flow freely and trust grows stronger, helping us stay grounded and responsive to real needs.

Communication as Community Building

At its heart, STRC's digital storytelling is about people - about celebrating resilience, creativity, and the shared identity of Gadchiroli.

We are not just a science centre; we are partners in development. By giving space to local voices and placing traditional knowledge alongside modern science, we help build respect, confidence, and collaboration.

Our goal is simple: to bring science closer to society through stories that inspire. By sharing journeys of progress, innovation, and hope, we believe every story can become a spark for lasting, community-led transformation across Gadchiroli.



Source: www.thequint.com

Cover Story

STRC Conducts Scientific Fisheries Training Program

 *Mulchera / 29 September to 1 October 2025*

Science and Technology Resource Centre (STRC), Gondwana University, organized a three-day Scientific Fisheries Training Program. The training brought together around 40–50 local fish farmers to enhance their technical knowledge and build capacity in scientific aquaculture practices. The program focused on improving fishpond management, feed planning, selective breeding, fish health, and water quality monitoring, while also creating awareness about various government fisheries schemes and the National Fisheries Development Programme (NFDP).

During three days, participants engaged in theory sessions, practical demonstrations, and field visits, gaining first-hand experience in modern aquaculture techniques. Farmers were trained in feed formulation, water testing, disease management, and low-cost monitoring methods, followed by field exposure to best practices in local fish farms.

The program concluded with hands-on guidance on NFDP registration and availing government support schemes. Participants expressed appreciation for the interactive and practical approach, emphasizing its usefulness in improving pond productivity and reducing losses. The program was coordinated by Shri Suraj Gongale, Junior Scientific Officer, STRC, and concluded with a commitment to continue follow-up support, field demonstrations, and refresher trainings to strengthen scientific fisheries in the region.



What's Making News

Field Assessment of Palm Trees for Multi-Tree Climber Tool *Promoting innovation-driven tools for rural and forest-based livelihoods*



Gadchiroli District / October 4, 2025

Science and Technology Resource Centre (STRC), Gondwana University, Gadchiroli, conducted an assessment visit across Chandala, Savela, and nearby villages under its Technology Dissemination Initiative.

The visit aimed to evaluate palm trees for the Multi Tree Climber technology, developed by Art Tech Engineering and supported by the National Innovation Foundation (NIF). Led by Shri Gandharv Pilare, the STRC team conducted an assessment of palm trees, where the girth was found to range between 46 and 64 inches, to determine their suitability for field testing and demonstration.

The collected data has been shared with NIF, and suitable trees were identified for further trials. Upcoming activities will include field demonstrations of the Multi Tree Climber to encourage its practical adoption in rural and forest-based livelihoods, strengthening STRC's mission of facilitating innovation-driven community development.



STRC Conducts Bamboo Basketry Development and Production Workshop



Kurkheda / October 6, 2025



Science and Technology Resource Centre (STRC), Gondwana University, Gadchiroli, organized a Training Program on Bamboo Basketry Development and Production workshop at Maldugi village. The program was designed to empower tribal artisans by enhancing their technical skills in bamboo and MDF composite basket production through the integration of advanced technologies such as laser cutting and modern finishing techniques.

A total of 15 local artisans participated in the workshop, receiving hands-on training in design, cutting, assembly, and finishing processes. The initiative resulted in the development



of 100 high-quality bamboo baskets, showcasing innovation in craftsmanship and improved product utility.

Through this training, STRC has fostered capacity building in modern craft techniques, emphasizing value addition and market readiness for locally produced bamboo goods. Moving forward, STRC aims to establish a community-based production system that strengthens artisan livelihoods and promotes sustainable bamboo-based enterprises in the region.

One Day Training Program on Mahua-Based Food Product Value Addition Conducted at Kharkadi, Dhanora

Advancing women's entrepreneurship through Mahua-based food innovation



Dhanora / October 17, 2025

Science and Technology Resource Centre (STRC), Gondwana University, Gadchiroli, in collaboration with the Mahila Arthik Vikas Mahamandal (MAVIM), organized a specialized training program on Mahua-Based Food Product Value Addition at Kharkadi, Dhanora. Shri Varthya Vinod, Junior Scientific Officer, STRC, led the session, supported by Ms. Rasika Margaye, Manager, Deepjyoti CMRC, Dhanora.

This initiative, led by STRC under its community development and livelihood enhancement efforts, aimed to empower rural women entrepreneurs by imparting hands-on training in the preparation of value-added mahua-based food products, specifically laddu, cookies, and sonpapdi. Participants were actively engaged in sessions on product formulation, quality improvement, and techniques for achieving market-ready standards.

Through this collaboration, STRC continues to play a pivotal role in integrating science, technology, and traditional knowledge to strengthen women-led enterprises. Future activities will include advanced training sessions, packaging and branding support, market linkage facilitation, and collective production models implemented by STRC.



STRC Participates in Annual General Meeting of Deepjyoti Community Managed Resource Centre, Dhanora

Strengthening women's livelihoods through capacity building and digital empowerment



Dhanora / October 7, 2025

Science and Technology Resource Centre (STRC), Gondwana University, Gadchiroli, participated in the Annual General Meeting (AGM) of the Deepjyoti Community Managed Resource Centre (CMRC), Dhanora, organized under the Mahila Arthik Vikas Mahamandal (MAVIM). The event brought together over 200 Self Help Group (SHG) women from across the Dhanora region.



During the meeting, STRC representatives Shri. Gandharv Pilare, Scientific Officer and Shri. Vinod Varthya, Junior Scientific Officer, engaged with SHG members to explore opportunities for training, capacity building, and skill enhancement in bamboo craft and related livelihood activities. The discussion emphasized the potential of bamboo-based enterprises as a pathway for women's economic empowerment and sustainable income generation.

SHG members also expressed keen interest in STRC's support for digital promotion and social media outreach of MAVIM products. Going forward, STRC aims to collaborate with CMRC-MAVIM to develop targeted training programs, digital marketing support, and product promotion initiatives that contribute to strengthening sustainable rural livelihoods.



Visit by Eminent Personalities



Visit of Police Officials to STRC



Gadchiroli / October 31, 2025

Dr. Anil Hirekhan, the Registrar of Gondwana University facilitated the visit of Shri Vikrant Sagane, Deputy Superintendent of Police, and Shri Santosh Patil, Police Inspector, to Science and Technology Resource Centre (STRC).

During the visit, the officials were briefed by the Chief Project Officer and Head, STRC, about the Centre's key initiatives and impact in the region. They also explored Gondwana Craft's bamboo and forest-based products and appreciated STRC's dedicated efforts in community empowerment and sustainable livelihood development.

Shri Prashant Bopardikar Visits STRC

Focus on Bamboo Artisan Community Livelihood Development



Gadchiroli / October 31, 2025

Shri Prashant Bopardikar, Secretary of Keshav Madhav Education Society, was recently honoured with the prestigious 'Karmyogi Dronacharya Award' visited Science and Technology Resource Centre (STRC) with a special focus on understanding STRC's initiatives in bamboo artisan community livelihood development.

During the visit, the Chief Program Officer and Head, STRC, briefed the guest on ongoing programs supporting bamboo-based entrepreneurship, skill enhancement, and value addition for local artisans. The visitor explored a diverse range of innovative bamboo products developed under the brand 'Gondwana Crafts', reflecting the creativity and craftsmanship of the artisan community.

The visit also included the working mechanism of the Model Bamboo Production Unit was demonstrated, highlighting STRC's efforts in establishing a structured system for bamboo processing, product development, and market linkage. The interaction highlighted STRC's continued efforts to empowering artisans and promoting bamboo-based entrepreneurship in the Gadchiroli region.



BRTC Student Exposure Visit at STRC



Gadchiroli | October 16, 2025

A team of 30 students and 4 professors from the Bamboo Research and Training Centre (BRTC), Chichpalli, Chandrapur, visited Science and Technology Resource Centre (STRC), Gondwana University, Gadchiroli for an exposure visit on “Bamboo Innovation and Rural Development.”

During the visit, STRC presented its institutional framework and showcasing STRC’s efforts in promoting bamboo-based entrepreneurship, skill development, and sustainable rural livelihoods. The visiting team explored bamboo treatment and processing facilities, product design workshops, and machinery used for innovation and value addition.

The interaction provided students with practical insights into bamboo technology, enterprise development, and rural innovation, reinforcing STRC’s pivotal role in bridging science, technology, and traditional knowledge for community advancement.



Festive Glimpse

A Unique Curation of STRC’s Gondwana Craft



Gadchiroli | October 2025

This festive season, Science and Technology Resource Centre (STRC), Gondwana University, celebrated Dussehra and Diwali with a meaningful initiative that combined joy, creativity, and sustainability. The team curated and distributed eco-friendly Gift Boxes thoughtfully designed and crafted by local artisans. Each gift box featured bamboo-based handmade products that beautifully represented the rich craftsmanship and cultural essence of Gadchiroli’s rural and tribal communities.

Beyond festive gifting, this initiative reflected STRC’s continued commitment to promoting sustainable practices and community empowerment through local innovation. By showcasing the talent of regional artisans and supporting eco-conscious products, STRC turned the celebration into a platform that honored both tradition and transformation – celebrating not just festivals, but also the hands that keep heritage alive.



Our Latest Publications

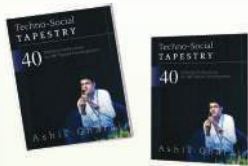
Monthly Newsletters



Our 2024 Story A Pictorial Representation



Techno-Social Tapestry By Shri Ashis Gharai, Former CPO & Head, STRC



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Team STRC



Science & Technology Resource Centre Gondwana University, Gadchiroli

Conceived and funded by Rajiv Gandhi Science and Technology Commission (RGSTC), Mumbai, Government of Maharashtra, Science & Technology Resource Centre (STRC) is an autonomous institute established in concurrence with Gondwana University, Gadchiroli in 2014. As a centre of excellence for sustainable value creation, STRC is leveraging local resources, relevant knowledge and appropriate technologies for human capacity development. STRC acts as a catalyst to science and technology based development of the under-served tribal communities of the Gadchiroli region and as a bridge between knowledge activities of the University and enhanced livelihoods in the neighborhood.



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