

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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Science & Technology Resource Centre
Gondwana University, Gadchiroli

National Workshop on Indigenous Medicinal Knowledge System IMK-2025

11th and 12th March 2025



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Driving Societal Transformation through Science and Technology

The Pioneering Role of RGSTC, Govt. of Maharashtra



**Padma Vibhushan
Dr. Anil Kakodkar**

Chairman, Rajiv Gandhi Science
and Technology Commission (RGSTC),
Mumbai, Govt. of Maharashtra

*Nothing ever built arose to touch the skies
Unless some man dreamed that it should
Some man believed that it could
And some man willed that it must.*

In an era defined by rapid scientific advancement and technological evolution, the Government of Maharashtra has demonstrated remarkable foresight through the establishment of the **Rajiv Gandhi Science and Technology Commission (RGSTC)**, headquartered in Mumbai. Conceived as a visionary initiative for socio-economic development, RGSTC was instituted in April 2005, following cabinet approval in December 2004. The Commission stands as a hallmark of the state's enduring commitment to harnessing science and technology for the collective welfare of society.

What sets Maharashtra apart is its pioneering approach being one of the few states in India to create a statutory commission solely dedicated to leveraging

science and technology for societal transformation. RGSTC's core mandate is to act as a catalyst, enabler, and facilitator of innovation, bringing scientific research and technology closer to the people it is intended to benefit.

Under the visionary leadership of Padma Vibhushan Dr. Anil Kakodkar, Chairman, RGSTC, along with an experienced team of advisors and a passionate cadre of young scientists, the Commission has introduced numerous programs aimed at bridging the gap between research and real-world applications. These initiatives focus on enhancing community well-being, improving livelihoods, and driving sustainable development across Maharashtra.

RGSTC Plays a Pivotal Role In:

- ✓ Identifying and promoting technological innovations, particularly in key sectors such as biotechnology, biomedical engineering, agriculture, forest resources, rural economies, artisan and cottage industries, agro-based enterprises, building materials, and marine products.
- ✓ Supporting value-added solutions and replicable non-conventional energy technologies.
- ✓ Establishing Centres of Excellence to promote employment and technological research in emerging domains.
- ✓ Funding, monitoring, and implementing projects in collaboration with academic institutions, research bodies, and grassroots organizations.

Among RGSTC's flagship programs is the **Assistance for Science & Technology Applications Scheme**, which invites proposals for innovative S&T based solutions tailored to specific regions or sectors. This scheme empowers institutions and innovators to implement locally relevant projects with tangible socio-economic benefits.

In a unique approach to fostering innovation at the grassroots level, RGSTC also administers the **Science & Technology Application through University System Scheme**, which supports small and medium-scale science and engineering institutions across Maharashtra. These projects are designed to address local development challenges by utilizing available resources and skills, thus democratizing access to research opportunities.

Recognizing the importance of cultivating scientific thinking from an early age, RGSTC has launched **Science and Innovation Activity Centres** for school students. These centers provide experiential learning environments that nurture creativity, inquiry, and a scientific mindset among young learners.

Another notable initiative is the **Assistance to Collaborative Projects between Institutions and Industries for Technology Development / Adoption (CPIITA)**. This scheme strengthens partnerships between academia and industry, promoting need-based research and facilitating the translation of scientific discoveries into viable, scalable technologies. From pilot demonstrations to real world deployment, these collaborations ensure that research outcomes are effectively adapted to address pressing challenges on the ground.

An exemplary manifestation of RGSTC's vision is **Science & Technology Resource Centre (STRC)** at Gondwana University, Gadchiroli. Conceptualized and funded by RGSTC, STRC represents a model for leveraging science and technology in tribal and rural areas to foster knowledge based development and empower underserved communities of the Gadchiroli region.

Through such progressive initiatives, RGSTC continues to strengthen Maharashtra's innovation ecosystem, positioning the state as a national leader in S&T led growth. As the challenges of the future become increasingly complex, the role of institutions like RGSTC becomes ever more critical in ensuring that every innovation is a step forward in the service of humanity.

Maharashtra's journey in scientific progress is not merely about invention-it is about vision, belief, and the collective will to make technology work for the betterment of all. Through the unwavering efforts of RGSTC, this vision is being transformed into a tangible reality where science and technology are not confined to laboratories but are actively shaping lives, communities, and the very fabric of society.

Team RGSTC



Authored by (with inputs from RGSTC)

Shri Ashis Gharai

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Time for Action

Rethinking Research and Education for Tribal Empowerment

The world is facing unprecedented challenges - climate change, economic disparities, and systemic inequalities continue to disproportionately affect marginalized communities, especially Indigenous and tribal populations. Their lands are being exploited, knowledge systems ignored, and ways of life disrupted by external interventions that often fail to recognize their intrinsic value.

Amidst these crises, we must ask: ***Whose knowledge is being valued ? Whose voices are shaping policies and solutions?*** Traditional academic research, largely conducted by outsiders, has often extracted knowledge from tribal communities without ensuring that the benefits flow back to them. The time has come to shift our approach to move from a hierarchical model of knowledge production to one that is participatory, equitable, and driven by the very communities we seek to support.



Ms. Manjusha

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Rethinking Research: A Shift in Perspective

Historically, research has been conducted through a Western, top-down approach where Indigenous knowledge systems were dismissed as anecdotal or unscientific. But as Derek Hodson reminds us, science and education should not be neutral; they must serve as tools for empowerment and social justice. We must move beyond traditional research paradigms and embrace methodologies that recognize tribal wisdom, ensure community participation, and lead to tangible benefits for the people involved.

If education does not empower people to take ownership of their knowledge and future, is it truly education? Many research projects are published in journals inaccessible to the very people they study. Research must return to the community, engage with their lived realities, and offer practical solutions that enhance their well-being.

Global Movements toward Knowledge Justice

The global acknowledgment of Indigenous Knowledge Systems (IKS) is increasing. There is an emerging consensus that addressing global challenges necessitates insights beyond conventional scientific paradigms. Knowledge derived from indigenous practices offers crucial perspectives on sustainable practices and conservation.

Educational theorists like Paulo Freire contend that education ought to empower rather than suppress individuals. This principle extends to research, which should be collaboratively developed with communities, respecting their experiences as valid knowledge.

What are the implications of viewing Indigenous knowledge not merely as a subject of inquiry but as a catalyst for innovation?

STRC's Commitment to Community-Based Research

At STRC, we are dedicated to bridging this gap. Our work is rooted in a bottom-up approach where local scholars, researchers, and community members are actively involved in addressing their own challenges. We believe in research that does not remain confined to academic circles but translates into actionable solutions.

Key Initiatives Include

- ✓ **Documenting and Elevating Tribal Knowledge:** We work closely with traditional medicinal healers, artisans, and skilled practitioners, providing them a platform to share and refine their expertise in structured, accessible ways.
- ✓ **S&T Application Scheme - Encouraging Local Research Leadership:** We support faculties, students, and even non-academicians in conducting research that matters to their communities.
- ✓ **Action-Based Research for Tangible Change:** STRC ensures that research findings lead to real-world applications, such as replicable technologies for livelihood enhancement, environmental conservation, and community-driven development models.

The Road Ahead: A Call to Action

To create real change, research and education must inspire action. The era of mere observation is behind us - let's mobilize.

Imagine if research became a cooperative adventure instead of a one-sided extraction. What if we wove Indigenous insights into global solutions?

At STRC, we envision research as a pathway to justice, sustainability, and empowerment. We welcome scholars, educators, policymakers, and community members to embark on this quest - where knowledge flows freely, and solutions rise from those who face the challenges, first hand.





STRC Hosts National Workshop on IMK 2025 Bridging Ancient Healing Traditions with Modern Scientific Rigour for Sustainable Healthcare

This workshop aims to bridge the gap between indigenous medicinal knowledge and modern scientific approaches ensuring that traditional healers, tribal communities, researchers and modern healthcare practitioners collaborate to preserve and utilize this valuable heritage to promote sustainable development, livelihood generation and conservation of natural resources. By integrating ethnobotanical studies, field research, and scientific validation, STRC works towards enhancing the credibility and acceptance of indigenous medicinal practices while ensuring sustainable utilization and commercialization of medicinal plants resource.

Science and Technology Resource Centre (STRC), Gondwana University Gadchiroli, successfully organized a two-day National Workshop on **Indigenous Medicinal Knowledge System (IMK-2025)** on 11th and 12th March 2025 at the Chandrapur Forest Academy of Administration, Development and Management, Chandrapur. This workshop aimed to foster collaboration between traditional healers, researchers, and policymakers to revive Indigenous Medicinal Knowledge (IMK) systems.

The workshop was inaugurated by the Chief Guest of the inaugural ceremony, Shri Sheshrao Patil, I.F.S. (Retd.), former Chairman, Maharashtra State Biodiversity Board, in the august presence of the Chairman, Dr. Prashant Bokare, Vice-Chancellor, Gondwana University, the keynote speaker Dr. Charudatta Mayee, Chairman, Governing Body, STRC and former Chairman, Agriculture Scientist Recruitment Board; alongside distinguished guests including Shri. M. Srinivasa Reddy, Director, Chandrapur Forest Academy; Dr. Ramdas Atram, Vice-Chancellor, Dr. B. R. Ambedkar University of Social Sciences, Indore; Dr. Milind Nikumbh, Pro Vice-Chancellor, MUHS, Nashik; Dr. Shriram Kawale, Pro Vice-Chancellor, GUG; Dr. Anil Hirekhan, Registrar, GUG and Shri Ashis Gharai, Chief Program Officer & Head, STRC amongst others. The workshop was attended by eminent professors, scientific experts, traditional healers, resource persons and industry leaders from relevant sector, who graced the event.

The inaugural event was followed by five technical sessions focusing



on traditional healers and their healing practices, integrating traditional healing practices with modern healthcare systems and practices. The sessions encouraged engaging discussions and knowledge-sharing, with interactive Q&A segments at the end of each session.

IMK-2025 featured expert led technical sessions on ethnobotany, pharmacology, intellectual property rights and policy issues, along with an exhibition of Ayurvedic products, community driven initiatives, and innovations in medicinal plant utilization. STRC's efforts in traditional medicinal knowledge were highlighted through audio-visual content. The event focused on sustainable utilization, commercialization, and community led conservation of medicinal plant resources.

STRC worked diligently to ensure the workshop's success, with strong support from Gondwana University and Chandrapur Forest Academy. By fostering meaningful dialogue and promoting collaboration, STRC aims to position Gadchiroli as a hub for indigenous medicinal plant based research and enterprise.

Technical Sessions



Indigenous Medicinal Knowledge & Ethnobotany



Integration of Traditional Medicine with Modern Healthcare System



Conservation, Sustainable Utilization & Commercialization of Medicinal Plants Resources

DAY 01



Intellectual Property Rights & Biopiracy



Policy, Governance and Institutional Support



Dr. Viswajanani J. Sattigeri,
CSIR - Traditional Knowledge Digital Library Unit,
New Delhi

DAY 02

Local Traditional Healers of the Region





Tech-Driven Solutions for Enhanced Efficiency in Harvesting, Storage and Value Addition under STRC's NTFP Collectivization Project



Under the NTFP Collectivization Project, STRC has initiated strategic interventions to enhance the efficiency, hygiene, and sustainability of Non-Timber Forest Produce (NTFP) collection that leads to minimal contamination and improved drying efficiency. With the onset of the harvesting season, essential scientific tools have been distributed to improve collection, fire prevention, and storage practices across community clusters.

To ensure sustainable and hygienic Mahua (*Madhuca longifolia*) flower collection, 100 collection nets have been distributed across 10 villages. Additionally, recognizing the risk of forest fires during NTFP collection, air blowers have been provided to each of the 10 Gram Sabhas to facilitate the controlled removal of dry leaves and inflammable debris, thereby mitigating fire hazards before harvesting.

To promote scientific storage and post-harvest handling, silo bags (200 nos.) have been introduced to improve preservation, preventing moisture and fungal infestations in stored NTFPs. Furthermore, two digital weighing machines have been deployed at procurement centers to ensure accurate measurement and fair trade practices for collectors.

These interventions not only uphold the principles of sustainable forest resource management but also strengthen local community participation in value chain development. STRC remains committed to integrating technology-driven solutions for improving NTFP based livelihoods, ensuring economic resilience and ecological balance in the region.

STRC Introduces Pyramid Solar Dryer

A Pyramid Solar Dryer, developed by Dr. Babasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, has been assigned to STRC for pilot testing and exploration of sustainable, energy efficient methods for drying forest produce. Designed to retain heat and optimize airflow, the solar-powered, pyramid-shaped dryer preserves nutritional value while reducing post-harvest losses and extending shelf life. STRC is also working on developing a bamboo-framed version of the dryer.

Initial trials have shown promising results, highlighting its potential for wider adoption. Feedback from the field suggests key improvements: reducing the mesh size of drying plates for better airflow, minimizing the dryer's weight for easier handling, and optimizing the design for cost-effectiveness to benefit NTFP collectors. These enhancements aim to boost the dryer's efficiency, usability, and affordability.



Field trials of Pyramid Solar Dryer



Workshop on Bamboo Crafts for 15 Days at District Jail Gadchiroli



A 15-day Bamboo Craft Workshop was successfully conducted at District Jail Gadchiroli during March 2025. Organized by STRC, 31 inmates serving their final term were trained in bamboo craftsmanship, equipping them with valuable knowledge and skills that would help them create livelihood opportunities in future.

Funded by the District Skill Development, Employment & Entrepreneurship Guidance Centre, Gadchiroli, the training program was inaugurated by Shri Subhash Sonawane, Superintendent, District Jail, Gadchiroli. The initiative aimed to promote skill development and rehabilitation through traditional bamboo craft, fostering self-reliance and economic empowerment among the inmate trainees.

TCS Team Explores Collaborative Opportunities with Gondwana University

A team from Tata Consultancy Services (TCS) led by Arvind Kumar, Center Head, TCS, Nagpur paid a visit to Gondwana University on March 15, 2025, to explore potential collaborations for future training programs at the university. The deliberation centered around finding ways to improve industry-oriented learning and skill development.

Following the meeting, the TCS team visited STRC. Chief Program Officer & Head, Shri Ashis Gharai, provided an overview of the centre's key initiatives and ongoing projects. The visit facilitated meaningful exchange on leveraging STRC's resources and experience for possible opportunities in future.

This augurs well for developing industry academia collaborations under CSR and increasing students' access to quality skill education and employability.



Dr. Prakash Itankar Visits Vaidya Chikitsalay at STRC



Rashtrasant Tukadoji Maharaj
Nagpur University

Dr. Prakash Itankar, Professor, Department of Pharmaceutical Sciences, RTM Nagpur University and Secretary, Vigyan Bharati, Vidarbha Prant and his team visited STRC on 25th March 2025. During his visit, Dr. Itankar interacted with the traditional healers at STRC Vaidya Chikitsalay. He expressed deep interest in their knowledge systems and healing practices.

Dr. Itankar also discussed the future prospects of traditional healers and proposed the development of a unified platform that would bring together traditional healers from across various states under one umbrella. This initiative aims to facilitate their formal recognition and scientific documentation.



Environment Education Program for School Children

An uniquely designed module based curriculum with informative content using innovative 'Teaching Learning Methods' using ICT and Field Tools, to garner greater interest among the target group of young children from select local schools of the region. Considering the long-term implications of the depleting environment and its immediate impact on the present and future generation, it is important to inculcate the idea of a sustainable environment and culturally responsive science teaching (CRcST) among young minds to help them become more responsible adults.

Module I

Introduction to Biodiversity

Module II

Ecological Processes through Nature Trail

Module III

Ethno-botany and Herbal Garden

Module IV

Soil, Plants and Humans

Module V

Diversity of Local Wild Vegetables

Progress and Impact

Buoyed by its success last year, with 10 schools and 374 students on board, the EES program has taken significantly bigger stride, adding new set of schools, students and teachers into the fold, cumulatively addressing over 650 students and 60 teachers from 18 schools so far. Since January 2025, STRC has completed Module I in all 15 schools and Module II in 12 Schools, impacting over 550 students through experiential learning and outdoor activities.



**NURTURING
YOUNG MINDS,
BEYOND
CLASSROOMS
AND TEXTBOOKS!**



Project Update





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ADMISSION

OPEN

for
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STRC Completes 5 Years in its New Premises



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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Article of the Month

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Contribution to News & Events

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