STRC NEWSLETTER

February 2024 | Issue No. 53

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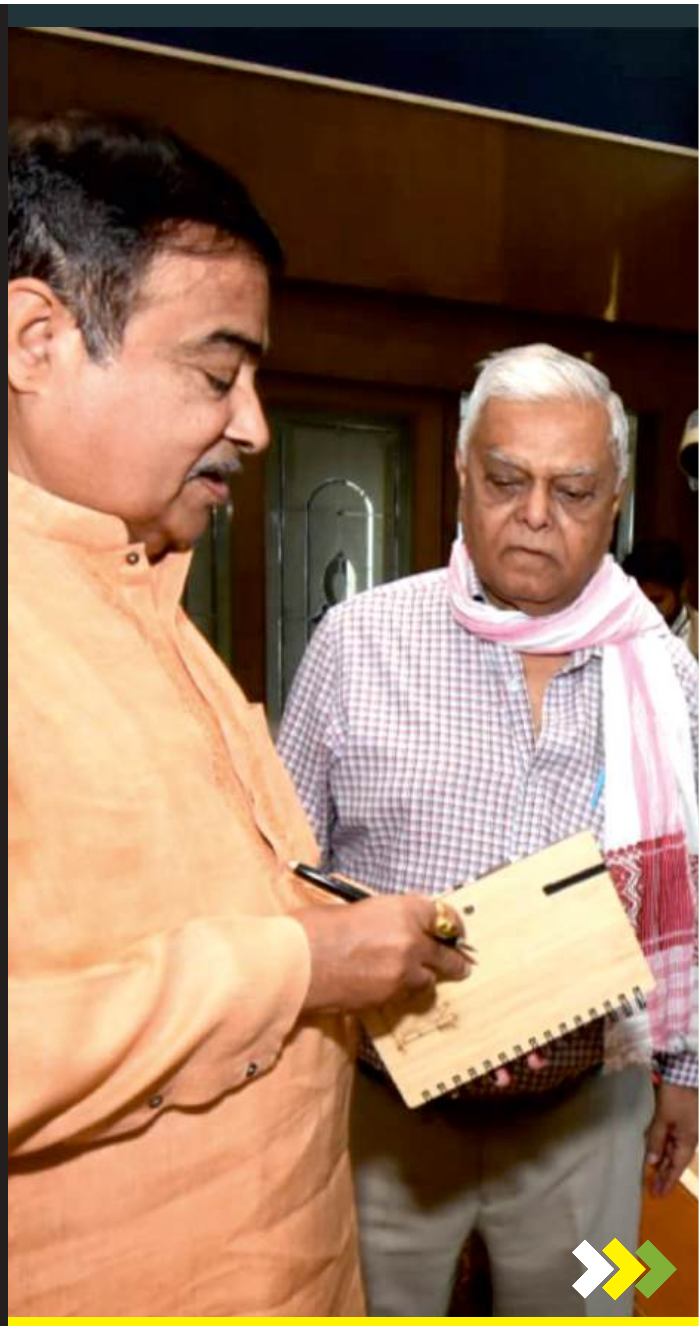


STRC presented a note to Shri Nitin Gadkari, Minister of Road Transport and Highways, Govt. of India, honouring his remarkable achievements on a frame made of rustic bamboo wood, as a token of love.

Technology Enterprise Development

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.

STRC is a registered society, 'Science & Technology Resource Centre Foundation Gadchiroli', under the Societies Registration Act, 1860 (XXI of 1860).

The Capability-Commitment Matrix :

Nurturing a Team to Optimize Performance

Shri Ashis Gharai

Chief Program Officer & Head,
Science & Technology Resource Centre
Gondwana University, Gadchiroli

In the realm of an organizational set up, the pursuit of excellence often centers around building a high-performing team. The team is not merely a group of individuals working together but a cohesive unit that synergies their skills, knowledge, and dedication towards a common goal. While numerous factors contribute to team success, the model that stands out for its effectiveness is the Capability-Commitment Matrix. In this day and age, developing a high performing team by getting the best out of each available human resource, needs professional nurturing.

Having a fair understanding of the capabilities and commitment levels of individual staff, helps the leadership group in creating a more balanced and cohesive team. This can lead to enhanced performance as each member is appropriately challenged and supported to attain full potential. While the team which is tuned to deliver, depends on optimized individual skill and commitment, the collective character of the team is developed around how the leader pursues the organizational vision and embed the dynamic Capability-Commitment Matrix into the team's culture by emphasizing the importance of continuous improvement, accountability, and collaboration.

In a professional set up, presented through a Capability vis-a-vis Commitment matrix, one generally gets to experience a team broadly classified in to these four categories:

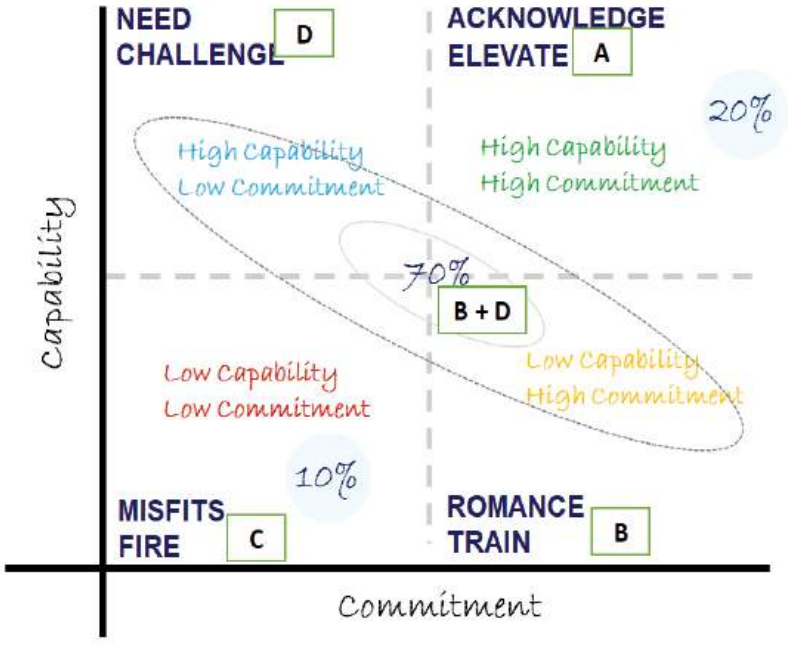
a) Low Capability - Low Commitment

b) Low Capability - High Commitment

c) High Capability - Low Commitment

d) High Capability - High Commitment

Every team would have a few human resources falling in to the Low Capability - Low Commitment category which constitutes about 10% of the total human



resource. These are a liability to the organization, hence may be termed as ‘misfits'. To maintain synergy and pace of progress, the management would prefer to lay them off, guilt free, which sets the right precedent for the rest of the team.

Typically, about 70% of the total human resource fall in to the categories of High Capability - Low Commitment and Low Capability - High Commitment combined. For the leadership group, this is the trickiest set of professionals to handle. While the individuals in the High Capability - Low Commitment category have the necessary skills, their lack of commitment hinders their effectiveness. They are not a disciplined lot, are not natural leaders and essentially perform independently but not in a group. Staff falling in this category are the 'need' of the organization and have their fair share of ‘ego’. Hence, the leader should, not only give them the credit where its due, for the results they produce, but also pose them with new challenges to take up. They must be challenged. On the other hand, the staff in the Low Capability - High Commitment category are 'highly trusted low-performing' ones and have a perpetual 'romance' with the leadership group. Their capacities must be built. The dilemma that the leader face is; he wouldn't like to get rid of either of them as one gets the job done and the other can be trusted blindly. However, the more interesting fact is, the ratio between these two categories depends on the character and personality of the leader and the carrot and stick policy he adopts. Leader's personality breeds the kind of people!

The last and the most important group of staff fall in to the High Capability - High Commitment category. These are the *super heroes* of the organization, the *'A'* players and may constitute only 20% of the total human resource. A leader must acknowledge them, express gratitude and elevate them to nurture a second line of leadership group. These high performing staff are not necessarily born with leadership qualities, however, must be assigned with leadership roles.

Bamboo as Material for Mobility Aids for Rural Persons with Disabilities

In India, around 70% of disabled persons reside in rural areas. Modern mobility aids like motorized wheelchairs are neither affordable nor maintainable by villagers. Rural persons with disabilities (RPWD) receive most mobility aids as charity, which are not customized, and RPWD do not develop an affinity towards such products. Advanced mobility aids are expensive and difficult to maintain for villager and hence customized low-cost mobility aids using local resources viz bamboo is the need of an hour.

It is worth noting the operation of the project "PROJIMO" in Mexico, where disabled persons are involved as designers and manufacturers of mobility aids. The involvement of disabled persons in design and development helps fabricate mobility aids that provide more comfort to users. Indirectly, customers are involved in the design and development of the product, thus ensuring successful deployment.

Therefore, it is necessary to involve RPWD in the fabrication of mobility aids, utilizing the material resources available locally in rural India. Bamboo is abundantly available in rural India, and it is easy to create products using bamboo as the required tools are easy to use. Bamboo also sustains the load if properly treated with boric acid, borax powder, and saltwater.

The low-hanging fruit in mobility aids is the wheelchair made of bamboo (and crutches made of bamboo). With minimum tools, as shown in Fig. 1, it is possible to manufacture bamboo wheelchairs, which not only serve as alternatives to regular wheelchairs but also create an ecosystem in rural India where disabled persons can start their own startups for manufacturing wheelchairs. This aligns with the PROJIMO project. People with disabilities will take pride in using wheelchairs they have manufactured themselves. The startup (or workshop) run by RPWD will tap into markets in nearby villages, and thus the model can be replicated in other parts of rural India. A modular wheelchair design is preferable as it will be easy to transport. Other mobility aids that can be fabricated using bamboo include artificial legs below the knee, above the knee, and walkers, to name a few.

Mobility aids need to be designed with due consideration given to product safety considering the stresses involved. The design document can be prepared by involving engineering education institutes, so that optimized designs satisfying the customer's needs are possible using design software. This will establish academic and commercial linkages of academic institutes with rural India, which is the need of the hour.

Prof. A. M. Kuthe
Visvesvaraya National Institute of Technology, Nagpur

Through the R & D project funded by Gondwana University (Science & Technology Resource Centre) Gadchiroli, CAD-CAM centre of Visvesvaraya National Institute of Technology (VNIT) Nagpur developed the first prototype of a bamboo wheelchair. Field trials of the same are ongoing, and efforts towards making its design modular are also in the pipeline. The two models are shown in Fig. 2.

The goal of product sustainability coupled with environmental friendliness can be achieved if bamboo is used as a material for mobility aids for RPWD.

Fig 1
Basic Tools used for bamboo work

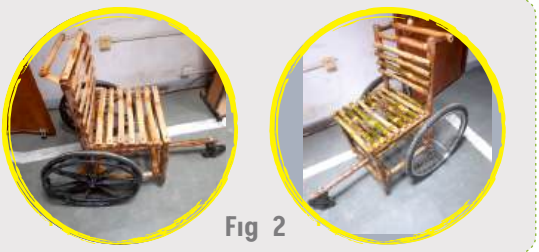


Fig 2
Two models of bamboo wheel chair

Exclusive Report On

Science & Technology Resource Centre hosts

ISRO's 'Space on Wheels' Program

The flagship program of the Indian Space Research Organization (ISRO), Govt of India, 'Space on Wheels' with its well-equipped mobile exhibition depicting the history and current development of the Indian space program finally arrived at Science & Technology Resource Centre (STRC), Gondwana University, Gadchiroli on February 16, 2024. STRC premises was meticulously designed and aptly decorated to host a large assembly of children and teachers from across the city to embark on a journey through the cosmos. Over 1250 enthusiastic children from 12 peripheral schools converged at the STRC premises, eager to dive into the wonders of majestic space exploration. The ISRO bus, stationed on campus for the day, catered to the curious young minds, making the event a resounding success.

“It's an absolute privilege and honor for STRC to be a host of the 'Space on Wheels' program on behalf of the Indian Space Research Organization (ISRO), Govt. of India, in a remote place like Gadchiroli. We are even more thrilled to invite and host over 1200 children across 10 schools around Gondwana University Gadchiroli.” expressed Shri. Ashis Gharai, Chief Program Officer & Head, STRC while addressing the media.

STRC takes immense pride in contributing to science and technology-based development in the region and helping young children get exposed to recent development in the sector.

Visiting children were apprised about various satellites and how they maintain their orbit by balancing their velocity and the Earth's gravitational pull. They also get to learn about India's space program and various scientists who shaped ISRO as the pioneer organization. An open science exhibition was also organized on the occasion.

Dr. Anil Hirekhan, Registrar, Gondwana University, Gadchiroli and C. A. Bhaskar Pathare, Finance & Accounts Officer Gondwana University, Gadchiroli formally inaugurated the event, while many university officials and guests visited STRC during the day-long event.

Vice Chancellor, Gondwana University led STRC team meets Shri Nitin Gadkari

On 25th February 2024, Science and Technology Resource Centre (STRC), Gondwana University, Gadchiroli led by the Chairman, Governing Body – STRC, Dr. C. D. Mayee and the Hon'ble Vice Chancellor, Gondwana University, Gadchiroli Dr. Prashant Bokare, met the Hon'ble Minister of Road Transport and Highways, Govt. of India, Shri Nitin Gadkari at Nagpur. STRC presented a note honouring his remarkable achievements on a frame made of rustic bamboo wood, as a token of love.

In a brief interaction with the minister, who graciously agreed to spare some time, STRC put forth its ideas and current activities with regard to bamboo and other S&T based development activities. Gadkari ji, very categorically stressed and urged STRC to focus on sustainable harvesting, supply of raw and cut-to-size bamboo for the charcoal briquette making industries. He also informed that Nagpur itself requires as much as 5.0 tonnes of bamboo on a daily basis.

The hon'ble minister also interacted with Smt. Pragati Gokhale, Advisor, RGSTC and Shri Ashis Gharai, Chief Program Officer & Head, STRC during the meeting. Dr. Bokare also apprised him about assuming the additional charge of the Vice Chancellor, RTM Nagpur University.

STRC is now a registered Training Provider and Training Center under Maharashtra State Skill Development Society (MSSDS)

Science and Technology Resource Centre (STRC) at Gondwana University Gadchiroli is taking strides towards empowering individuals through skill development initiatives with an approach that aligns with regional aspirations and addresses the specific skill needs. Recently, STRC was registered as Mahavidyalaya Kaushalya Vikas Kendra, aiming to provide essential skills training to candidates

under the Pramod Mahajan Kaushalya and Udhyojakta (PMKUVA) scheme. Notably, STRC was selected as a Training Provider and Training Center among 128 esteemed colleges and institutions in Maharashtra.

To kick-start the process, selected institutions signed a Memorandum of Understanding with the District Skill Development Department and were registered as Training Provider and Training Center. STRC to begin with, will focus on job roles like Bamboo Basket Maker and Bamboo Grower, directly relevant to the local context.

To facilitate the registration process and to provide orientation about the scheme, the Maharashtra State Skill Development Society (MSSDS) organized a one-day workshop on February 21, 2024, at Mumbai. Shri Gandharv Pilare, Scientific Officer, STRC, was entrusted to represent the institution at this workshop. This workshop served as a platform for stakeholders to gain insights into the entire process, ensuring smooth enrolment and implementation.

Following the process of formal registration, STRC is currently engaged in promotion and enrolment of students as per the norms defined in the scheme. STRC plans to initiate two batches of training (30 trainees per batch), during mid March 2024.

An Exclusive 15 Day Training Program on Structural Application of Bamboo for STRC Students organized at BRTC, Chandrapur

Fifteen students of the STRC's one-year undergraduate diploma in 'Bamboo Entrepreneurship and Design', were trained under the exclusively designed training program on Structural Application of Bamboo held during 6th to 22nd February 2024. The workshop was organized by faculties of Bamboo Research and Training Centre (BRTC), which is curently located at Chandrapur Forest Academy of Administration, Development & Management, Chandrapur.

During the training, students were trained to adopt a low-tech approach using locally available materials, minor tools and technologies to construct a two-layered structure. Through their assigned work, students learned essential on-site management along with operational strategies for bamboo construction.

In the near future, STRC, as part of the exchange learning program, will organize a week-long training in bamboo craft and lifestyle products for trainees from BRTC.

STRC participated at the Gadchiroli Mahotsav – 2024

Science & Technology Resource Centre (STRC), Gondwana University, Gadchiroli was invited to participate in the 'Gadchiroli Mahotsav – 2024' held at the Zilla Parishad Ground, Gadchiroli during 1st to 3rd February 2024. Gadchiroli Mahotsav, a 3 day annual event was inaugurated by Ms. Ayushi Singh, I. A. S., Chief Executive Officer, Zilla Parishad. Through the festival, local artists got a rightful platform to exhibit their skill in specific art forms.

STRC used this opportunity to exhibit and promote varieties of products representing traditional art-forms such as bamboo craft, dokra craft, earthen pottery and gond painting under its Gondwana Craft brand. Students of the One Year Under Graduate Diploma in Bamboo Entrepreneurship and Design of STRC got a chance to expose themselves to various traditional art forms of the region.

STRC Encourages Local Farmers to Adopt Minor Farm Mechanization utilizing Low-Cost Agri Tools

STRC under its low-cost technology transfer and adoption initiative, demonstrated and distributed minor hand-held agri tools, including hand ridges especially designed for women, maize shellers, and manual twin wheel hoes. STRC plans to support 150 vegetable growers and maize farmers in the Aheri and Chamorshi block, through this effort.

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Science & Technology Resource Centre
Gondwana University, Gadchiroli

About STRC

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. STRC is entrusted with generating livelihood opportunities by deploying appropriate science and technology, particularly for the under-served tribal communities of the Gadchiroli region since 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 region and as a bridge between knowledge activities of the University and enhanced livelihoods in the neighborhood.

Core Verticals

- Aquaculture & Livelihoods
- Bamboo Craft & Livelihoods
- NTFP Medicinal Plants and Other Livelihoods
- Applicable R & D and Academic Program Development
- Communication for Development through ICT

STRC Offers :

STRC Assistance for S&T Application Scheme Research Grants

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