



## From CPO's Desk

### STRC as a Technical Nodal Centre / Consultant Partner

Science and Technology Resource Centre (STRC) in line with its mandate to provide appropriate low-cost technology solutions to challenges that hinders development of tribal livelihoods, has progressed to become a nodal S & T centre for the region.

We see that most of the existing and forthcoming district level programs/ schemes for the region have techno-social development aspects in their execution plan. As a science and technology facilitation centre, STRC has the potential to co-create, design, monitor and evaluate rural technology dependent development actions for the local govt counterparts here.

Periodic engagements with district level govt. agencies/dept. in recent past have led to understanding of various schemes and projects currently being implemented in Gadchiroli. Together, we need to assess the scope of collaboration where STRC plays the role as a 'Technical Nodal Centre' in relevant projects. STRC also brings a 'Scientific Knowledge Group' on board comprising of experts from various sectors (from universities/ resource institutions across the state/country) such as Plant Science/ Taxonomy, NTFP, Rural Technology, Enterprise Development & Marketing along with Fishery Experts and techno-social consultants in large-scale project management etc. to support this endeavor.

Various departments under the district administration have gradually understood the kind of role STRC can play. The need of the hour is to move ahead with a formal collaboration framework to get STRC involved with agencies such as District Tribal Development Dept., KVK, District Agriculture and Fisheries Dept., MSRLM, Zilla Parishad, ATMA and MAVIM etc. STRC has taken up a few initiatives in this context recently and hope to translate this effort in to something meaningful.

*(The author heads the Science and Technology Resource Centre, Gondwana University Gadchiroli)*

## In Brief

- Orientation on manufacturing of Bamboo Composite Poultry Sheds at Community Facility Centre (CFC), Kondawahi, Dhanora
- Field demonstration of Paddy Harvesting Machine
- Assessment of opportunities in NTFP / Medicinal Plant and Bamboo in selected clusters





## Keynote Lecture on Rural Development and Transformation through CILLAGE

Dr. Anil Kakodkar

STRC was invited to participate in a webinar on Rural Development and Transformation through CILLAGE organized by Agrovision Foundation and Agro-Spectrum.

Dr. Anil Kakodkar, Chairman, Rajiv Gandhi Science & Technology Commission (RGSTC), Mumbai, Gov. of Maharashtra, who pioneers the CILLAGE concept, describes it as the best of city in a village or a digital city in a modern village for sustainable bridging of urban rural divide. It essentially entails an ecosystem that incorporates technology, knowledge, entrepreneurship and human empowerment which would not only bridge the rural urban divide but also get them all ready to benefit from opportunities of new age society. Dr. Kakodkar in his lecture explained how 'knowledge era' presents such a great opportunity in the rural ambience, especially in farm productivity and value addition of produces and how an ecosystem can be built where appropriately skilled rural youth working out of its home sphere can take on the world in this era. He emphasized how meaningful engagement of knowledge, society and economy can lead to holistic development. He further added how rural youths can create a sustainable bond with socio-cultural roots while being empowered by knowledge.



Rice is the most staple food in eastern Vidharbha, especially in the Gadchiroli region. STRC has initiated efforts to introduce and popularize Saguna Rice Technique (SRT), an advance agronomy practice for paddy and other rotation crops to ensure higher yield at a lower input cost. This is to encourage local farmers to bring in certain behavioral and technical modifications into their cultivation practices. SRT method calls for following the proper Package of Practice (PoP) and periodic monitoring of the crop growth at different stages.

STRC ensured monitoring of the crop at three different stages i.e. early tillering, panicle initiation, and matured grain with simple observations using parameters such as height of the plant and tillage count. Just monitoring biotic and abiotic factors are not enough and are not the solution to improve the yield of the crop as there are number of other factors that affect the productivity to a great extent. The collected data provides information about different environmental factors which in turn helps us to monitor the growth. This effort resulted in healthier and substantially higher growth of crop as compared to the crops cultivated through traditional means. Scientific disease and pest management really helps in keeping the crop pest-free. While monitoring, none of the sites were found infested with diseases and pest.



## Scientific Assessment of Crop Health/Growth



## Scientific Assessment of Paddy Productivity / Yield

Crop yield estimation is a crucial factor to determine food sufficiency for the particular farmer. Thus, obtaining yield estimates with reasonable accuracy just prior to harvest is important for appropriate and timely interventions. The crop cut method was used for estimating paddy yield on the basis of the sampling of small subplots of 1 sq. mt. within cultivated fields. The method involves the random demarcation of a plot of a specified size and shape, harvesting the produce from the plot, and threshing, winnowing and drying the produce to determine its dry weight. The crop cut method has been commonly regarded as the most reliable and objective method for estimating crop yield. A sufficient number of cuts in a sufficient number of fields provides a valid estimate of average yield. Another advantage of the crop cut method is that the productivity of parcels, sub parcels or fields can be determined without knowledge of their size. The average paddy yield that we have calculated is around 20 qt. per acre which is quite maximum than the yield by other traditional way of paddy cultivation.

In this effort, yield estimation was carried out in 23 paddy fields. During one such Pre-Harvest Yield Estimation exercise on a farmer's (Ranjit Pal) field of 1.0 acre area, yield was estimated to be 31.6 quintals, which is an increase of about 10 quintals per acre (45%) over his last season's yield through traditional broadcasting method.





## Opportunities in Bamboo based livelihoods

Considering the scale of natural bamboo resource that the Gadchiroli region has, tapping its optimum potential can definitely bring substantial change in the lives and livelihoods of the forest dependent communities.

Among the host of bamboo-based products, bamboo plywood is one which can play a vital role in supporting the demand of plywood in construction sector (for furniture and other related use) and in turn help the cause of prevention of deforestation that is rampant to meet the demand of Plywood. To reduce deforestation caused by plywood manufacturing, East Asian countries have decided to produce bamboo plywood while USA and EU have decided to import it. As bamboo is one of the fastest growing biomass, it is possible to sustainably harvest bamboo without causing deforestation. It is evident that bamboo plywood is more environment friendly alternative to conventional plywood.

STRC as a rural technology facilitation centre is engaged in periodic need assessment for appropriate skill upgradation and capacity building of the local artisans. STRC has provided necessary skill upgradation to a pool of bamboo artisans and has helped them successfully graduate into bamboo master artisans and entrepreneurs. Appropriate science and technology is required to tap the potential of this underutilized resource.

Gramsabhas in Gadchiroli have rights to harvest bamboo under 'Community Forest Rights Act'. There is scope to start community bamboo plywood manufacturing plant in Gadchiroli. Required technology is moderately complex and there is increasing space in domestic and global market for bamboo plywood. STRC can provide its expertise as technical consultant partner in such a initiative.

*(The author works as a Scientific Officer at STRC)*

