Completed ICFRE funded projects IWST-2009-2010

Pro. File S. No.	Name of Project	PI	Thrust Area	Research Findings
1	Detection of natural and biological defects in timber by non destructive testing techniques (April, 2006, 2006- 2010)	Dr. S.K. Sharma	Wood Products (Value addition & utilization)	Commercial timber species such as *Acacia mangium*, *Grevillea robusta* and *Mangifera indica* were selected for the study. The species were selected because of occurrence of natural defects (such as hollowness in the bole/trunk) in these timbers. Different tests were conducted on defective as well as free from defects test specimens to study the effect of defects such as grain orientation and hollowness on ultrasonic velocity of wood. Subsequently, tests were also carried out for the determination of modulus of elasticity and modulus of rupture by conventional testing procedure using destructive static bending tests on these specimens. The ultrasonic velocity in wood and strength properties was correlated and strength loss in timbers due to various defects was also worked out. Detection of hidden defects was carried out with the help of amount of change in ultrasonic velocity compared to sound wood pieces and its relationship with the strength properties such as MOE and MOR. Further research is required to be focused on some more timber species to confirm the findings of present study for better assessment of their quality/strength by non-destructive technique and also for detection of defects in converted timbers/logs. This will help timber users to detect the decay by rapid examination of timber components and to determine the extent of degradation so that degraded wood could be replaced at an early stage.
2	Development of Database on Redsanders *(Pterocarpus santalinus L).* (April, 2008, 2008-2009)	V. Soundarrajan	Forest Management (Information and communicat	Endemic and endangered speceies research is required, the basic information and other associated properties on particular species. Red Sander information system web database has the complete reference on Red sanders that gives the imformtaion about its various

			ion technology (ICT)	biological and physiological traits. This web database will act as an information service centre to the forest departments, Biotechnolgy researchers, Farmers/Planters/Tree Lovers/Student, ecologists, Research Inistitute, Pharmacetical Industries, Handicraft Industries,Muscical Instrument production Industries, Government Organisations and Nom Government Orgaisation for improving the forest mangement and utlisation. It will be helpful to future research as a reference and utlization Red Sanders.
3	Isolation and estimation of L-DOPA from *Mucuna Prurines* Linn collected from south India (April, 2007, 2007-2010)	Chandrashekar, B.S.	Non-wood Forest Products (Chemistry of NWFPs, Value Addition and Utilization)	Out of 13 MPCA in Karnataka seeds were collected from 6 MPCA Viz. Devimane, Sandur, Agumbe (Sagar), Savandurga, Devarayanadurga, Dandeli. Thekady and Wynadu from Kerala. Kodikkarai, Petchiparai, Sendarakillai and Kolli hills from Tamil Nadu and Kurli (Batraplly, Kadri), Talakona and Peddacheruvu in Andhra Pradesh. Seeds were analyzed for L-DOPA content. The project ends on 31st March 2010. The data has been analysed and PCR will be submitted.
4	Laboratory testing for assessment of the durability of timbers against powder post beetles- standardization and evaluation (2006-2010)	Dr. O.K. Remadevi	Wood Products (Value addition & Utilization)	PI has been given one year extension upto March 2011 to complete the Extension component in RAG 2009/RPC 2010
5	Studies on influence of microwave treatment on drying characteristics and treatability of wood (April, 2007, 2007-2010)	Pankaj Kumar Aggarwal	Wood Products (Value Addition & Utilization)	The most important finding of the study was that the drying time of wood was reduced to hours in microwave drying for days (from kiln and air drying method). - Teak and Eucalyptus wood lost maximum water during microwave drying. - Silver and Eucalyptus wood dried faster than other woods. It is significant because at longer period of drying, there are chances of degradation in Eucalyptus wood. - Maximum moisture loss was at 1600 and 2400 watt. - Microwave

				treated wood did not undergo any degradation as happened in case of either kiln or air drying. - The result on effect of microwave drying on mechanical properties indicate that MOE got reduced in treated samples. As the temperature of hearting increases from 400 W to 2400 W the MoE, MoR, Fibers stress were found to decrease with temperature. However, compressive stress at limit of proportionality and maximum compressive stress did not change significantly. In fact at higher temperature (2400 W), there was an increase in these properties. - No significant drying degrades were observed in microwave dried wood of all the species which shows that microwave drying may be the good method for drying the timber without any degrade. However, timber dried in kiln showed defects like Surface cracking and warping. - Microwave method of drying the wood is an efficient, reliable and rapid system. This method dry the wood without any degrade as is clear from the results. The basic parameters on which this method works, are described in the methodology part -It is suggested that A conventional/dehumidification drying can be taken up upto Fiber saturation point (FSP) followed by the Microwave Drying (MW). This could be an efficient process of drying the wood.
6	Studies on utilization aspects of Plantation grown *Acacia mangium* Willd (April, 2006, 2006-2010)	Mr. P. Kumar.	Wood Product (Value Addition & Utilization)	PI has been given one year extension upto March 2011 to complete the Extension component in RAG 2009/RPC 2010