

List of Project –Annual Review 2010-TFRI

A. Ongoing ICFRE Funded Project 2009-10 –TFRI

S. No.	Name of Project	PI	Thrust Area	Budget outlay (Rs. in Lakhs)	Expenditure incurred till 31/03/2010 (Rs. in Lakhs)
1	Determination of polysachharides for the Development of bioproducts. (April 2009,2009-2012)	Smt. Neelu Singh	Non wood Forest Produces (Chemistry of NWFPs, value addition and utilization)	15.56	6.44
2	Development of an information system for forest tree species associated insects and their management. (June 2008,2008-2011)	Dr. Sharad Tiwari	Forest Management-(Information and Communication Technology)	7.60	5.04
3	Evaluation of Productive of maize on <i>Dalbergia sissoo</i> (Shisham) and <i>Zea mays</i> (Maize) agroforestry system. (April 2008,2008-2011)	Dr. Nanita Berry	Forest Productivity (Social Forestry,Agroforestry/Farm Forestry)	5.50	3.93
4	Genetic improvement of <i>Buchnanian lanzan</i> spreng. CFRHRD(July 2007,2007-2011)	Sh. N.D. Khobragade	Genetic Improvements (Tree improvement)	4.35	1.26404
5	Genetic variation for in-vitro morphogenetic potential of <i>Dalbergia sissoo</i> Roxb. Clones and evaluation of their field performance. (April 2007,2007-2012)	Dr. Yogeshwar Mishra	Genetic improvement (Conservation of forest Genetic resources)	8.7	2.91
6	Standardization of cultivation protocols for <i>Asparagus racemosus</i> (satawar). CFRHRD(June 2007,2007-2011)	Shri Suneesh Buxy	Non-wood Forest Products (Resource Development of NWFPs)	6.90	3.58654
7	Studies on diseases of important medicinal plants and their bio-control. (June 2008,2008-2011)	Dr. V.S.Dadwal	Forest Protection (Insect pests, diseases and control)	7.13	4.43
8	Studies on endogenous auxin level and its relationship with adventitious rooting potential in <i>Dalbergia latifolia</i> Roxb. (April 2008,2008-2011)	Dr. Pramod Kumar Tiwari	Genetic Improvement (Vegetative Propagation)	9.60	5.37
9	Studies on the dynamics of litter decomposition in sal forests of central India and its impact on nutrient status	Dr. K.K. Soni	Forest Protection (Mycorrhizae, Rhizobia and other	11.29	2.74075

	of soil. (July 2009,2009-2013)		useful microbes.)		
10	Studies on the harvesting time of some selected Medicinal plants for their natural antioxidants constituents. CFRHRD(July 2009,2009-2012)	Dr. Vishakha Kumbhare	Non wood Forest products (Chemistry of NWFPs, Value Addition and Utilization)	6.00	0.71
11	Studies on wood-decay and its control on stored tropical timber. (June 2008,2008-2012)	Dr.C.K.Tiwari	Wood Products (Value Addition and Utilization)	11.24	5.29
Total				93.87	41.711

B. New Initiated ICFRE Funded Project 2010-11 –TFRI

S. No.	Name of Project	PI	Thrust Area	Budget outlay(Rs . in Lakhs)	Expenditure incurred till 31/03/2010(Rs. in Lakhs)
1	Biological control of insect pests of medicinal plants- <i>Abelmoschus moschatus</i> , <i>Glorisa superba</i> and <i>Withania somnifera</i> . (March, 2010,2010-2014)	Dr. P. B. Meshram	Forest Protection (Insects pests, diseases and control)	7.37	
2	Counterbalancing the detrimental effect of Sponge Iron Factory-emitted Particulate Matters (SIFPM) with the protective effect of Vesicular Arbuscular Mycorrhiza (VAM) on the growth of seedlings of important tree species. (March, 2010,2010-2012)	Dr. R. Sett	Forest Protection (Mycorrhizae, rhizobia and other useful microbes)	7.48	
3	Damage assessment of gall making insect species of eucalyptus and its management by pesticides. (March, 2010,2010-2012)	Dr. N.Roy Choudhury	Forest Protection (Insects pests, diseases and control)	5.00	
4	Development of certification criteria and production of microbial inoculants for application in forest nurseries and	Dr. R. K. Verma	Forest Protection (Mycorrhizae, rhizobia and other	4.75	

	plantations. (March, 2010,2010-2014)		useful microbes)		
5	Development of food Products from <i>Madhuca indica</i> flowers for the upliftment of the tribal/Rural Communities of Central India (March, 2010,2010-2012)	Dr. Vishakha Kumbhare	Non-wood Forest Products (NWFPs) (Chemistry of NWFPs, Value Addition and Utilization)	3.15	
6	Development of lac based agroforestry (silvi-Agri-Lac) system (March, 2010,2010-2015)	Dr. N. Berry	Forest Productivity (Social Forestry, Agro-forestry /Farm Forestry)	7.00	
7	Development of multitier cropping (Silvi-Agri-Spice) system. (March, 2010,2010-2015)	Dr. N. Berry	Forest Productivity (Social Forestry, Agro-forestry /Farm Forestry)	15.07	
8	Documentation and distribution of Forest Invasive Species (FIS) of Jabalpur, Katni, Mandla and Seoni districts of Madhya Pradesh. (March, 2010,2010-2013)	Dr. V. Nath	Forest Protection (Weeds and Invasive species)	7.66	
9	Germination eco-physiology of two important tropical forest tree species: <i>Schleichera oleosa</i> and <i>Pterocarpus marsupium</i> . (March, 2010,2010-2013)	Dr. M. Kundu	Forest Productivity (Silviculture)	5.00	
10	Influence of forest canopy cover on ground flora and micro-climate in western ghats (Maharashtra) (March, 2010,2010-2012)	Dr. Avinash Jain	Ecosystem Conservation and Management (Ecology and Environment)	5.98	
11	Integrated management of vascular wilt disease of <i>Azadirachta indica</i> (Neem), <i>Emblica officianalis</i> (Aonla), and <i>Gmelina arborea</i> (Khamer) in forest nurseries. (March, 2010,2010-2013)	Dr. K.K. Soni	Forest Protection (Insects pests, diseases and control)	5.15	
12	Integrated nutrient management for improved growth of trees on over burden dumps. (March, 2010,2010-2014)	Dr. A.C. Suryaprabha	Forest Productivity (Forest Soils and Land Reclamation)	7.75	
13	Studies on larval parasitoids, <i>Apanteles</i> spp. (Hymenoptera : Braconidae) of major defoliators of teak and sal forests of Orissa. (March, 2010,2010-2013)	Dr. Mohd. Yousuf	Forest Protection (Insects pests, diseases and control)	9.51	

14	Studies on root rot and stem decay diseases in <i>Acacia catechu</i> and their control. (March, 2010,2010-2013)	Dr. R.K. Verma	Forest Protection (Insects pests, diseases and control)	6.45	
15	Studies on variations with respect to in vitro azadirachtin production in selected high yielding populations of <i>Azadirachta indica</i> A. Juss. (March, 2010,2010-2013)	Dr. Fatima Shirin	Non-wood Forest Products (Chemistry of NWFPs, Value Addition and Utilization)	11.61	
	Total			108.93	

C. Completed ICFRE Funded Project 2009-10 –TFRI

S. No.	Name of Project	PI	Thrust Area	Budget outlay(Rs. in Lakhs)	Expenditure incurred till 31/03/2010(Rs. in Lakhs)
1	Application of growth promoting microbes and soil amendments to produce improved seedlings of forest trees. (April 2007,2007-2010)	Dr. R.K. Verma	Forest Protection (Mycorrhizae, rhizobia and other useful microbes)	2.22	1.88320
2	Chemical control of insect pests and diseases of <i>Buchanania lanzan</i> . (April 2007, 2007-2010)	Dr. P. B.Meshram,	Forest Protection: Insect pests, diseases and control.	3.00	2.101
3	Evaluation of medicinal plants based agroforestry system (Silvi -medicinal) under existing teak plantation. (April 2007,2007-2010)	Dr. Nanita Berry	Forest Productivity (Social Forestry,Agroforestry/Farm Forestry)	5.00	4.41
4	Screening of tropical forest tree species for their potential as carbon sink in Madhya Pradesh & Chhattisgarh. (June 2007,2007-2010)	Dr. Avinash Jain	Ecosystem conservation and management (Climate change)	4.50	2.79
5	Seed physiology of the tropical forest species with special reference to their maturity and storage. (June 2005,2005-2010)	Maitreyee Kundu	Forest Productivity (Silviculture)	4.45	3.86
6	Standardization of nursery and plantation technology for <i>Pterocarpus marsupium</i> an endangered leguminous tree. CFRHRD(July 2006,2006-2010)	Shri Ved Pal Singh	Forest productivity (Silviculture)	3.95	1.44
7	Studies on efficacy of toxins of soil actinomycetes against major forest insects pests. (June 2006,2006-2010)	Dr. N. Roychoudhury	Forest Protection (Insect pests, diseases and control)	3.95	2.89
8	Studies on the seasonal variation in active chemical constituents of Hadjora, <i>Cissus quadrangular</i> Linn. Growing on <i>Terminalia arjuna</i> (Roxb.) CFRHRD (July 2006, 2006-2010)	Dr. Vishakha Kumbhare	Non wood Forest products (Chemistry of NWFPs, Value Addition and Utilization)	3.50	2.76
9	Study on plant diversity in Sal-Teak Ecotone Zones as influenced by ecological and climatic change. (July 2005,2005-2010)	Dr. A. K. Bhowmik	Ecosystem conservation and Management (Biodiversity)	2.20	1.31

10	Sustainable management of medicinal plants in JFM areas in different agro-climate zones of Madhya Pradesh. (July 2005, 2005-2010)	Dr. S.D. Sonkar	Non-wood Forest Products (Sustainable Harvesting and Management)	6.50	3.359
Total				39.27	26.803

D. Ongoing Externally Aided Project 2009-10 –TFRI

S. No.	Name of Project	PI	Thrust Area	Budget outlay(Rs. in Lakhs)	Expenditure incurred till 31/03/2010(Rs. in Lakhs)
1	Development of entomopathogenic nematode based strategy for the management of termites and white grub pests of major forest tree species. (July 2009,2009-2012)	Dr. Nitin Kulkarni	Forest Protection (Insect pests, diseases and control).	19.21	10.53559
2	Development of integrated insect pest and control system for major economically important forest tree species. (November 2006,2006-2010)	Dr. P.B. Meshram	Forest Protection: Insect pests, diseases and control.	6.83	2.715
3	Development of methodology and parameters for selecting of CPTs of NTFP species. CFRHRD (July 2008, 2008-2010) (Completed May, 2010)	Shri N.D. Khobragade / Har Prasad	Genetic Improvement (Tree Improvement)	3.63	2.832
4	Establishment of multilocal trials of superior accessions of <i>Jatropha curcas</i> under network programme of DBT. (November 2008,2008-2011)	Dr. A.K. Pandey	Non Wood Forest Products (Biofuels and Bioenergy)	23.02	5.10
5	Evaluation and prediction of oil bearing capacity of Sandal (<i>Santalum album</i> L.) germplasm using physio-morpho-molecular markers. (April 2007,2007-2010)	Dr. S.A. Ansari	Genetic improvement (Biotechnology)	18.10,000	15.26,855
6	Identification of suitable tree species and other vegetation for bio-drainage in Bargi Command area. (September 2005,2005-2010)	Dr. Avinash Jain	Forest productivity (Forest soils and land reclamation)	31.89	18.21
7	Integrated Development of Bamboo for Economic Upliftment in Central India with following four sub-projects.			0	0
	i. Sustainable development of new bamboo agroforestry techniques	Shri Rajat S. Pal	Forest productivity (Social forestry ,	11.10	7.94,462

	of increased income generation in the central Indian states (Agroforestry Division). (October 2007,2007-2010)		Agroforestry/ Farm Forestry)		
	ii. Bamboo species suitability for different degraded non-forest areas in Madhya Pradesh (Ecology Division). (September 2007,2007-2010)	Dr. A. K. Bhowmik	Genetic improvement(Biodiversity)	3.60	1.53
	iii. Insect and diseases of bamboo occurring in Central India and their management (Entomology Division.) (October 2007,2007-2010)	Dr. K.C. Joshi	Forest Protection (Insect pests, Diseases and control)	7.70	7.41
	iv. Nutritive values and value addition of some bamboo species of central India (NWFP Division). (August 2007,2007-2011)	Dr. A. K. Pandey	Non Wood Forest Products (Chemistry of NWFPs, value addition and utilization)	5.80	3.35,563
8	Molecular characterization of ex situ conserved germplasm and identification of molecular makers associated with wood quality traits in <i>Tectona grandis</i> L.f. (August 2007,2007-2010)	Dr. S.A. Ansari	Genetic Improvement (Biotechnology)	20.30,40 0	16.69,22 5
9	National Network on Integrated Development of Jatropha & Karanj. (July 2004,2004-2011)	Dr. A.K. Pandey	Non Wood Forest Produce (Biofuel and Bio energy)	35.40	23.78
10	Population dynamics of selected threatened medicinal plant species and conservation management through community participation in buffer and transition zone of Achanakmar-Amarkantak Biosphere Reserve Madhya Pradesh. (March 2010,2010-2012)	Dr. Ruby Sharma	NWFP (Sustainable harvesting and management)	8.22	0.00
11	Studies on developing alternative methods of sustainable harvesting of Medicinal Plants. (July 2008,2008-2011)	Dr. A. K. Pandey	Non Wood Forest Produce (Sustainable harvesting and management)	17.38	5.99
12	Studies on development of in vitro regeneration system for <i>Albizia procera</i> (Roxb) Benth. (February 2010, 2010-2013)	Dr S. A. Ansari	Genetic Improvement (Biotechnology)	5.48,550	0
13	Studies on taxonomy of braconid parasitoids (Hymenoptera: Braconidae)	Dr. Mohd. Yousuf	Forest Protection (Insect pests,	6.76	6.31

	from central India. (June 2007,2007-2010) (Completed May, 2010)		diseases and control)		
14	Study on Utilization pattern of plants in ethno-medicinal uses prevalent in tribal pockets of Satpura Plateau in Madhya Pradesh. (July 2006,2006-2010)	Dr. V. Nath	Ecosystem conservation and Management (Tribal and Traditional Knowledge System)	12.00	8.16,685
15	Taxonomy and documentation of wood decay fungi of Chattisgarh and Orissa. (March 2010,2010-2013)	Dr.C.K.Tiwari	Wood Products (Value Addition and Utilization)	15.53050	0.65220
16	Utilization of automatic weather station/agrometeorological station data for agriculture, forestry and hydrological applications in Madhya Pradesh. (January 2010,2010-2012)	Dr. Avinash Jain	Ecosystem conservation and management (Climate change)	6.88	0.82
Total				1077.951	972.402

E. Completed Externally Aided Project 2009-10 –TFRI

S. No.	Name of Project	PI	Thrust Area	Budget outlay(Rs. in Lakhs)	Expenditure incurred till 31/03/2010(Rs. in Lakhs)
1	Field trial of agroforestry model in farmers filed with medicinal trees and herbs in satpura plateau of Madhya Pradesh. CFRHRD(January 2006, 2006-2010)	Shri Suneesh Buxy	Forest Productivity (Social Forestry, Agro-forestry /Farm Forestry)	10.00	7.955
2	Isolation, identification and evaluation of insecticidal phyto-chemicals form <i>Annona suamosa</i> L. (Annonaceae) against <i>Hyblea puera</i> Cram and <i>Eutectona machaeralis</i> walk two major insect pests of teak (<i>Tectona grandis</i> Linn.) (June 2007,2007-2010)	Dr. Nitin Kulkarni	Forest Protection (Insect pests, diseases and control)	5.16	4.91
3	Studies on in-vitro regeneration of plantlets and their genetic (Molecular) fidelity in <i>Saraca indica</i> linn., a vulnerable medicinal tree. (November 2006,2006-2010)	Dr. Fatima Shirin	Genetic Improvement (Vegetative Propagation)	7.75	7.50
4	Studies on the natural enemies of teak pests, <i>Hyblaea puera</i> and <i>Eutectona machaeralis</i> and their role in	Dr. N. Roychoudhury	Forest Protection (Insect pests, diseases and	5.20	4.03

	suppressing the population of insects in Madhya Pradesh. (January 2008, 2008-2010)		control)		
5	Varietal improvement of <i>Rauvolfia Serpentina</i> and <i>Tinospora cordifolia</i> through germplasm selection evaluation and breeding. (April 2006,2006-2010)	Dr. Yogeshwar Mishra	Non-wood Forest Products (Resource Development of NWFPs)	7.0	7.0
	Total			38.74	34.227

Forestry Research : Thrust Areas and Themes			
Sl. No.	Thrust Area	Theme	No. of ongoing research projects during 2010-11
1	Ecosystem Conservation and Management	1. Biodiversity 2. Climate Change 3. Ecology and Environment 4. Forest Botany 5. Tribals and Traditional Knowledge System	1 1 1
2	Forest Management	1. Forest Biometrics 2. Forest Economics 3. Information and Communication Technology (ICT) 4. Participatory Forest Management 5. Policy and Legal Issues 6. Sustainable Forest Management (SFM)	1
3	Forest Productivity	1. Forest Soils and Land Reclamation 2. Silviculture 3. Social Forestry, Agro-forestry /Farm Forestry 4. Watershed Management	2 1 3
4	Forest Protection	1. Forest Fire and Grazing 2. Insects pests, diseases and control 3. Mycorrhizae, rhizobia and other useful microbes 4. Weeds and Invasive species	9 3 1
5	Genetic Improvement	1. Biotechnology 2. Conservation of Forest Genetic Resources 3. Tree Improvement 4. Vegetative Propagation	3 1 2 1
6	Non-wood Forest Products (NWFPs)	1. Biofuels and Bioenergy 2. Chemistry of NWFPs, Value Addition and Utilization 3. Resource Development of NWFPs 4. Sustainable Harvesting and Management	2 4 2 2
7	Wood Products	1. Pulp and Paper 2. Value Addition and Utilization 3. Wood and other Lignocellulosic Composites 4. Wood Chemistry 5. Wood Processing	2
		Total	42

Annual Review 2010 – TFRI – Plan Projects

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| 1. | Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/01
(Completed) |
| 2. | Project Code | 114/TFRI-2007/Path-1(12) |
| 3. | Project Title | Application of growth promoting microbes and soil amendments to produce improved seedlings of forest trees. |
| 4. | Institute/Directorate | Tropical Forest Research Institute |
| 5. | Name & Designation of Principal Investigator | Dr. R.K. Verma, Scientist - D |
| 6. | Objective of the project | To develop germplasm bank of growth promoting microbes for <i>Gmelina arborea</i> , <i>Dalbergia sissoo</i> , <i>Santalum album</i> and <i>Jatropha curcas</i> .
To screen efficient strains of growth promoting microbes
To study interaction of growth promoting microbes and soil amendments
To demonstrate and transfer the technology to users |
| 7. | Thrust Area | Forest Protection (Mycorrhizae, rhizobia and other useful microbes) |
| 8. | Project period | 3 years, April 2007 – March 2010 |
| 9. | Date of commencement of project | April, 2007 |
| 10. | Budget outlay of the project | Rs.2.22 Lakhs |
| 11. | Expenditure incurred till (31.3.2010) | Rs.1.883201 Lakhs |

Review Comments of ICFRE:

Project has completed. PCR may be submitted as per the format guidelines of ICFRE. Objectives of the project related to demonstration and transfer of technology to the users may be brought out explicitly highlighting the impact and acceptance of the technology to the users.

1.	Project File No:	No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/02 (Completed)
2.	Project Code	114/TFRI-2007/Ento.2(17)
3.	Project Title	Chemical control of insect pests and diseases of <i>Buchanania lanzan</i>
4.	Institute/Directorate	Tropical Forest Research Institute
5.	Name & Designation of Principal Investigator	Dr. P. B.Meshram, Scientist - E
6.	Objective of the project	To study seasonal incidence of insect pests and diseases of <i>B. lanzan</i> . Assessment of losses due to insect pests and diseases. To develop chemical control measures for the insect pests and diseases and its effect on productivity of <i>B. lanzan</i> .
7.	Thrust Area	Forest Protection: Insect pests, diseases and control.
8.	Project period	(3 years) 2007 – 2010
9.	Date of commencement of project	April, 2007
10.	Budget outlay of the project	Rs.3.00 Lakhs , Allotment Rs. 2.14 lakhs
11.	Expenditure incurred till (31.3.2010)	Rs.2.101 Lakhs

Review Comments of ICFRE:

Project has completed. PCR may be submitted as per the format guidelines of ICFRE. The package of practices developed to control the insect pests and diseases of *Buchanania lanzan* may be brought out as extension material and demonstration trial of the package should be undertaken as a separate file so that effectiveness to the package may be assessed.

1. Project File No: No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/03
2. Project Code 138/TFRI/2009/NWFP-1(24)
3. Project Title Determination of polysaccharides for the development of bioproducts
4. Institute/Directorate Tropical Forest Research Institute, Jabalpur
5. Name & Designation of Smt. Neelu Singh, Scientist-D
Principal Investigator
6. Objective of the project
 - i) To isolate and assess the physico-chemical properties of polysaccharides of *Dioscorea bulbifera*, *Dioscorea hispida*, *Hyptis suaveolens* and *Curcuma angustifolia* and *C. pseudomontana*.
 - ii) To modify polysaccharides for the development of bio-product/ploymers.
 - iii) To determine properties of bio-products.
7. Thrust Area Non wood Forest Produces (Chemistry of NWFPs, value addition and utilization)
8. Project period 2009-2012
9. Date of commencement of project 27th April,2009
10. Budget outlay of the project 15.56 lakhs (ICFRE)
11. Expenditure incurred till (31.3.2010) 6.44 lakhs

Review Comments of ICFRE:

As per the objectives polysaccharides from tubers of *Curcuma angustifolia*, *C. Pseudomantana*, *Dioscorea bulbifera*, *D. Hispida* and *Hyptis suaveolens* (seeds and aerial parts) isolated and evaluated for physiochemical property. Polysaccharides are being modified to develop new bio- product. There is no constraint in the project so development of new bio-product may be achieved as per the work plan.

1. Project File No: No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/04
2. Project Code [132/TFRI-2008/ITCell-1(1)/2008-2011]
3. Project Title Development of an Information System for forest tree species associated insects and their management.
4. Institute/Directorate Tropical Forest Research Institute, Jabalpur
5. Name & Designation of Principal Investigator Dr. Sharad Tiwari, Scientist 'D'
6. Objective of the project To develop a user friendly information system on insects damaging forest tree species and provide online access to the information to the users.
7. Thrust Area Forest Management- Information and Communication Technology (ICT)
8. Project period Three years (June 2008-March 2011)
9. Date of commencement of project June 2008
10. Budget outlay of the project 7.60 (in Lacs)- ICFRE Funded
11. Expenditure incurred till (31.3.2010) 5.04 (in Lacs)-

Review Comments of ICFRE:

The project envisages data collection on various insect species including host range in natural enemy, nature of damage and management techniques alongwith the photographs. This kind of data collection will require exhaustive literature survey. After the superannuation of co-PI Dr. K.C. Joshi special arrangement need to be made so that project does not suffer on account of data collection and better management. Director/GCR may take action accordingly.

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| 1. | Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/05
(Completed) |
| 2. | Project Code | 105/TFRI-2006/Agro-1(14) |
| 3. | Project Title | Evaluation of medicinal plant based agroforestry system (Silvi-medicinal) under existing teak plantations. |
| 4. | Institute/Directorate | Tropical Forest Research institute, Jabalpur |
| 5. | Name & Designation of Principal Investigator | Dr. Nanita Berry, Scientist 'C' |
| 6. | Objective of the project | To assess the impact of teak plantations on medicinal plants viz. <i>Gloriosa superba</i> L. and <i>Costus speciosus</i> (Koenig) Sm. and <i>Curcuma longa</i> L. in terms of growth and quality of medicinal plants.
To study the nutrient status of soil before and after intercropping of medicinal plants.
To calculate the economic aspect of the system. |
| 7. | Thrust Area | Forest Productivity
(Social Forestry, Agroforestry/Farm Forestry) |
| 8. | Project period | Three years (extended upto one year i.e. March,2010) |
| 9. | Date of commencement of project | April, 2008 |
| 10. | Budget outlay of the project | Rs. 5.00 lakhs (Five lakhs)
Allotted- 4.41 lakhs |
| 11. | Expenditure incurred till (31.3.2010) | 4.41 lakhs |

Review Comments of ICFRE:

Project has been completed. PCR may be submitted as per the format guidelines of ICFRE. Package of practices on silvimedical models may be brought out highlighting their economic aspects and the demonstration project may be undertaken making farmers and industries as partners.

1. Project File No: No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/06
2. Project Code 133/TFRI-2008/Agro-1(15)
3. Project Title Evaluation of productivity of maize in *Dalbergia sissoo* (Shisham) and *Zea mays* (Maize) Agro forestry system
4. Institute/Directorate Tropical Forest Research institute, Jabalpur
5. Name & Designation of Principal Investigator Dr. Nanita Berry, Scientist 'C' (Present PI w.e.f. 1st April, 2010)
Shri. Rambir Singh, R.O.(Ex-PI- Since 2008-31st March,2010)
6. Objective of the project Long term :
To study the effect of inter cropping of Shisham and Maize on the nutrient status of the soil.
To develop sustainable Agroforestry model for increased production of Maize crop under Shisham-Maize agroforestry system.
Short term:
To study the growth performance and yield of maize in Shisham–Maize system.
7. Thrust Area Forest Productivity
(SocialForestry/Agroforestry/FarmForestry)
8. Project period Three years(2008-2011)
9. Date of commencement of project April, 2008
10. Budget outlay of the project Rs. 5.50 lakhs
11. Expenditure incurred till (31.3.2010) Rs. 3.93lakhs

Review Comments of ICFRE:

Established *Sissoo-Zea mays* system as an OSR trial at TFRI campus- by doing cultural operation like ploughing, weeding and manuring of the experimental plot of 2 year old *Dalbergia sissoo* plantation. Hybrid maize seeds were sown at a same spacing of 60cm x 20cm with tree to crop line spacing of 60cm and 120cm as per the approved project design, i.e. Randomized Block Design. The maize crop was harvested and yield data were recorded, tabulated and analyzed statistically. Growth parameter i.e. Collar diameter and height of each *Dalbergia sissoo* plant was recorded at the time of planting and harvesting of maize crop. Soil samples have been collected from each RBD block at the time of planting and harvesting of maize crop and the pH, E.C., Organic carbon, Available N,P,K, and Ca⁺⁺, Mg⁺⁺ was determined. This kind of agro forestry system study involving tree species needs to be carried out for 5 years to give significant findings

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| 1. | Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/07 |
| 2. | Project Code | Pr. ID No. 116/CFRHRD/2007-1(11) |
| 3. | Project Title | Genetic improvement of <i>Buchanania lanzan</i> Spreng |
| 4. | Institute/Directorate | Centre for Forestry Research & Human Resource Development,
Chhindwara |
| 5. | Name & Designation of
Principal Investigator | Sh. N.D. Khobragade, Research Officer (till 31.03.2010)
Sh. Hari Prasad, Dy. CF (w.e.f. 01.04.2010) |
| 6. | Objective of the project | Long term
1. To enhance the productivity of <i>Buchanania lanzan</i>
Short term
1. Selection of plus trees.
2. Establishment of progeny trial
3. To study inheritance pattern of <i>B. Lanzan</i>
4. To identify good general combiners |
| 7. | Thrust Area | Genetic Improvements (Tree improvement) |
| 8. | Project period | 4 years |
| 9. | Date of commencement
of project | 01.07.2007 |
| 10. | Budget outlay of the
project | 4.35 lakhs |
| 11. | Expenditure incurred till
(31.3.2010) | Ongoing (Rs. 1.26404 lakhs upto March 2010) |

Review Comments of ICFRE:

Genetic improvement of *Buchanania lanzan* has been taken up without developing methodology and parameters for selection of CPTs. The activity carried out to select plus trees therefore becomes unscientific. There is not much expenditure in the project and there is no scientific manpower available at CFRHRD, Chhindwara to retrieve the project. The PI may explain such avoidable action towards the project with specific comment of Director/GCR. Therefore project needs to be closed. The Director is requested to take up the closure of the project in the ensuing RAG.

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| 1. | Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/08 |
| 2. | Project Code | No. 117/TFRI-2007/Gen.-1 (13) |
| 3. | Project Title | Genetic variation for <i>in vitro</i> morphogenetic potential of <i>Dalbergia sissoo</i> Roxb. clones and evaluation of their field performance. |
| 4. | Institute/Directorate | TFRI |
| 5. | Name & Designation of Principal Investigator | Dr. Yogeshwar Mishra, Scientist D |
| 6. | Objective of the project | <ol style="list-style-type: none"> 1. To investigate the extent of variability with respect to <i>in vitro</i> plantlet production amongst different clones of <i>Dalbergia sissoo</i> Roxb for clonal testing and operational forestry. 2. Establishment of clonal test using <i>in vitro</i> raised plantlets. 3. Estimation of growth parameters. |
| 7. | Thrust Area | Genetic improvement (Conservation of forest Genetic resources) |
| 8. | Project period | Five years |
| 9. | Date of commencement of project | April 2007 |
| 10. | Budget outlay of the project | Rs. 8.7 Lakhs |
| 11. | Expenditure incurred till (31.3.2010) | Rs. 2.91 Lakhs |

Review Comments of ICFRE:

Rooting is a major constraint for *in vitro* plant production of *Dalbergia sissoo*. This objective is yet to be achieved. This project has also been selected for Independent External Evaluation.

1.	Project File No	No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/09 (Completed)
2.	Project Code	124/TFRI/2007/Ecol-2(9)]
3.	Project Title	Screening of tropical forest tree species for their potential as carbon sink in Madhya Pradesh and Chhattisgarh
4.	Institute/Directorate	Tropical Forest Research Institute, Jabalpur
5.	Name & Designation of Principal Investigator	Dr. Avinash Jain, Scientist E
6.	Objective of the project	To select 2-3 forest tree species in different agroforestry systems in M.P. and Chhattisgarh and screen them for their carbon sequestration potential. To observe the effect of periodical removal of tree species as well as agricultural crops on carbon sequestration. To determine photosynthetic rate of selected species in different age/girth classes, seasons and agroforestry systems. To determine residue carbon pool in rhizosphere soils in different agroforestry systems.
7.	Thrust Area	Ecosystem conservation and management (Climate change)
8.	Project period	3 years (ICFRE funded project)
9.	Date of commencement of project	June 2007
10.	Budget outlay of the project	Rs. 4.50 lakh Allotted Rs. 2.87 lakh
11.	Expenditure incurred till (31.3.2010)	Rs. 2.79 lakh

Review Comments of ICFRE:

The project was evaluated by Dr. Rajiv Angrish, Professor & Senior Plant Physiologist, Deptt. of Botany and Plant Physiology, CCS Haryana Agriculture University. But report along with observations was not provided to PI by Director, TFRI for timely action. It was observed by external evaluator that 3 years experimentation of the project is likely to yield preliminary information only and recommended that the project should be allowed to continue for 5 years. But no action could be taken on suggestions of the external evaluator and project concluded in March, 2010. Director/GCR, TFRI may clarify the reason for such delays and that how the suggestions can be implemented at this stage.

1.	Project File No:	No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/10 (Completed)
2.	Project Code	76/TFRI-2004/Silvi-217
3.	Project Title	Seed physiology of the tropical forest species with special reference to their maturity and storage.
4.	Institute/Directorate	Tropical Forest Research Institute
5.	Name & Designation of Principal Investigator	Maitreyee Kundu, Scientist – E
6.	Objective of the project	Long term: Study of seed physiology in relation to their germination, maturation and storage Short term: 1. Identification of seed storage category. 2. Identification of the developmental stage at which collection should be made for better storage. 3. Development of protocols for proper storage. 4. Estimation of the constants for prediction of viability following different storage methodology. 5. Biochemical characterization associated with storage physiology.
7.	Thrust Area	Forest Productivity (Silviculture)
8.	Project period	5 years (June 2005 – May 2010)
9.	Date of commencement of project	June, 2005
10.	Budget outlay of the project	Rs. 4.45 lakhs
11.	Expenditure incurred till (31.3.2010)	Rs. 3.86 lakhs

Review Comments of ICFRE:

Project has completed in May, 2010. PCR along with softcopy may be submitted as per the format guidelines of ICFRE. Extension material may be developed for the use of stake holders.

1. Project File No: No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/11
2. Project Code 119/CFRHRD/2007-2(12)
3. Project Title Standardization of cultivation Protocol for *Asparagus racemosus* (Satawar)
4. Institute/Directorate Centre for Forestry Research & Human Resource Development, Chhindwara
5. Name & Designation of Principal Investigator Shri Suneesh Buxy, IFS, Dy.Conservator of Forests
6. Objective of the project
 - Long Term**
 1. To develop complete cultivation protocol of *Asparagus* for enhancement of its productivity.
 - Short Term**
 1. To find out suitable soil type/texture for regeneration of satawar on open land and open forests for maximizing productivity.
 2. To find out suitable time and depth of seed sowing and watering frequency to enhance germination potential.
 3. To work out optimum doses of fertilizers & manure for enhancing the yield based on its quality.
 4. To find out optimum spacing for enhancing yield on its quality.
 5. To assess the harvesting time for maximum productivity
7. Thrust Area Non-wood Forest Products (Resource Development of NWFPs)
8. Project period 4 years
9. Date of commencement of project 01.06.2007
10. Budget outlay of the project 6.90 lakhs
11. Expenditure incurred till (up to March 2010 -Rs. 3.58654 lakhs) (31.3.2010)

Review Comments of ICFRE:

Project activity is progressing as per the action plan harvesting of tubers at different intervals will determine optimum harvesting time for maximum productivity. This aspect needs to be given utmost care to come out with appropriate package of practices for cultivation/extraction of satawar. This project has also been selected for independent external evaluation.

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| 1. | Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/12

(Completed) |
| 2. | Project Code | 109/CFRHRD/2006-2 (10) |
| 3. | Project Title | Standardization of nursery technology and evaluation of various types of planting stocks of <i>Pterocarpus marsupium</i> . An endangered leguminous tree. |
| 4. | Institute/Directorate | Centre for Forestry Research & Human Resource Development, Chhindwara |
| 5. | Name & Designation of Principal Investigator | Shri Vedpal Singh, R.O. (1.7.2007-18.12.2009) |
| 6. | Objective of the project | <p>1. To Standardize seed treatment process, potting media, sowing methods and time, size of root trainers and irrigation schedule.</p> <p>2. To standardize fertilizers dosages for production of quality planting stocks of <i>P.marsupium</i> in the nursery.</p> <p>3. To evaluate the performance of nursery raised different planting stock of <i>P.marsupium</i>.</p> |
| 7. | Thrust Area | Forest productivity (Silviculture) |
| 8. | Project period | Four years |
| 9. | Date of commencement of project | July 2006 |
| 10. | Budget outlay of the project | Rs. 3.95 lakhs |
| 11. | Expenditure incurred till (31.3.2010) | Rs. 1.44 lakhs |

Review Comments of ICFRE:

Project has completed in March, 2010. PCR along with softcopy may be submitted as per the format guidelines of ICFRE.

1. Project File No: No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/13
2. Project Code 129/TFRI-2008/Path-1(13)
3. Project Title Studies on diseases of important medicinal plant and their bio-control
4. Institute/Directorate Tropical Forest Research Institute, Jabalpur
5. Name & Designation of Principal Investigator Dr. V.S.Dadwal, Scientist-C
6. Objective of the project

Long term:

 1. To develop a long term strategy for biological control of disease of medicinal plant

Short term:

 1. To survey and collection of diseased samples for isolation and identification of pathogens responsible for causing diseases in *Rauvolfia serpentina*, *Withania somnifera* and *Chlorophytum borivillianum*.
 2. To study the mode of infection and conditions favorable for disease development.
 3. To screen out the effective biocontrol agent in the laboratory as well in the field.
7. Thrust Area Forest Protection (Insect pests, diseases and control)
8. Project period Three Years (June 2008 to May 2011)
9. Date of commencement of project 27.06.2008
10. Budget outlay of the project 7.13 lakh (ICFRE)
11. Expenditure incurred till (31.3.2010) 4.43 lakh

Review Comments of ICFRE:

Survey and collection of diseased samples for isolation and identification of pathogens responsible for causing diseases in *Rauvolfia serpentina*, *Withania somnifera* and *Chlorophytum borivillianum* have been completed to a large extent. The mode of infection and conditions favorable for disease developments have been studied and the effective biocontrol agent in the laboratory are being screened out. Field trial would be laid during the current year. The field trial must be repeated twice before drawing any conclusion. Project may be modified suitably in the ensuing RAG.

1.	Project File No:	No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/14 (Completed)
2.	Project Code	103/TFRI/2006/Ento-2(13)/2006-2009
3.	Project Title	Studies on the efficacy of toxins of soil actinomycetes against major forest insect pests.
4.	Institute/Directorate	Tropical Forest Research Institute, Jablpur
5.	Name & Designation of Principal Investigator	Dr. N. Roychoudhury, Scientist F Forest Entomology Division
6.	Objective of the project	To isolate and identify species of soil actinomycetes producing toxins. To determine the effects of toxins/products of soil actinomycetes against key forest insect pests.
7.	Thrust Area	Forest Protection (Insect pests, diseases and control)
8.	Project period	Four years
9.	Date of commencement of project	June, 2006
10.	Budget outlay of the project	3.95 lakh (fund released 3.08 lakh) (ICFRE)
11.	Expenditure incurred till (31.3.2010)	2.89 lakh

Review Comments of ICFRE:

The project period ended in March 2010. The objectives of the project, such as isolation and identification of soil actinomycete producing toxin and determination of the effects of toxins/products against teak defoliator, teak leaf skeletonizer, siris foliage feeder, bamboo leaf roller and mahaneem defoliator have been achieved, except chemical characterization of toxins. The samples are being sent to CDRI, Lucknow, for chemical analysis. Director is requested to look into the matter since project envisaged to develop a patent as its expected outcome.

1. Project File No: No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/15
2. Project Code 103/TFRI/2006/Ento-2(13)/2006-2009
3. Project Title Studies on endogenous auxin level and its relationship with adventitious rooting potential in *Dalbergia latifolia* .
4. Institute/Directorate Tropical Forest Research Institute, Jablpur
5. Name & Designation of Principal Investigator Dr. Pramod Kumar Tiwari
6. Objective of the project

Long Term:
To develop relationship between endogenous auxin level and rooting potential and standardization of exogenous auxin treatment for mass propagation of *Dalbergia latifolia*

Short Term:
To collect seeds and establish seedling population from selected superior trees
To investigate endogenous auxin level and rooting potential
To analyse relationship between endogenous auxin level and rooting potential
7. Thrust Area Genetic Improvement (Vegetative Propagation)
8. Project period 2008-2011
9. Date of commencement of project April, 2008
10. Budget outlay of the project Rs. 9.60 Lakhs
11. Expenditure incurred till (31.3.2010) Rs. 5.37 Lakhs

Review Comments of ICFRE:

First objective is achieved by the selection of superior trees and raising of seedling population. Working on second objective, endogenous auxin (IAA) and rooting potential of selected trees was investigated. The species (*Dalbergia latifolia*) is a slow growing and difficult to root. As a result, the availability of the material for laying out experiment within short period of time is a constraint. Besides, rooting response is also very low and needs to be extensively investigated for an extended period of time. Therefore, *Dalbergia sissoo*, a closely related and comparatively easy to root species, can also be incorporated for comparison. In this way the study may generate a holistic approach on rooting potential and its relationship with endogenous auxin which will be helpful in development of efficient package of propagation. Director is requested to take up this aspect in the ensuing RAG

1.	Project File No:	No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/16 (Completed)
2.	Project Code	Pr.ID No-108/CFRHRD/2006-1(8)
3.	Project Title	Studies on the seasonal variation in active chemical constituents of Hadjor, <i>Cissus quadrangularis</i> Linn.
4.	Institute/Directorate	Centre for Forestry Research & Human Resource Development, Chhindwara
5.	Name & Designation of Principal Investigator	Dr. Vishakha Kumbhare, Scientist-‘B’,
6.	Objective of the project	Long Term 1.Assessment of best harvesting period of <i>Cissus quadrangularis</i> based on their active chemical constituents. Short Term 1. Extraction and quantitative estimation of <i>C. quadrangularis</i> for their active chemical constituents. 2. To assess best harvesting period based on their active constituents. 3. Dissemination of the results to the user groups.
7.	Thrust Area	Non wood Forest products. (NWFPs) (Chemistry of NWFPs, Value Addition and Utilization)
8.	Project period	4 years(2+1+1)
9.	Date of commencement of project	1.07.06
10.	Budget outlay of the project	3.50 Lakhs
11.	Expenditure incurred on the project	2.76 lakhs

Review Comments of ICFRE:

Technology has been developed for Six nutraceutical food products of *Cissus quadrangularis* viz. biscuits, cookies, jelly, squash, chutney and pickle as per FPO (Food products Order) & Prevention of Food Adulteration Act (PFA) specification in collaboration with Food Technology Dept, Nagpur. All the products were tested for consumer acceptance level & were accepted by the consumers. PCR may be submitted as per format guidelines of ICFRE. Third objective of the project is expected to make impact on the stakeholders. Therefore this aspect needs to be elaborated and deliberated upon in the PCR.

- 1.
1. Project File No: No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/17
2. Project Code 136/TFRI-2009/Patho-1(15)
3. Project Title Studies on the dynamics of litter decomposition in sal forests of central India and its impact on nutrient status of soil
4. Institute/Directorate Tropical Forest Research Institute, Jabalpur
5. Name & Designation of Principal Investigator Dr. K.K. Soni, Scientist-D
6. Objective of the project

Long term

To study microbial litter decomposition on forest floor and its relation to nutrient status of forest soil.

Short term

 1. To study and document the diversity, succession of fungi and micro-fauna from different stages of decomposition.
 2. To evaluate the status of carbon flux using a process-based model at different stages of decomposing litter.
 3. To develop suitable microbial consortium to fasten litter decomposition.
 4. To disseminate the technique to the user groups.
7. Thrust Area Forest Protection (Mycorrhizae, Rhizobia and other useful microbes.)
8. Project period 04 Years (April2009 to March2013)
9. Date of commencement of project July 2009
10. Budget outlay of the project Rs. 11.29 lakhs
11. Expenditure incurred on the project Rs. 2.74075

Review Comments of ICFRE:

Two sites from each state have been selected for study of litter decomposition. Two samples from each sites have been collected periodically and analyzed for C N & P content. 45 cultures of fungi have been isolated from different stages of litter decomposition. A new Black powdery mildew namely *Astrostromella* has been collected from Sal forest of Achanakmar (Chhattisgarh.).Culturing and multiplication of mycorrhizal fungi is under progress. Director is requested to look into the financial constraint to undertake tours to far off sites in Chhattisgarh and Orissa and take this issue to ensuing RAG, if necessary, for remedial measures.

1. Project File No: No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/18
2. Project Code Pr. ID No. 137/CFRHRD/2009-1(14)
3. Project Title Studies on the harvesting time of some selected medicinal plants for their natural antioxidant constituents.
4. Institute/Directorate Centre for Forestry Research & Human Resource Development, Chhindwara
5. Name & Designation of Principal Investigator Dr. Vishakha Kumbhare, Scientist-‘B’,
6. Objective of the project
 - Long Term**
 1. To find out best harvesting time of *G. sylvestre*, *M. oleifera*, *S. rebaudiana* and *W. somnifera* based on their natural antioxidant constituents.
 - Short Term**
 1. To extract and quantify natural antioxidant constituents of *Gymnema sylvestre*, *Moringa oleifera*, *Stevia rebaudiana* and *Withania somnifera*.
 2. To assess optimum harvesting time based on their antioxidant chemical constituents.
 3. Dissemination of the results to the user groups.
7. Thrust Area Non wood Forest Products
(Chemistry of NWFPs, Value Addition and Utilization).
8. Project period 3 Years
9. Date of commencement of project 01.07.2009
10. Budget outlay of the project 6.00 lakhs
11. Expenditure incurred on the project Ongoing (Rs. 0.71 lakhs as on 31.3.2010)

Review Comments of ICFRE:

Method was standardized & antioxidant constituents viz. ascorbic acid, total phenols, phenolic acids & macroelements are being estimated for target species, *G. sylvestre*, *M. oleifera*, *S. rebaudiana* and *W. somnifera* to find out best harvesting time. Budget allotted under sub-head M&S was Rs. 15, 000/- only against the approved amount of Rs. 1.50 lakh during 2009-10 which was not sufficient for the analysis work. The present project is mainly analysis based project. Hence Director is requested to clarify in this regard.

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| 1. | Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/19 |
| 2. | Project Code | I.D. 130/ TFRI-2008/Path-2(14) |
| 3. | Project Title | Studies on wood decaying fungi and its control in stored tropical timber |
| 4. | Institute/Directorate | Tropical Forest research Institute, Jabalpur |
| 5. | Name & Designation of Principal Investigator | Dr.C.K.Tiwari , Scientist 'B' |
| 6. | Objective of the project | <ol style="list-style-type: none"> 1. To collect, isolate and identify wood decaying from different wood depots. 2. To test suitable hyperparasites, fungicides and water borne preservative for control of wood decay in the laboratory and field. |
| 7. | Thrust Area | Wood Products (Value Addition and Utilization) |
| 8. | Project period | Four Years |
| 9. | Date of commencement of project | Jun. 2008 |
| 10. | Budget outlay of the project | 11.24 Lakhs |
| 11. | Expenditure incurred on the project | 5.29 Lakhs |

Review Comments of ICFRE:

68 wood reports of M.P., Chhatisgarh, Maharashtra and Orisa were surveyed to collect decaying fungi. Specimens collected were processed to identify the decaying fungi. Isolation of wood – decaying cultures from fruit bodies or basidiocarp and decaying wood by means of tissue culture method on PDA was done and 29 cultures were prepared and maintained. Layout of experiment of toxicity test and decay resistance using 3 timber species (*Tectona grandis*, *Shorea robusta* and *Pterocarpus marsupium*) *F. flavus* with 4 different concentrations (0.5%, 1.0%, 1.5%, 2.0%) of urea and Zinc sulphate was conducted. The activities related to test control resistance of timber species and screening of hyperparasite will be taken up during the current year. There has been financial constraint in the project. Director is requested to take corrective measure so that project activities do not suffer.

1.	Project File No:	No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/20 (Completed)
2.	Project Code	085/TFRI/2005/Biod-2(5)
3.	Project Title	Study on plant diversity in sal & teak ecotone zone as influenced by ecological & climatic change.
4.	Institute/Directorate	Tropical Forest Research Institute
5.	Name & Designation of Principal Investigator	Dr. A. K. Bhowmik, Scientist "C"
6.	Objective of the project	1) Identification and demarcation of ecotone zone in two states of Central India (MP and Chhattisgarh 2) To study the microclimatic changes in ecotone zone in pure Sal and teak forests and in the transition zone. 3) The comparison study of the changing patterns of vegetation composition, phenology, diversity of species from transition zone to pure forest of sal and teak. 4) To study the impact of climate and ecological changes on vegetation in ecotone area.
7.	Thrust Area	Ecosystem conservation and Management (Biodiversity)
8.	Project period	5 Years
9.	Date of commencement of project	7 th July 2005
10.	Budget outlay of the project	2.20 Lakhs, 1.74 Lakhs (received)
11.	Expenditure incurred on the project	1.31 Lakhs

Review Comments of ICFRE:

Project has completed in March, 2010. PCR along with softcopy may be submitted as per the format guidelines of ICFRE.

1.	Project File No:	No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/Plan/Project/21 (Completed)
2.	Project Code	079/TFRI/2005/Silva-1(8)
3.	Project Title	Sustainable management of medicinal plants in JFM areas in Madhya Pradesh
4.	Institute/Directorate	Tropical Forest Research Institute
5.	Name & Designation of Principal Investigator	Dr. S.D. Sonkar
6.	Objective of the project	<p>Short Term</p> <ol style="list-style-type: none"> 1. To standardize management practices for sustainable development/ harvesting of medicinal plants in JFM areas. 2. To encourage production of non-timber forest products including medicinal plants on sustained basis. <p>Long Term</p> <p>Upliftment of socio-economic status and improvement of living standard of people in JFM areas.</p>
7.	Thrust Area	Non-wood Forest Products (Sustainable Harvesting and Management)
8.	Project period	5 yrs (July 2005-June 2010)
9.	Date of commencement of project	July 2005
10.	Budget outlay of the project	6.50 Lakhs
11.	Expenditure incurred on the project	3.359 Lakhs

Review Comments of ICFRE:

Project has completed in March, 2010. PCR along with softcopy may be submitted as per the format guidelines of ICFRE. Package of practices developed for harvesting must be brought out clearly for full appreciation by stake holders/end users.

Annual Review 2010 – TFRI– Externally Aided Projects

1. Project File No: No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/01
2. Project Code Project ID No. 139./TFRI-2009/Ento – 1(DBT) (21)
3. Project Title Development of Entomopathogenic Nematode based strategy for the management of termites and white grub pests of major forest tree species.
4. Institute/Directorate Tropical Forest Research Institute
5. Name & Designation of Principal Investigator Dr. Nitin Kulkarni, Scientist - F
6. Objective of the project
 - Determination of comparative potentiality and dose determination of native EPN isolate.
 - Isolation of more potential native populations/strains/species of EPNs.
 - Standardization of mass-multiplication technique for the most promising local/native EPN.
 - Determination of best effective combination/formulation of the selected EPN and its efficacy with regards to the stages and time of application against the target pests.
7. Thrust Area Forest Protection (Insect pests, diseases and control).
8. Project period (3 years) 2009 – 2012
9. Date of commencement of project July, 2009
10. Budget outlay of the project 19.21 (DBT Funded Project)
11. Expenditure incurred on the project Rs.10.53559 Lakh

Review Comments of ICFRE:

The entomopathogenic nematodes (EPNs) are the most recently investigated biological control agents against the insect pests, especially soil inhabiting insects. Till date no work has been reported in India on insect pests of forestry importance. Therefore, evaluation of efficacy of native populations of EPNs from central India was initiated against termite and white grubs pests. Investigations on mass-multiplication parameters for their rearing on fictitious host waxmoth larvae has also been initiated. Investigation on insecticidal tolerance/ compatibility of EPNs to commonly used insecticides/ biopesticides has been initiated, so as to understand compatibility of particular EPN species to particular insecticide/ biopesticide. Further work is in progress.

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| 1. | Project File No: | 5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Projects/2 |
| 2. | Project Code | Project ID No. 112/TFRI-2006/Ento.4(MPFD) (15) |
| 3. | Project Title | Development of integrated insect pest and disease control system for major economically important forest trees species |
| 4. | Institute/Directorate | Tropical Forest Research Institute |
| 5. | Name & Designation of Principal Investigator | Dr. P.B. Meshram, Scientist - E |
| 6. | Objective of the project | <ul style="list-style-type: none"> • To assess the impact of damage caused by insect pests and diseases of teak and aonla in plantations and natural ecosystem. • To develop integrated management package for the control of major insect pests and diseases of the above mentioned tree species. • To disseminate the developed management package to the user groups |
| 7. | Thrust Area | Forest Protection (Insect pests, diseases and control). |
| 8. | Project period | (4 years) 2006 – 2010 |
| 9. | Date of commencement of project | November, 2006 |
| 10. | Budget outlay of the project | Rs. 6.83 (MP Forest Deptt. funded Project) |
| 11. | Expenditure incurred on the project | Rs.2.715 lakhs |

Review Comments of ICFRE:

Due to shortage of funds, experiments continued on only two species i.e. teak and aonla as per the instruction of funding agency. Most of the activities under the objectives are completed. Project will be completed in December, 2010.

1	Project File No:	No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/03 (Completed)
2.	Project Code	No. 128./CFRHRD/2008-1(MSFD)(13)
3.	Project Title	Developing methodology and parameters for selecting of CPTs of NTFPs species.
4.	Institute/Directorate	Tropical Forest Research Institute
5.	Name & Designation of Principal Investigator	Shri N.D. Khobragade/ Har Prasad
6.	Objective of the project	1. To develop methodology for selecting of CPTs of NTFPs. 2. To develop parameters for selecting of CPTs of NTFPs.
7.	Thrust Area	Genetic Improvement (Tree Improvement)
8.	Project period	2 years
9.	Date of commencement of project	July, 2008
10.	Budget outlay of the project	Rs. 3.63 Lakhs
11.	Expenditure incurred on the project	Rs.2.832 Lakh

Review Comments of ICFRE:

Survey has been carried out for development of methodology and parameters to select the candidate plus trees of *Terminalia chebula*, *Terminalia bellirica*, *P. pinnata*, *Acacia catechu* and *D. Melanoxylon*. For *Terminalia chebula* the direct effect of girth, CBH and crown volume were high and positive; and their correlation were also high which showed significant effect on yield. For *Terminalia bellirica* the direct effect of crown diameter and no. of fruit/kg were high and positive; and their correlations were also high which showed that they have significant effect on yield. For *P. pinnata*, the direct effect of crown volume was high and positive; and their correlation was also high which showed that it had significant effect on yield. For *Acacia catechu* the direct effect of girth, CBH and crown diameter were high and positive; and their correlation was also high which showed significant effect on yield. For *D. melanoxylon* the characters viz. girth was positively correlated with height followed by CBH and height was found to be correlated with CBH (100 %). PCR is under submission of MSFD and same may be submitted in prescribed format to ICFRE along with soft copy.

1.	Project File No:	No. 5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Projects/4
2.	Project Code	135/TFRI/2008/NWFP-1(DBT) (23)
3.	Project Title	Establishment of multilocational trials of superior accessions of <i>Jatropha curcas</i> under the network programme of DBT
4.	Institute/Directorate	Tropical Forest Research Institute
5.	Name & Designation of Principal Investigator	Dr. A.K. Pandey
6.	Objective of the project	<ul style="list-style-type: none"> • To collect the cuttings of high oil content selected CPTs for multilocational trial from the network partners. • To establish multilocational trials of ten accessions. • To establish clonal orchards from selected CPTs. • To establish half sib progeny trials of plant with high oil content more than 30% for tree improvement and development of seedling seed orchard.
7.	Thrust Area	Non Wood Forest Products (Biofuels and Bioenergy)
8.	Project period	3 years (2008-11)
9.	Date of commencement of project	November 2008
10.	Budget outlay of the project	Rs. 23.02 Lakhs
11.	Expenditure incurred on the project	Rs. 5.10 Lakhs

Review Comments of ICFRE:

Multilocational trial comprising of 9 accessions of *Jatropha curcas* was established in October 2008 at institute campus. The experimental field was divided into 36 equal size blocks and nine plants were planted in each block at the distance of 3x3 meter. The trial is performing well and the survival is more than 90%. Half sib progeny trial comprising of nineteen accessions received from different participating institutes has been laid out at institute campus in July 2009. The experimental field was divided into 57 equal size blocks and five plants were planted in each block at the distance of 3x3 meter. The trial is performing well and the survival is more than 95%. Regular observation on growth attributes like height, collar diameter, number of branches, incidences of flowering and diseases has been recorded on monthly basis and sent to Biotech Park, Lucknow for detailed analysis. Both the trials were maintained with regular weeding and hoeing practices. There is no constraint in the project.

1. Project File No:	No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/05
2. Project Code	120/TFRI/2007/Gen-03 DSAE (15)
3. Project Title	Evaluation and prediction of oil bearing capacity of Sandal (<i>Santalum album</i> L.) germplasm using physiomorpho molecular marker
4. Institute/Directorate	TFRI, Jabalpur
5. Name & Designation of Principal Investigator	Dr. S.A. Ansari, Scientist “F”
6. Objective of the project	<ul style="list-style-type: none"> • Establishment of relationship among patterns of leaf morphometric traits, heartwood production, peroxidase, nitrate reductase and ISSR molecular marker. • Correlation of parameters (as above) with oil yield. • Prediction of oil-yield bearing capacity of plantation seedlings/saplings.
7. Thrust Area	Genetic improvement (Biotechnology)
8. Project period	2007-2010 (3 years)
9. Date of commencement of project	April-2007
10. Budget outlay of the project	18,10,000/-
11. Expenditure incurred on the project	15,26,855/

Review Comments of ICFRE:

The project will be completed in August, 2010. Sandal is a highly valuable aromatic oil yielding tree, but it starts production of oil at the age > 20 years. The private plantation companies want early assessment of oil bearing capacity of their plantation. M/S D. S. Agri. Estate Pvt. Ltd., Noida funded the present project for realizing the objective cited above. Therefore, the relationship between morphological (GBH, heartwood content, heart wood/sapwood), physiological (nitrate reductase activity and peroxidase activity) and DNA molecular (ISSR) markers with oil content of about 25-30 years old sandal trees growing at IWST, Bangalore and TFRI, Jabalpur was investigated. Morphological and physiological parameters investigated during the project did not exhibit correlation with the oil content. In contrast, the amplified DNA loci by ISSR markers exhibited very strong significant correlation with oil content in sandal trees of both locations. This relationship can be employed for early assessment of average performance of sandal plantation. PCR may be submitted in prescribed format of ICFRE with a copy to IWST also.

1. Project File No:	No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/06 (Completed)
2. Project Code	Pr.ID no-110/CFRHRD/2006-3(NMPB)(10)
3. Project Title	Field trial on Agro Forestry model in farmers field with medicinal trees and herbs in satpura plateau of Madhya Pradesh
4. Institute/Directorate	Centre for Forestry Research & Human Resource Development, Chhindwara
5. Name & Designation of Principal Investigator	Shri Suneesh Buxy
6. Objective of the project	<ol style="list-style-type: none"> 1. To try the suitable agro forestry models incorporating medicinal plants and trees in farmers field. 2. Encouraging cultivation of medicinal plants and trees through various extension activities. 3. Dissemination of extension activities through Human Resource Development.
7. Thrust Area	Forest Productivity (Social Forestry, Agro-forestry/Farm Forestry)
8. Project period	4 years (3+1)
9. Date of commencement of project	10.01.2006
10. Budget outlay of the project	Rs. 10.00 lakhs
11. Expenditure incurred on the project	Rs. 7.955 lakhs

Review Comments of ICFRE:

The project will be completed in March, 2010. PCR in prescribed format of ICFRE along with softcopy may be submitted to ICFRE also.

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| 1. Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/07 |
| 2. Project Code | 087/TFRI/2005/Ecol-1(MOWR)(6) |
| 3. Project Title | Identification of suitable tree species and other vegetation for bio-drainage in Bargi command area (Jabalpur, M.P.) |
| 4. Institute/Directorate | Tropical Forest Research Institute, Jabalpur |
| 5. Name & Designation of Principal Investigator | Dr. Avinash Jain, Scientist E |
| 6. Objective of the project | (a) To drain out excess water of the soil in water logged/canal seepage areas through vegetative means.
(b) To enhance the site productivity through (a). |
| 7. Thrust Area | Forest productivity (Forest soils and land reclamation) |
| 8. Project period | 5 years |
| 9. Date of commencement of project | September 2005 |
| 10. Budget outlay of the project | Rs. 31.89 lakh Allotted Rs. 18.22 lakh |
| 11. Expenditure incurred on the project | Rs. 18.21 lakh |

Review Comments of ICFRE:

The project is funded by Indian National Committee on Irrigation and Drainage, Ministry of Water Resources, New Delhi. The project is running in fifth and final year of its implementation. Extension for one more year has been requested from funding agency.

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| 1. | Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/08-I |
| 2. | Project Code | 126/TFRI/2007/Agro-1(NBM) |
| 3. | Project Title | Integrated development of bamboos for the economic upliftment in Central India.
Sub project: Sustainable Development of New Bamboo Agroforestry techniques for increased income generation in central Indian states. |
| 4. | Institute/Directorate | Tropical Forest Research Institute, Jabalpur |
| 5. | Name & Designation of Principal Investigator | Shri Rajat S. Pal , CF & Head, Agroforestry Division , TFRI. |
| 6. | Objective of the project | 1. Motivate progressive farmers by providing training to them on the benefits of adopting bamboo based agroforestry systems and subsequently providing them planting stock of bamboos.
2. Establish Bamboo based Agroforestry systems as an On Station Research (OSR) trial. |
| 7. | Thrust Area | Forest productivity
(Social forestry , Agroforestry/ Farm Forestry) |
| 8. | Project period | October 2007 to September 2010 |
| 9. | Date of commencement of project | 11 th October 2007 |
| 10. | Budget outlay of the project | 11.10 lakhs |
| 11. | Expenditure incurred on the project | Rs.7,94,462/- |

Review Comments of ICFRE:

Project will be completed in Sept, 2010. A Bamboo- Wheat agroforestry system was established in the first cycle, involving the bamboo species' of *Dendrocalamus strictus* and *Bambusa nutans* as an OSR trial in the Agroforestry Division experimental plot during November 2008. The wheat was harvested in April 2009 and its yield was estimated thereafter. A Bamboo-Black gram (Urad) agroforestry system was established, involving the bamboo species' of *Dendrocalamus strictus* and *Bambusa nutans* as an OSR trial. The success of the project will depend on the acceptability of the model by the users group. Director is requested to mitigate the constraint pointed out the PI with regard to deduction of institutional charges. Successful achievement of the should be given top priority.

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| 1. Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/8-II |
| 2. Project Code | 126/TFRI/2007/Ecol-2(NMB) |
| 3. Project Title | Integrated development of bamboos for the economic upliftment in Central India.
Sub project: Bamboo species suitability for different degraded non forest areas of MP. |
| 4. Institute/Directorate | TFRI |
| 5. Name & Designation of Principal Investigator | Dr. A. K. Bhowmik |
| 6. Objective of the project | 1) Geological & geomorphological survey of the degraded areas in M.P
2) Selection of degraded areas and bamboo species suitable for plantation
3) Study of nutrient status for degraded soil.
4) Selection of suitable degraded soil through pot culture experiment, and b) Performance of <i>D. strictus</i> in three different parent material |
| 7. Thrust Area | Forest Productivity (Silviculture) |
| 8. Project period | 3 years |
| 9. Date of commencement of project | Sept 2007 (earlier review shown June 2008) |
| 10. Budget outlay of the project | 3.60 lakhs against 2.48 Lakhs sanctioned |
| 11. Expenditure incurred on the project | 1.53 Lakhs utilized |

Review Comments of ICFRE:

9 existing bamboo plantation sites were selected for growth study and data are being taken w.r.t. average height and collar diameter of bamboo culms. For growth study, number of new culms per year is also important parameter. Literature survey would provide scientific basis for parameters. Details of different species planted for pot culture experiments need to be provided including the experimental layout.

1. Project File No: No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/8-III
2. Project Code 126/TFRI/2007/Ento-3 (NBM)
3. Project Title Integrated development of bamboos for the economic upliftment in Central India.
Sub project: Insect and diseases of bamboo occurring in central India and their management.
4. Institute/Directorate Tropical Forest Research Institute
5. Name & Designation of Principal Investigator Dr. K.C. Joshi, Scientist-G
6. Objective of the project
 1. Identification and incidences of major insect pests and diseases on different species of bamboos in central India
 2. Assessment of damage caused due to insect pests and pathogens.
 3. Development of strategies for the management of major pests.
7. Thrust Area Forest Protection (Insect pests, Diseases and control)
8. Project period 3 years
9. Date of commencement of project October, 2007
10. Budget outlay of the project Rs. 7.70 lakh (NBM)
Allotted Rs. 6.92
11. Expenditure incurred on the project Rs. 7.41 lakh

Review Comments of ICFRE:

Seeds of bamboos were sown in nursery beds as well as in poly bags were surveyed periodically throughout the year at 15 days interval. In all, 4 types of insects namely leaf rollers, grasshoppers, aphids and white grubs were collected, their incidence in field was recorded regularly. *Cryptisia coclesalis*, *Pyrausta bambucivora*; grasshoppers- *Hieroglyphus banian*, *Poecilecerus pictus* and *Scitocera gregaria*; aphids as *Oregma bambusae*; and white grub *Holotrichia consanguinea* were identified as pests. Leaf rust caused by *Dasturella divina* and leaf tip blight, *Helminthosporium solani* and their incidence caused were also recorded. One year old seedlings of Bamboo, *Bambusa nutans* and *Dendrocalamus strictus* were planted in experimental site at TFRI, Jabalpur. In all, 1.5 ha plantations was raised for conducting field experiments during the monsoon period 2010. The plantation is being maintained regularly.

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| 1. Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/8-IV |
| 2. Project Code | 126/TFRI/2007/NWFP-4 (NBM) |
| 3. Project Title | Integrated development of bamboos for the economic upliftment in Central India.
Sub project: Nutritive value and value addition of some bamboo species of central India. |
| 4. Institute/Directorate | Tropical Forest Research Institute, Jabalpur |
| 5. Name & Designation of Principal Investigator | Dr. A. K. Pandey, Scientist F |
| 6. Objective of the project | <ul style="list-style-type: none"> • Study the chemical composition of bamboo shoots for dietary supplements. • Quantification of anti- nutritional constituents of bamboo shoots and its removal. • Development of value added products from bamboo shoots. |
| 7. Thrust Area | Non Wood Forest Products (Chemistry of NWFPs, value addition and utilization) |
| 8. Project period | 2007- 2011 |
| 9. Date of commencement of project | August 2007 |
| 10. Budget outlay of the project | Rs. 5.80 lakhs |
| 11. Expenditure incurred on the project | Rs. 3,35,563 |

Review Comments of ICFRE:

Bamboo shoots of different species were assessed for their suitability as edible species. The fresh bamboo shoots of different species (*Dendrocalamus asper*, *D. strictus*, *Bambusa bambos* and *B. tulda*) were brought from the field, sheath was peeled and shoots were processed to remove the anti-nutrients. Chemical analysis and antioxidant activity of fresh shoots was done. Different bamboo products such as bari, pickle papad, sauce and peetha were made and shoots were also preserved in salt solution and vinegar. Chemical analysis (carbohydrate, protein, phenol, cyanogen, calcium, sodium, magnesium, potassium, phosphorus) and anti- oxidant activity of the products and preserved shoots was done on monthly basis to determine their shelf lives. Data are compiled and are being statistically analyzed.

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| 1. Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/09
(Completed) |
| 2. Project Code | 122/TFRI/2007/Ento-3(CSIR) (18) |
| 3. Project Title | Isolation, identification and evaluation of insecticidal phytochemicals from <i>Annona squamosa</i> L. (Annonaceae) against <i>Hyblaea puera</i> Cram. and <i>Eutectona machaeralis</i> Walk. To major insect pests of teak (<i>Tectona grandis</i> Linn. |
| 4. Institute/Directorate | Tropical Forest Research Institute |
| 5. Name & Designation of Principal Investigator | Dr. Nitin Kulkarni, Scientist - F |
| 6. Objective of the project | <ol style="list-style-type: none"> 1. To isolate, identify bioactive compounds through bioassay-directed-separation of the extracts from <i>A. squamosa</i>. 2. To bioassay compounds for behavioural and physiological toxic effects on teak defoliator and skeletonizer larvae. 3. To determine optimum effective doses/ concentrations of the best effective compound/s. |
| 7. Thrust Area | Forest Protection (Insect pests, diseases and control) |
| 8. Project period | (3 years) 2007 – 2010 |
| 9. Date of commencement of project | June, 2007 |
| 10. Budget outlay of the project | Rs.5.16 Lakh (CSIR, New Delhi) |
| 11. Expenditure incurred on the project | Rs.4.91 Lakh |

Review Comments of ICFRE:

Project is completed March, 2010. The sophisticated analytical instruments like IR-Spectra, Mass-Spectra and NMR are not available in the institute and thus the isolated compounds were submitted to Sophisticated Analytical Instrumentation Facility (SAIF), Central Drug Research Institute, Lucknow for IR- Spectra, Mass-Spectra and Nuclear Magnetic Resonance (NMR) Spectroscopy. Out of three analysis sought, only one report has been obtained. The final report may be submitted after getting remaining analysis report from CDRI, Lucknow.

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| 1. Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/10 |
| 2. Project Code | 125/TFRI/2007/Gen-4 (DBT) (16) |
| 3. Project Title | Molecular characterization of <i>ex-situ</i> conserved germplasm and identification of molecular associated with wood quality traits in <i>Tectona grandis</i> L.f. |
| 4. Institute/Directorate | TFRI, Jabalpur |
| 5. Name & Designation of Principal Investigator | Dr. S.A. Ansari, Scientist “F” |
| 6. Objective of the project | <ul style="list-style-type: none"> • Molecular characterization of PTs of Teak conserved at National Teak Germplasm, Chandrapur, Mahatashtra using STMS Markers. • Validation of half-sib families of teak using STMS markers. |
| 7. Thrust Area | Genetic Improvement (Biotechnology) |
| 8. Project period | 2007-2010 (3 years) |
| 9. Date of commencement of project | 7 th August 2007 |
| 10. Budget outlay of the project | Rs. 20,30,400/- |
| 11. Expenditure incurred on the project | Rs. 16,69,225/- |

Review Comments of ICFRE:

This is a joint project operated between TERI, New Delhi and TFRI, Jabalpur. TFRI, Jabalpur collected three ramets each of 97 plus trees of *Tectona grandis* maintained at National Teak Germplasm Bank, Chandrapur and ten half-sib families of MP plus trees from Katni and extracted genomic DNA, which was supplied to TERI, New Delhi for validation of plus trees and progenies, using AFLP and STMS markers. TERI, New Delhi designed STMS primers and standardized STMS assay conditions. TERI, New Delhi also validated plus trees and progenies using AFLP and STMS markers. TFRI, Jabalpur examined ramets of teak plus trees by ISSR markers and found 19.6% ramets either mismatched or mislabelled. Project will be completed in August-2010.

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| 1. Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/11 |
| 2. Project Code | 73/TFRI-2004/NWFP-3(NOVOD)(11) |
| 3. Project Title | National Network on Integrated Development of Jatropha and Karanja |
| 4. Institute/Directorate | Tropical Forest Research Institute , Jabalpur (M.P.) |
| 5. Name & Designation of Principal Investigator | Dr. A.K. Pandey, Scientist –F |
| 6. Objective of the project | <ol style="list-style-type: none"> 1. Identification of potential areas in the state. 2. Identification of plus trees. 3. Seed resources assessment. 4. Standardization of propagation and agro techniques 5. Tree improvement and multilocational trials 6. Establishment of model plantations and agroforestry models. |
| 7. Thrust Area | Non Wood Forest Produce (Biofuel and Bio energy) |
| 8. Project period | July 2004-March 2011(7 years) |
| 9. Date of commencement of project | July 2004 |
| 10. Budget outlay of the project | 35.40 Lakhs |
| 11. Expenditure incurred on the project | 23.78 Lakhs |

Review Comments of ICFRE:

It is Network project funded by NOVOD involving several institutions/universities. Multilocational trials of Jatropha (national I comprising of 19 accessions, national trial II comprising 3 accessions, national trial III comprising of 14 accessions and zonal trial comprising of 14 accessions) and national trial of karanja comprising of 5 accessions, zonal trial- I comprising of 12 accessions and zonal trial -II comprising of 5 accessions were established in TFRI campus. Progeny trials were raised from selected CPTs of Jatropha (20 progenies were included in each trials established at Chhindwara and Baraha Jabalpur) and in Karanja (20 progenies were selected for trial established at Balaghat). All the trials were maintained by regular weeding, hoeing and pruning practices. Data on growth performance are being recorded at regular intervals. Seeds were collected from multilocational trials established at TFRI campus Jabalpur and analyzed for their morphological characteristics and oil yield to identify the best provenances of Jatropha. There is no constraint in the project.

1. Project File No:	No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/12
2. Project Code	I.D. 147/ TFRI-2010/Ento-1(DST) 22
3. Project Title	Population dynamics of selected threatened medicinal plants species and conservation management through community participation in buffer and transition zone of Achanakmar-Amarkantak BR (M.P.)
4. Institute/Directorate	Tropical Forest research Institute, Jabalpur
5. Name & Designation of Principal Investigator	Dr. Ruby Sharma, Women Scientist B (DST)
6. Objective of the project	<ol style="list-style-type: none"> 1. Mapping distribution of populations and study of population dynamics of selected threatened and commercially important medicinal plants in the selected site. 2. Promoting participation of forest dwelling communities in conservation of medicinal plants and traditional knowledge of their use through awareness programmes and interface workshops.
7. Thrust Area	NWFP (Sustainable harvesting and management)
8. Project period	Two Years
9. Date of commencement of project	March 2010
10. Budget outlay of the project	8.22 Lac (DST, New Delhi)
11. Expenditure incurred on the project	Nil

Review Comments of ICFRE:

This is DST sponsored project for women scientist. Under this project a pilot survey was conducted to collect information regarding potential habitats of targets species. The approach in the area, potential village projection committees for conduction of awareness programme. Two villages, 1 each in both ranges have been selected for the programme in the first year. The extension material preparation is being done. Indent for equipment has been placed.

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| 1. Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/13 |
| 2. Project Code | 134/TFRI/2008/NWFP-1(NMPB) (22) |
| 3. Project Title | Studies on developing alternative methods of sustainable harvesting of medicinal plants. |
| 4. Institute/Directorate | Tropical Forest Research Institute, Jabalpur (M.P.) |
| 5. Name & Designation of Principal Investigator | Dr. A. K. Pandey
Head & Scientist – F |
| 6. Objective of the project | i. Standardization of non destructive harvesting techniques of the bark of selected species.
ii. Use of various treatments to achieve the optimum quality produces in different harvestable plant parts.
iii. To find out the alternative plant parts to bark in selected plants. |
| 7. Thrust Area | Non Wood Forest Produce (Sustainable harvesting and management) |
| 8. Project period | 3 years |
| 9. Date of commencement of project | 24.07.08 |
| 10. Budget outlay of the project | Rs. 17.38 Lakhs |
| 11. Expenditure incurred on the project | Rs. 5.99 Lakhs |

Review Comments of ICFRE:

Experiments were laid out for standardization of alternative harvesting practices of *Bauhinia variegata* (Kachnar), *Holarrhena antidysenterica* (Kutaj), *Oroxylum indicum* (Sheonak), *Saraca asoka* (Ashoka) and *Terminalia arjuna* (Arjuna) in the forests areas of Jabalpur, Balaghat, Rewa (M.P.), Chandrapur, Tadgaon, Allapally, Tadoba (Maharashtra) and Bilaspur, Raigarh (Chhattisgarh), Harishankar, Champagarh, Bolangir, Khurda (Orissa). Different plant parts i.e. trunk bark, branch bark, twig bark, twigs, leaves, flowers, roots etc. were collected and analysed for their phytochemical constituents like tannins, alkaloids, flavanoids and phenols. Various harvesting methods such as strip, alternate and opposite harvesting were tried. Regenerated bark was also collected to compare major active ingredients. Regular observations were recorded on bark regeneration. There is no constraint in the project. Package of practice should be developed under the project for sustainable harvesting of plant parts.

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| 1. | Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/14 |
| 2. | Project Code | 141/TFRI/2010/gen-1(MPCST)(18) |
| 3. | Project Title | Studies on development of <i>in vitro</i> regeneration system for <i>Albizia procera</i> (Roxb)Benth |
| 4. | Institute/Directorate | Tropical Forest Research Institute |
| 5. | Name & Designation of Principal Investigator | Dr S. A. Ansari |
| 6. | Objective of the project | <ol style="list-style-type: none"> 1. To develop <i>in vitro</i> regeneration system using caulogenesis and somatic embryogenesis for mature trees. 2. To investigate histological and biochemical events at various steps during <i>in vitro</i> regeneration. 3. To develop acclimatization and hardening procedure for regenerated plants. 4. To check clonal fidelity of regenerated plantlets by ISSR molecular marker. |
| 7. | Thrust Area | Genetic Improvement (Biotechnology) |
| 8. | Project period | Three years (February 2010-January 2013) |
| 9. | Date of commencement of project | February 2010 |
| 10. | Budget outlay of the project | Rs. 5.48,550/- |
| 11. | Expenditure incurred on the project | |

Review Comments of ICFRE:

The project commenced since April 2010. PI needs to plan project activity indicating the monitorable parameters for the whole project period. Therefore information format complete with information in column 16 may be resubmitted at the earliest.

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| 1. | Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/15
(Completed) |
| 2. | Project Code | No. 111/TFRI-2006/Gen.-2 (CSIR)(12) |
| 3. | Project Title | Studies on <i>in vitro</i> regeneration of plantlets and their genetic (molecular) fidelity in <i>Saraca indica</i> Linn., a vulnerable medicinal tree. |
| 4. | Institute/Directorate | Tropical Forest Research Institute |
| 5. | Name & Designation of Principal Investigator | Dr. Fatima Shirin, Scientist D |
| 6. | Objective of the project | (i) <i>In vitro</i> plantlet regeneration via different modes of regeneration viz., axillary bud proliferation, organogenesis and somatic embryogenesis.
(ii) Development of an efficient micropropagation technology. |
| 7. | Thrust Area | Genetic Improvement (Vegetative Propagation) |
| 8. | Project period | November 2006- March 2010 |
| 9. | Date of commencement of project | 28 th Nov. 2006 |
| 10. | Budget outlay of the project | Rs. 7.75 lakhs (CSIR) |
| 11. | Expenditure incurred on the project | Rs. 7.50 lakhs |

Review Comments of ICFRE:

The project was funded by CSIR, New Delhi is completed in March, 2010. *Saraca indica* L. is a very important medicinal tree which has become vulnerable in nature and its propagation through *in vitro* method is required. Highly significant effect of seasons was observed on sprouting of axillary buds with maximum sprouting obtained in summer season in 2-3 year old plants. The objective of *In vitro* plantlet regeneration via different modes of regeneration viz., axillary bud proliferation, organogenesis and somatic embryogenesis and Development of a micropropagation technology was achieved. S follow up project may be taken up for production of plantlets as part of demonstration of the 'in vitro regeneration' technology developed. Even forest department/ NMPB can support such project.

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| 1. Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/16 |
| 2. Project Code | 123 / TFRI / 2007 / Ento-4 (CSIR)(19) |
| 3. Project Title | Studies on taxonomy of Braconid parasitoids (Hymenoptera: Braconidae) from central India. |
| 4. Institute/Directorate | Tropical Forest Research Institute, Jabalpur |
| 5. Name & Designation of Principal Investigator | Dr. Mohd. Yousuf Scientist F |
| 6. Objective of the project | <ol style="list-style-type: none"> 1. Collection of Braconid parasitoids from Chhattisgarh and Maharashtra. 2. Taxonomic studies on Braconid parasitoids, collected from Chhattisgarh and Maharashtra. 3. Preparation of identification keys, illustrations & descriptions of all new & important known species of available / collected Braconid parasitoids. 4. To investigate the host record of Braconid parasitoids. |
| 7. Thrust Area | Forest Protection (Insect pests, diseases and control) |
| 8. Project period | 3 years |
| 9. Date of commencement of project | June 2007 |
| 10. Budget outlay of the project | Rs 6.76 lakh |
| 11. Expenditure incurred on the project | Rs 6.31 lakh |

Review Comments of ICFRE:

The project is completed on 31 May 2010. As the project is completed in May 2010, hence most of the project activities have been completed. Collection of Braconid parasitoids from all 16 districts of Chhattisgarh and 34 districts of Maharashtra has been carried out by sweeping method and 2606 Braconids have been sorted out and preserved from 605 sweeping samples. 424 samples of various stages of insect pests/ hosts were collected for rearing and emergence of Braconid parasitoids from Chhattisgarh and Maharashtra. By laboratory rearing 9 Braconids were recovered from various insect hosts. 56 Braconid species, including 11 new species have been identified. One new species has been established through publication. Prepared keys for 9 genera and 37 species. Illustrations and descriptions for 11 new and 27 known species have been completed. One research paper published in International Journal, three research papers published in National journals and eight research papers have been presented in conferences. Three research papers are under process of publication. Project completion report is under

preparation.

1. Project File No: No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/17
(Completed)
2. Project Code 127/TFRI/2008/Ento-1(MPCST) (20)
3. Project Title Studies on the natural enemies of teak pests, *Hyblaea puera* and *Eutectona machaeralis* and their role in suppressing the population of insects in Madhya Pradesh.
4. Institute/Directorate Tropical Forest Research Institute, Jabalpur
5. Name & Designation of Principal Investigator Dr. N. Roychoudhury, Scientist F
6. Objective of the project
 1. To undertake periodical survey for collection and observation on natural enemies of key insect pests of teak, their habit and habitat in different types of teak forests of Madhya Pradesh.
 2. To study the status of natural enemies, their sampling and identification.
 3. To investigate the alternate hosts of natural enemies.
7. Thrust Area Forest Protection (Insect pests, diseases and control)
8. Project period Two years and two months
9. Date of commencement of project January, 2008
10. Budget outlay of the project Rs. 5.20 lakh (fund released 4.19 lakh) (MPCST)
11. Expenditure incurred on the project Rs. 4.03 lakh

Review Comments of ICFRE:

Project completed on March, 2010. Final report submitted. Periodical survey for collection and observation on natural enemies of key insect pests of teak, their habit and habitat, identification and status in different types of teak forests (slightly moist, dry and very dry) of Madhya Pradesh, and alternate hosts of natural enemies have been achieved.

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| 1. | Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/18 |
| 2. | Project Code | 101/TFRI/JBP/2006/Biod 1 (MPSBDB) (07)] |
| 3. | Project Title | To study utilization pattern of pattern of plants in ethno-medicinal uses prevalent in tribal pockets of Satpura plateau in Madhya Pradesh. |
| 4. | Institute/Directorate | Tropical Forest Research Institute, Jabalpur |
| 5. | Name & Designation of Principal Investigator | Dr. V. Nath, Scientist – F and Head |
| 6. | Objective of the project | <ol style="list-style-type: none"> 1. To document traditional knowledge on ethno-medicinal uses of plants from tribal communities. 2. To document utilization pattern of medicinal plants and their parts in different formulation. 3. To study channels involved in procurement of herbal plants as raw material for preparation of finished products and their marketing. 4. To prepare pamphlets, technical bulletin and extension aids for utilization by end – users for creating awareness. |
| 7. | Thrust Area | Ecosystem conservation and Management (Tribal and Traditional Knowledge System) |
| 8. | Project period | July 2006 to December 2010 |
| 9. | Date of commencement of project | July 2006 |
| 10. | Budget outlay of the project | 12 lakh (MP State Biodiversity Board, Bhopal) |
| 11. | Expenditure incurred on the project | Total expenditure Rs.8,16,685/- till March , 2010. |

Review Comments of ICFRE:

Documentation of traditional knowledge from traditional herbal healers, their utilization pattern, channels involved in procurement and marketing of herbal plants/parts and creating awareness among end-users have been carried out as per the objectives of the project. The project is funded by MP State Biodiversity Board, Bhopal. There is no constraint in the project. Project will be completing in Dec. 2010.

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| 1. | Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/19 |
| 2. | Project Code | I.D. 140/ TFRI-2010/Path-1(CSIR) 22 |
| 3. | Project Title | Taxonomy and documentation of wood decaying fungi of Chhattisgarh and Orissa |
| 4. | Institute/Directorate | Tropical Forest research Institute, Jabalpur |
| 5. | Name & Designation of Principal Investigator | Dr.C.K.Tiwari , Scientist 'B' |
| 6. | Objective of the project | <ol style="list-style-type: none"> 1. Survey and collection of fungi colonizing woody parts of trees and bamboos from forests and wood depots of Orissa and Chhattisgarh. 2. Identification of wood decay fungi and study of their population dynamics. 3. Taxonomy of wood decay fungi found new to science and reporting of new fungal and host records. 4. Study on fungal metabolites in relation to extent of decay and in confirmation of identification of fungal taxa for potential use in food and medicine, etc. 5. Tree wise listing of wood decay fungi. 6. Development of herbarium and culture collection of wood decay fungi. |
| 7. | Thrust Area | Wood Products (Value Addition and Utilization) |
| 8. | Project period | Three Years |
| 9. | Date of commencement of project | March 2010 |
| 10. | Budget outlay of the project | 15.53050 Lac (CSIR) |
| 11. | Expenditure incurred on the project | 0.65220 Lac |

Review Comments of ICFRE:

The project is initiated in March 2010. Taxonomy and documentation of wood decaying fungi should help in carrying out objective under the project “Studies on wood decaying fungi and its control in stored tropical timber”. It may be clarified whether samples collected under plan project will be used in this project or fresh samples needs to be taken.

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| 1. | Project File No: | No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/20 |
| 2. | Project Code | 142/TFRI/2010/Ecol. – 1 (ISRO/MPCST)(10) |
| 3. | Project Title | Utilization of Automatic weather station /Agrometeorological station data for agriculture, forestry and hydrological applications in Madhya Pradesh |
| 4. | Institute/Directorate | Tropical Forest Research Institute, Jabalpur |
| 5. | Name & Designation of Principal Investigator | Dr. Avinash Jain, Scientist E |
| 6. | Objective of the project | (a)To develop allometric equations for quantification of carbon in <i>Shorea robusta</i> .
(b)To conduct grass biomass studies near Automatic Weather Station (AWS)/Agrometeorological Station (AMS) in Kanha National Park (KNP), Bandhavgarh National Park (BNP) and Madhav National Park (MNP).
(c)To study soil moisture profile near AWS/AMS in KNP, BNP and MNP.
(d)To study Physico-chemical characteristics of soil in national parks of M.P.
(e)To measure Leaf Area Index (LAI) and Specific Leaf Area (SLA) of major tree species in national parks. |
| 7. | Thrust Area | Ecosystem conservation and management (Climate change) |
| 8. | Project period | 2 years |
| 9. | Date of commencement of project | January 2010 |
| 10. | Budget outlay of the project | Total budget outlay - Rs. 6.88 lakh
Received from funding agency - Rs. 4.40 lakh |
| 11. | Expenditure incurred on the project | Rs. 0.82 lakh |

Review Comments of ICFRE:

This is the integrated project, funded by Indian Space Research Organization, Ahmedabad. The main objective of the project is to quantify energy and carbon exchange using field measurement and remote sensing data in different ecosystems of M.P. Remote sensing data will be collected by ISRO and M.P. Council of Science & Technology, Bhopal and field data will be collected by TFRI, Jabalpur. The project was started in January 2010. In March 2010, sites were selected in the 3 national parks and studies were conducted. Second phase of studies will be conducted in September 2010.

1. Project File No:	No.5-3/TFRI/09-10/ADG(M&E)/ICFRE/EAP/Project/21 (Completed)
2. Project Code	100/TFRI/2006/Gen.-1 (MoHFW)(10)
3. Project Title	Varietal improvement of <i>Rauwolfia serpentina</i> and <i>Tinospora cordifolia</i> through germplasm selection evaluation and breeding.
4. Institute/Directorate	TFRI
5. Name & Designation of Principal Investigator	Dr. Yogeshwar Mishra, Scientist D
Objective of the project	<ol style="list-style-type: none"> 1. To collect germplasm from various ecological regions. 2. To study the pattern and magnitude of genetic variation amongst the populations in morphological and chemical traits. 3. To standardize an efficient micropropagation procedure. 4. To identify, increase and test the promising selections with high biological yield and alkaloid contents. 5. To study floral biology, reproductive biology, breeding behaviour and to standardize the hybridization techniques.
6. Thrust Area	Non-wood Forest Products (Resource Development of NWFPs)
7. Project period	Four years
8. Date of commencement of project	April 2006
9. Budget outlay of the project	Rs. 7.0 Lakhs
10. Expenditure incurred on the project	Rs. 7.0 Lakhs

Review Comments of ICFRE:

Project is completed during March 2010. The promising accessions of both species will be field tested at three locations for their consistent performance prior to register as new cultivar and recommending them for distribution amongst the farmers for growing them on a commercial scale. For carrying out this activity a new project proposal will be submitted to funding agency, National Medicinal Plants Board, New Delhi. Immediate follow up action in the matter be enabled by Director to have meaningful out come of this project.