PREAMBLE BY THE CHAIRMAN

Dr. K.S. Dadhwal, I/c Director, CSWCRTI, Dehradun who officiated as the Chairman of the Institute Research Committee (IRC), welcomed all the Heads of Centres/Divisions and other participants to IRC Meeting, 2006.

Dr. K.S. Dadhwal brought to the notice of the house the significant achievements of the Institute during the last one year. Shri Manvendra Shah (Member of Parliament) inaugurated the participatory water resource development project at Paw-Wala-Soda on 9th October, 2006 which was executed by the Institute. The dignitary very much appreciated the role played by the Institute in popularizing the concept of participatory approaches in managing natural resources. He stressed that the IVLP model of CSWCRTI should be replicated in similar edaphic, ecological and socio-economic conditions in the country. As a result of the outstanding work done under the Institute Village Linkage programme (IVLP), the Institute bagged the Team Award of ICAR for the Biennium 2003-04 for Participatory Water Resource Development. The Institute was also awarded the prestigious Sardar Patel Outstanding ICAR Institution Award for the year 2005 in the field of Soil and Water Conservation. Dr. K.S. Dadhwal also informed the house that the Bhooratna Award 2006 in the area of Soil & Water Conservation, Land Resources Management, Rural Development, Technology and Extension has been conferred on Dr. V.N. Sharda, Director, CSWCRTI by the Soil Conservation Society of India, New Delhi. Dr. Ratan Singh, Principal Scientist (Soils) was awarded the Indian Association of Soil and Water Conservationists (IASWC) Gold Medal for 2005. Dr. K.S. Dadhwal and Dr. R.C. Yadav, Ex-Head Research Centre, Agra each bagged IASWC Fellowship Award for the year 2005 and Dr. S.N. Prasad, Head, Research Centre, Kota for 2006. Dr. O.P.S. Khola, Senior Scientist (Agronomy) was conferred the Leadership Award of Soil Conservation Society of India, New Delhi for 2006. The works of Institute have thus been well recognized by the ICAR and other scientific bodies. Many new programmes such as the recently launched ICAR's National Agricultural Innovation Project (NAIP) are under way. However, as many experienced scientists have retired or are retiring in the near future, there is going to be a dearth of experienced personnel for taking up these challenges. Hence, young scientists need to strive hard to meet these challenges head on and work to the best of their efficiency.

Dr. V.N. Sharda Director, CSWCRTI, Dehradun and Chairman of Institute Research Committee joined the Meeting on 13th December, 2006 after participating in an official meeting at ICAR, New Delhi concerning recently prepared Institute's Perspective Vision 2025 document. The Director brought to the notice of the house that the Institute's Vision 2020 document has been revised to Vision 2025 in view of the emerging national priorities and global challenges. He stressed upon all the Heads and scientists of the Institute to refer this document for undertaking research projects of national importance in future. He emphasized that all research projects must be proposed as per the thrust areas and goals described in the document. However, any modification would be welcome, if justified with proper reasoning. Future projects must be broad based to address the problems of different agro-ecological regions in an effective manner. Microscopic research for purely academic purpose is not desirable and need of the hour is to conduct research for generating technologies that are well defined in terms of domains of applicability and economics to meet the country's goal of achieving 4% growth rate in the agriculture sector. However, the basic research to understand various processes of runoff, soil erosion and biomass production may continue as usual.

The Chairman brought to the notice of the house the Institute's latest endeavour to take up three national level research projects under competitive mode of the ICAR's recently

launched NAIP in the fields of livelihood security, integrated farming system development and analysis of upstream-downstream linkages with a total proposed budget outlay of Rs. 64.35 crores. With the presentation of prestigious Sardar Patel Outstanding ICAR Institution award to CSWCRTI, Dr. V.N. Sharda called upon the scientists and technical officers to work more vigorously with renewed zeal and enthusiasm to bring more laurels to the Institute in future. Therefore, achievements and findings of research projects must lead to promising production-cum-conservation technologies for their extrapolation at regional or national level. Proper documentation of such technologies must be a prerequisite before any project is taken as concluded.

The Chairman urged the Heads and scientists to take up the compilation of the document on Fifty Years achievements seriously as it would provide a unique opportunity to cover all the research achievements in soil and water conservation and watershed management as well as future perspective to address problems of natural resources management in respective regions in a consolidated manner. The document would be widely referred by researchers, planners, administrators and managers of State and Central Government Organizations and NGOs for planning and execution of various programmes in the country.

The Chairman informed the house that the Quinquennial Review Team (QRT) under the Chairmanship of Dr. Tej Pratap Singh, Ex-Vice Chancellor, CSKHPKVV, Palampur is likely to visit the Institute's Divisions / Research Centres from January 2007 onwards. Dr. Ratan Singh, Principal Scientist (Soils) is the Member Secretary of the QRT. The Centres/Divisions must prepare a proper report covering the past five year's research achievements as well as requirements of staff and facilities at the Centres/Divisions to utilize their full potential.

The Chairman urged all to contribute heartily in the deliberations for improving the research programmes of the Institute.

RECOMMENDATIONS OF THE RESEARCH ADVISORY COMMITTEE (RAC) HELD ON SEPTEMBER 25-26, 2006

1. The RAC members were happy over the projects output generated by the Institute under various studies. However, the members were of the view that the analysis can be made more meaningful provided the results are supported by proper statistical analysis. This shall also develop the analytical ability of presenting the results with scientific reasoning. The RAC, therefore, recommends that the results presented may be duly supported by statistical analysis and scientific reasoning.

2. The RAC members observed that in some of the proposed studies, the old released varieties of crops are being incorporated in the treatments. The RAC, therefore, recommends that only latest varieties recommended by Varietal Release Committee of the respective region may be included in the study.

3. The RAC members expressed their appreciation for effectively addressing its recommendation no. 1 of RAC, 2005 on developing a brochure on micro-watershed delineation. The Committee recommends that a copy of the publication may be made available to all the Heads of concerned organizations in the country dealing with watershed management programmes including universities.

4. The RAC observed that in some of the proposed research projects, very high rates of vermi-compost and FYM have been included under the treatment. Though some positive results may emerge out from the study, however, the availability of the voluminous material may not be feasible in the field by the farmers and the cost will also be outside the reach of the resource poor farmers of the country. The RAC, therefore, recommends that such high rates of application should be critically reviewed by experienced researchers/workers before they are included in the treatments.

5. The RAC, while observing the good work demonstrated by model watersheds developed by the Institute in the past, recommends that each regional centre/division of the Institute may develop a model watershed from within the Institute fund or other sources of funding. If it is not feasible for the Institute to get outside funding for developing/evaluating watersheds, at least one watershed developed by other executing agencies in the past may be selected for monitoring and evaluation with least interventions.

6. The RAC recommended that the Institute may strengthen its research activities with the use of modern techniques/instrumentation, *viz*; remote sensing, geographical information system and mobile GPS/DGPS in resource data collection/mapping, subject to the restrictions in force.

SALIENT RECOMMENDATIONS OF IRC MEETING – 2006

1. The review of the progress of preparation of "National Atlas of Watershed Management Programme in the country" revealed that a lot of good work has been done by some of the Research Centres. However, the required information for compilation of the document still needs to be submitted and updated by some Research Centres. Research Centre, Koraput needs to make special efforts to compile the information for inclusion in the document from four eastern states of India. For this, requisite information and maps showing status of watershed development schemes in states of Jharkhand, Orissa and West Bengal may be provided by 31st January, 2007 and of Nagaland by 28th Feb., 2007. State maps of Gujarat, Maharashtra and Madhya Pradesh along with missing information should be provided by Vasad Centre positively by 28th Feb., 2007. Missing information and map for J&K state may be submitted by Head, Chandigarh centre by 31st Jan., 2007. All Centres must supply missing information in the already submitted material and additional information, if any, for Watershed Atlas by 15th January, 2007. Head, H&E Division may compile and complete the entire work by 31st March, 2007 after obtaining pending information of states assigned to different Research Centres.

   (Action: All Heads of Research Centres & Head, H&E Division)

2. The review of the progress of preparation of "Fifty Years Research Achievement in Soil and Water Conservation" revealed that the documents have not been received from H&E and HRD&SS Divisions. The IRC viewed it seriously and it was decided that the two divisions must submit their respective documents by 15th February, 2007 positively with no further extension. Research Centre, Datia may submit the executive summary of their document by 31st December, 2006 and Research Centres, Agra & Koraput by 31st January, 2007. The documents submitted by Centres/Divisions have been scrutinized and refined accordingly. The document of Research Centre, Chandigarh once finalized will serve as a model for other Centres and Divisions to be adopted with suitable modifications as deemed necessary in view of prevailing regional situations for further improvement of the document. Hence, the model document once submitted to the Centres/Divisions on a CD must be thoroughly securitized for finalization of their own document by 31st March, 2007.

   (Action: All Heads of Research Centres/Divisions)

3. All Heads and scientists must ensure that they are engaged in at least two research projects (in one as leader and in another as associate or in two as associate). Therefore, scientists of a research project which is to be concluded must take advance action for submitting new projects to RAC to ensure that he/she is not rendered without a minimum of two projects in any year.

   (Action: All Heads and Scientists)

4. The Heads of Centres/Divisions must ensure that all the scientists submit the RPFs pertaining to all new as well as on-going and concluded projects by 31st March, 2007 positively. A team of auditors from the office of the Principal Directorate of Audits (Scientific Departments), C&AG, Govt. of India, New Delhi audited the submission of RPFs of new, ongoing and concluded projects in Dec., 2006. It is mandatory that the complete RPFs are obtained by the concerned Heads of Centres/ Divisions prior to relieving a scientist due to transfer, promotion or retirement. Any lapse on this account or missing data of the concluded projects after the relieving of a scientist shall be the responsibility of the concerned Head of Centre/Division.

   (Action: All Heads and RCM Unit)

5. In the SRC Meeting 2005, all Centres and Divisions were assigned the task of submitting a complete package of certain number of potential technologies in the form of a folder / brochure comprising of 10 to 15 pages. Some of the Centres/Divisions have not submitted the write ups so far. Divisions of H&E and Plant Sciences may submit the documents of two technologies each by 15th January, 2007 positively. Research Centres, Kota and Chandigarh may submit the document of three and four technologies, respectively in proper format by 15th January, 2007 positively. Research Centre, Agra must submit the document of three technologies by 28th February, 2007.

(Action: Heads of Division, H&E and Plant Science and Heads of Research Centres, Agra, Chandigarh and Kota)

6. The need for bringing quality publications out of the ongoing or concluded projects was duly emphasized. It was decided that each scientist must endeavour to publish at least two research papers in reputed Journals having high score as per NAAS index every year with preferably one as international paper. All the Scientist and Heads of Centres / Divisions should promote this culture and ensure quality publications in future, which is an important indicator for the performance of individual scientist or the Institute as a whole.

(Action: All Heads of Centres / Divisions)

7. As a follow up action of the workshop held at Chandigarh on 25th – 26th May 2005, all the Centres and Headquarters may identify two watersheds (one where watershed programme has been executed and completed and the second where it is ongoing) to test and validate the indicators developed and finalized to assess the impact of watershed interventions on biophysical, socio-economic and participatory attributes. To develop integrated farming systems and disseminate the technologies developed by the Institute in different agro-ecological regions, all Centres may identify a watershed and proposals submitted for funding under TDET of MoRD or any other agency as early as possible.

(Action: All Heads of Centres / Divisions)

8. Concluded projects must clearly spell out the output of the research project in terms of process / product / technology developed (as per Item No.8223 of RPF - III) along with its domains of applicability indicating the region or area where it is applicable. The likely impact in terms of conservation of natural resources and or augmentation of agricultural production may be specified quantitatively with reasoning.

(Action: All Heads of Centres / Divisions)

ACTION TAKEN ON
"SALIENT RECOMMENDATIONS OF SRC MEETING, 2005"

Sl. No.	Action Assigned	Action Taken Report
1.	The Heads of Centres/Divisions must ensure that all the scientists submit the RPFs pertaining to all new as well as on-going and concluded projects by 31st March, 2006 positively. It has been viewed very seriously at ICAR level on the basis of review by a team of auditors from the office of the Principal Directorate of Audits (Scientific Departments), C&AG, Govt. of India, New Delhi indicating incomplete RPFs submission and non-achievement of objectives as depicted in RPF III. It is mandatory that the complete RPFs are obtained by the concerned Heads of Centres/ Divisions prior to relieving a scientist due to transfer, change of job or retirement. Any lapse on this account or missing data of the concluded projects after the relieving of a scientist shall be the responsibility of the concerned Head of Centre/Division. **(Action: All Heads, Scientists and RCM Unit)**	RPFs pertaining to all new as well as ongoing projects and projects concluded in 2005 have been submitted by concerned project leaders. Reminders have been sent to all retiring scientists to submit their pending RPFs.
2.	It is not only the timely submission of RPFs which is important but proper filling of all the RPFs is equally important. Care must be taken for setting the priority area of the project as mentioned in item No. 203 in RPF I, 603 in RPF II and 803 in RPF III. While framing the objectives of any new project, care must be taken that objectives must be such that they are achievable within the project period. One should not be over ambitious in framing the objectives. Due care must be taken while filling up Part – IV of Project Budget Estimate (Summary) item-wise and year-wise in all the RPFs. **(Action: All Heads, Scientists and RCM Unit)**	Though, due care is being taken up by the scientists in framing objectives, setting the priority area and the budget estimate of the project, however, scientists are advised at appropriate forums to exercise precautions while filling up RPFs proforma.
3.	In addition to the routine RPFs, all the Heads should ensure the submission of computerized information of RPFs in the prescribed format (MS-ACCESS) by 30th April, 2006 positively. **(Action: All Heads, Scientists and RCM Unit)**	Computerized information on RPFs in MS-ACCESS Format have been submitted by SS&A Division, Dehradun and Research Centres, Bellary, Datia, Kota, Udhgamandalam and Vasad. The remaining Centres and Divisions have been directed to expedite the submission of required information.
4.	A complete package for each potential technology developed by all the Centres/Divisions in the form of a folder comprising of 8-10 pages be brought out in English / Hindi / Local languages. The number of technologies to be printed out by different Centres will be Agra (5), Bellary (5), Chandigarh (3), Koraput (2), Kota (3), Udhagamandalam (5) and Vasad (3) by 30th June, 2006. Each division at Dehradun will prepare similar drafts of documents for two technologies each by 10th March, 2006 for approval of the competent authority. **(Action: All Heads)**	Packages for technologies developed have been received from SS&A Division, Dehradun and Research Centres, Bellary, Chandigarh, Kota, Udhgamandalam and Vasad. The remaining Centres and Divisions have been directed to expedite the submission of required technologies by 28th Feb., 2007.

Sl. No.	Action Assigned	Action Taken Report
5.	The Monthly Progress Report for Cabinet reporting in the prescribed format (eight paragraphs) from all the Centres/Divisions has to reach the Institute Headquarters by 10th of each month. However, this important monthly return which is submitted to ICAR is received intermittently and in a casual manner. The submission of this report must be ensured timely by all the Heads in the prescribed format covering important events. **(Action: All Heads and RCM Unit)**	The Centres and Divisions have been advised to compile results of on-going and concluded projects in a time bound manner and a meaningful progress report must be submitted.
6.	The monitorable targets and progress report required by the DG, ICAR has to be submitted at quarterly interval. This should be given in abstract form with quantifiable targets (area, numbers etc.) and reach the Institute Headquarters by the first of each quarter (April, July, October and January). **(Action: All Heads, Scientists and T.O. – Information)**	It is being submitted by all Heads in time.
7.	The targets and progress of the individual scientist must be submitted by the concerned Heads by the 25th June and 25th December, 2006 and in the subsequent years. **(Action: All Heads, Scientists and T.O. - Information)**	It is being submitted by all Heads in time.
8.	The Annual Report for the year 2005-06 must be submitted by all the Heads by the end of February, 2006 while Research Centre, Bellary may submit it latest by 31st March, 2006. **(Action: All Heads and OIC, Publication Cell)**	Annual Reports have been submitted in time by all the Heads.
9.	The quarterly review of on-going research projects at all the Research Centres must be held periodically in the month of April, July and October. The proceedings be sent to the Director for review regularly. **(Action: All Heads of Centres)**	The Research Centres have been advised to review the on-going research projects thoroughly on quarterly basis to enumerate the shortcomings as well as achievements and take appropriate action accordingly. The detailed proceedings must be submitted to the Director.
10.	As already decided in the proceedings of previous SRC Meetings, all the papers (Research/Technical/Symposia etc.), sent for Director's approval, must be thoroughly discussed among scientists of Centres/Divisions and should invariably be accompanied by duly filled up prescribed proforma recommended by the respective Heads. **(Action: All Heads and Scientists)**	The papers are being discussed in seminars conducted at Research Centres and Institute Headquarters. The scientists were directed to submit duly filled proforma in the new prescribed format for approval of publication / presentation of papers/abstracts. (Copy of new proforma is enclosed in this proceeding).
11.	The data related to the concluded projects must be compiled and computerized regularly and it will be the sole responsibility of the Heads of Divisions/Centres to ensure that the data of the concluded projects is obtained prior to the relieving of the concerned scientists. If required, a suitable person may be hired for computerization of data. **(Action: All Heads and Scientists)**	It is being followed by all Heads of Centres / Divisions.

Sl. No.	Action Assigned	Action Taken Report
12.	The methodology for valuation of intangible benefits and costs of soil and water conservation technologies and watershed management interventions must be prepared taking into consideration the Indian scenarios by 30th June, 2006. **(Action: Head, HRD&SS Division)**	The methodology for quantification and valuation of intangible benefits, with Fakot watershed as a test case, has been provided to all the Heads of the Centres / Divisions / Economists of the Institute for adoption in other watersheds.
13.	The review of the progress of the preparation of the "National Atlas of Watershed Programme in the Country" revealed that the information pertaining to Jammu & Kashmir, NE region and Sikkim is yet to be obtained. Head, Koraput Centre may obtain requisite information from the respective state governments of NE region and Head, Chandigarh Centre will obtain the information related to Jammu and Kashmir by 30th April, 2006. A Centre/Division-wise check list of the missing information needs to be prepared by the Head, H&E Division and sent to respective Centres. **(Action: All Heads and Head, H&E Division)**	The compilation of information pertaining to status of watershed development (WSD) programme in respect of 20 states of India (except NEH States) as received from the Centres, has been done. State maps showing status of WSD programmes which have been received from the Centres so far are Tamil Nadu, Goa, Kerala, Uttaranchal, Andhra Pradesh, Karnataka, Rajasthan, Punjab, Haryana, Himachal Pradesh, U.P., Bihar and Chattisgarh. In case of Orissa state map (received from Koraput Centre), only WSD schemes have been shown and not the status. The remaining state maps of J&K, Madhya Pradesh, Jharkhand, West Bengal, Gujarat, Maharashtra and NEH States are to be completed by the concerned Centres on priority. The preparation of IT based presentation is in progress and may be completed on priority.
14.	The comments on the revised document on "50 Years Research Achievement in Soil and Water Conservation" was presented by all the Heads and various discrepancies were observed in the action taken report in this matter. It was decided that the finally revised document will be submitted by 28th Feb., 2006. Executive summary of 2 to 3 pages needs to be given in the beginning of the document. The compliance of the comments must be supported with page number of the document where it has been addressed. Any future researchable issue must be qualified by assigning reasons based on critical analysis and its present status. Potential domain of application of any technology must be clearly defined. **(Action: All Heads)**	Finally revised documents have been received from all eight Centres and Divisions of SS&A and Plant Sciences. Divisions of H&E and HRD&SS are yet to submit the documents. Executive Summary has been given by Research Centres, Bellary, Chandigarh, Udhagamanda-lam, Vasad and Kota. Comments have been complied with. The other Centres need to complete this exercise on priority.

RESEARCH PROGRAMMES AND SUB-PROGRAMMES

P-1 WATER EROSION APPRAISAL IN DIFFERENT AGRO-ECOLOGICAL REGIONS (P.I. – Dr. K.S. Dadhwal)

1.1 Inventory and database of erosion status using modern tools and procedures
1.2 On-site and off-site effects of erosion
1.3 Soil erosion processes and models

P-2 CONSERVATION MEASURES FOR SUSTAINABLE PRODUCTION SYSTEMS (P.I. – Dr. O.P.S. Khola)

2.1 Resource conservation measures for arable lands
2.2 Resource conservation measures for non-arable lands

P-3 HYDROLOGICAL BEHAVIOUR OF WATERSHEDS FOR CONSERVATION PLANNING

(P.I. – Er. C. Prakash)

3.1 Rainfall, runoff, vegetation, soil characteristics and management practices
3.2 Effect of conservation measures and landuse on ground water recharge
3.3 Water harvesting

P-4 REHABILITATION OF AREAS AFFECTED BY MASS EROSION

(P.I. – Er. K.P. Tripathi)

4.1 Refinement of technologies for torrent training, landslide control and minespoils rehabilitation

P-5 PARTICIPATORY INTEGRATED WATERSHED MANAGEMENT

(P.I. – Dr. A. Raizada)

5.1 Methodologies for development of watersheds and decision support systems for interventions
5.2 Landuse planning
5.3 Impact on production, environment and bio-diversity
5.4 Farming system approach.
5.5 Watershed technologies (Strategic research)

P-6 SOCIO-ECONOMIC ANALYSIS AND POLICY DEVELOPMENT FOR WATERSHED MANAGEMENT (P.I. – Dr. Pradeep Dogra)

6.1 Resource economics
6.2 Institute village linkage programme for Technology assessment and refinement
6.3 Common property resource management

P-7 HUMAN RESOURCE DEVELOPMENT AND TECHNOLOGY TRANSER

(P.I. – Dr. B.L. Dhyani)

7.1 Training methodology, need assessment, gender neutrality and evaluation
7.2 Organizational infrastructure & motivational parameters
7.3 Participatory approaches, dissemination of technology and adoption

STATUS OF PROGRAMME WISE ON-GOING PROJECTS

P-1 : WATER EROSION APPRAISAL IN DIFFERENT AGRO ECOLOGICAL REGIONS

1.1 : INVENTORY AND DATABASE OF EROSION STATUS USING MODERN TOOLS AND PROCEDURES

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
1.	Assessment, monitoring and mapping of erosion hazards and developing a database for conservation planning.	K.S. Dadhwal S.C. Mohan S.S. Shrimali A. Raizada	Soil Science & Agronomy, Dehradun	2000	2007	To be concluded
Comments: Category-wise erosion hazards may be depicted on the map as analyzed by applying remote sensing technique and decision rules vis-à-vis as observed under field conditions manually. The deviations for each category of erosion class showing its location on the map should also be presented in tabular form and for all categories of erosion classes together. This analysis must be completed for Suarna Rao and Gulata watersheds during 2007 and presented in the next IRC meeting. (Action: Dr. K.S. Dadhwal)						
2.	Surface hydrologic response estimation using GIS.	S.S. Shrimali	Hydrology & Engineering, Dehradun	2002	2007	To be concluded

1.3: SOIL EROSION PROCESSES AND MODELS

3.	Development and validation of runoff and erosion prediction models in different agro-ecological regions.	V.N. Sharda P.R. Ojasvi	Hydrology & Engineering, Dehradun	2003	2007	To be concluded **(Core Project)**
		A.K. Tiwari	Chandigarh			
		V.S. Katiyar	Datia			
		Shakir Ali	Kota			
		R.S. Kurothe	Vasad			
Comments: Rainfall erosivity values units may be checked by Chandigarh Centre. Project at Agra Centre has been deleted due to relieving of Dr. D.S. Bundela. Dr. V.S. Katiyar will replace Dr. Ambrish Kumar at Datia Centre. (Action: Dr. A.K. Tiwari)						

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
4.	Soil loss tolerance limits for agro-ecological regions of India.	D. Mandal Ambrish Kumar	HRD&SS Dehradun	2005	2009	To be continued **(Core Project)**
		Pramod Jha H.C. Nitant	Agra			
		S.K.N. Math P.K. Mishra	Bellary			
		P. Bhattacharya V.K. Bhatt	Chandigarh			
		H. Biswas	Datia			
		D. Mandal	Koraput			
		R.K. Singh B.K. Sethy	Kota			
		D.V. Singh V. Selvi	Udhagamandalam			
		S.P. Tiwari D.R. Sena	Vasad			
Comments: Soil loss tolerance maps (T value) for all states may be prepared in GIS environment at Institute's Headquarters, Dehradun. A suitable common general format may be prepared and finalized by Dr. D. Mandal for collection of required information from Research Centres for preparation of maps in GIS environment. The required information may be submitted by the Centres to Dr. D. Mandal in proper format by 15th March, 2007. Dr. D. Mandal, PI of the project, should explore the possibilities of map preparation with the GIS experts from Govt. as well as private agencies on payment basis. One or two sample sheets of a state should be got prepared at the first instance to verify the authenticity of the expertise of the selected organization before assigning complete job. However, if necessary, an interaction workshop may also be organized after approval of the competent authority. Dr. Ambrish Kumar will replace Er. K.P. Tripathi at Dehradun. Dr. H.C. Nitant will replace Dr. R.C. Yadav at Agra Centre. Dr. H. Biswas will replace Dr. Brij Lal and Dr. Ambrish Kumar at Datia Centre. Dr. D. Mandal will take care the work of Koraput Centre and will submit RPFs of Koraput Centre. Names of Dr. N.K. Paikaray and Ms. S. Sudhishri are deleted from Koraput Centre. (Action : Dr. D. Mandal & Leaders of all Research Centres)						
5.	Effect of stone check dams on resource conservation in black soils under concentrated flow condition: Simulated study in tilting hydraulic flume.	A.K. Singh P.K. Mishra S.K.N. Math	Bellary	2007	2009	To be continued **(New Project)**

P-2: CONSERVATION MEASURES FOR SUSTAINABLE PRODUCTION SYSTEMS

2.1: RESOURCE CONSERVATION MEASURES FOR ARABLE LANDS

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
6.	Bi-cropping of *Stylosanthesis hamata* in maize-wheat rotation for their impact on resource conservation, soil health and productivity.	O.P.S. Khola D. Mandal B.S. Naik	Soil Science & Agronomy, Dehradun	2005	2010	To be continued
Comments: Non-presentation of runoff and soil loss data collected during 2006 was viewed seriously by IRC. Analyzed data and calibration equations to assess the impact of treatments should be presented by the leader in next IRC meeting. (Action: Dr. O.P.S. Khola)						
7.	In-vitro micro propagation of elite provenances of Bhimal (*Grewia optiva)*	Harsh Mehta J. Jayaprakash	Plant Science, Dehradun	2004	2007	To be concluded
Comments: Project is extended for one year as Institute project till 2007 for confirmation of micro propagation protocol of *Grewia optiva* and development of plantlets. (Action: Dr. Harsh Mehta)						
8.	Evaluating productivity potential of bhimal (*Grewia optiva*) along with field crops.	Harsh Mehta K.S. Dadhwal	Plant Science, Dehradun	2005	2015	To be continued
Comments: Name of Dr. P.C. Tyagi is deleted and Dr. Harsh Mehta will be the leader of this project.						
9.	Yield maximization and resource conservation through organic input management.	B.N. Ghosh O.P.S. Khola Pradeep Dogra	Soil Science & Agronomy, Dehradun	2007	2014	To be continued **(New Project)**
Comments : Vegetative barriers may be planted at 50 m interval. Wheat variety PBW154 may be used as a test crop. While using poultry manure, care should be taken regarding toxic affect of the manure on the soil micro flora and fauna. (Action: Dr. B.N. Ghosh)						
10.	Integrated nutrient supply system for rainfed semi-arid tropics.	S.L. Patil	Bellary	2000	2008	To be continued
Comments : Project may be concluded in 2008 after assessing crop performance under different treatments in varying rainfall conditions. (Action: Dr. S.L. Patil)						

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
11.	Resource conservation and sustainable crop production using bio-fertilizers and organics in degraded Shiwaliks.	Pawan Sharma Pratap Singh Ram Prasad P. Bhattacharya S.L. Arya	Chandigarh	2007	2011	To be continued **(New Project)**
Comments : Additional treatments consisting of combinations of organic and inorganic fertilizers may be included. Effect of the treatments on soil loss and runoff must be observed and recorded. Technique for producing vermicompost in the cheapest way may be utilized. (Action: Dr. (Mrs.) Pawan Sharma)						
12.	Evaluation of mechanical and vegetative measures on field size runoff plots.	V.S. Katiyar Dev Narain H. Biswas	Datia	2002	2007	To be concluded
Comments: Project is extended for one year till 2007 due to occurrence of consecutive droughts during last two years to fulfill the objectives of the project. Dr. V.S. Katiyar will replace Dr. Ambrish Kumar as leader. Dr. H. Biswas will replace Dr. B. Lal as second associate. (Action: Dr. V.S. Katiyar)						
13.	Effect of integrated nutrient management on soil properties under aonla based agri-horti system.	H. Biswas Dev Narain	Datia	2005	2009	To be continued
Comments : Name of Dr. Brij Lal is deleted.						
14.	Intercropping and tillage practices for sustainable production under rainfed condition in Bundelkhand.	Dev Narain V.S. Katiyar H. Biswas	Datia	2006	2010	To be continued
Comments: Dr. H. Biswas will replace Dr. Brij Lal as second associate.						
15.	Conserving resources and augmenting livelihood of small holders through multi-tier cropping systems in tribal dominant Eastern Ghats of Orissa.	Anchal Dass R.K. Panda	Koraput	2005	2008	To be continued
Comments: Names of Ms.S. Sudhishri, Mr. P.R. Choudhary and Dr. N.K. Paikaray are deleted and name of Dr. R.K. Panda is included as an associate.						
16.	Evaluation of conservation measures with prominent cropping systems for medium black soils.	R.K. Singh S.N. Prasad Ashok Kumar B.K. Sethy	Kota	2003	2007	To be concluded
17.	Effect of soil amendments on surface cracks in black soils of south eastern Rajasthan.	J. Somasundaram S.N. Prasad Ashok Kumar	Kota	2006	2009	To be continued

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
18.	Soil health, productivity and conservation under different nutrient management system for export oriented vegetables crops in the Nilgiris.	D.V. Singh M. Madhu V. Selvi	Udhagamandalam	2006	2008	To be continued **(Adhoc project of ICAR)**
Comments : Initial cation exchange capacity and aluminum content in acidic soils should be studied to draw concrete conclusions. (Action: Dr. D.V. Singh)						
19.	Crop diversification through agro-forestry for productivity and sustainability on reclaimed land of Mahi ravines.	H.B. Singh S.P. Tiwari V.C. Pande	Vasad	2003	2008	To be continued
Comments: Project is extended for two years till 2008 for attaining the commercial, yield of aonla and by then drumstick would reach its peak yield for comparison of results. Technology of drumstick propagation may be demonstrated on farmers' field for projection of returns. Seeds of drumstick may be supplied to Research Centres Agra, Datia and Kota for testing. (Action: Dr. H.B. Singh)						

2.2: RESOURCE CONSERVATION MEASURES FOR NON-ARABLE LANDS

20.	Evaluation of comparative performance of aonla based agri-horti systems at 2% slope in Doon Valley.	R.K. Dubey K.S. Dadhwal A.C. Rathore	Soil Science & Agronomy, Dehradun	2002	2012	To be continued
Comments: The high bulk density and low pH (acidic) values of the study plots may be checked and the leader should analyze and present the data more carefully in future and not mislead the house. (Action: Mr. R.K. Dubey)						
21.	Evaluation of the agro-forestry systems for marginal lands in Doon valley.	Charan Singh N.K. Sharma Ratan Singh Pradeep Dogra	HRD&SS Dehradun	2001	2010	To be continued
Comments: Eucalyptus may be planted in place of aonla because of continuing mortality of aonla. (Action: Dr. Charan Singh)						
22.	Silvipastoral systems under various management practices for degraded lands.	Charan Singh A. Raizada	HRD&SS, Dehradun	1996	2012	To be continued
Comments: Economic analysis as per recommendation of SRC – 2005 was not carried out which is viewed seriously by IRC. This task must be completed before the next IRC meeting. (Action: Dr. Charan Singh)						
23.	Fuelwood and fodder production from densified plantations on old riverbed land.	A. Raizada Charan Singh B.N. Ghosh	Plant Science, Dehradun	1997	2016	To be continued

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
24.	Evaluating the performance and developing techniques for enhancing growth and seed yield of Jatropha curcas in degraded lands of sub-humid Himalayas.	J. Jayaprakash D. Mandal	Plant Science Division, Dehradun	2006	2015	To be continued
Comments: In place of Palamarosa, aloe-vera may be planted. (Action: Dr. J. Jayaprakash)						
25.	Economic fortification of existing forest and horti land use system through medicinal and aromatic species.	K.P. Mohapatra Pramod Jha	Agra	2005	2009	To be continued
Comments : *Mulethi* and *babool* species may be dropped from treatments and 75% lopping of *neem* should be done to study the reduced shade effect on medicinal plants. (Action: Dr. K.P. Mohapatra)						
26.	Evaluation of fruit species vis-à-vis conservation techniques for salt affected black soils of semi-arid tropic regions.	D. Ramajayam R.N. Adhikari S.K.N. Math B. Mondal	Bellary	2005	2015	To be continued
27.	Study on effect of in situ moisture conservation measures on runoff, soil loss and yield of maize crop.	Pratap Singh V.K. Bhatt P. Bhattacharya	Chandigarh	2007	2009	To be continued **(New Project)**
Comments : Treatment of green leave mulch application may be deleted. (Action : Dr. Pratap Singh)						
28.	Evaluation of different under utilized fruit species with varying inter-space managements in Chambal ravines.	H.R. Meena A.K. Parandiyal J. Somasundaram Ashok Kumar	Kota	2006	2015	To be continued
29.	Studies on afforested Shola species and swamps in the Nilgiris.	R. Ragupathy M. Madhu P. Murlidharan	Udhagamandalam	2005	2008	To be continued **(To be funded by HADP)**
30.	Effectiveness of different bio-engineering measures in new tea plantation in the Nilgiris.	D.C. Sahoo P. Murlidharan M. Madhu	Udhagamandalam	2007	2010	To be continued
Comments: Project should be taken up in new area for development as model watershed by HADP from next year since new tea plantation was not done in the originally selected area by HADP/farmers. Therefore, year of start and completion of the project are changed to 2007 and 2010, respectively. Name of Dr. Subhash Chand is deleted. (Action: Er. D.C. Sahoo)						

P-3: HYDROLOGICAL BEHAVIOUR OF WATERSHEDS FOR CONSERVATION PLANNING

3.1: RAINFALL, RUNOFF, VEGETATION, SOIL CHARACTERISTICS AND MANAGEMENT PRACTICES

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
31.	Hydrological behaviour of small watersheds and sustainability of production systems.	V.N. Sharda C. Prakash A. Raizada N.K. Sharma	Hydrology & Engineering, Dehradun	1999	2007	To be concluded
32.	Stochastic analysis of rainfall and runoff data for planning conservation measures.	P.K. Das A.K. Khullar	Hydrology & Engineering, Dehradun	2004	2007	To be concluded
Comments: Project is extended for one year till 2007 to attain third objective of the project. Rainfall-runoff relationships already developed may be reviewed and improved for better prediction of runoff. (Action: Dr. P.K. Das)						
33.	Testing of hydrological instruments.	K.P. Tripathi	Hydrology & Engineering, Dehradun	2005	2007	To be concluded
Comments: Hydrological instruments may be obtained from some more reputed firms for testing and BIS may be contacted to identify our Institute to certify hydrological instruments. (Action: Er. K.P. Tirpathi)						
34.	Environmental impact assessment of community based water resources management projects in Uttarnachal.	V.N. Sharda P.R. Ojasvi Pradeep Dogra	Hydrology & Engineering Division, Dehradun	2006	2007	To be concluded
35.	Hydrological evaluation of recommended forest trees in Himalayan foothills.	A. Raizada B.S. Naik Charan Singh B.N. Ghosh	Plant Science, Dehradun	2004	2018	To be continued
Comments: The plot having maximum runoff during two years of calibration period may be selected as the control plot for development of calibration equations with the data of other five plots. After the transfer of Er. B.S. Naik, Dr. Ambrish Kumar will be associated in the project. (Action: Dr. A. Raizada)						

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
36.	Combating land degradation through cycling of organic matter under different land use systems.	Pramod Jha K.P. Mohapatra Om Prakash	Agra	2007	2009	To be continued **(New Project)**
Comments : Project proposal may be modified as follows: Organic matter contents under different land use systems may be linked with the topography and kinetic energy. Influence of organic matter built up on runoff and soil loss may be studied. (Action: Dr. Pramod Jha)						
37.	Hydrological response to micro-catchments under different land uses with vegetation manipulation.	V.K. Bhatt P. Bhattacharya A.K. Tiwari Pawan Sharma	Chandigarh	2005	2012	To be continued
Comments: Lantana should be removed every year at sprouting stage and area should be kept completely clean. Runoff calibration equation developed between WS_2 watershed with control watershed (WS_1) may be re-checked. (Action: Dr. V.K. Bhatt)						
38.	Soil conservation measures in red arable soils.	V.S. Katiyar Dev Narain H. Biswas	Datia	2001	2007	To be concluded
Comments: Dr. M.L. Gaur must send calibration equations along with raw data to analyze effect of treatments to Dr. V.S. Katiyar positively before March 31, 2007. Dr. V.S. Katiyar and Dr. H. Biswas will replace Dr. Ambrish Kumar and Dr. Brij Lal, respectively. Nutrient loss data may be reported in terms of total nitrogen, available phosphorus and available potassium. (Action: Dr. M.L. Gaur / Dr. V.S. Katiyar)						
39.	Studies on hydrological behaviour and management of Jhola lands in Eastern Ghat Highland Zone of Orissa	R.K. Panda Anchal Dass	Koraput	2004	2007	To be concluded
Comments: Name of Dr. U.S. Patnaik is deleted. Hydrographs may be analysed for separation of base flow and surface flow. Computed and observed surface runoff and base flow values along with soil loss data storm-wise may be reported. (Action: Dr. R.K. Panda)						
40.	Hydrological implication of sequential alternation of land use covers in a ravinous catchment.	R.S. Kurothe D.R. Sena V.C. Pande S.P. Tiwari H.B. Singh	Vasad	2004	2012	To be continued
Comments: Entire data set of event-wise rainfall and runoff may be reported in next IRC meeting. No storm events especially extreme events should be missed as they are rare in nature and influence the hydrological phenomena significantly. (Action: Dr. R.S. Kurothe)						

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
41.	Design development and testing of simple and low cost continuous mechanical sediment yield sampler.	D.R. Sena R.S. Kurothe S.P. Tiwari	Vasad	2005	2007	To be concluded
Comments: Project is extended for one year till 2007 for bringing sediment yield sampler to working condition. (Action: Dr. D.R. Sena)						

3.2 : EFFECT OF CONSERVATION MEASURES AND LANDUSE ON GROUND WATER RECHARGE

42.	Effect of conservation structures on ground water recharge.	D.R. Sena R.S. Kurothe S.P. Tiwari V.C. Pande	Vasad	2001	2008	To be continued **(Core Project)**
		V.K. Bhatt A.K. Tiwari R.P. Yadav	Chandigarh			
		V.S. Katiyar H. Biswas	Datia			
		Shakir Ali R.K. Singh B.K. Sethy	Kota			
		R.K. Panda	Koraput	2004		
		R.N. Adhikari A.K. Singh S.K.N. Math	Bellary	2004		
		V. Selvi D.V. Singh	Udhagamandalam	2004		
Comments: The relevant parameters responsible for ground water recharge, *viz*; hydraulic conductivity, specific yield and aquifer conditions may be collected for each study site and ground water data may be correlated with these parameters. Ground water recharge as percentage of rainfall at different locations may be worked out. Economics of ground water use worked out by Vasad Centre may be sent to all concerned Centres by Jan. 15, 2007. Names of Dr. R.K. Aggarwal and Dr. Ambrish Kumar are deleted at Chandigarh and Datia Centres, respectively. Names of Ms. S. Sudhishri and Dr. N.K. Paikarey are deleted and Dr. R.K. Panda will be the leader at Koraput Centre. (Action: Project leaders at all study sites)						

3.3: WATER HARVESTING

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
43.	Effective utilization of waterways for conservation and production.	S.S. Shrimali B.N. Ghosh Harsh Mehta Charan Singh	Hydrology & Engineering, Dehradun	2003	2008	To be continued
Comments: Project is extended for two years till 2008 as lemon has to reach its full bearing potential. Er. S.S. Shrimali will replace Er. B.P. Joshi as leader of the project. (Action: Er. S.S. Shrimali)						
44.	Hydrological evaluation of CBT in Shiwalik hills of Uttaranchal.	Ambrish Kumar N.K. Sharma B.L. Dhyani	HRD&SS, Dehradun	2007	2009	To be continued **(New Project)**
Comments : At Langa, ratio of donor to recipient areas may be tried as 2:1, 3:1 and 4:1 under 2%, 3% and 5% slope plots, respectively. Depth of water impoundment in the recipient area may be kept as 10, 15 and 20 cm. Test crop in donor area and recipient area in *kharif* season may be maize and paddy, respectively. In *rabi* season, test crops in donor catchment may be wheat and in recipient catchment may be gladiolus, barley and any other suitable crop as per farmer's preference. At Research Farm, Selakui,in *Kharif* season, soyabean, okra and maize + cowpea and in *Rabi* season, wheat + mustard may be tried as test crop in donor catchment. In recipient catchment, paddy and wheat + mustard may be taken as test crop in *Kharif* and *Rabi* seasons, respectively. (Action: Dr. Ambrish Kumar)						
45.	Study on the effect of water quality on water use efficiency in Agra watershed.	S.K. Srivastava Pramod Jha	Agra	2007	2009	To be continued **(New Project)**
Comments : A threshold value for water quality should be affixed to limit the bad effects of percolation of poor quality water to the ground water table. (Action: Er. S.K. Srivastava)						
46.	Effect of interventions on small watershed hydrology.	V.S. Katiyar H. Biswas Dev Narain	Datia	2001	2008	To be continued
Comments: Project is extended for two years till 2008. Nomenclature of grass watershed may be changed to scrub watershed. Runoff under all treatments using the calibration equations to know the effect of treatments in different years must be presented in next IRC meeting. For this, Dr. M.L. Gaur must pass on the whole calibration data and equations / results to Dr. V.S. Katiyar. Dr. V.S. Katiyar will replace Dr. Ambrish Kumar as leader of the project. Dr. H. Biswas will replace Dr. Brij Lal as first associate. (Action: V.S. Katiyar / Dr. M.L. Gaur)						

P-4 REHABILITATION OF AREAS AFFECTED BY MASS EROSION

4.1 REFINEMENT OF TECHNOLOGIES FOR TORRENT TRAINING, LANDSLIDE CONTROL AND MINESPOILS REHABILITATION

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
47.	To find specifications for cost-effective design of spurs with regard to their shape, geometry and apron by carrying out laboratory studies (in hydraulic flume)	B.S. Naik G.P. Juyal	Hydrology & Engineering, Dehradun	2005	2007	To be concluded
Comments: Following points need to be addressed during the study: (i) The study should be carried out under varying discharge and duration, (ii) Bed material of flume must be compacted to the same bulk density as of the material occurring in torrent bed, (iii) The project may be under taken with pervious and impervious spurs, (iv) The depth as well as the distance of scouring pattern must be recorded for computation of scouring volume around spurs, and (v) Sediment yield for different types of spur structures, for each run may be recorded at the outlet of hydraulic flume. (Action: Er. B.S. Naik)						
48.	Characterization of soil stability and its improvement in mass erosion prone areas of lower Shiwalik.	P. Bhattacharya V.K. Bhatt A.K. Tiwari Ram Prasad Pawan Sharma	Chandigarh	2007	2009	To be continued **(New Project)**
Comments : In the light of discussion held, the project may be reformulated as follows : i) Characterization of geological / mechanical properties of soil and other factors responsible for mass erosion problems in Shiwaliks should be carried out. ii) Treatments to control mass erosion should not be imposed. Measures to control mass erosion may be suggested. (Action: Dr. P. Bhattacharya)						
49.	Cost effective conservation measures for management of medium and deep ravinous lands	B.K. Sethy A.K. Parandiyal Shakir Ali Ashok Kumar J. Somasundaram	Kota	2004	2012	To be continued
Comments: Total rainfall should be taken for uniformity in all treatments and runoff as a percentage of rainfall may be computed accordingly. Calibration equations should be developed to assess net effect of treatments and reported accordingly. Mention the number of runoff producing storm events as well as total number of storm events. (Action: Er. B.K. Sethy)						
50.	Productive utilization of ravines through introduction of horticulture and improved planting materials.	A.K. Parandiyal J. Somasundaram B.K. Sethy H.R. Meena	Kota	2005	2010	To be continued

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
51.	Genesis, characterization and management of land slides in the Nilgiris.	D.V. Singh V. Selvi D.C. Sahoo	Udhagamandalam	2005	2007	To be concluded **(To be funded by HADP)**
Comments: Treatments to control landslides should not be imposed. Only measures to control landslides may be suggested. Efforts should be made to get the funds released quickly from HADP. (Action: Dr. D.V. Singh / Dr. M. Madhu)						
52.	Field based estimation of stream bank erosion for different ephemeral channels in Mahi ravines.	M.L. Gaur S.P. Tiwari	Vasad	2007	2009	To be continued **(New Project)**
Comments : A systematic approach needs to be adopted for the study. Permanent bench mark sites should be established for assessment of erosion. (Action : Dr. M.L. Gaur)						

P-5: PARTICIPATORY INTEGRATED WATERSHED MANAGEMENT

5.3: IMPACT ON PRODUCTION, ENVIRONMENT AND BIODIVERSITY

53.	Ethno biological studies and impact evaluation on Indigenous Technical knowledge (ITK) associated with fishery resources, fish harvesting, fish poisons and community based fishing festivals in mid Himalayas.	M. Muruganandam J. Jayaprakash	Hydrology & Engineering, Dehradun	2007	2008	To be continued **(New Project)**
54.	Integrated land and rainwater management for sustainable production in Shiwalik foothills in Mandhala village, Distt. Solan (H.P.).	A.K. Tiwari Pratap Singh Pawan Sharma Ram Prasad Pratap Bhattacharya	Chandigarh	2003	2007	To be concluded
Comments: Names of Dr. R.K. Aggarwal and Dr. Y. Agnihotri are deleted. Project is extended for one year till 2007 as Institute project for monitoring of data and to fulfill the objectives of the project. (Action: Dr. A.K. Tiwari)						

5.4 FARMING SYSTEM APPROACH

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
55.	Development and evaluation of integrated farming system in middle Himalayas	M. Muruganandam V.N. Sharda C. Prakash	Hydrology & Engineering, Dehradun	2001	2007	To be concluded
Comments: Project is further extended for one year till 2007 for extending Integrated Farming System technology to farmers' fields. IFS units may be established with minimum watermill and fish pond components. Poultry and piggery may also form the part of IFS as per liking of the farmers. (Action: Mr. M. Muruganandam)						

5.5 : WATERSHED TECHNOLOGIES (STRATEGIC RESEARCH)

56.	Watershed Technology (Mission Mode).	K.P. Tripathi Pradeep Dogra	Hydrology & Engineering, Dehradun	1999	2007	To be concluded
Comments: Project is further extended for one year till 2007. Suitable analytical tools for soil loss model development may be explored by reviewing relevant literature. (Action: Er. K.P. Tripathi)						

P-6: SOCIO-ECONOMIC ANALYSIS AND POLICY DEVELOPMENT FOR WATERSHED MANAGEMENT

6.1: RESOURCE ECONOMICS

57.	Effect of watershed development programme on employment generation in semi-arid regions.	B. Mondal N. Loganandhan	Bellary	2005	2007	To be concluded
58.	Economic analysis of soil and water conservation measures in Nilgiris.	D.C. Sahoo M. Madhu R. Ragupathy	Udhagamandalam	2006	2008	To be continued
Comments: Economics of tea cultivation on risers for compensating production loss due to loss of area by terracing may be worked out and compared with already recommended system. Name of Dr. Subhash Chand is deleted and Er. D.C. Sahoo will be the leader of the project. (Action: Er. D.C. Sahoo)						

6.2 : INSTITUTE VILLAGE LINKAGE PROGRAMME FOR TECHNOLOGY ASSESSMENT AND REFINEMENT

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
59.	Participatory dissemination and assessment of land and water management technologies for livelihood security in rainfed areas of north-western Himalayas under TDET scheme, Dept. of Land Resources, Ministry of rural Development.	B.L. Dhyani S.C. Mohan D.S. Tomar Ambrish Kumar Charan Singh Bankey Bihari M. Muruganandam	HRD&SS, Dehradun	2007	2010	To be continued **TDET (MoRD)**
Comments: Title of the project is modified as per approval of Ministry of Rural Development. Names of Dr. Ambrish Kumar, Dr. Charan Singh, Dr. Bankey Bihari and Mr. M. Muruganandam are included as associates. After the retirement of Mr. S.C. Mohan, Dr. D. Mandal will be associated in the project. (Action: Dr. B.L. Dhyani)						

6.3 : COMMON PROPERTY RESOURCE MANAGEMENT

60.	Study on pastoral migratory graziers in relation to watershed projects in Shiwalik foothill villages in Haryana.	S.L. Arya	Chandigarh	2004	2007	To be concluded
Comments: Name of Dr. Y. Agnihotri is deleted.						

P-7 HUMAN RESOURCE DEVELOPMENT AND TECHNOLOGY TRANSER

7.1 TRAINING METHODOLOGY, NEED ASSESSMENT, GENDER NEUTRALITY AND EVALUATION

61.	Study on capacity building of field functionaries for watershed development and management.	Bankey Bihari	HRD & SS, Dehradun	2005	2007	To be concluded
Comments: Name of Dr. A.S. Mishra is deleted. Each WDT member may be asked to prioritize about five of their needs for their own capacity building. (Action: Dr. Bankey Bihari)						

7.3 PARTICIPATORY APPROACHES, DESSEMINATION OF TECHNOLOGY AND ADOPTION

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
62.	Constraints analysis and methodology for transfer of technologies in watershed management programmes.	Bankey Bihari B.L. Dhyani	HRD & SS, Dehradun	2005	2007	To be concluded **(Core Project)**
		N. Loganandhan	Bellary			
		Om Prakash	Datia			
		S.V. Singh	Kota			
		P. Sundarambal	Udhagamandalam			
		G.L. Bagdi	Vasad			

Note :

- **Although the presentation mode this year was category wise, yet the listing has been done on the basis of identified programmes as done in previous years.**
- **The year of start and completion in respect of all the projects will be according to the relevant financial years.**
- **Those NATP projects, which are being continued as Institute projects should achieve all the objectives prior to their completion.**
- **Projects without any soil conservation aspects do not fit into the mandate of the Institute. Hence, observations to justify the study may be recorded.**
- **Timely funding should be assured well in advance for those projects which are to be externally supported.**

PROJECTS CONCLUDED IN 2006

Sl. No.	Programme No.	Sl. No. of SRC Meeting Proc. 2005	Title of the Project	Centre/Division
1.	1.3	3	Study of rill and inter-rill erosion processes.	Hydrology & Engineering, Dehradun
2.	1.3	6	Assessing crop cover influence on runoff and soil loss for red soils of Bundelkhand.	Datia
3.	2.1	7(a)	Soil surface management for erosion control.	Soil Science & Agronomy, Dehradun
Comments: Economics and statistical analysis related to soil properties may be incorporated in RPF III. (Action: Dr. Ratan Singh)				
4.	2.1	7(b)	Tillage practices for erosion control and crop productivity.	Agra
5.	2.1	8(b)	Development of suitable land and crop management practices for the Nilgiris.	Udhagamandalam
6.	2.1	8(c)	Vegetative measures for conservation and production on reclaimed land of Mahi ravines.	Vasad
7.	2.1	9(a)	Studies on capacity building of land resources for sustainable productivity in ravine watersheds.	Agra
Comments : RPF III may be submitted with statistical analysis. (Action: Dr. R.C. Agnihotri)				
8.	2.1	9(d)	Effect of landuse manipulation and moisture conservation practices on nutrient dynamics in soil and productivity.	Vasad
Comments : Soil porosity parameter must form a part of the study. (Action: Dr. S.P. Tiwari)				
9.	2.1	10(a)	Impact of organic matter build up on resource conservation under different crops on 2% slope.	Soil Science & Agronomy, Dehradun
Comments : The technology developed may be demonstrated in the farmers field of IVLP villages. (Action: Dr. B.N. Ghosh)				
10.	2.1	10(d)	Evaluation of inter-cropping system for delayed on set of monsoon in south-eastern Rajasthan.	Kota
11.	2.1	11(c)	Aonla based agro-forestry system for moisture conservation and soil productivity in degraded ravine lands.	HRD&SS, Dehradun
Comments : Growth parameters and yield of aonla may be recorded and site may be maintained for demonstration purposes. (Action : Dr. K.P. Mohapatra)				
12.	2.1	11(d)	Compatibility of raising rhizomatic crops with aonla in Shiwalik foothill region.	Chandigarh
Comments: Aonla may be maintained as demonstration plot and observations / data may be recorded. (Action: Dr. Pratap Singh)				
13.	2.2	13(a)	Evaluation of mango and litchi based agri-horti systems on degraded lands in Doon Valley.	Plant Science, Dehradun
Comments: One more year data may be collected and analysed. (Action: Dr. A.C. Rathore)				

Sl. No.	Programme No.	Sl. No. of SRC Meeting Proc. 2005	Title of the Project	Centre/Division
14.	3.1	17	Impact of climate change on soil and water conservation under National Network Project on impacts, adaptation and vulnerability of Indian agricultural to climate changes.	Hydrology & Engineering, Dehradun
15.	3.3	28	Rainwater management on watershed (micro) basis in sub-montane region.	Chandigarh
16.	4.1	30	Development of cost – effective technology for treatment of choes (rainy season torrents).	Chandigarh / Hydrology & Engineering, Dehradun
Comments : Collection of basic growth data of trees and grass species may be continued alongwith monitoring of performance of structures. Combined nomographs for various parameters to design spurs may be developed for application by end users. (Action: Dr. A.K. Tiwari / Dr. G.P. Juyal)				
17.	5.1	35	Methodologies for development and analysis of watersheds and decision support systems for interventions.	H.R.D. & SS, Dehradun
Comments: Data analysis of the project must be fully completed by 31st March, 2007 and RPF III should be submitted in time. (Action: Dr. B.L. Dhyani)				
18.	7.1	44	An action research project of informal training programme on soil and water conservation for ravine reclamation for farmers of Mahi ravine area.	Vasad
Comments : Consensus of the extension research workers should be obtained for finalizing the new performance indicators and subsequently the approval of the house may be taken for adoption. (Action: Dr. G.L. Bagdi)				
19.	7.3	45	Extension methodology for transfer of soil and water conservation technologies for watershed management.	Vasad

PROGRAMME-WISE NUMBER OF ON-GOING PROJECTS

P-1 : WATER EROSION APPRAISAL IN DIFFERENT AGRO-ECOLOGICAL REGIONS

1.1: Inventory and database of erosion status using modern tools and procedures

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
1	1	Soil Sci. & Agronomy, Dehradun
2	2	Hydrology & Engg., Dehradun

TOTAL = 2

1.2: On-site and off-site effects of erosion

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
NIL	NIL	NIL

TOTAL = NIL

1.3: Soil erosion processes and models

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
3	4	Hydrology & Engg., Dehradun /Chandigarh/Datia/Kota/Vasad
4	5	HRD&SS, Dehradun /Agra/Bellary/Chandigarh/Datia/Kora-put/Kota/Udhagamandalam/Vasad
5	**New Project**	**Bellary**

TOTAL = 3

P-2: CONSERVATION MEASURES FOR SUSTAINABLE PRODUCTION SYSTEMS

2.1: Resource conservation measures for arable lands

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
6	10(b)	Soil Sci. & Agronomy, Dehradun
7	11(a)	Plant Science, Dehradun
8	11(b)	Plant Science, Dehradun
9	**New Project**	**Soil Sci. & Agronomy, Dehradun**
10	9(b)	Bellary
11	**New Project**	**Chandigarh**
12	8(a)	Datia
13	9(c)	Datia
14	10(f)	Datia
15	10(c)	Koraput
16	10(e)	Kota
17	10(g)	Kota
18	9(e)	Udhagamandalam
19	11(e)	Vasad

TOTAL = 14

2.2: Resource conservation measures for non-arable lands

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
20	13(b)	Soil Sci. & Agronomy, Dehradun
21	12(b)	HRD&SS, Dehradun
22	14(a)	HRD&SS, Dehradun
23	12(a)	Plant Science, Dehradun
24	12(e)	Plant Science, Dehradun
25	12(c)	Agra
26	13(c)	Bellary
27	**New Project**	**Chandigarh**
28	13(d)	Kota
29	12(d)	Udhagamandalam
30	12(f)	Udhagamandalam

TOTAL =11

P-3: HYDROLOGICAL BEHAVIOUR OF WATERSHEDS FOR CONSERVATION PLANNING

3.1: Rainfall, runoff, vegetation, soil characteristics and management practices

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
31	15	Hydrology & Engg., Dehradun
32	16	Hydrology & Engg., Dehradun
33	18	Hydrology & Engg., Dehradun
34	25	Hydrology & Engg., Dehradun
35	19	Plant Science, Dehradun
36	**New Project**	**Agra**
37	20	Chandigarh
38	21	Datia
39	22	Koraput
40	23	Vasad
41	24	Vasad

TOTAL = 11

3.2: Effect of conservation measures and landuse on ground water recharge

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
42	26	Vasad/Chandigarh/Datia/Kota/Koraput /Bellary/Udhagamandalam

TOTAL = l

3.3: Water harvesting

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
43	27	Hydrology & Engg., Dehradun
44	**New Project**	**HRD&SS, Dehradun**
45	**New Project**	**Agra**
46	29	Datia

TOTAL = 4

P-4: REHABILITATION OF AREAS AFFECTED BY MASS EROSION

4.1: Refinement of technologies for torrent training, landslide control and minespoils rehabilitation

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
47	31	Hydrology & Engg., Dehradun
48	**New Project**	**Chandigarh**
49	32	Kota
50	33	Kota
51	34	Udhagamandalam
52	**New Project**	**Vasad**

TOTAL = 6

P-5: PARTICIPATORY INTEGRATED WATERSHED MANAGEMENT

5.1: Methodologies for development of watersheds and decision support systems for interventions

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
NIL	NIL	NIL

TOTAL = NIL

5.2: Landuse Planning

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
NIL	NIL	NIL

TOTAL = NIL

5.3: Impact on Production, environment and biodiversity

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
53	**New Project**	**Hydrology & Engg., Dehradun**
54	36	Chandigarh

TOTAL = 2

5.4: Farming system approach

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
55	37	Hydrology & Engg., Dehradun

TOTAL = 1

5.5: Watershed technologies (Strategic research)

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
56	38	Hydrology & Engg., Dehradun

TOTAL = 1

P-6 : SOCIO-ECONOMIC ANALYSIS AND POLICY DEVELOPMENT FOR WATERSHED MANAGEMENT

6.1: Resource economics

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
57	39	Bellary
58	40	Udhagamandalam

TOTAL =2

6.2: Institute Village Linkage Programme for Technology assessment and refinement

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
59	41	HRD & SS, Dehradun

TOTAL = 1

6.3: Common property resource management

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
60	42	Chandigarh

TOTAL = 1

P-7: HUMAN RESOURCE DEVELOPMENT AND TECHNOLOGY TRANSFER

7.1: Training methodology, need assessment, gender neutrality and evaluation

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
61	43	HRD & SS, Dehradun

TOTAL = 1

7.2: Organizational infrastructure and motivational parameters

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
NIL	NIL	NIL

TOTAL = NIL

7.3: Participatory approaches for dissemination of technology and adoption

Sl. No. of IRC Proc., 2006	Sl No. of SRC Proc., 2005	Centre/Division
62	46	HRD & SS/Bellary/Datia/Kota/ Udhagamandalam/Vasad

TOTAL = 1

GRAND TOTAL = 62

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DIVISION/CENTRE-WISE NUMBER OF ON-GOING PROJECTS

TOTAL NUMBER OF PROJECTS (DIVISION/CENTRE-WISE)

Sl. No.	DIVISION/CENTRE	SL. NO. OF ON-GOING PROJECTS	TOTAL
1.	Dehradun		
	• Soil Science & Agronomy	1, 6, 9, 20	**4**
	• Hydrology & Engineering	2, 3, 31, 32, 33, 34, 43, 47, 53, 55, 56	**11**
	• HRD & SS	4, 21, 22, 44, 59, 61, 62	**7**
	• Plant Science	7, 8, 23, 24, 35	**5**
2.	Agra	4, 25, 36, 45	**4**
3.	Bellary	4, 5, 10, 26, 42, 57, 62	**7**
4.	Chandigarh	3, 4, 11, 27, 37, 42, 48, 54, 60	**9**
5.	Datia	3, 4, 12, 13, 14, 38, 42, 46, 62	**9**
6.	Koraput	4, 15, 39, 42	**4**
7.	Kota	3, 4, 16, 17, 28, 42, 49, 50, 62	**9**
8.	Udhagamandalam	4, 18, 29, 30, 42, 51, 58, 62	**8**
9.	Vasad	3, 4, 19, 40, 41, 42, 52, 62	**8**
	Grand Total		**85**

DIVISION/CENTRE-WISE PROJECTS

Sl. No.	DIVISION/ CENTRE	PROGRAMME-WISE NUMBER OF PROJECTS							
		P-1	**P-2**	**P-3**	**P-4**	**P-5**	**P-6**	**P-7**	**Total**
1.	Dehradun								
	♦ Soil Science & Agronomy	1	3	-	-	-	-	-	**4**
	♦ Hydrology & Engineering	2	-	5	1	3	-	-	**11**
	♦ HRD & SS	1	2	1	-	-	1	2	**7**
	♦ Plant Science	-	4	1	-	-	-	-	**5**
2.	Agra	1	1	2	-	-	-	-	**4**
3.	Bellary	2	2	1	-	-	1	1	**7**
4.	Chandigarh	2	2	2	1	1	1	-	**9**
5.	Datia	2	3	3	-	-	-	1	**9**
6.	Koraput	1	1	2	-	-	-	-	**4**
7.	Kota	2	3	1	2	-	-	1	**9**
8.	Udhagamandalam	1	3	1	1	-	1	1	**8**
9.	Vasad	2	1	3	1	-	-	1	**8**
	Grand Total	**17**	**25**	**22**	**6**	**4**	**4**	**7**	**85**

NUMBER OF PROJECTS WITH INDIVIDUAL SCIENTIST

In the Staff Research Council Meeting of 1995, certain norms regarding **MAXIMUM** number of projects that any scientist of CSWCRTI may hold, were decided as mentioned below:

A. Leadership in one projects with association in other four projects (1+4)

or

B. Leadership in two projects with association in other two projects (2+2)

or

C. Leadership in three projects without association in any other projects (3+0)

In the Staff Research Council Meeting of 2000, certain norms regarding **MINIMUM** number of projects that any scientist of CSWCRTI may hold, were decided as mentioned below:

A. Leadership in one project with association in other one project (1+1)

or

B. Association in two projects (0+2).

The number of projects with each individual scientist of the Institute, after the IRC Meeting of 2006 is as follows:

Name	Designation	Leader	Associate	Total	Sl. No. of projects to be concluded
Dr. V.N. Sharda	Director	3 (3,31,34)	1 (55)	4	3,31,34,55
Soil Science and Agronomy Division					
Dr. K.S. Dadhwal	Head of Division	1 (1)	2 (8,20)	3	1
Mr. S.C. Mohan	Principal Scientist (Soil Fertility)	--	2 (1,59)	2	1
Dr. Ratan Singh	Principal Scientist (Soils)	--	1 (21)	1	--
Dr. O.P.S. Khola	Senior Scientist (Agronomy)	1 (6)	1 (9)	2	--
Dr. N.K. Sharma	Senior Scientist (Agronomy)	--	3 (21,31,44)	3	31
Dr. B.N. Ghosh	Senior Scientist (Soils)	1 (9)	3 (23,35,43)	4	--
Mr. R.K. Dubey	Scientist (SS) (Agronomy)	1 (20)	--	1	--
Hydrology and Engineering Division					
Dr. G.P. Juyal	Head of Division	--	1 (47)	1	47
Er. K.P. Tripathi	Principal Scientist (Engineering)	2 (33,56)	--	2	33, 56
Dr. P.R. Ojasvi	Senior Scientist (Engineering)	--	2 (3,34)	2	3, 34
Er. S.S. Shrimali	Senior Scientist (Comp. Appli.)	2 (2,43)	1 (1)	3	1, 2
Dr. P.K. Das	Senior Scientist (Agril. Stat.)	1 (32)	--	1	32
Mr. M. Muruganandam	Scientist (SS) (Fisheries)	2 (53,55)	1 (59)	3	55
Er. B.S. Naik	Scientist (Engineering)	1 (47)	2 (6,35)	3	47
Plant Science Division					
Dr. A. Raizada	I/c Head of Division	2 (23,35)	3 (1,22,31)	5	1, 31
Dr. Harsh Mehta	Senior Scientist (Plant Breeding)	2 (7,8)	1 (43)	3	7
Dr. A.C. Rathore	Scientist (Horticulture)	--	1 (20)	1	--
Dr. J. Jayaprakash	Scientist (Forestry)	1 (24)	2 (7,53)	3	7

(Figures in parenthesis are serial number of on-going projects listed in this proceeding).

Name	Designation	Leader	Associate	Total	Sl. No. of projects to be concluded
Human Resource Development and Social Science Division					
Dr. B.L. Dhyani	Head of Division	1 (59)	2 (44,62)	3	62
Mr. D.S. Tomar	Senior Scientist (Agronomy)	--	1 (59)	1	--
Dr. Bankey Bihari	Senior Scientist (Agril. Extn.)	2 (61,62)	1 (59)	3	61,62
Dr. Charan Singh	Senior Scientist (Forestry)	2 (21,22)	4(23,35,43,59)	6	--
Dr. Ambrish Kumar	Senior Scientist (Engg.)	1 (44)	2 (4,59)	3	--
Dr. D. Mandal	Scientist (SS) (Soils)	1 (4)	2 (6,24)	3	--
Research Coordination & Management Unit					
Er. C. Prakash	Principal Scientist (Engineering)	--	2 (31,55)	2	31,55
Mr. A.K. Khullar	Scientist (SG) (Agril. Stat.)	--	1 (32)	1	32
Dr. Pradeep Dogra	Senior Scientist (Agril. Econ.)	--	4 (9,21,34,56)	4	34,56
Research Centre, Agra					
Dr. H.C. Nitant	I/c Head of Centre	--	1 (4)	1	--
Dr. Om Prakash	Principal Scientist (Agronomy)	--	1 (36)	1	--
Er S.K. Srivastava	Scientist (Engineering)	1 (45)	--	1	--
Dr. K.P. Mohapatra	Scientist (Forestry)	1 (25)	1 (36)	2	--
Dr. Pramod Jha	Scientist (Soils)	2 (4,36)	2 (25,45)	4	--
Research Centre, Bellary					
Dr. P.K. Mishra	Head of Centre	--	2 (4,5)	2	--
Er. R.N. Adhikari	Principal Scientist (Engineering)	1 (42)	1 (26)	2	--
Dr. S.K.N. Math	Principal Scientist (Soils)	1 (4)	3 (5,26,42)	4	--
Dr. S.L. Patil	Senior Scientist (Agronomy)	1 (10)	--	1	--
Er. A.K. Singh	Scientist (SS) (Engineering)	1 (5)	1 (42)	2	--
Dr. B. Mondal	Scientist (Agril. Econ.)	1 (57)	1 (26)	2	57
Dr. N. Loganandhan	Scientist (Agril. Extension)	1 (62)	1 (57)	2	57,62
Mr. D. Ramajayam	Scientist (Horticulture)	1 (26)	--	1	--
Research Centre, Chandigarh					
Dr. A.K. Tiwari	Head of Centre	2 (3,54)	3 (37,42,48)	5	3,54
Dr.(Ms.) Pawan Sharma	Principal Scientist(Soil Micro-bio)	1 (11)	3 (37,48,54)	4	54
Dr. Pratap Singh	Principal Scientist (Agronomy)	1 (27)	2 (11,54)	3	54
Dr. R.P. Yadav	Senior Scientist (Soils)	--	1 (42)	1	--
Dr. (Ms.) S.L. Arya	Senior Scientist (Agril. Econ.)	1 (60)	1 (11)	2	60
Dr. V.K. Bhatt	Senior Scientist (Engineering)	2 (37,42)	3 (4,27,48)	5	--
Dr. Ram Prasad	Senior Scientist (Horticulture)	--	3 (11,48,54)	3	54
Dr. Pratap Bhattacharya	Scientist (SS) (Soil Physics)	2 (4,48)	4(11,27,37,54)	6	54

(Figures in parenthesis are serial number of on-going projects listed in this proceedings).

Name	Designation	Leader	Associate	Total	Sl. No. of projects to be concluded
Research Centre Datia					
Dr. V.S. Katiyar	Head of Centre	5(3,12,38,42,46)	1 (14)	6	3,12,38
Dr. K.C. Dubey	Senior Scientist (Horticulture)	--	--	NIL	--
Dr. Dev Narayan	Senior Scientist (Agronomy)	1 (14)	4(12,13,38,46)	5	12,38
Dr. Om Prakash	Senior Scientist (Agril. Extn.)	1 (62)	--	1	62
Dr. H. Biswas	Scientist (Soils)	2 (4,13)	5 (12,14,38, 42,46)	7	12,38
Research Centre, Koraput					
Dr. R.K. Panda	I/c Head of Centre	2 (39,42)	1 (15)	3	39
Mr. Anchal Dass	Scientist (SS) (Agronomy)	1 (15)	1 (39)	2	39
Research Centre, Kota					
Dr. S.N. Prasad	Head of Centre	--	2 (16,17)	2	16
Dr. R.K. Singh	Senior Scientist (Soil Fertility)	2 (4,16)	1 (42)	3	16
Dr. S.V. Singh	Senior Scientist (Agril. Extn.)	1 (62)	--	1	62
Dr. A.K. Parandiyal	Senior Scientist (Forestry)	1 (50)	2 (28,49)	3	--
Dr. Ashok Kumar	Senior Scientist (Agril. Econ.)	--	4(16,17,28,49)	4	16
Er. Shakir Ali	Scientist (SS) (Engineering)	2 (3,42)	1 (49)	3	3
Dr. J. Somasundaram	Scientist (SS) (Soils)	1 (17)	3 (28,49,50)	4	--
Er. B.K. Sethy	Scientist (Engineering)	1 (49)	4 (4,16,42,50)	5	16
Mr. H.R. Meena	Scientist (Horticulture)	1 (28)	1 (50)	2	--
Research Centre, Udhagamandalam					
Dr. M. Madhu	I/c Head of Centre	--	4(18,29,30,58)	4	--
Mr. R. Ragupathy	Scientist (SS) (Forestry)	1 (29)	1 (58)	2	--
Dr. D.V. Singh	Scientist (SS) (Soil Fertility)	3 (4,18,51)	1 (42)	4	51
Er. (Ms.) V. Selvi	Scientist (SS) (Engineering)	1 (42)	3 (4,18,51)	4	51
Dr.(Ms.) P. Sundarambal	Scientist (SS) (Agril. Extn.)	1 (62)	--	1	62
Dr. P. Murlidharan	Scientist (SS) (Soils)	--	2 (29,30)	2	--
Er. D.C. Sahoo	Scientist (Engineering)	2 (30,58)	1 (51)	3	51
Dr. Gopal Kumar	Scientist (Soils)	--	--	NIL	--
Research Centre, Vasad					
Dr. R.S. Kurothe	Head of Centre	2 (3,40)	2 (41,42)	4	3,41
Dr. H.B. Singh	Principal Scientist (Agronomy)	1 (19)	1 (40)	2	--
Dr. S.P. Tiwari	Principal Scientist (Soil Fertility)	1 (4)	5 (19,40,41, 42,52)	6	41
Dr. M.L. Gaur	Senior Scientist (Engineering)	1 (52)	--	1	--
Dr. G.L. Bagdi	Senior Scientist (Agril. Extn.)	1 (62)	--	1	62
Mr. V.C. Pande	Scientist (SG) (Agril. Econ.)	--	3 (19,40,42)	3	--
Dr. D.R. Sena	Scientist (SS) (Engineering)	2 (41,42)	2 (4,40)	4	41

(Figures in parenthesis are serial number of on-going projects listed in this proceedings).

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60.	Dr. G.L. Bagdi	Senior Scientist (Agril. Eco.)	