PREAMBLE BY THE CHAIRMAN

The Director, CSWCRTI, Dehradun and Chairman of Staff Research Council Meeting welcomed Dr. J.S. Samra, Deputy Director General (NRM) to the SRC Meeting of 2005 and expressed his deep gratitude to him for sparing his valuable time to participate in the deliberations of the Meeting. The Chairman also welcomed all the Heads of Centres/Divisions and other participants.

The Chairman apprised the House about the Institute's progress in research along with other achievements. The Director General (ICAR) and Secretary (DARE) visited the Institute and its project sites during 10-11 June 2005. The ongoing research work was highly appreciated by the Director General (ICAR) and the plan for resource generation was lauded. The Institute organized a Regional Conference at Research Centre, Udhagamandalam (Tamil Nadu) on "Natural Resource Management for Eco-Development and Livelihood Security in Southern India" during 24-25 November 2005. The next Regional Conference is proposed to be held for Western region of India at CSWCRTI, Research Centre, Kota (Rajasthan). Final Dissemination Workshop of Shastri Applied Research Project (SHARP), funded by Canadian International Development Agency (CIDA) through Shastri Indo-Canadian Institute (SICI), on "Sustainable Environmental and Livelihood Issues in the Mountains and Hill Regions of India" was held during 8-9 December 2005 which was well received by all the delegates from India and Canada.

The Chairman informed the house that it was a matter of pride that one of the scientists of the Institute, Dr. D.V. Singh, Scientist (SS) at Research Centre, Udhagamandalam has been bestowed with ICAR's "Young Scientist Award" for the year 2004. The Indian Association of Soil and Water Conservationists (IASWC) also felicitated 11 scientists through fellowships, awards and recognitions for their outstanding contributions this year.

On the resource generation front, the Institute is presently engaged in 10 consultancy projects worth Rs. 59 lakhs. In addition to this, training programmes were taken up in a big way covering both regular and short-term courses. It is proposed that Institute's Research Centres at Datia and Koraput will also take up training programmes in future. So far, 4 summer and winter schools have been conducted, with one in each category every year. Against the overall target of resource generation worth Rs. 60 lakhs, the Institute has generated Rs 80 lakhs during 2004-05. The unutilized area of the Research Farms of the Institute have also been put to productive use to achieve the assigned targets. The Chairman also appraised the house about the infrastructure development of the Institute mainly the progress of construction of office-cum-laboratory and residential buildings at Agra and Koraput Centres.

The Chairman brought to the notice of the House that the comments of Principal Director of Audit (Scientific Departments) have been seriously viewed by the Director General (ICAR). All out efforts should be made to complete and update all the Research Project Files (RPFs) by 28th Feb. 2006 positively. Care should be taken while formulating the project proposals so that all the objectives are achieved within the stipulated period. Regarding dissemination of research findings of each project, all possible avenues must be explored for transferring the developed technologies to the end users.

The Chairman informed the House about the total sanctioned strength of the Institute and present vacancy of the same. Due to depleting strength of sanctioned posts in all categories, efforts are needed to fill up the vacant positions on priority basis to facilitate smooth functioning of the Institute.

The Chairman invited Dr. J.S. Samra, Deputy Director General (NRM) for addressing the scientists and provide an update on various developments in the Council.

ADDRESS BY
DR. J. S. SAMRA
DEPUTY DIRECTOR GENERAL (NRM), ICAR

Dr. J. S. Samra during his address emphasized upon the outcome of research projects which would ultimately benefit the end-users. Hence, accountability of scientists through benchmarking, rating and ranking has become necessary in the present context. Not only the individual scientist, the performance of each Institute as a whole need to be monitored on the basis of number of publications, consultancies, contract research projects and awards/recognitions received per scientist in the Institute. Such an exercise was done for all Institutes of NRM Division of ICAR for the period from 2000-01 to 2004-05. However, there is a need to further refine the monitoring process by including relevant parameters.

In order to periodically review the progress of research, regular maintenance of RPFs is very essential. He advised the scientists to be very cautious while formulating any new project, especially with respect to objectives to be achieved. The objectives should be finalized carefully in view of the availability of the resources and time frame. While filling up the RPFs, care must be taken in clearly reporting the research outcomes. It must be ensured that RPFs are submitted on time in order to avoid auditor's comments. As a measure of transparency, audit paras of various scientific departments are being displayed on the Internet.

Dr. J.S. Samra informed the House that the National Agricultural Innovative Project (NAIP) may be launched in July 2006, which will involve scientists from different organizations. He emphasized that in future it will be essential to correlate the outcome of the projects with the outlay and inputs. Merely confining to the output of the project will not suffice. Benefits achieved from the past model watershed studies should be compiled clearly giving indicators, particulars, units, number of studies and mean values based on efficiency, equity and sustainability. Groundwater recharge studies are very much relevant to the soil conservation works being carried out under natural resource management / watershed management. He suggested that on the basis of annual rainfall of a region, the different components should be prioritized. For example:

- Livestock interventions for areas having less than 700 mm annual rainfall.
- Cropping intensity and irrigation interventions for regions receiving rainfall ranging between 700 to 1100 mm per annum.
- Intervention of fish based production systems for regions receiving greater than 1100 mm rainfall.

The DDG further informed that though good work is being done by ICAR Institutes, but more needs to be done as government organizations have to compete with the work culture of private sector. The mid-term appraisal of the X Plan by the Planning Commission is to be taken up shortly. The Government has given top priority to water management, dryland agriculture and wasteland management. Hence, the DDG extolled the scientists to be innovative and improve their efficiency to achieve the targets within a defined time frame and meet future challenges successfully.

RECOMMENDATIONS OF THE RESEARCH ADVISORY COMMITTEE (RAC) HELD ON OCTOBER 05 to 06, 2005

1. The importance of developing a manual giving the guidelines of delineation of micro watersheds for developmental planning being carried out in the country was stressed in the 2004 RAC. The Institute had taken the follow up action and contacted the concerned Institutions based in Dehradun and other concerned institutions. The response from the institutions was not very encouraging in some cases. The All India Soil and Land use Survey (AISLUS), New Delhi had mentioned that it is already doing a similar work and did not nominate a representative for inclusion in the committee to be constituted for the formulation of plan as recommended by the RAC. The RAC considered this view specifically and felt that the available information on the work being done by the AISLUS does not provide the required answer to the objectives set forth in the objective envisaged by the RAC. The watershed Atlas of India produced by AISLUS has been a valuable source of information and a pioneering effort. However, this deals with the delineation of the macro watersheds out of which it will not be possible to delineate the micro-watersheds of an area of around 500 ha on a scale of 1:5000 which requires intensified efforts from the point of view of integrated development of an area including erosion control, water harvesting, agricultural development, live stock management, alternate land use system, participatory approach in the planning and development of watershed development program and various other operational approaches. Specific details of the parameters of the watershed to be obtained for planning purposes and their source of availability needs to be identified and made known.

   The RAC strongly reiterated the recommendation of the 2004 RAC and requested the institute to initiate sustained and early efforts to get-together all the concerned institutions and agencies and develop the required information. The manual which could be entitled as "**Guidelines for the methodology of micro-watershed delineation, their development and evaluation"** thus needs to be bought out. Though the general guidelines are nearly identical, specific references will have to be made with regard to the watersheds in the middle hill regions namely, Himalayan hilly region, Western Ghat and Eastern Ghat regions, Vindhayas, Satpura, Aravallies and their adjoining areas. The support of the Institutions mentioned in the recommendation including the AISLUS will be extremely valuable as the country is making heavy investments in watershed development programmes. We cannot wait any more and above manual may be developed by the Institute within a time frame of about **six months.**

   A Committee with a core group of scientists under the leadership of the CSWCRTI may be formed after making all possible efforts to ensure the participation of concerned Institutions mentioned in the 2004 RAC report and other Institutions as deemed fit. The manual has to be made available to all agencies at the Central and State levels for effective implementation of the watershed development programme in India. It shall also be a source of information to the ongoing training programmes of CSWCRTI and other Institutions engaged in similar and allied activities.

2. The RAC is happy that Institute has reviewed the progress of the Research Projects which were supported by the NATP and found that three out of the 14 projects have achieved their objectives and have been concluded, while 11 of them are being continued with Institute support to achieve the results as contemplated in the respective project objectives. This effort may be continued with a view to arrive at logical conclusions in the shortest possible time.

3. The presentations of the progress of various projects which have been grouped in the programme mode are quite satisfactory. However, in many cases the observations were of general nature and were not supported by scientific reasoning. The variation in yield should be supported by reasoning and with CD analysis. The recommended crop variety should only be those included in the Varietal Releases Committee for the specified region.

4. The Members of the RAC had the chance of visiting some of the NATP projects at Sabbawala and IVLP in Raipur block and were highly satisfied with the outstanding work which has been done by the Institute particularly by the participating scientists. It is recommended that similar efforts of establishing model watershed development projects may be made by all the regional stations of the Institute and if possible such models should be included in the Vinddhya and Satpura regions as well. It is hoped that this would become operational within the current year.

5. The Information compiled by the Institute from specific land development works like torrent control, ground water recharge, participatory approach in watershed development, economic evaluation of projects is appreciable. It is recommended that these efforts may be further strengthened to cover other problem areas. The case studies and success stories may be highlighted through various communication media and published as users' friendly publications for use by the field staff and the beneficiary farmers. Documentary films of 15 to 30 minutes duration may be developed to highlight the important technology which has been field tested and the success stories involved. These may be made available in Hindi, English and the concerned regional languages.

6. The component of nutrient losses and their relative economics resulting from accelerated soil erosion may be highlighted while presenting the progress of various projects related to soil loss studies.

7. The relevance of gender-based work environment of the people involved in the watershed developmental programmes has to be identified in the projects. The technologies developed should suit the specific requirements of women as well.

8. For evaluation and monitoring of watershed development programmes, suitable indicators have to be identified and included in the manual recommended under item 1 of this recommendation. The minimum data set required for comparing the changes in the pre and post project periods should be identified for effective documentation from the first year of the programme itself and should be included in the manual.

9. The training efforts of the Institute were appreciated by the RAC. However, greater emphasis may be given to the Trainers Training Programme and development of training aids including visual aids and documentary films may be taken up on priority to make the training program more effective.

10. The data generated by the Institute through various research programmes should be duly computerized and stored in the library for users after conclusion of the projects at headquarters and research centers.

11. The RAC broadly reviewed the proposals for the new Research Projects to be taken up by the Institute. It was observed that most of the proposals are confined to the mandate of the Institute while a few are outside its purview. Critical review of the proposal has to be made by the SRC considering the objectives of the project within the mandate of the Institute and avoid duplication.

SALIENT RECOMMENDATIONS OF SRC MEETING – 2005

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)

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)

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)

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)

5. The Monthly Progress Report for Cabinet reporting in the prescribed format (eight paras) 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)

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)

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)

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)

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)

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)

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)

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)

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)

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)

ACTION TAKEN ON
"SALIENT RECOMMENDATIONS OF SRC MEETING, 2004"

Sl. No.	Action Assigned	Action Taken Report
1.	Annual Report 2004-05 must be submitted by all the Heads positively by the end of Feb., 2005. As in previous years, Research Centre, Bellary may submit the Annual Report latest by 31st March, 2005. **(Action: All Heads & OIC, Publication Cell)**	The Annual Reports were submitted on time by all. It may be ensured in future also that the Annual Reports are submitted on the prescribed dates so that Institute's Annual Report is compiled and sent to ICAR in time.
2.	The submission of six months' Target and Progress of individual scientists may be ensured by all the Heads by 25th June and 25th December, 2005 and in the subsequent years. **(Action: All Heads, Scientists, T.O. - Information)**	It has been submitted by all the Heads as per schedule during 2005.
3.	The monthly Targets and Progress of the Centres/Divisions as a whole should be submitted in quantifiable forms (areas, numbers etc.) in brief so as to reach the Institute H.Q. by the last day of the month positively, so that the consolidated information is sent to ICAR for kind perusal of Director General in time. **(Action: All Heads, RCM Unit & T.O. - Information)**	The reports have been submitted in time in 2005. Timely submission should be ensured by all the Heads without waiting for reminders from the Headquarters in future also.
4.	The Monthly Progress Report in the prescribed format (eight paras) from all the Centres/Divisions has to reach the Institute Hqrs. by 10th of each month. The Institute has to send the compiled information for cabinet reporting to ICAR by 15th of every month. The information in this report should invariably include the salient research highlights in abstract form. **(Action: All Heads & RCM Unit)**	Monthly Progress Reports for Cabinet reporting are not received timely. The progress report must be updated regularly and sent at appropriate time covering important events.
5.	As initiated in the year 2003, quarterly review of on-going research projects at each Research Centre should be held in the month of January, April, July and October and the proceedings is to be sent to the Director for his kind perusal. **(Action: All Heads of Centres)**	Status of quarterly Research Review Meetings is not received on time. This meeting should invariably review research progress only and not include other activities.
6.	The document on "50 years Research Achievements in Soil and Water Conservation" is yet to attain a uniform shape in respect of all the Centres/Divisions inspite of three revisions made so far. A checklist has been formulated to make the documents uniform. This checklist must be submitted by all the Heads after reviewing their latest version of the document positively by 31st Jan., 2005. The final document as per the checklist and discussion in the meetings must be submitted by 28th Feb., 2005 for review and approval of the Competent Authority. **(Action: All Heads & RCM Unit)**	Comments on revised document have been sent to all the Heads. The document incorporating the suggestions given in the SRC Meeting must be submitted by 28th Feb. 2006 by all Heads of Centres/Divisions.

Sl. No.	Action Assigned	Action Taken Report
7.	Some progress has been made in respect of the "National Atlas on Watershed Programme in the Country". However, still there are many gaps and shortcomings, which need to be rectified in the light of the presentation made by Head, H&E Division on 15 Dec., 2004. The revised material (hard copy along with CD) must be submitted by 28th Feb., 2005 after taking into account all the lacunae and the gaps. **(Action: All Heads & Head, H&E Division)**	The revised material was submitted in respect of 17 states by different Centres and the consolidated status was presented by Head, H&E Division indicating the points on which further improvement is needed. The revised document may be submitted by 30th April 2006 positively.
8.	In accordance with the directives of ICAR, a Prioritization, Monitoring & Evaluation Unit (PME Unit) has to be created to review the progress of research projects periodically. It has been decided that all the Programme Implementers (PI) of the seven programmes of the Institute will constitute this unit. The Officer-in-charge, RCM Unit shall coordinate this activity as Chairman of PME Unit with the assistance of PIs and Member Secretary, RAC. **(Action: All Programme Implementers & Member Secretary, RAC)**	Programme Implementers are compiling the information before its presentation in the RAC meeting for complying with review, progress and monitoring of research projects. The quarterly review of research being carried out in the Research Centres will form the basis of PME henceforth.
9.	The ICAR has given lot of emphasis on finding ways and means for resource generation. All out efforts should be made by all the Centers/Divisions to take up more consultancies and training programmes in addition to the enhancement of revenue generation through production of seeds, planting material, bio-fuels, fodder and high value-low volume crops/fruits. All the Heads will develop perspective plan for resource generation for the next five years for their respective Divisions/Centers and send it by 31st January, 2005. **(Action: All Heads)**	Perspective plans for resource generation have been prepared and submitted to the Institute for onward submission to ICAR.
10.	The submission of all RPFs, pending as well as new, must be completed by 28th Feb., 2005 positively. The Principal Director of Audits, Scientific Departments, AGCR, Govt. of India, New Delhi has viewed the non-submission of backlog of pending RPFs seriously. To facilitate the RPFs submission, the prescribed format of RPF I, RPF II & RPF III are being appended with these proceedings. **(Action: All Heads, Scientists and RCM Unit)**	All the pending RPFs have been submitted. Letters have been sent to all the Heads for ensuring timely submission of RPFs in future.
11.	In addition to the routine RPFs, the computerized information on RPFs in the prescribed format (MS-ACCESS) has to be submitted by all the Heads by 30th June every year. **(Action: All Heads, Scientists and RCM Unit)**	The computerized information on RPFs in the prescribed format have been received from most of the Heads. For the year 2005-06, similar information must be submitted by 30th June 2006.

Sl. No.	Action Assigned	Action Taken Report
12.	All the papers (Research/Technical/Symposia etc.), which are sent for Director's approval, must be thoroughly discussed among the scientists of Centres/Divisions and should invariably be accompanied by the duly filled up prescribed proforma recommended by the respective Heads. This proforma has been modified and appended with these proceedings for submission along with papers in future for approval of the Director. The submission of papers directly to the Journals or for presentation without approval of the competent authority shall be viewed seriously. **(Action: All Heads, Scientists and RCM Unit)**	The submission of papers is being done as per norms and in the prescribed proforma.
13.	The Heads of Centres/Divisions must ensure that whenever any scientist is relieved due to transfer, quitting or retirement, all the data including RPFs should be taken over prior to his relieving. For any lapse on this account or missing of the data of the concluded projects after departure of a scientist shall be the sole responsibility of the Heads of Divisions / Centres. The data related to the concluded projects must be compiled and computerized regularly and progress achieved so far in this regard may be intimated by 31st Jan., 2005 to the Director. **(Action: All Heads and Scientists)**	Action is being taken. If required, contractual services may be availed for computerization of data.
14.	It was decided that the new project proposals in future should be prepared in abstract form not exceeding one page for the perusal of RAC. This may comprise of title, associates, objectives, methodology (in brief), treatments and observations. **(Action: All Heads, Scientists and Member Secretary, RAC)**	Action has been taken. The new proposals are submitted as suggested by RAC.
15.	It may be ensured that the assignments/works assigned to an individual scientist or a group of scientists or to a particular centre/division are attended and completed within the assigned time frame and inaction or delayed action shall be viewed seriously by the competent authority. **(Action: All Heads and Scientists)**	The compliance of the actions assigned is being done individually as well as collectively.
16.	Head, HRD&SS Division may ensure that the response of the state representatives for revising the contents of syllabus for the regular courses and the future training programmes is obtained by 31st Jan., 2005 and subsequently a meeting will be fixed. Head of HRD&SS Division may further ensure that the standardization of format for data collection and evaluation in respect of intangible benefits of soil and water conservation technologies is submitted by 31st Jan., 2005 by the Sr. Scientist (Economics) of the Division. **(Action: Head, HRD&SS Division)**	Information on suggestion of topics for short courses / special courses / sensitization courses have been collected from various agencies and compiled in a tabular form. Work is still in progress for valuation of intangible benefits.

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. B.L. Dhyani)

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. A.S. Mishra)

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 continued
Comments: Project is further extended till 2007 for standardization of the decision rules to extrapolate the developed methodology to other watersheds by selecting more watersheds and procuring their requisite maps and data. Dr. A. Raizada will replace Dr. S.K. Dhyani as third associate. (Action: Dr. K.S. Dadhwal)						
2.	Surface hydrologic response estimation using GIS.	S.S. Shrimali	Hydrology & Engineering, Dehradun	2002	2007	To be continued

1.3: SOIL EROSION PROCESSES AND MODELS

3.	Study of rill and inter-rill erosion processes.	P.R. Ojasvi V.N. Sharda	Hydrology & Engineering, Dehradun	2002	2006	To be concluded
4.	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 continued **(Core Project)**
		A.K. Tiwari	Chandigarh			
		Ambrish Kumar	Datia			
		Shakir Ali	Kota			
		R.S. Kurothe	Vasad			
		D.S. Bundela	Agra	2006		
Comments: There should be regular and systematic progress in the core project at all the centre. Model should be tested with EI_{30} values and compared with EI_{10} and EI_5 values. Dr. Ambrish Kumar will replace Dr. V.S. Katiyar at Datia Centre. This core project has been started in Agra Centre from the year 2006 under the leadership of Dr. D.S. Bundela. (Action: All leaders at different locations)						

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
5.	Soil loss tolerance limits for agro-ecological regions of India.	D. Mandal K.P. Tripathi	Soil Science & Agronomy, Dehradun	2005	2009	To be continued **(Core Project)**
		Pramod Jha R.C. Yadav	Agra			
		S.K.N. Math P.K. Mishra	Bellary			
		P. Bhattacharya V.K. Bhatt	Chandigarh			
		Brij Lal Ambrish Kumar	Datia			
		N.K. Paikaray S. Sudhishri	Koraput			
		R.K. Singh B.K. Sethy	Kota			
		D.V. Singh V. Selvi	Udhagamandalam			
		S.P. Tiwari D.R. Sena	Vasad			
Comments: • Soil map for calculating T-values pertaining to U.P., Uttaranchal and Delhi to be obtained from NBSSLUP by 30th June, 2006. Dr. D.S. Bundela will replace Dr. R.C. Yadav on his superannuation at Agra Centre. (Action: Dr. Pramod Jha) • The data for missing parameters which are not available in the volume – B of Soils of India Series of different states needs to be procured from the Volume –C from NBSSLUP, Nagpur to carryout the analysis. (Action: Dr. D. Mandal) • The data related to texture pertaining to Haryana and Himachal Pradesh needs to be obtained from the respective SAUs by Chandigarh Centre. (Action: Dr. P. Bhattacharya) • Centres having upto three states may complete the first approximation by 30th June, 2006 and those centres having more than three states may complete this exercise by 31st Aug., 2006. (Action: All leaders at different locations) • Dr. Ambrish Kumar will replace Dr. M.L. Gaur at Datia Centre. • Dr. P.K. Mishra will replace Er. A.K. Singh as an associate at Bellary Centre.						
6.	Assessing crop cover influence on runoff and soil loss for red soils of Bundelkhand.	Brij Lal Dev Narain V.S. Katiyar	Datia	2002	2006	To be concluded
Comments: Equivalent yield of all the crops and their economics may be worked out. (Action: Dr. Brij Lal)						

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
7.	**Tillage and surface cover management for resource conservation and productivity**					
(a)	Soil surface management for erosion control.	Ratan Singh S.S. Shrimali N.K. Sharma	Soil Science & Agronomy, Dehradun	1998	2006	To be concluded
Comments: Project is extended till 2006 for concluding the statistical analysis part related to soil properties. (Action: Dr. Ratan Singh)						
(b)	Tillage practices for erosion control and crop productivity.	H.C. Nitant Om Prakash	Agra	1998	2007	To be continued
Comments: The treatment of deep tillage was not imposed in the year when it was due. In order to complete the cycle of treatments the project is extended till 2007. (Action: Dr. H.C. Nitant)						
8.	**Biological and mechanical measures for resource conservation and crop productivity**					
(a)	Evaluation of mechanical and vegetative measures on field size runoff plots.	Ambrish Kumar Dev Narain Brij Lal	Datia	2002	2006	To be concluded
Comments: • All the data recorded for the year 2002 to 2004 in the custody of Dr. M.L. Gaur must be sent to the Head, Research centre, Datia immediately. (Action: Dr. M.L. Gaur) • Dr. Ambrish Kumar will replace Dr. M.L. Gaur as leader and name of Dr. Dev Narain is included as first associate.						
(b)	Development of suitable land and crop management practices for the Nilgiris.	P. Murlidharan D.C. Sahoo M. Madhu P. Sundarambal	Udhagamandalam	2002	2006	To be concluded
(c)	Vegetative measures for conservation and production on reclaimed land of Mahi ravines.	H.B. Singh R.S. Kurothe S.P. Tiwari V.C. Pande	Vasad	2003	2006	To be concluded

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
9.	**Integrated nutrient management for rehabilitation and productivity**					
(a)	Studies on capacity building of land resources for sustainable productivity in ravine watersheds.	R.C. Agnihotri	Agra	2004	2006	To be concluded
Comments: Project is extended till 2006 due to contradictory data. Names of Dr. R.C. Yadav and Dr. Om Prakash are deleted from this study. (Action: Dr. R.C. Agnihotri)						
(b)	Integrated nutrient supply system for rainfed semi-arid tropics.	S.L. Patil	Bellary	2000	2010	To be continued
(c)	Effect of integrated nutrient management on soil properties under aonla based agri-horti system.	H. Biswas Brij Lal Dev Narain	Datia	2005	2009	To be continued
(d)	Effect of landuse manipulation and moisture conservation practices on nutrient dynamics in soil and productivity.	S.P. Tiwari H.B. Singh V.C. Pande	Vasad	2003	2006	To be concluded
(e)	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)** **(New Project)**
10.	**Cropping systems for resource conservation**					
(a)	Impact of organic matter build up on resource conservation under different crops on 2% slope.	B.N. Ghosh O.P.S. Khola K.S. Dadhwal	Soil Science & Agronomy, Dehradun	2003	2006	To be continued
Comments: After conclusion of the project, the technology has to be demonstrated in the farmers field to see the real benefit that can be accrued to farmers in collaboration with Mr. D.S. Tomar at two locations of IVLP villages. (Action: Dr. B.N. Ghosh)						
(b)	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: The treatments could not be imposed due to incomplete earth work and non-installation of gauging device. The work should be completed by Feb., 2006 and necessary treatments be imposed and crops be taken in the forthcoming *kharif* season. (Action: Dr. O.P.S. Khola)						
(c)	Conserving resources and augmenting livelihood of small holders through multi-tier cropping systems in tribal dominant Eastern Ghats of Orissa.	Anchal Dass S. Sudhishri P.R. Chaudhary N.K. Paikaray	Koraput	2005	2008	To be continued
Comments: The runoff plot construction must be done before onset of monsoon. (Action: Mr. Anchal Dass)						

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
(d)	Evaluation of inter-cropping system for delayed on set of monsoon in south-eastern Rajasthan.	S.N. Prasad R.K. Singh Ashok Kumar	Kota	2003	2006	To be concluded
(e)	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 continued
(f)	Intercropping and tillage practices for sustainable production under rainfed condition in Bundelkhand.	Dev Narain V.S. Katiyar B. Lal	Datia	2006	2010	To be continued **(New Project)**
Comments: The treatment of minimum tillage be removed and pegeonpea to be included as an intercrop. (Action: Dr. Dev Narain)						
(g)	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 **(New Project)**
Comments: Only one optimum level of soil amendments to be adopted and sawdust application to be deleted. (Action: Dr. J. Somasundaram)						
11.	**Agroforestry systems for arable lands**					
(a)	In-vitro micro propagation of elite provenances of Bhimal (*Grewia optiva)*	Harsh Mehta J. Jayaprakash	Plant Science, Dehradun	2004	2006	To be concluded **(DBT Funded)**
Comments: Dr. J. Jayaprakash will replace Dr. S.K. Dhyani as an associate.						
(b)	Evaluating productivity potential of Bhimal (*Grewia optiva*) along with field crops.	P.C. Tyagi Harsh Mehta K.S. Dadhwal	Soil Science & Agronomy, Dehradun	2005	2015	To be continued
Comments: This study has to be takenup at three sites in different elevations. Inputs may be given if farmers opt for accepting the plantation proposal of Bhimal (Grewia optiva). (Action: Dr. P.C. Tyagi)						
(c)	Aonla based agro-forestry system for moisture conservation and soil productivity in degraded ravine lands.	K.P. Mohapatra H.C. Nitant Om Prakash	Agra	2001	2006	To be concluded
(d)	Compatibility of raising rhizomatic crops with aonla in Shiwalik foothill region.	Pratap Singh Ram Prasad Y. Agnihotri Pratap Bhattacharya	Chandigarh	2002	2006	To be concluded
Comments: Project is extended till 2006 for calculating the economics of the whole system for a period of five years. (Action: Dr. Pratap Singh)						

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
(e)	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	2006	To be concluded

2.2: RESOURCE CONSERVATION MEASURES FOR NON-ARABLE LANDS

12.	**Agroforestry systems for non-arable lands**					
(a)	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
(b)	Evaluation of the agro-forestry systems for marginal lands in Doon valley.	Charan Singh N.K. Sharma Ratan Singh Pradeep Dogra	Plant Science, Dehradun	2001	2010	To be continued
Comments: The agroforesty system data has to be analysed in totality for each component giving the impact of trees on crops in graphical form. Dr. Charan Singh will replace Dr. S.K. Dhyani as leader of project. (Action: Dr. Charan Singh)						
(c)	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
(d)	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)**
Comments: Due to non-release of funds by HADP, this study should be initiated initially as Institute project till funds are released by HADP. All out efforts should be made to expedite the release of budget from the funding agency. (Action: Mr. R. Ragupathy / Dr. M. Madhu)						
(e)	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 **(New Project)**
Comments: Statistical design to be adopted needs alteration. (Action: Dr. J. Jayaprakash)						

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
(f)	Effectiveness of different bio-engineering measures in new tea plantation in the Nilgiris.	D.C. Sahoo P. Murlidharan M. Madhu Subhash Chand	Udhagamandalam	2006	2009	To be continued **(New Project)**
13.	**Agri-horticultural systems**					
(a)	Evaluation of mango and litchi based agri-horti systems on degraded lands in Doon Valley.	A.C. Rathore N.K. Sharma	Plant Science, Dehradun	1995	2006	To be concluded
Comments: In order to attain all the objectives, the project is extended till 2006. (Action: Dr. A.C. Rathore)						
(b)	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
(c)	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
(d)	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 **(New Project)**
Comments: Instead of canopy, crown spread needs to be reported. (Action: Mr. H.R. Meena)						
14.	**Silvi-pastoral systems**					
(a)	Silvipastoral systems under various management practices for degraded lands.	Charan Singh A. Raizada	Plant Science, Dehradun	1996	2012	To be continued
Comments: Economics may be worked out and tested as an outreach programme through demonstrations in marginal lands at two to three locations. (Action: Dr. Charan Singh)						

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
15.	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 continued
Comments: In order to attain the remaining three objectives, the project is extended till 2007. It may be maintained as on ORP after completion in 2007. (Action: Dr. V.N. Sharda)						
16.	Stochastic analysis of rainfall and runoff data for planning conservation measures.	P.K. Das A.K. Khullar	Hydrology & Engineering, Dehradun	2004	2006	To be concluded
Comments: The analysis related to the rainfall data of Mussoorie be completed. (Action: Dr. P.K. Das)						
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.	K.P. Tripathi S.S. Shrimali N.K. Sharma S.L. Arya	Hydrology & Engineering, Dehradun	2005	2007	To be continued **(NNPCC of ICAR)**
Comments: Names of Dr. V.N. Sharda and Dr. P.K. Das are deleted and name of Dr. (Mrs.) S.L. Arya is included as third associate.						
18.	Testing of hydrological instruments.	K.P. Tripathi	Hydrology & Engineering, Dehradun	2005	2007	To be continued
Comments: The laboratory building available in the division of Hydrology and Engineering at Research Farm, Selakui be utilized for testing of the instruments. Proposals may be submitted for construction of water circulation system etc. Technical support will be provided for this study at the Research Farm by H&E Division. (Action: Er. K.P. Tripathi / Dr. G.P. Juyal)						
19.	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: Title of the project has been modified and Dr. A. Raizada will replace Dr. S.K. Dhyani as leader of the project.						

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
20.	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: Calibration to be continued during this year also and lantana be removed immediately. (Action: Dr. V.K. Bhatt)						
21.	Soil conservation measures in red arable soils.	Ambrish Kumar Dev Narain Brij Lal	Datia	2001	2007	To be continued
Comments: Nutrient loss data to be reported in terms of total nitrogen, available phosphorus and available potassium. Dr. Ambrish Kumar will replace Dr. M.L. Gaur as leader of this project and project is extended till 2007. (Action: Dr. Ambrish Kumar)						
22.	Studies on hydrological behaviour and management of Jhola lands in Eastern Ghat Highland Zone of Orissa	R.K. Panda U.S. Patnaik Anchal Dass	Koraput	2004	2007	To be continued
Comments: Name of Mr. P.R. Chaudhary is deleted from the project. (Action: Dr. Ambrish Kumar)						
23.	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
24.	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	2006	To be concluded
25.	Environmental impact assessment of community based water resources management projects in Uttarnachal.	V.N. Sharda P.R. Ojasvi P. Dogra	Hydrology & Engineering Division, Dehradun	2006	2007	To be continued **(SHARP Project)** **(New Project)**

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

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
26.	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 R.K. Aggarwal	Chandigarh			
		V.S. Katiyar Ambrish Kumar H. Biswas	Datia			
		Shakir Ali R.K. Singh B.K. Sethy	Kota			
		S. Sudhishri R.K. Panda N.K. Paikaray	Koraput	2004		
		R.N. Adhikari A.K. Singh S.K.N. Math	Bellary	2004		
		V. Selvi D.V. Singh	Udhagamandalam	2004		
Comments: Water level data on daily basis be recorded by hiring a person at Research Centres, Datia and Kota. Separate methodologies to be developed by Research Centres, Chandigarh and Koraput. Chandigarh Centre to install more than 13 piezometers after following the codal formalities (not necessarily from Govt. agencies). Water recharge data should reach Vasad Centre from all the Centres on 30th April and 15th October each year to facilitate timely compilation prior to RAC/SRC Meetings. Economic components and other observations to be recorded must be sent by Vasad Centre to all the concerned Centres. Vasad Centre to continue data collection and the project may be continued till 2008 at all the Centres. Dr. Ambrish Kumar will replace Dr. M.L. Gaur as first associate at Datia Centre. (Action: Project leaders at all the locations)						

3.3: WATER HARVESTING

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
27.	Effective utilization of waterways for conservation and production.	B.P. Joshi B.N. Ghosh Harsh Mehta Charan Singh	Hydrology & Engineering, Dehradun	2003	2006	To be concluded
Comments: The trends in soil data (beds/sites) to be interpreted with respect to the contributing area. Rice been crop (Jhilangi) to be replaced by some other short duration cover crop. Inflow from the catchment to be considered segment wise for calculating water budget. Survey for soil deposition pattern in the three segments to be carried out after harvesting of *rabi* crops. (Action: Er. B.P. Joshi)						
28.	Rainwater management on watershed (micro) basis in sub-montane region.	R.P. Yadav Pratap Singh Ram Prasad A.K. Tiwari	Chandigarh	2000	2006	To be concluded
Comments: Project is further extended till 2006 to attain the remaining objectives. (Action: Dr. R.P. Yadav)						
29.	Effect of interventions on small watershed hydrology.	Ambrish Kumar Brij Lal Dev Narain	Datia	2001	2006	To be concluded
Comments: All the mature trees may be removed in the concerned watershed to facilitate hydrological monitoring in a proper way. Dr. M.L. Gaur must hand over all the data related to this study immediately to the Head, Research Centre, Datia. Dr. Ambrish Kumar will replace Dr. M.L. Gaur as leader of the project. (Action: Dr. M.L. Gaur / Dr. Ambrish Kumar)						

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
30.	Development of cost – effective technology for treatment of choes (rainy season torrents).	A.K. Tiwari R.K. Aggarwal S.L. Arya, Ram Prasad Pawan Sharma	Chandigarh	2001	2006	To be concluded
		G.P. Juyal Bankey Bihari B.N. Ghosh, A.C. Rathore	Hydrology & Engineering, Dehradun			
Comments: The project is further extended till the year 2006 for developing nomographs to design spurs and retaining wall considering all parameters governing a given set of conditions. Step wise generalized solutions are required as a package for the end users. (Acton: Dr. A.K. Tiwari / Dr. G.P. Juyal)						
31.	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 continued
Comments: Data collection may be positively completed within the stipulated project period. The torrent bed material should invariably be used for the study in the flume after proper sieve analysis and compaction up to optimum bulk density. (Action: Er. B.S. Naik)						
32.	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: Calibration curves need to be recasted and RPF I to be revised. (Action: Er. B.K. Sethy)						
33.	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
34.	Genesis, characterization and management of land slides in the Nilgiris.	D.V. Singh V. Selvi D.C. Sahoo	Udhagamandalam	2005	2007	To be continued **(To be funded by HADP)**
Comments: Due to non-release of funds by HADP, this study should be initiated initially as Institute project till funds are released by HADP. All out efforts should be made to expedite the release of budget form the funding agency. (Action: Dr. D.V. Singh / Dr. M. Madhu)						

P-5: PARTICIPATORY INTEGRATED WATERSHED MANAGEMENT

5.1 : METHODOLOGIES FOR DEVELOPMENT OF WATERSHEDS AND DECISION SUPPORT SYSTEMS FOR INTERVENTIONS

35.	Methodologies for development and analysis of watersheds and decision support systems for interventions.	B.L. Dhyani A. Raizada Pradeep Dogra	H.R.D. & SS, Dehradun	1999	2006	To be concluded
Comments: Project is further extended for one year till 2006 for analysis of data pertaining to Shiwalik region (Chandigarh Centre). Entire data pertaining to this project collected at Chandigarh centre may be handed over to Dr. B.L. Dhyani by Dr. Y. Agnihotri. (Action: Dr. B.L. Dhyani / Dr. A.K. Tiwari / Dr. Y. Agnihotri)						

5.3: IMPACT ON PRODUCTION, ENVIRONMENT AND BIODIVERSITY

36.	Integrated land and rainwater management for sustainable production in Shiwalik foothills in Mandhala village, Distt. Solan (H.P.).	A.K. Tiwari Pratap Singh R.K. Aggarwal Y. Agnihotri Pawan Sharma Ram Prasad Pratap Bhattacharya	Chandigarh	2003	2006	To be concluded **TDET (MoRD)**

5.4 FARMING SYSTEM APPROACH

37.	Development and evaluation of integrated farming system in middle Himalayas	M. Muruganandam V.N. Sharda C. Prakash	Hydrology & Engineering, Dehradun	2001	2006	To be concluded
Comments: Project is further extended till the year 2006 for exploring potential to increase income from the system as a whole. Name of Dr. S.K. Verma is deleted from this project. (Action: Mr. M. Muruganandam)						

5.5 : WATERSHED TECHNOLOGIES (STRATEGIC RESEARCH)

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
38.	Watershed Technology (Mission Mode).	K.P. Tripathi Pradeep Dogra	Hydrology & Engineering, Dehradun	1999	2006	To be concluded
Comments: Soil loss / runoff data reported in this project is from small plots hence, should not be recommended on watershed basis. The project is further extended till 2006 at Dehradun only for completing hydrological and other relevant data for arriving at logical conclusions. Name of Dr. S.K. Dhyani is deleted. This project at Udhagamandalam Centre is concluded. (Action: Er. K.P. Tripathi)						

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

6.1: RESOURCE ECONOMICS

39.	Effect of watershed development programme on employment generation in semi-arid regions.	B. Mondal N. Loganandhan	Bellary	2005	2007	To be continued
40.	Economic analysis of soil and water conservation measures in Nilgiris.	Subhash Chand D.C. Sahoo M. Madhu R. Ragupathy	Udhagamandalam	2006	2008	To be continued **(New Project)**
Comments: Cultivation to be taken on bench terraces only and samples size should be more than 60. (Action: Dr. Subhash Chand)						

6.2 : INSTITUTE VILLAGE LINKAGE PROGRAMME FOR TECHNOLOGY ASSESSMENT AND REFINEMENT

41.	Study on natural resources conservation through bottom up approach in a watershed of Doon Valley under hill and mountain ecosystem.	B.L. Dhyani S.C. Mohan D.S. Tomar	HRD&SS, Dehradun	2006	2010	To be continued **(New Project)**
Comments: Different interventions to be fine tuned in consultation with Head of Divisions and scientists by 31st March, 2006. (Action: Dr. B.L. Dhyani)						

6.3 : COMMON PROPERTY RESOURCE MANAGEMENT

42.	Study on pastoral migratory graziers in relation to watershed projects in Shiwalik foothill villages in Haryana.	S.L. Arya Y. Agnihotri	Chandigarh	2004	2007	To be continued

P-7 HUMAN RESOURCE DEVELOPMENT AND TECHNOLOGY TRANSER

7.1 TRAINING METHODOLOGY, NEED ASSESSMENT, GENDER NEUTRALITY AND EVALUATION

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
43.	Study on capacity building of field functionaries for watershed development and management.	A.S. Mishra Bankey Bihari	HRD & SS, Dehradun	2005	2007	To be continued
Comments: The project is extended till 2007 for classifying three different categories of people (farmers, WDT members and field workers). Observations may be taken in three different altitude regions. Results may be synthesized and final conclusions to be drawn. (Action: Dr. A.S. Mishra / Dr. Bankey Bihari)						
44.	An action research project of informal training programme on soil and water conservation for ravine reclamation for farmers of Mahi ravine area.	G.L. Bagdi R.S. Kurothe H.B. Singh V.C. Pande	Vasad	2002	2006	To be concluded

7.3 PARTICIPATORY APPROACHES, DESSEMINATION OF TECHNOLOGY AND ADOPTION

45.	Extension methodology for transfer of soil and water conservation technologies for watershed management.	G.L. Bagdi	Vasad	2004	2006	To be concluded

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
46.	Constraints analysis and methodology for transfer of technologies in watershed management programmes.	Bankey Bihari B.L. Dhyani	HRD & SS, Dehradun	2005	2007	To be continued **(Core Project)**
		N. Loganandhan	Bellary			
		Om Prakash	Datia			
		S.V. Singh	Kota			
		P. Sundarambal	Udhagamandalam			
		G.L. Bagdi	Vasad			
Comments: A systematic approach needs to be adopted in the project for doing the constraint analysis and development of methodology for transfer of technology. A list of extension agencies needs to be prepared and their awareness / knowledge of the listed technologies ascertained for which, their rule book may be scrutinized. Same approach may be adopted for farmers of the selected watersheds as well as those outside the watersheds regarding awareness / knowledge of listed technologies. Each individual technology needs to be studied using this *modus operandi*. A Joint approach by all the participating Research Centres and HRD&SS Division is needed for this. Dr. B.L. Dhyani will replace Dr. A.S. Mishra as first associate at Dehradun. (Action: All leaders at different locations)						

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 will attain all the objectives of the projects prior to completion.**
- **Project without any soil conservation aspects do not fit in the mandate of the Institute. Hence, observations to justify the study may be recorded and reported.**
- **Timely funding should be assured for those projects which are to be externally supported well in advance.**

OBSERVATIONAL TRIALS APPROVED FOR 2006

Sl. No.	Title of the project	Leader and associate	Centre/Division
1.	Field based estimation of stream bank erosion for different ephemeral channels in Mahi ravines.	M.L. Gaur	Vasad
2.	Study on the effect of water quality on water use efficiency in Kuberpur watershed.	S.K. Srivastava Pramod Jha	Agra

PROJECTS CONCLUDED IN 2005

Sl. No.	Programme No.	Sl. No. of SRC Meeting Proc. 2004	Title of the Project	Centre/Division
1.	1.1	2	Reflectance libraries for development of soil sensors for periodic assessment of soil resources.	Soil Science & Agronomy, Dehradun
Comments : As informed by the project leader, this project was concluded in 2004 due to non-availability of the specialized instruments from NBSSLUP, Nagpur.				
2.	2.1	10(c)	Bio-fertilizer for integrated nutrient management for rehabilitation of eroded Shiwaliks	Chandigarh
3.	2.1	11(b)	Utilization of rainfall through in-situ moisture conservation by growing cotton in deep alluvial soil region.	Agra
Comments: Due to attainment of all the objectives, the study is concluded in 2005.				
4.	2.1	13	Management strategies for improving *rabi* sorghum productivity.	Bellary
5.	2.2	16(b)	Silvipastoral approach to improve productivity of native pastures for livestock production in the hills.	Soil Science & Agronomy, Dehradun
6.	3.3	30	Water harvesting and recycling for sustainable production in red arable soils in Bundelkhand.	Datia
7.	4.1	33	Evaluation of efficacy of full-scale models of stone jetty along river Yamuna.	Agra
8.	5.1	39	Development of regional scale watershed plans and methodologies for identification of critical areas for prioritized land treatment in the watersheds.	Koraput
9.	5.5	42	Watershed Technology (Mission Mode).	Udhagamandalam
10.	6.1	43	Impact of soil and water conservation measures on productivity and socio-economic conditions of Kuberpur ravine watershed.	Agra
Comments: Benefit:cost ratio to be rechecked prior to submission of RPF III. (Action: Mr. Bhanwar Singh / Dr. Om Prakash)				
11.	6.2	45	Institute Village Linkage Programme. (Technology Assessment and Refinement).	HRD&SS, Dehradun
12.	7.3	49	Participatory and integrated assessment of natural resources and evaluation of alternate sustainable land management options for tribal dominant watersheds.	Koraput

NEW PROPOSALS AND RECOMMENDATIONS OF RAC AND SRC

Sl. No.	Details of New Proposals	Remarks of RAC - 2005	Decision of SRC - 2005
1.	Rainwater management for conserving natural resources, sustaining agricultural production and alleviating poverty in hilly watershed. R.P. Yadav, P. Bhattacharyya, A.K. Tiwari, S.L. Arya, Pratap Singh & Ram Prasad CSWCRTI Research Centre, Chandigarh, P 1.3, (2006-2011).	Not approved. RAC felt that it is probably a duplication of watershed management programme which has already been executed by the Institute/Research Centers as model watershed. In case it is different then the earlier work then it should be specified accordingly with comparison.	Not considered due to non-approval by RAC.
2.	Organic farming using *Jatropha* based farm-forestry system for sustainable crop production and resource conservation in eroded Shiwalik region. Pawan Sharma, Pratap Singh, Ram Prasad & Swarnlata Arya CSWCRTI, Research Centre, Chandigarh, P-2.1, (2006-2011)	Not approved. The project is poorly formulated. First the availability of organic matter to be obtained from the *Jatropha* has to be quantified. There are better plants which are already tested for known organic matter availability. Then why we should test Jatropha for organic matter?	Not considered due to non-approval by RAC.
3.	Controlling offsite effects of degradation of Shiwaliks and recharging the groundwater in Patiala Distt. Of Punjab. V.K.Bhatt, P.Bhattacharya, P.Singh & A.K.Tiwatri CSWCRTI, Research Centre, Chandigarh, P-3, (2006-2011)	Not approved. The water logging problem is related with drainage and salinity. Therefore it can be better studied by CSSRI, Karnal.	Not considered due to non-approval by RAC.
4.	Integrated farming systems approach on watershed basis for Shwalik foothill region. Pratap Singh, V.K.Bhatt, R.P.Yadav, S.L.Arya, Pawan Sharma & Ram Prasad, CSWCRTI, Research Centre, Chandigarh, P-5.3, (2006-2010).	Needs to be critically reviewed by SRC before approval.	Not approved but planning process may be continued till external funding is available.
5.	Effectivenass of different bio-engineering measures in new tea plantation in the Nilgiris. D.C.Sahoo, P.Muralidharana, M.Madhu and Subhash Chand. CSWCRTI, Research Centre, Udhagamandalam, P-2.2, (2006-2010).	Approved.	**Approved** and the comments of SRC be taken in to account.
6.	Evapotranspiration of carrot crop (Lysimeter study) D.C.Sahoo and M.Madhu CSWCRTI, Research Centre, Udhagamandalam, P-3.1, (2006-2008)	Approved.	Not approved as a regular project but observations may be recorded.

7.	Economic analysis of soil and water conservation measures in Nilgiris. Subhash Chand. CSWCRTI, Research Centre, Udhagamandalam, P-6, (2006-2007)	Needs to be critically reviewed by SRC before approval.	**Approved** and the comments of SRC be taken in to account.
8.	Field based estimation of stream bank erosion for different ephemeral channels in Mahi Ravines. M.L.Gaur CSWCRTI, Research Centre, Vasad. P-4, (2006-2009)	Approved. To be critically reviewed by SRC before approval.	Agreed as **Observation Trial** for one year.
9.	Status and management of water harvesting structures through participatory approach in Bundelkhand region. Om Prakash and V.S.Katiyar CSWCRTI, Research Centre, Datia.P-7, (2006-2008)	Needs to be critically reviewed by SRC before approval.	Not approved and the modified project be submitted in the next year.
10.	Effect of surface runoff and nutrient losses from treated and untreated watershed J.Somasundaram, R.K.Singh, S.N. Prasad and B.K.Sethy CSWCRTI, Research Centre, Kota, P-1.2, (2006-2010).	Needs to be critically reviewed by SRC before approval.	Not approved. The project may be planned near ravenous area and to be presented next year.
11.	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 CSWCRTI, Research Centre, Kota, P-2, (2006-2016)	Needs to be critically reviewed by SRC before approval.	**Approved** and the comments of SRC be taken in to account.
12.	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.Mondal, N.K.Sharma & A.Raizada CSWCRTI, Dehradun P-2, (2006-2012)	Needs to be critically reviewed by SRC before approval.	**Approved** and the comments of SRC be taken in to account.

13.	Application of a physically based distributed and dynamic hydrological and soil erosion model to a ravineous watershed. D.S.Bundela, P.Jha, K.P.Mohapatra & R.C.Yadav CSWCRTI/Research Centre, Agra, P-1	Approved. May be clubbed with the core project of P-3 under similar title.	Not approved. To be clubbed with the core project of P-3 as suggested by RAC.
14.	Study on enhancement of water use efficiency of recharged ground water in Kuberpur watershed (Agra) S.K. Srivastava CSWCRTI/Research Centre, Agra, P-3.2 (2006-2009)	Not approve. Water use efficiency with respective salinity has some meaning. May be submitted after modification.	Agreed as **Observation Trial** for one year.
15.	Evaluation of integrated drought mitigating strategies for establishment of fruit orchard in a semi-arid tropical watershed on participatory mode months Dr. D .Ramajayam CSWCRTI/Research Centre, Bellary, P-2.2 36 months	Approved as funding is from outside. However SRC may review it.	Not approved in the present form.

PROGRAMME-WISE LIST OF 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 SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
1	1	Soil Sci. & Agronomy, Dehradun
2	3	Hydrology & Engg., Dehradun

TOTAL = 2

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

Sl. No. of SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
NIL	NIL	NIL

TOTAL = NIL

1.3: Soil erosion processes and models

Sl. No. of SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
3	4	Hydrology & Engg., Dehradun
4	5	Hydrology & Engg., Dehradun /Chandigarh/Datia/Kota/Vasad/Agra
5	7	Soil Sci. & Agronomy, Dehradun /Agra/Bellary/Chandigarh/Datia/Kora-put/Kota/Udhagamandalam/Vasad
6	6	Datia

TOTAL = 4

P-2: CONSERVATION MEASURES FOR SUSTAINABLE PRODUCTION SYSTEMS

2.1: Resource conservation measures for arable lands

Sl. No. of SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
7(a)	8(a)	Soil Sci. & Agronomy, Dehradun
7(b)	8(b)	Agra
8(a)	9(a)	Datia
8(b)	9(b)	Udhagamandalam
8(c)	9(c)	Vasad
9(a)	10(a)	Agra
9(b)	10(b)	Bellary
9(c)	10(e)	Datia
9(d)	10(d)	Vasad
9(e)	**New Project**	**Udhagamandalam**
10(a)	11(a)	Soil Sci. & Agronomy, Dehradun
10(b)	11(e)	Soil Sci. & Agronomy, Dehradun
10(c)	11(f)	Koraput
10(d)	11(c)	Kota
10(e)	11(d)	Kota
10(f)	**New Project**	**Datia**
10(g)	**New Project**	**Kota**
11(a)	12(a)	Plant Science, Dehradun
11(b)	12(e)	Soil Sci. & Agronomy, Dehradun
11(c)	12(b)	Agra
11(d)	12(c)	Chandigarh
11(e)	12(d)	Vasad

TOTAL = 22

2.2: Resource conservation measures for non-arable lands

Sl. No. of SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
12(a)	14(a)	Plant Science, Dehradun
12(b)	14(b)	Plant Science, Dehradun
12(c)	14(c)	Agra
12(d)	14(d)	Udhagamandalam
12(e)	**New Project**	**Plant Science, Dehradun**
12(f)	**New Project**	**Udhagamandalam**
13(a)	15(a)	Plant Science, Dehradun
13(b)	15(b)	Soil Sci. & Agronomy, Dehradun
13(c)	15(c)	Bellary
13(d)	**New Project**	**Kota**
14(a)	16(a)	Plant Science, Dehradun

TOTAL =11

P-3: HYDROLOGICAL BEHAVIOUR OF WATERSHEDS FOR CONSERVATION PLANNING

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

Sl. No. of SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
15	17	Hydrology & Engg., Dehradun
16	18	Hydrology & Engg., Dehradun
17	23	Hydrology & Engg., Dehradun
18	24	Hydrology & Engg., Dehradun
19	19	Plant Science, Dehradun
20	25	Chandigarh
21	20	Datia
22	21	Koraput
23	22	Vasad
24	26	Vasad
25	**New Project**	**Hydrology & Engg., Dehradun**

TOTAL = 11

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

Sl. No. of SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
26	27	Vasad/Chandigarh/Datia/Kota/Koraput /Bellary/Udhagamandalam

TOTAL = l

3.3: Water harvesting

Sl. No. of SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
27	31	Hydrology & Engg., Dehradun
28	28	Chandigarh
29	29	Datia

TOTAL = 3

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 SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
30	32	Chandigarh / Hydrology & Engg., Dehradun
31	35	Hydrology & Engg., Dehradun
32	34	Kota
33	36	Kota
34	37	Udhagamandalam

TOTAL = 5

P-5: PARTICIPATORY INTEGRATED WATERSHED MANAGEMENT

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

Sl. No. of SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
35	38	HRD & SS, Dehradun

TOTAL = 1

5.2: Landuse Planning

Sl. No. of SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
NIL	NIL	NIL

TOTAL = NIL

5.3: Impact on Production, environment and biodiversity

Sl. No. of SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
36	40	Chandigarh

TOTAL = 1

5.4: Farming system approach

Sl. No. of SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
37	41	Hydrology & Engg., Dehradun

TOTAL = 1

5.5: Watershed technologies (Strategic research)

Sl. No. of SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
38	42	Hydrology & Engg., Dehradun

TOTAL = 1

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

6.1: Resource economics

Sl. No. of SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
39	44	Bellary
40	**New Project**	**Udhagamandalam**

TOTAL =2

6.2: Institute Village Linkage Programme for Technology assessment and refinement

Sl. No. of SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
41	**New Project**	**HRD & SS, Dehradun**

TOTAL = 1

6.3: Common property resource management

Sl. No. of SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
42	46	Chandigarh

TOTAL = 1

P-7: HUMAN RESOURCE DEVELOPMENT AND TECHNOLOGY TRANSFER

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

Sl. No. of SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
43	48	HRD & SS, Dehradun
44	47	Vasad

TOTAL = 2

7.2: Organizational infrastructure and motivational parameters

Sl. No. of SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
Nil	Nil	Nil

TOTAL = Nil

7.3: Participatory approaches for dissemination of technology and adoption

Sl. No. of SRC Proc., 2005	Sl No. of SRC Proc., 2004	Centre/Division
45	50	Vasad
46	51	HRD & SS/Bellary/Datia/Kota/ Udhagamandalam/Vasad

TOTAL = 2

GRAND TOTAL = 71

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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, 5, 7(a), 10(a), 10(b), 11(b) &13(b)	**7**
	• Hydrology & Engineering	2, 3, 4, 15, 16, 17, 18, 25, 27, 30, 31, 37 & 38	**13**
	• HRD & SS	35, 41, 43 & 46	**4**
	• Plant Science	11(a), 12(a), 12(b), 12(e), 13(a), 14(a) & 19	**7**
2.	Agra	4, 5, 7(b), 9(a), 11(c) & 12(c)	**6**
3.	Bellary	5, 9(b), 13(c), 26, 39 & 46	**6**
4.	Chandigarh	4, 5, 11(d), 20, 26, 28, 30, 36 & 42	**9**
5.	Datia	4, 5, 6, 8(a), 9(c), 10(f), 21, 26, 29 & 46	**10**
6.	Koraput	5, 10(c), 22 & 26	**4**
7.	Kota	4, 5, 10(d), 10(e), 10(g), 13(d), 26, 32, 33 & 46	**10**
8.	Udhagamandalam	5, 8(b), 9(e), 12(d), 12(f), 26, 34, 40 & 46	**9**
9.	Vasad	4, 5, 8(c), 9(d), 11(e), 23, 24, 26, 44, 45 & 46	**11**
	Grand Total		**96**

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	2	5	-	-	-	-	-	**7**
	♦ Hydrology & Engineering	3	-	6	2	2	-	-	**13**
	♦ HRD & SS	-	-	-	-	1	1	2	**4**
	♦ Plant Science	-	6	1	-	-	-	-	**7**
2.	Agra	2	4	-	-	-	-	-	**6**
3.	Bellary	1	2	1	-	-	1	1	**6**
4.	Chandigarh	2	1	3	1	1	1	-	**9**
5.	Datia	3	3	3	-	-	-	1	**10**
6.	Koraput	1	1	2	-	-	-	-	**4**
7.	Kota	2	4	1	2	-	-	1	**10**
8.	Udhagamandalam	1	4	1	1	-	1	1	**9**
9.	Vasad	2	3	3	-	-	-	3	**11**
	Grand Total	**19**	**33**	**21**	**6**	**4**	**4**	**9**	**96**

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 SRC Meeting of 2005 is as follows:

Name	Designation	Leader	Associate	Total
Dr. V.N. Sharda	Director	3	2	5
Soil Science and Agronomy Division				
Dr. K.S. Dadhwal	Head of Division	1	3	4
Dr. P.C. Tyagi	Principal Scientist (Plant Breeding)	1	--	1
Mr. S.C. Mohan	Principal Scientist (Soil Fertility)	--	2	2
Dr. Ratan Singh	Principal Scientist (Soils)	1	1	2
Dr. O.P.S. Khola	Senior Scientist (Agronomy)	1	1	2
Dr. N.K. Sharma	Senior Scientist (Agronomy)	--	5	5
Dr. B.N. Ghosh	Senior Scientist (Soils)	1	4	5
Mr. R.K. Dubey	Scientist (SS) (Agronomy)	1	--	1
Dr. S.K. Verma	Scientist (SS) (Animal Nutrition)	--	--	NIL
Dr. D. Mandal	Scientist (Soils)	1	2	3
Hydrology and Engineering Division				
Dr. G.P. Juyal	Head of Division	1	1	2
Er. K.P. Tripathi	Principal Scientist (Engineering)	3	1	4
Dr. P.R. Ojasvi	Senior Scientist (Engineering)	1	2	3
Er. S.S. Shrimali	Senior Scientist (Computer Application)	1	3	4
Dr. P.K. Das	Senior Scientist (Agril. Stat.)	1	--	1
Mr. M. Muruganandam	Scientist (SS) (Fisheries)	1	--	1
Er. B.S. Naik	Scientist (Engineering)	1	2	3
Plant Science Division				
Dr. A. Raizada	I/c Head of Division	2	4	6
Dr. Harsh Mehta	Senior Scientist (Plant Breeding)	1	2	3
Dr. Charan Singh	Scientist (SG) (Forestry)	2	3	5
Dr. A.C. Rathore	Scientist (Horticulture)	1	2	3
Dr. J. Jayaprakash	Scientist (Forestry)	1	1	2

Name	Designation	Leader	Associate	Total
Human Resource Development and Social Science Division				
Dr. B.L. Dhyani	Head of Division	2	1	3
Dr. A.S. Mishra	Principal Scientist (Agril. Extn.)	1	--	1
Er. C. Prakash	Principal Scientist (Engineering)	--	2	2
Mr. D.S. Tomar	Senior Scientist (Agronomy)	--	1	1
Dr. Bankey Bihari	Senior Scientist (Agril. Extn.)	1	2	3
Research Coordination & Management Unit				
Er. B.P. Joshi	Principal Scientist (Engineering)	1	--	1
Mr. A.K. Khullar	Scientist (SG) (Agril. Stat.)	--	1	1
Dr. Pradeep Dogra	Senior Scientist (Agril. Econ.)	--	4	4
Research Centre, Agra				
Dr. R.C. Yadav	Head of Centre	--	1	1
Dr. H.C. Nitant	Principal Scientist (Soils)	1	1	2
Dr. Om Prakash	Principal Scientist (Agronomy)	--	2	2
Dr. R.C. Agnihotri	Principal Scientist (Soils)	1	--	1
Mr. Bhanwar Singh	Scientist (SS) (Agril. Econ.)	--	--	NIL
Er S.K. Srivastava	Scientist (Engineering)	--	--	NIL
Dr. K.P. Mohapatra	Scientist (Forestry)	2	--	2
Dr. Pramod Jha	Scientist (Soils)	1	1	2
Dr. D.S. Bundela	Scientist (Engineering)	1	--	1
Research Centre, Bellary				
Dr. P.K. Mishra	Head of Centre	--	1	1
Er. R.N. Adhikari	Principal Scientist (Engineering)	1	1	2
Dr. S.K.N. Math	Principal Scientist (Soils)	1	2	3
Dr. S.L. Patil	Senior Scientist (Agronomy)	1	--	1
Er. A.K. Singh	Scientist (SS) (Engineering)	--	1	1
Dr. B. Mondal	Scientist (Agril. Econ.)	1	1	2
Dr. N. Loganandhan	Scientist (Agril. Extension)	1	1	2
Mr. D. Ramajayam	Scientist (Horticulture)	1	--	1
Research Centre, Chandigarh				
Dr. A.K. Tiwari	Head of Centre	3	3	6
Dr. R.K. Aggarwal	Principal Scientist (Soils)	--	3	3
Dr. Y.K. Agnihotri	Principal Scientist (Agril. Stat.)	--	3	3
Dr. (Ms.) Pawan Sharma	Principal Scientist (Soil Micro-bio.)	--	3	3
Dr. Pratap Singh	Principal Scientist (Agronomy)	1	2	3
Dr. R.P. Yadav	Senior Scientist (Soils)	1	1	2
Dr. (Ms.) S.L. Arya	Senior Scientist (Agril. Econ.)	1	2	3
Dr. V.K. Bhatt	Senior Scientist (Engineering)	2	1	3
Dr. Ram Prasad	Scientist (SS) (Horticulture)	--	4	4
Dr. Pratap Bhattacharya	Scientist (Soil Physics)	1	3	4

Name	Designation	Leader	Associate	Total
Research Centre Datia				
Dr. V.S. Katiyar	Head of Centre	1	2	3
Dr. K.C. Dubey	Senior Scientist (Horticulture)	--	--	NIL
Dr. Dev Narayan	Senior Scientist (Agronomy)	1	5	6
Dr. Om Prakash	Senior Scientist (Agril. Extn.)	1	--	1
Dr. Ambrish Kumar	Senior Scientist (Engineering)	4	2	6
Dr. Brij Lal	Scientist (SS) (Soil Fertility)	2	5	7
Dr. H. Biswas	Scientist (Soils)	1	1	2
Research Centre, Koraput				
Dr. U.S. Patnaik	Head of Centre	--	1	1
Dr. R.K. Panda	Senior Scientist (Engineering)	1	1	2
Mr. P.R. Chaudhary	Scientist (SS) (Forestry)	--	1	1
Er.(Ms) S. Sudhishri	Scientist (SS) (Engineering)	1	2	3
Mr. Anchal Dass	Scientist (SS) (Agronomy)	1	1	2
Dr. N.K. Paikaray	Scientist (SS) (Soil Science)	1	2	3
Research Centre, Kota				
Dr. S.N. Prasad	Head of Centre	1	2	3
Dr. R.K. Singh	Senior Scientist (Soil Fertility)	2	2	4
Dr. S.V. Singh	Senior Scientist (Agril. Extn.)	1	--	1
Dr. A.K. Parandiyal	Senior Scientist (Forestry)	1	2	3
Dr. Ashok Kumar	Senior Scientist (Agril. Econ.)	--	5	5
Er. Shakir Ali	Scientist (SS) (Engineering)	2	1	3
Er. B.K. Sethy	Scientist (Engineering)	1	4	5
Dr. J. Somasundaram	Scientist (Soils)	1	3	4
Mr. H.R. Meena	Scientist (Horticulture)	1	1	2
Research Centre, Udhagamandalam				
Dr. M. Madhu	I/c Head of Centre	--	5	5
Mr. R. Ragupathy	Scientist (SS) (Forestry)	1	1	2
Dr. D.V. Singh	Scientist (SS) (Soil Fertility)	3	1	4
Dr. Subhash Chand	Scientist (SS) (Agril. Econ.)	1	1	2
Er. (Ms.) V. Selvi	Scientist (SS) (Engineering)	1	3	4
Dr.(Ms.) P. Sundarambal	Scientist (SS) (Agril. Extn.)	1	1	2
Dr. P. Murlidharan	Scientist (SS) (Soils)	1	2	3
Er. D.C. Sahoo	Scientist (Engineering)	1	3	4
Research Centre, Vasad				
Dr. R.S. Kurothe	Head of Centre	2	4	6
Dr. H.B. Singh	Principal Scientist (Agronomy)	2	3	5
Dr. S.P. Tiwari	Principal Scientist (Soil Fertility)	2	5	7
Dr. M.L. Gaur	Senior Scientist (Engineering)	--	--	NIL
Dr. G.L. Bagdi	Senior Scientist (Agril. Extn.)	3	--	3
Mr. V.C. Pande	Scientist (SG) (Agril. Econ.)	--	6	6
Dr. D.R. Sena	Scientist (SS) (Engineering)	2	2	4

LIST OF PARTICIPANTS

1.	Dr. J.S. Samra	DDG (NRM), ICAR, New Delhi	
2.	Dr. V.N. Sharda	Director	Chairman
CSWCRTI, DEHRADUN			
3.	Dr. K.S. Dadhwal	Head (SS&A Division)	Member
4.	Dr. G.P. Juyal	Head (Hydrology & Engineering Division)	Member
5.	Dr. B.L. Dhyani	Head (HRD&SS Division)	Member
6.	Dr. A. Raizada	I/c Head (Plant Science Division)	Member
7.	Er. K.P. Tripathi	Principal Scientist (Engg.)	
8.	Dr. A.S. Mishra	Principal Scientist (Ag. Extension)	
9.	Er. B.P. Joshi	Principal Scientist (Engg.) & OIC (RCM Unit)	Member Secretary
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11.	Dr. P.C. Tyagi	Principal Scientist (Plant Breeding)	
12.	Dr. Ratan Singh	Principal Scientist (Soils)	
13.	Er. C. Prakash	Principal Scientist (Engg.)	
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15.	Dr. O.P.S. Khola	Senior Scientist (Agronomy)	
16.	Dr. N.K. Sharma	Senior Scientist (Agronomy)	
17.	Dr. Harsh Mehta	Senior Scientist (Plant Breeding)	
18.	Dr. P.R. Ojasvi	Senior Scientist (Engg.)	
19.	Mr. A.K. Khullar	Scientist (SG) (Agril. Stat.)	Rapporteur
20.	Er. S.S. Shrimali	Senior Scientist (CAA)	
21.	Dr. Charan Singh	Scientist (SG) (Forestry)	
22.	Dr. B.N. Ghosh	Senior Scientist (Soils)	
23.	Dr. P.K. Das	Senior Scientist (Agril. Stat.)	
24.	Dr. Pradeep Dogra	Senior Scientist (Agril. Econ.)	Rapporteur
25.	Dr. Bankey Bihari	Senior Scientist (Agril. Extn.)	
26.	Mr. M. Muruganandam	Scientist (SS) (Fisheries)	
27.	Dr. S.K. Verma	Scientist (SS) (Animal Nutrition)	
28.	Dr. D. Mandal	Scientist (Soils)	
29.	Er. B.S. Naik	Scientist (Engg.)	
30.	Dr. J. Jayaprakash	Scientist (Forestry)	
31.	Mr. S.K. Sinha	Technical Officer (T-5)	Rapporteur
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34.	Dr. Om Prakash	Principal Scientist (Agronomy)	
35.	Dr. R.C. Agnihotri	Principal Scientist (Soils)	
36.	Mr. Bhanwar Singh	Scientist (SS) (Agril. Eco.)	
37.	Er. S.K. Srivastava	Scientist (Engg.)	
38.	Dr. K.P. Mohapatra	Scientist (Forestry)	
39.	Dr. Pramod Jha	Scientist (Soils)	
40.	Dr. D.S. Bundela	Scientist (Engg.)	
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43.	Dr. S.L. Patil	Senior Scientist (Agrnomy)	
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49.	Dr. V.K. Bhatt	Senior Scientist (Engg.)	
50.	Dr.(Mrs.) S.L. Arya	Senior Scientist (Agril. Eco.)	
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54.	Dr. Om Prakash	Senior Scientist (Agril. Extn.)	
55.	Dr. Ambrish Kumar	Senior Scientist (Engg.)	
56.	Dr. H. Biswas	Scientist (Soils)	
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RESEARCH CENTRE, KOTA			
59.	Dr. S.N. Prasad	Head of the Centre	Member
60.	Dr. R.K. Singh	Senior Scientist (Soil Fertility)	
61.	Dr. A.K. Parandiyal	Senior Scientist (Forestry)	
62.	Er. B.K. Sethy	Scientist (Engg.)	
63.	Dr. J. Somasundaram	Scientist (Soils)	
64.	Mr. H.R. Meena	Scientist (Horticulture)	
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70.	Dr. M.L. Gaur	Senior Scientist (Engg.)	
71.	Dr. G.L. Bagdi	Senior Scientist (Agril. Eco.)	
72.	Dr. D.R. Sena	Scientist (SS) (Engg.)	