REMARKS OF THE CHAIRMAN

Dr. V.N. Sharda, Acting Director, CSWCRTI, Dehradun and Chairman, Staff Research Council Meeting welcomed all the Heads of Centers / Divisions, members of the SRC and the participants. He welcomed Dr. K.S. Dadhwal, Head (SS&A Division) and other scientists who have recently joined our Institute. The Principal Scientists who were promoted to this grade w.e.f. 27.7.1998 were felicitated. He informed that the Prime Minister has released "Vision 2020" document of ICAR wherever efficient use of country's natural resources has been emphasized. Dr. R.S. Paroda, the then Director General (ICAR) in his key note address in 72nd G.B. Meeting in July, 2001 lauded the efforts of ICAR scientists also emphasized that there is a need for introspection in the theme areas and the mandate of the Institute.

A revised version of the document "Vision 2025" needs to be prepared in view of the ensuing Five Year Plans. The Chairman appraised the house that discipline – wise groups have been formed to discuss the present status of the thrust areas, the existing gaps and future prospects of research programmes in different regions of the Country. The coordinators for different groups were identified and the recommendations of various groups are appended with this document for suggesting new project proposals with in the Research Programmes in future.

The Research Advisory Committee (RAC) meeting was held under the Chairmanship of Dr. Maharaj Singh, Former Deputy Director General (Education) of ICAR at CSWCRTI on November 19 and 20, 2001. The recommendations of the Research Advisory Committee need to be adopted sincerely and in a time bound manner.

The Chairman desired that:

The Heads of Divisions/Centres would officially issue the data registers duly signed for page numbers to the leaders of various projects/experiments in their Division/Centre. The data registers are to be duly maintained by the leaders and associates of projects/experiments during the project period. On transfer/superannuation the Heads of Centres/Divisions may ensure that the leaders of various project/experiments hand over the data registers to the next leader or the Head before the concerned scientist is relieved from the Institute/Centre. The data may be periodically loaded on the computer and floppy/CD prepared to keep a proper record of the data.

The first right of publication will be of the investigators within a period of five years after the conclusion of the experiment/project. Thereafter, the scientists of the Institute would transfer the printed data to the libraries for further use.

The presentation in the SRC meeting should be neat and comprehensive preferably through LCD using the software MS-Power Point.

The Chairman thanked all the Heads, P.I.s of different Programmes and Coordinators for Group discussions for their sincere efforts and purposeful deliberations for making this SRC meeting a successful one.

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 data base for conservation planning.	K.S. Dadhwal S.C. Mohan S.S. Shrimali (OSL) S.K. Dhyani	Soil Science & Agronomy, Dehradun	2000	2003	To be continued
Comments: Dr. K.S. Dadhwal will be the leader of this project and name of Dr. Ratan Singh is deleted.						
2.	Reflectance libraries for development of soil sensors for periodic assessment of soil resources.	CCPI: S.C. Mohan	Soil Science & Agronomy, Dehradun	1999	2003	To be continued **NATP** **(Mission Mode)**
3.	Sufrace hydrology response estimation using GIS.	S.S. Shrimali	Hydrology & Engineering, Dehradun	2002	2007	To be continued **(New Project)**
4.	Status of coastal erosion and control studies in coastal belt of India.	PI : A.K. Sikka Co-PI : D.V. Singh Associates : V. Selvi P. Murlidharan R. Ragupathy	Udhagamandalam	2001	2002	To be concluded **NATP (Coastal)** **(New Project)**

1.2 : ON-SITE AND OFF-SITE EFFECTS OF EROSION

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
5.	Impact of landuse pattern on runoff quality vis-à-vis fish production.	M.Muruganandam K.P.Tripathi S.C. Mohan	Hydrology & Engineering, Dehradun	2000	2003	To be continued
Comment: Species-wise economics of fish production may be worked out. Gauging of both the inlets and the outlet be carried out for water budgeting of the pond. (Action: Mr. M.Muruganandam)						
6.	Soil erosion for prominent medicinal and aromatic plants in Nilgiris.	D.V. Singh A.K. Sikka M. Madhu Subhash Chand	Udhagamandalam	1997	2004	To be continued
Comments: Project is extended till 2004.						

1.3: SOIL EROSION PROCESSES AND MODELS

7.	Development and validation of process based runoff and soil erosion simulation models.	V.N. Sharda P.R. Ojasvi	Hydrology & Engineering, Dehradun	1991	2002	To be concluded **(Core Project)**
Comments: This project is modified as a core project with two sub-headings, as discussed in the SRC Meeting. Dr. P.R. Ojasvi will replace Er. C.P. Arora as an associate. (Action : All Heads of the Centre)						
8.	Soil erosion studies using simulated rainfall in black soils.	R.N. Adhikari R. Saraswathy (OSL)	Bellary	2001	2003	To be continued
Comments: Er. R.N. Adhikari will be the leader and Ms. R. Saraswathy will be associate. The review of work done in this study may be presented in the next SRC meeting. (Action: Er. R.N. Adhikari)						
9.	Study on runoff and soil loss behaviour of different land configurations under simulated rainfall.	S.K. Srivastava R.C. Yadav	Agra	2002	2004	To be continued **(New Project)**
Comments: Study may be taken up in standard size runoff plots (2% slope) with modified treatments. (Action : Er. S.K. Srivastava)						

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
10.	Assessing crop cover influence on runoff and soil loss for red soils of Bundelkhand.	Brij Lal Dev Narain A.K. Tiwari	Datia	2002	2006	To be continued **(New Project)**
Comments: Treatments may be modified as suggested by the SRC. Canopy observations to be recorded till harvesting. (Action : Dr. Brij Lal)						
11.	Study of rill and inter-rill erosion processes.	P.R. Ojasvi V.N. Sharda D. Mandal	Hydrology & Engineering, Dehradun	2002	2006	To be continued **(New Project)**

P-2: CONSERVATION MEASURES FOR SUSTAINABLE PRODUCTION SYSTEMS

2.1: RESOURCE CONSERVATION MEASURES FOR ARABLE LANDS

12.	**Tillage and surface cover management for resource conservation and productivity**					
(a)	Tillage practices for erosion control and crop productivity.	H.C. Nitant Om Prakash	Agra	1998	2005	To be continued
Comments: The discrepancy in soil moisture data may be re-checked and corrected data to be reported. (Action : Dr. H.C. Nitant)						
(b)	Tillage and surface cover management.	Dev Narain A.K. Tiwari Brij Lal	Datia	1996	2005	To be continued
Comments: Selective chemical herbicide may be used in the tillage treatments and economics to be worked out. (Action : Dr. Dev Narain)						
(c)	Soil surface management for erosion control.	Ratan Singh S.S. Shrimali (O.S.L.) N.K. Sharma	Soil Science & Agronomy, Dehradun	1995	2004	To be continued
Comments: Name of Dr. P. Murlidharan is deleted.						

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
13.	**Biological and mechanical measures for resource conservation and crop productivity**					
(a)	Evaluation of mechanical and vegetative measures on field size runoff plots.	M.L. Gaur Dev Narain Brij Lal	Datia	1996	2005	To be continued
Comments: Dr. Dev Narain will replace Dr. A.K. Sharma. Five plots with similar hydrological performance may be selected. (Action : Dr. M.L. Gaur)						
(b)	Evaluation of different conservation practices on steep lands in Eastern Ghats Highland Zone.	Susama Sudhishri P.R. Chaudhary Anchal Das N.K. Paikaray	Koraput	1994	2002	To be concluded
Comments: Name of Dr. N.K. Paikaray is included as third associate.						
(c)	Effect of vegetative barriers on erosion losses and yield of rainfed sorghum and soybean.	S.N. Prasad R.K. Singh, Shakir Ali A.K. Parandiyal (OSL)	Kota	1997	2002	To be concluded
(d)	Development of suitable land and crop management practices for the Nilgiris.	P. Murlidharan D.C. Sahoo, M. Madhu D.V. Singh, Subhash Chand P. Sundarambal	Udhagamandalam	2002	2006	To be continued **(New Project)**
14.	**Integrated nutrient management for rehabilitation and productivity**					
(a)	Integrated nutrient supply system for rainfed semi-arid tropics.	S.L. Patil	Bellary	2000	2010	To be continued
(b)	Bio-fertilizer for integrated nutrient management for rehabilitation of eroded Shiwaliks.	Pawan Sharma Pratap Singh Ram Prasad	Chandigarh	2000	2004	To be continued
Comments : Economics of different treatments needs to be worked out. (Action : Dr. (Ms.) Pawan Sharma)						

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
15.	**Cropping systems for resource conservation**					
(a)	Inter-cropping studies in rainfed maize-wheat cropping system on slopping land in Doon valley.	D.S. Tomar, Ratan Singh B.P.Joshi A.K.Khullar	H.R.D. & S.S., Dehradun	2000	2003	To be continued
Comments : Name of Dr. A.R. Sharma is deleted.						
(b)	Evaluation of some suitable minor millets for production and conservation of resources.	Harsh Mehta P.C. Tyagi	Plant Science, Dehradun	2000	2004	To be continued
16.	**Agroforestry systems for arable lands**					
(a)	Management practices for agri-horticulture system in reclaimed ravines.	Om Prakash H.C. Nitant	Agra	1990	2002	To be concluded
Comments: Name of Dr. Dinesh Kumar is deleted and the study is extended till 2002 for root study and economic analysis. (Action : Dr. Om Prakash)						
(b)	Aonla based agro-forestry system for moisture conservation and soil productivity in degraded ravine lands.	B. Balaji H.C. Nitant Om Prakash	Agra	2001	2006	To be continued
Comments: Dr. B. Balaji will replace Dr. Dinesh Kumar as leader.						
(c)	Provinances evaluation study in *Grewia optiva.*	P.C. Tyagi Harsh Mehta V.P.S. Tomar	Soil Science & Agronomy, Dehradun	1995	2003	To be continued
(d)	Effect of supplemental irrigation and mulching on growth, yield and quality behaviour of Kinnow Mandarin in Doon valley.	A.C. Rathore	Plant Science, Dehradun	1995	2005	To be continued
Comments: Dr. A.C. Rathore will replace Dr. Hira Lal. Dr. Harsh Mehta will look after this study till Dr. A.C. Rathore joins. Justification for using Sal leaves as a mulch material may be provided. (Action : Dr. A.C. Rathore / Dr. Harsh Mehta)						

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
(e)	Studies on tree crop association with *Acacia nilotica*, *Azadirachta indica* and *Albizzia lebbek.*	A.K. Parandiyal (OSL) K.D. Singh Arjun Prasad	Kota	1993	2003	To be continued
(f)	Evaluation of different field crops under rainfed agri-horticulture system for resource conservation.	Arjun Prasad A.K. Parandiyal (OSL) K.D. Singh	Kota	2001	2003	To be continued
(g)	Compatibility of raising tuber crops with Aonla in Shiwalik foothill region.	Pratap Singh Ram Prasad Y. Agnihotri	Chandigarh	2002	2005	To be continued **(New Project)**
17.	Evaluation and improvement of indigenous methods of moisture conservation and run-off management.	CCPI: R.C. Yadav Co-CCPI : Om Prakash Associates: H.C. Nitant Bhanwar Singh	Agra	2000	2003	To be continued **NATP (Rainfed)**
		CCPI: Shakir ali Associates: K.D. Singh S.N. Prasad Ashok Kumar	Kota			
Comments : Detailed data may be presented in the next SRC Meeting. Brief about ITK may also be presented. (Action : Dr. R.C. Yadav)						
18.	Management strategies for improving *rabi* sorghum productivity.	CCPI: M.S.R. Rao Associates: S.K.N. Math S.L. Patil, R.Saraswathy	Bellary	2000	2003	To be continued **NATP (Rainfed)**
19.	Development and evaluation of soil and water conservation measures and landuse systems for sustainable crop production in western ghats of coastal region.	PI: A.K. Sikka Co-PI: M. Madhu Associates: P. Murlidharan D.C. Sahoo, Subhash Chand	Udhagamandalam	2000	2003	To be continued **NATP (Coastal)**
Comments : Dr. P. Murlidharan and Er. D.C. Sahoo will replace Ms. V. Selvi and Dr. D.V. Singh respectively.						

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
20.	Developing live fencing systems for soil and water conservation, crop diversify-cation and sustaining productivity in rainfed regions.	CCPI: S.K.N.Math Associates: S.L. Patil, M.S.R.Rao R.N. Adhikari	Bellary	2000	2003	To be continued **NATP (Rainfed)**
		CCPI: P.R. Choudhary Associates: Anchal Das U.S. Patnaik, N.K. Paikaray	Koraput			
Comments : Dr. N.K. Paikaray will replace Dr. Promod Kumar at Koraput. Suitable index for overall comparison of all attributes may be developed. Growth index may be involved. Moisture conservation data may be presented in the next SRC Meeting. (Action : Mr. P.R. Choudhary)						
21.	Conservation tillage and green manure mulching for optimizing productivity in maize wheat cropping system in the sub-mountainous Himalayan region.	PI : Ratan Singh Co-PI : S.K. Dhyani Associate : R.K. Dubey	Soil Science & Agronomy, Dehradun	2001	2003	To be continued **Competitive Grant Programme (CGP)** **(New Project)**

2.2: RESOURCE CONSERVATION MEASURES FOR NON-ARABLE LANDS

22.	**Agroforestry systems for non-arable lands**					
(a)	Production potential of several leguminous and non-leguminous tree species under different management practices.	K. Ilango M.S.R. Rao S.K.N. Math	Bellary	1994	2009	To be continued
Comments: Name of Dr. S.K. N. Math is included as second associate. Soil salinity related data to be recorded and the extent of the area under sality in Karnataka may be investigated. (Action : Dr. K. Ilango)						
(b)	Fuelwood and fodder production from densified plantations on old riverbed land.	Anurag Raizada Charan Singh B.N. Ghosh	Plant Science, Dehradun	1997	2016	To be continued
Comments: Dr. B.N. Ghosh will replace Dr. P. Murlidharan as second associate.						

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
(c)	Evaluation of the agro-forestry systems for marginal lands in Doon valley.	S.K. Dhyani, A.C. Rathore N.K.Sharma Ratan Singh Pradeep Dogra	Plant Science, Dehradun	2001	2010	To be continued
Comments: Dr. A.C. Rathore will replace Dr. Hira Lal and Dr. N.K. Sharma will replace Dr. A.R. Sharma. The year of start of this project is shifted to 2001 as informed by the leader of this project.						
23.	**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	2005	To be continued
Comments: Dr. A.C. Rathore will replace Dr. Hira Lal and Dr. Harsh Mehta will look after this study till Dr. A.C. Rathore joins. Name of Mr. D.S. Tomar is deleted from this study.						
(b)	Effect of graveliness on growth, yield and quality behaviour of peach.	A.C. Rathore D.S. Tomar	Plant Science, Dehradun	1995	2005	To be continued
Cooments : The title of the project has been modified and it has been listed separately. Dr. Harsh Mehta will look after this study till Dr. A.C. Rathore joins.						
(c)	Land and cover management in tea plantation.	M. Madhu, D. Sahoo R. Ragupathy, P. Murlidharan	Udhagamandalam	1995	2005	To be continued
Comments : Dr. D.C. Sahoo will replace Ms. V. Selvi and Dr. P. Murlidharan will replace Dr. D.V. Singh.						
24.	**Horti-pastoral systems**					
(a)	Development of horti-pastoral land use system for degraded lands.	Ram Prasad R.K. Aggarwal, Y. Agnihotri S.P. Mittal, R.P. Yadav	Chandigarh	1995	2003	To be continued

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
25.	**Silvi-pastoral systems**					
(a)	Silvipastoral systems under various management practices for degraded lands.	Charan Singh (OSL) Anurag Raizada	Plant Science, Dehradun	1996	2012	To be continued
Comments: Dr. Gambhir Singh, T-6 will assist in soil sample collection and analysis. (Action : Mr. Charan Singh)						
26.	Silvipastoral approach to improve productivity of native pastures for live--stock production in the hills.	C.C.P.I.: O.P.S. Khola	Soil Science & Agronomy, Dehradun	1999	2003	To be continued **NATP (H&M)**
Comments: Monitoring of biomass production may be started and gauging devices to be installed by January, 2002. (Action: Dr. O.P.S. Khola)						
27.	Evaluation of comparative performance of Aonla based agri-horti systems with filter at 2% slope in Doon Valley.	R.K. Duby K.S. Dadhwal	Soil Science & Agronomy, Dehradun	2002	2012	To be continued **(New Project)**
Comments : The treatments and spacing may be revised as suggested by the SRC. (Action : Dr. R.K. Dubey)						

P-3: HYDROLOGICAL BEHAVIOUR OF WATERSHEDS FOR CONSERVATION PLANNING

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

28.	Studies on the rates of annual water and sediment yield from denuded Shiwaliks to the reservoirs and ponds.	R.C. Bansal R.K. Aggarwal	Chandigarh	1963	2002	To be concluded
Comments: Data of 1999, 2000 and 2001 may be presented and lognithimic functions may be tried for interpretation of data. (Action: Er. R.C. Bansal)						

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
29.	Comparative study of the compatibility of *Cenchrus ciliaris* with *Acacia tortilis* and *Acacia senegal* under silvi-pastoral system in Chambal ravines and their impact on hydrological behaviour of the watershed.	A.K. Parandiyal (OSL) Shakir Ali Ashok Kumar J. Samasundaram	Kota	1993	2003	To be continued
Comments: Name of Mr. J. Samasundaram is included as third associate. Complete data pertaining to *Acacia senegal* may be published in the Annual Report. (Action: Er. Shakir Ali)						
30.	Water balance studies of tea (*Thea sinensis*) crop (lysimetric studies).	A.K. Sikka, V. Selvi M. Madhu	Udhagamandalam	1996	2005	To be continued
31.	Production potential of *Cenchrus ciliaris* and *Dendrocalamus strictus* system in degraded Mahi ravines and is effect on hydrology and sedimentation.	R.S. Kurothe	Vasad	1990	2002	To be concluded
32.	Soil conservation measures in red arable soils.	M.L. Gaur Dev Narain A.K. Tiwari	Datia	2001	2005	To be continued
Comments: The title has been modified as suggested by the SRC. Dr. M.L. Gaur will be the leader of this project with Dr. Dev Narain as first associate and Dr. A.K. Tiwari as second associate.						
33.	Hydrological behaviour of small watersheds and sustainability of production systems.	PI: V.N. Sharda Co-PI: C. Prakash Associates: A.Raizada N.K.Sharma	Hydrology & Engineering, Dehradun	1999	2003	To be continued **NATP (H&M)**

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
34.	Effect of conservation structures on ground water recharge.	D.R. Sena (OSL) R.S. Kurothe Virendra Kumar S.P. Tiwari	Vasad	2001	2006	To be continued **(CORE Project)**
		R.C. Bansal V.S. Katiyar R.K. Aggarwal	Chandigarh			
		A.K. Tiwari M.L. Gaur	Datia			
		Shakir Ali K.D. Singh R.K. Singh B.K. Sethy	Kota			

3.3: WATER HARVESTING

35.	Hydrological evaluation of recommended conservation measures on mildly sloping lands.	V.N. Sharda S.S. Shrimali (O.S.L.) O.P.S. Khola	Hydrology & Engineering, Dehradun	1995	2004	To be continued
Comments : Project is extended till 2004.						
36.	Effect of interventions on small watershed hydrology.	M.L. Gaur Brij Lal Dev Narain	Datia	2001	2006	To be continued
Comments: Names of Dr. A.K. Tiwari and Dr. A.K. Sharma are deleted. Dr. M.L. Gaur will be the leader and Dr. Dev Narain will be the second associate. Calibration data may be presented in the next SRC Meeting. (Action : Dr. M.L. Gaur)						

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
37.	Rainwater management on watershed (micro) basis in sub-montane region.	PI: R.P. Yadav Co-PI: R.K. Aggarwal Associates: Pratap Singh, Ram Prasad, V.S. Katiyar, S.L. Arya, S.P. Mittal	Chandigarh	2000	2003	To be continued **NATP (Rainfed)**
Comments : Names of Dr. V.S. Katiyar, Dr.(Ms.) S.L. Arya and Mr. S.P. Mittal are included as associates in this project. Emphasis on hydrological aspect of the study (water harvesting component) needs to be given. (Action : Dr. R.P. Yadav)						
38.	Water harvesting and recycling for sustainable production in red arable soils in Bundelkhand.	Dev Narain A.K. Tiwari	Datia	2002	2005	To be continued **(New Project)**
39.	Effective utilization of waterways for conservation and production.	B.P. Joshi B.N. Ghosh Harsh Mehta Charan Singh	Hydrology & Engineering, Dehradun	2002	2006	To be continued **(New Project)**
Comments : The title has been modified by the SRC. Put eureka lemon and *Cynadon dactylon* on the slopping sides. Ragi followed by lentil may be put in the middle reach replacing sunnhemp. Put *Panicum maximum* in the lowest reach. (Action : Er. B.P. Joshi)						

P-4 REHABILITATION OF AREAS AFFECTED BY MASS EROSION

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

40.	Effectiveness study of the torrent training structures in outer Himalayas and Shiwalik foot hills of Doon valley.	G.P.Juyal, K.P. Tripathi	Hydrology & Engineering, Dehradun	2000	2003	To be continued

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
41.	Development of cost – effective technology for treatment of choes (rainy season torrents).	PI : V.S. Katiyar Co-PI : R.K. Aggarwal Associates : S.L. Arya Ram Prasad	Chandigarh	2001	2004	To be continued **NATP (H&M)** **(New Project)**
		CCPI : G.P. Juyal Associate : Bankey Bihari B.N. Ghosh	Hydrology & Engineering, Dehradun			
42.	Development of geo-natural with its blend and large scale field trials for soil conservation and agro-horticulture applications.	G.P. Juyal S.K. Dhyani	Hydrology & Engineering, Dehradun	2001	2003	To be continued **AP Cess Fund** (**New Project)**

P-5: PARTICIPATORY INTEGRATED WATERSHED MANAGEMENT

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

43.	Methodologies for development and analysis of watersheds and decision support systems for interventions.	PI: B.L. Dhyani Co-PI: A. Raizada Associate: Pradeep Dogra	H.R.D. & S.S., Dehradun	1999	2003	To be continued **NATP (H&M)**
		CCPI: Y.Agnihotri	Chandigarh			
Comments: Logistics may be involved based on watershed point of view and decision rules may be decided. (Action : Dr. B.L. Dhyani and Dr. Y. Agnihotri)						
44.	Development of regional scale watershed plans and methodologies for identification of critical areas for prioritized land treat-ment in the watersheds.	CCPI: S. Sudhishiri Co-CCPI: Anchal Das Associates: U.S. Patnaik N.K. Paikaray	Koraput	2000	2003	To be continued **NATP (Rainfed)**

5.2 : LANDUSE PLANNING

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
45.	Landuse planning for management of agricultural resources.	PI: Ratan Singh Co-PI: S.K. Dhyani Associate: B.L. Dhyani	Soil Science & Agronomy, Dehradun	2001	2003	To be continued **NATP (H&M)**
		CCPI : M.S.R. Rao Associates : S.K.N. Math K. Ilango S.L. Patil A.K. Singh	Bellary			
		CCPI : D.V. Singh Co-CCPI : P. Murlidharan Associates : V. Selvi, M. Madhu, Subhash Chand, A.K. Sikka	Udhagamandalam			
Comments : Names of Dr. A.R. Sharma and Dr. P. Murlidharan are deleted and Dr. S.K. Dhyani will be the Co-PI of this project at Dehradun.						

5.3: IMPACT ON PRODUCTION, ENVIRONMENT AND BIODIVERSITY

46.	Successional trend in ravine enclosures and line transect.	B. Balaji, H.C. Nitant	Agra	1962	2005	To be continued
47.	Resource conservation through watershed management in Shiwalik foothills of Punjab. (Relmajra Project).	Y. Agnihotri, R.K. Aggarwal, S.P. Mittal, R.C. Bansal, R.P. Yadav, Ram Prasad	Chandigarh	1993	2002	To be concluded

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
48.	Assessment of various indices of environmental rehabilitation in response to wasteland development (Aganpur-Bhagwasi watershed).	V.S.Katiyar, R.K.Agarwal, S.P.Mittal, P.Sharma, R.P.Yadav, S.L.Arya, Pratap Singh, Ram Prasad	Chandigarh	1996	2002	To be concluded **IWDP (TDET)**
49.	Research and development model under TDET. (Bajni Watershed)	A.K.Tiwari V.K.Bhatt (OSL) Om Prakash	Datia	1997	2002	To be concluded **IWDP (TDET)**
Comments : Names of Dr. A.K. Sharma and Dr. R.K. Tiwari are deleted. Dr. A.K. Tiwari will be the leader of this project.						
50.	An economic evaluation of Kokriguda Watershed Project, Koraput (Orissa).	P.R.Chaudhary U.S.Patnaik	Koraput	1997	2002	To be concluded **IWDP (TDET)**
Comments : Name of Dr. Pramod Kumar is deleted and Mr. P.R. Choudhary will be the leader of this project.						
51.	Evaluation of management techniques in ravineous watersheds. (Badakhera Watershed)	K.D.Singh, S.N.Prasad, Shakir Ali, Arjun Prasad, R.K.Singh, S.V.Singh, A.K.Parandiyal (OSL), Ashok Kumar	Kota	1997	2002	To be concluded **IWDP (TDET)**
52.	Development and evaluation of conservation measures for rehabilitation of wastelands on a sustainable basis in Western Ghats. (Salaiyur Watershed)	A.K.Sikka, M.Madhu, V.Selvi, P.Sundaramabal, R.Ragupathy, Subhash Chand, D.V.Singh	Udhagamandalam	1997	2002	To be concluded **IWDP (TDET)**
53.	Impact of participatory watershed management on resource conservation, hydrology, bio-diversity and produc-tion. (Antisar Watershed).	S.P.Tiwari, Virendera Kumar, R.S.Kurothe, H.B.Singh, V.C.Pandey, G.L.Bagdi, D.R.Sena (OSL)	Vasad	1997	2002	To be concluded **IWDP (TDET)**

5.4 FARMING SYSTEM APPROACH

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
54.	Participatory assessment and refinement of traditional ragi cropping.	Anchal Das Susama Sudhishri	Koraput	2000	2002	To be concluded
Comments: Name of Dr. Promod Kumar is deleted.						
55.	Improvement of productivity of migratory buffalo herds.	CCPI : S.K. Verma Associate : P. Dogra	Soil Science & Agronomy, Dehradun	2001	2003	To be continued **NATP (H&M)** **(New Project)**
56.	Development and evaluation of integrated farming system in middle Himalayas.	M. Muruganandam V.N. Sharda, C. Prakash S.K. Verma	Hydrology & Engineering, Dehradun	2001	2004	To be continued **(New Project)**
Comments: Number of objectives may be reduced. (Action : Mr. M. Muruganandam)						

5.5 : WATERSHED TECHNOLOGIES (STRATEGIC RESEARCH)

57.	Watershed Technology (Mission Mode).	PI: K.P. Tripathi Co-PI: S.K. Dhyani Associates: P.R. Ojasvi, O.P.S.Khola, Pradeep Dogra	Hydrology & Engineering, Dehradun	1999	2003	To be continued **NATP (H&M)**
		CCPI: A.K. Sikka Associates: V.Selvi, M.Madhu D.V. Singh, P. Sundarambal, Subhash Chand	Udhagamandalam			
Comments: Critical analysis of hydrological and erosion data may be presented in terms of objectives of the project. (Action : Er. K.P. Tripathi)						

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

6.1: RESOURCE ECONOMICS

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
58.	Economic analysis of watershed management programmes in south-eastern Rajasthan.	Ashok Kumar S.N. Prasad R.K.Singh K.D.Singh	Kota	2000	2002	To be concluded
59.	Economic evaluation and people's participation in watershed projects in Coimbatore and Nilgiri districts.	Subhash Chand P.Sundarambal M.Madhu A.K.Sikka	Udhagamandalam	2000	2002	To be concluded
Comments : Name of Dr. D.V. Singh is deleted.						
60.	Impact of soil and water conservation measures on productivity and socio-economic conditions of Kuberpur ravine watershed.	Bhanwar Singh R.C. Yadav Om Prakash	Agra	2002	2004	To be continued **(New Project)**
Comments : Adopt the parameters already developed and get input from Dr. Om Prakash (Datia) and Dr. S.K. Verma (Dehradun). (Action : Mr. Bhanwar Singh)						
61.	Market and policy incentives for soil and water conservation : A study in Mahi ravine of Gujarat.	V.C. Pande R.S. Kurothe H.B. Singh S.P. Tiwari	Vasad	2002	2004	To be continued **(New Project)**
Comments : The salient features as suggested by the SRC may be included. (Action : Mr. V.C. Pande)						

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
62.	Institute Village Linkage Programme. (Technology Assessment and Refine-ment – for Hill and Mountain Agro-Eco-System).	Leader: A.S.Mishra Associates: S.C.Mohan, D.S.Tomar, B.L.Dhyani, S.K.Verma	H.R.D. & S.S., Dehradun	1999	2003	To be continued **NATP (H&M)**
Comments: The progress report and the visuals were not provided for presentation by the PI, which was objected by the SRC. (Action: Dr. A.S. Mishra)						

6.3 : COMMON PROPERTY RESOURCE MANAGEMENT

63.	Impact of watershed management of sustainability of land productivity and socio-economic status.	CCPI: Om Prakash	Datia	2000	2002	To be concluded **NATP (Rainfed)**
64.	Impact analysis of joint forest management on sharing and management of common property resources in Shiwalik foothill region.	S.L. Arya	Chandigarh	2002	2004	To be continued **(New Project)**
Comments: Ms. Nirmala Sarhadi, T-7 may assist her in field surveys and related works. (Action : Dr.(Ms.) S.L. Arya)						

P-7 HUMAN RESOURCE DEVELOPMENT AND TECHNOLOGY TRANSER

7.1 TRAINING METHODOLOGY, NEED ASSESSMENT, GENDER NEUTRALITY AND EVALUATION

65.	Study of soil and water conservation training programme for Human Resource Develop-ment.	A.S.Mishra Bankey Bihari	H.R.D. & S.S., Dehradun	2000	2002	To be concluded
Comments: Name of Dr. V.N. Sharda is deleted. Progress of work may be presented in the next SRC meeting alongwith final report. (Action: Dr. A.S. Mishra)						

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Start	Completion	Remarks
66.	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 continued **(New Project)**
Comments : Different permutation and combination of parameters used in the formula may be taken. A schedule as suggested by the SRC may be submitted. (Action : Dr. G.L. Bagdi)						

7.3 PARTICIPATORY APPROACHES, DESSEMINATION OF TECHNOLOGY AND ADOPTION

67.	Assessment of defusion of Institute Village Linkage Programme (IVLP) interventions.	Bankey Bihari S.K. Verma	H.R.D. & S.S., Dehradun	2000	2002	To be concluded
68.	Study of adoption behaviour of the farmers for various technologies in integrated water-shed management programme in south-eastern Rajasthan.	S.V. Singh Ashok Kumar K.D. Singh	Kota	2000	2002	To be concluded
Comments : Full data along with analysis may be presented in the next SRC Meeting. (Action : Mr. S.V. Singh)						
69.	Participatory and integrated assessment of natural resources and evaluation of alternate sustainable land management options for tribal dominant watersheds.	PI: U.S. Patnaik Co-PI: P.R. Chaudhary Associates: C. Prehraj Susama Sudhishri Anchal Das, N. K.Paikaray	Koraput	2000	2003	To be continued **NATP (Rainfed)**
Comments : Dr. C. Prehraj will replace Dr. Promod Kumar as first associate.						
70.	Impact assessment and communication behaviour of farmers of already managed watershed and adjoining areas of Bundelkhand region.	OM Prakash A.K. Tiwari	Datia	2002	2004	To be continued **(New Project)**
Comments : Observations on treated and untreated watersheds in different locations may be taken. (Action : Dr. Om Prakash)						

OBSERVATIONAL TRIALS FOR 2002

Sl. No.	Title of the Project	Leader and Associates	Centre/Division	Remarks
1.	Optimization of V-shape micro-watershed for water harvesting.	R.C. Yadav	Agra	
2.	Studies on capacity building of land resources for sustainable productivity in ravine watersheds.	R.C. Agnihotri R.C. Yadav Om Prakash	Agra	
3.	Evaluation of conservation measures with prominent cropping systems for medium black soils.	R.K. Singh K.D. Singh S.N. Prasad Ashok Kumar B.K. Sethy	Kota	This system may be tried in farmer's field for observing practical utility and feasibility.
4.	Carbon sequestration for resource conservation under different land uses.	B.N. Ghosh O.P.S. Khola K.S. Dadhwal	Soil Science & Agronomy, Dehradun	Extensive review of previous work done on this aspect may be done. Try this observational trial on four plots of 2% slope at the Research Farm.

PROJECTS CONCLUDED IN 2001

Sl. No.	Programme No.	Sl.No. of SRC Proc. 2000	Title of the Project	Centre/Division
1.	1.2	4	Evaluation of soil and water conservation measures in Sardar Sarovar catchment in Gujarat state.	Vasad **(Dropped)**
Comment : Dropped due to no progress.				
2.	1.2	43	Aquaculture management in cold water-Evaluation of Mahseer fishery potential and its farming feasibility for conservation in the Himalayan region.	Hydrology & Engineering, Dehradun **(Deleted)**
Comments : This project is removed from the list of SRC Meeting Proceedings as it is being conducted at NRCCWF, Bhimtal. Mr. M. Muruganandam will continue to be associated with this study.				
3.	2.1	7(b)	To study the effect of residue management on resource conservation, soil erosion and crop production in vertisols of semi arid tropics.	Bellary
4.	2.1	7(e)	Studies on effect of crop residue management and tillage practices on soil moisture conservation, soil properties and yield of sorghum.	Kota
Comments : Soil moisture infiltration and related information may be checked and reported in RPF III. (Action : Dr. R.K. Singh)				
5.	2.1	8(b)	Evaluation of mechanical and vegetative measures on 8 per cent slopping runoff plots.	Hydrology & Engineering, Dehradun
6.	2.1	9(c)	Green manuring, mulching and Nitrogen fertilization for optimizing productivity in maize-wheat cropping system.	Soil Science & Agronomy, Dehradun **(Merged)**
Comments : This project is merged with CGP project at Sl.No. 21.				
7.	2.2	14(b)	Planning optimal strategies for agroforestry systems in hills.	HRD & SS, Dehradun
8.	2.2	15(b)	Studies on profile modification for growing *aonla* in degraded Yamuna ravines.	Agra
9.	2.2	15(c)	Land configuration for agri-horticultural system for degraded lands.	Chandigarh
10.	2.2	17(a)	Studies on composite multi-layered vegetation system developed to optimize productivity of eroded Shiwaliks.	Chandigarh
11.	3.1	18	Hydrological behaviour of untreated gully watershed.	Agra
Comments : Consolidated data may be presented in the next SRC Meeting. (Action : Dr. R.C. Yadav)				
12.	6.1	31	Socio-economic implications and participatory appraisal of watershed in Agra.	Agra

SUMMARY OF IMPORTANT RECOMMENDATIONS OF RAC - 2001

1. The Institute has developed certain parameters for delineation of micro-watersheds for operational purposes. Various States in the country presently are undertaking this delineation work. It is expected that in due course of time, the entire territory of India will be delineated into operational size micro-watersheds for development purpose. The Institute should keep a track of the progress of this delineation work and take necessary pro-active action to ensure that the watershed delineation is done properly following scientific approach covering all relevant biophysical attributes. Along with the delineation work, all the available data in the country, relevant to the development of a comprehensive soil & water conservation plan on micro-watershed basis, should be quantified and assigned to respective micro-watersheds by the State agencies. This exercise would help us to identify the gaps in our knowledge required for the development of operational soil & water conservation plans for various micro-watersheds. Requisite knowledge and analysis of this information and gaps would form the basis for the research and development programme of the CSWCRTI, Dehradun. The Institute should develop an appropriate mechanism in its regular long-term research programme to achieve this objective.

2. As a corollary to the development of the master plan of the operational size micro-watersheds, the Institute should reassess its requirement for the establishment of appropriate Institutional linkages, monitoring mechanism and data bank involving State Agricultural Universities, Research Institute of ICAR and other agencies. These requirements should form part of the Xth Five Year Plan of the Institute.

3. The RAC was of the view that in spite of excellent research work being done and soil & water conservation technologies developed by the Institute and sister organizations, the adoption level of the soil and water conservation technologies at the field level by development agencies continues to remain less satisfactory. It appears that along with the development of appropriate technologies, the policy environment conducive to the adoption of such technologies by users of land also needs to be improved. This policy environment in respect of the adoption of soil & water conservation technologies is particularly critical because a number of issues pertaining to ownership and management of soil & water resources are involved. It is, therefore, recommended that the Institute should initiate preparatory work to organize a programme of research aimed at improving the policy environment at national, state and local levels to facilitate adoption of improved soil and water conservation technologies developed by the Institute.

4. The RAC felt that the educational programmes of the State Agricultural Universities are not adequately meeting the huge technical manpower requirements for the development of micro-watershed, across the length and breadth of the country. It is, therefore, recommended that ICAR should initiate necessary action for suitably revising and strengthening the education and training programmes of the State Agricultural Universities & ICAR Institutes to correct the imbalance in the manpower requirements. The Institute may address a suitable communication in this respect to the ICAR.

5. The RAC also felt that the extent of the current programme of the Institute for the development of biological measures for soil and water conservation is not adequate to meet the diverse requirements of the various micro watersheds across the length & breadth of the country. The present set of Regional Research Centres cannot be expected to meet this requirement. The Institute, therefore, has to think of organizing one or more collaborative mechanisms similar to the AICRP to ensure the development and availability of biological component of conservation

technology. Appropriate proposal in this regard may be formulated and incorporated in the Xth Five Year Plan of the Institute.

6. The RAC also recommends that all the new proposed research projects should be subjected to a comprehensive technological and socio economical appraisal before being implemented. The quantum of the expected progress and adoptability of the outcome should be clearly and unambiguously elaborated in the project proposal in advance and the success and failure of the project should be assessed in relation to the projected outcome. It is, therefore, recommended that in future, all new project proposals should be put to the RAC for scrutiny in this regard.

7. The Instrumentation plays a vital role in the evaluation and monitoring of any soil and water conservation research programme. The Institution/organizations, viz. IMD and Bureau of Indian Standard are engaged in calibration, testing and finalizing design specifications of some of the related instruments. The hydrological instruments such as stage level recorder, water level indicator and current meter are required to be evaluated for their performance under field conditions for wider adaptability. The RAC was, therefore, of the view that an Institution like CSWCRTI, Dehradun may be identified by competent authority as a nodal institution, on the pattern of IMD, to calibrate and test these instruments before they are recommended to user agencies. The Institute through ICAR may, therefore, take appropriate action leading to the identification of CSWCRTI, Dehradun as a nodal Institute for calibration and testing of such instruments.

SALIENT RECOMMENDATIONS OF SRC – 2001

1. Project based Annual Report for the current year 2001-2002 should be submitted as per ICAR guidelines by 28th February 2002 positively.

2. All pending RPFs need to be submitted at the earliest. The RPFs pertaining to all NATP and IWDP projects are also to be submitted by 31st March 2002.

3. In addition to the traditional records of RPFs, ICAR has devised a computerized format in "MS-ACCESS" for computerization of information pertaining to the projects at the Institute. Hence, the information related to the projects started in the current/previous years may be submitted in the prescribed format in hard copy as well as floppy by 30th June 2002 positively.

4. Whenever a scientist is given a time bound assignment requiring input from other scientists of Divisions/Centres, a copy of the reminder may be sent to the Head of Division/Centre and the Director. In case there is no response from a scientist, the SRC will take a serious view in the matter.

5. Baseline survey schedule should be standardized for the Institute. For this, the baseline survey schedule being used by the Centres may be submitted to Dr. B.L. Dhyani by 31st March 2002. Dr. Dhyani will standardize the schedule and send a copy to each Centre by 30th April 2002. The Centres can follow this schedule after minor modifications as per objectives and local conditions, if necessary.

6. Dr. (Ms.) Himanshu Bourai, Visiting Social Scientist from H.N.B. Garhwal University, Srinagar (Uttaranchal) presented the progress report of the project entitled "Diagnostic survey on women's role in watershed management". The participants proposed a few constructive suggestions for improvement of the final report to be submitted by her. A copy of the final report will be sent to all Centres for record and further use.

7. Dr. K.S. Dadhwal, Co-ordinator, Soil Science group may evolve the procedure and the format for finding out the soil tolerance limit for different eco-regions.

8. A core-project has been formulated for evaluation of existing models for erosion simulation, standardization of curve number values and runoff coefficients at different locations and under different landuses.

9. Due emphasis on Indigenous Technical Knowledge (ITK) may be given by all the Centres, while carrying out the approved projects or formulating new research projects.

10. The name of the authors in the Institute's Annual Report should be as per SRC Meeting Proceedings.

11. While presenting the results in the SRC Meetings, average of previous year's data for the various parameters should also be presented along with the current year's data.

12. For soil sampling and soil analytical works, where soil scientists are not available, help of relevant technical officers/staff at the Centre/Division may be availed and acknowledged in the publication.

13. Weightage may be assigned to different intangible benefits of watershed management programmes by Dr. B.L. Dhyani, Sr. Scientist and finalized by 30th April 2002.

14. It will be mandatory that the findings / results are presented in the SRC Meeting by the leader of the project or by the next associate attending the meeting. In absence of leader / associates of any project, the Head of the Centre/Division may present the progress of the same.

15. Data regarding livestock population should be presented in terms of livestock/animal units for which Dr. S.K. Verma, Scientist (Animal Nutrition) will send the necessary conversion factors to all the Centres/Divisions by 30th June 2002.

16. A standard schedule for collection of livestock data should be prepared by Dr. S.K. Verma, Scientist (Animal Nutrition) and conveyed to all the Heads by 31th May 2002.

17. All the scientists, who have recently joined in the Institute may undergo Institute's regular 5 ½ months training as well as NAARM training, before submitting a project as a leader in the SRC meetings. Initially, after the training, they may get associated in the projects of their discipline and get fully acquainted with the activities and projects of the Institute.

ACTION TAKEN ON RECOMMENDATIONS OF SRC – 2000

Sr. No.	Action Point	Action Taken
1.	The SRC unanimously decided that the minimum research load for individual scientists will be as follows: a) Leadership in one experiment with association in other one experiment (1+1) OR b) Association in two experiments (0+2).	The norm is being followed.
2.	The projects (experiments) having similar theme may be clubbed to form Core Projects.	Exercise has been completed.
3.	All pending RPFs may be submitted at the earliest.	Action is still awaited.
4.	The information of all ongoing projects may be sent in MS Access software to the Institute for onward transmission to ICAR.	Action taken
5.	Submission of new proposals prior to holding up SRC Meetings after through discussion at Centre/Division level.	SRC viewed it seriously that the action on this point has not been initiated yet.
6.	Submission of RPFs of all NATP projects to the Institute by concerned PIs.	Action is still awaited.
7.	Holding up a seminar prior to submitting a paper for publication and after attending short and long-term training in India and abroad.	Acton awaited. May be strictly followed in future and it may be ensured that the proceedings of the seminar are sent to the Director.

RECOMMENTATIONS OF DISCIPLINE-WISE GROUP DISCUSSIONS

HYDROLOGY AND ENGINEERING GROUP

(A) Hydrologic Investigations

i) Study of component processes for runoff and soil erosion simulation.
ii) Testing and standardization of hydrological instruments.

(B) Hydrologic Analysis

i) Attempts to be made for developing simple equations for different regions for runoff computation including coaxial/graphical solutions using land use and watershed characteristics based on available data from different watersheds.
ii) Study impact of climate changes on watershed hydrology and productivity aspects.

(C) Others

i) Study cause-effect relationship for mass erosion and develop relative indices.
ii) Web-enabled watershed planning.

ECONOMICS, SOCIAL SCIENCES AND HRD GROUP

i) Quantification of intangible benefits from soil and water conservation / watershed management (WSM) programmes.
ii) Development of indices for community participation in watershed management programmes.
iii) Documentation of ITK and constraint analysis for technology diffusion.
iv) Conflict, gender issues and their management in WSM.

AGRONOMIC GROUP

(A) Integrated crop management practices for sustainability

i) Integrated nutrient management for resource conservation – organic farming, residue recycling, *in situ* biomass production.
ii) Varietal evaluation for resource conservation under rainfed conditions.

(B) Indigenous technical knowledge

i) Identification, evaluation and refinement.
ii) Low cost input/material technology.

(C) Crop diversification

i) Contingent crop planning and management for aberrant weather conditions.

SOIL SCIENCE GROUP

i) Quantifying eco-region specific soil tolerance limit.
ii) Inventory of database for land degradation and erosion hazards using remote sensing GIS and identifying soil related constraints and land use planning.
iii) Impact of resource conservation practices on nutrients dynamics and soil health (including carbon sequestration, microbial biomass and other physico-chemical properties, nutrient losses, enrichment ratio, soil vegetation complex).
iv) Studies on soil-water-plant-animal relationship under different land use system viz. soil surface management, soil working techniques, *in-situ* moisture conservation and water/nutrient recycling.
v) Water budgeting for different land uses (quantification of deep percolation and ground water and its quality, WUE etc.).
vi) Integrated nutrient management (use of organic materials, bio-fertilizers etc.).
vii) Evaluation of LCC for land use planning in various agro-eco-regions.

PLANT SCIENCES AND AGROFORESTRY GROUP

(A) Conservation measures for sustainable production systems in arable and non-arable lands

i) Evaluation of agroforestry systems for soil and water conservation.
ii) Conservation, characterization and propagation of important plant species suitable for agroforestry systems.

(B) Vegetation dynamics *vis-à-vis* resource conservation

(C) Integrated Watershed Management

i) Management of common property resources and joint forest management.

RESEARCH PROGRAMMES AND SUB-PROGRAMMES

P-1 WATER EROSION APPRAISAL IN DIFFERENT AGRO-ECOLOGICAL REGIONS (P.I. – Mr. S.C. Mohan)

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. S.K. Dhyani)

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, dessemination of technology and adoption

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., 2001	Sl No. of SRC Proc., 2000	Centre/Division
1	1	Soil Sci. & Agronomy, Dehra Dun
2	50	Soil Sci. & Agronomy, Dehra Dun
3	New	Hydrology & Engg., Dehra Dun
4	New	Udhagamandalam

TOTAL = 4

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

Sl. No. of SRC Proc., 2001	Sl No. of SRC Proc., 2000	Centre/Division
5	2	Hydrology & Engg., Dehra Dun
6	3	Udhagamandalam

TOTAL = 2

1.3: Soil erosion processes and models

Sl. No. of SRC Proc., 2001	Sl No. of SRC Proc., 2000	Centre/Division
7	5	Hydrology & Engg., Dehra Dun
8	6	Bellary
9	New	Agra
10	New	Datia
11	New	Hydrology & Engg., Dehra Dun

TOTAL = 5

P-2: CONSERVATION MEASURES FOR SUSTAINABLE PRODUCTION SYSTEMS

2.1: Resource conservation measures for arable lands

Sl. No. of SRC Proc., 2001	Sl No. of SRC Proc., 2000	Centre/Division
12 (a)	7(a)	Agra
12(b)	7(c)	Datia
12(c)	7(d)	Soil Sci. & Agronomy, Dehra Dun
13(a)	8(a)	Datia
13(b)	8(c)	Koraput
13(c)	8(d)	Kota
13(d)	New	Udhagamandalam
14(a)	9(a)	Bellary
14(b)	9(b)	Chandigarh
15(a)	10(a)	HRD & SS, Dehra Dun
15(b)	10(b)	Plant Science, Dehra Dun
16(a)	15(a)	Agra
16(b)	12	Agra
16(c)	11(b)	Soil Sci. & Agronomy, Dehra Dun
16(d)	11(a)	Plant Science, Dehra Dun
16(e)	11(c)	Kota
16(f)	13	Kota
16(g)	New	Chandigarh
17	51	Agra / Kota

Sl. No. of SRC Proc., 2001	Sl No. of SRC Proc., 2000	Centre/Division
18	52	Bellary
19	53	Udhagamandalam
20	54	Bellary/Koraput
21	New	Soil Sci. & Agronomy, Dehra Dun

TOTAL = 23

2.2: Resource conservation measures for non-arable lands

Sl. No. of SRC Proc., 2001	Sl No. of SRC Proc., 2000	Centre/Division
22(a)	14(a)	Bellary
22(b)	14(c)	Plant Science, Dehra Dun
22(c)	14(d)	Plant Science, Dehra Dun
23(a)	15(d)	Plant Science, Dehra Dun
23(b)	15(d)	Plant Science, Dehra Dun
23(c)	15(e)	Udhagamandalam
24(a)	16(a)	Chandigarh
25(a)	17(b)	Plant Science, Dehra Dun
26	44	Soil Sci. & Agronomy, Dehra Dun
27	New	Soil Sci. & Agronomy, Dehra Dun

TOTAL = 10

P-3: HYDROLOGICAL BEHAVIOUR OF WATERSHEDS FOR CONSERVATION PLANNING

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

Sl. No. of SRC Proc., 2001	Sl No. of SRC Proc., 2000	Centre/Division
28	19	Chandigarh
29	20	Kota
30	21	Udhagamandalam
31	22	Vasad
32	23	Datia
33	45	Hydrology & Engg., Dehra Dun

TOTAL = 6

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

Sl. No. of SRC Proc., 2001	Sl No. of SRC Proc., 2000	Centre/Division
34	24	Vasad/Chandigarh/Datia/Kota

TOTAL = l

3.3: Water harvesting

Sl. No. of SRC Proc., 2001	Sl No. of SRC Proc., 2000	Centre/Division
35	25	Hydrology & Engg., Dehra Dun
36	26	Datia
37	55	Chandigarh
38	New	Datia
39	New	Hydrology & Engg., Dehra Dun

TOTAL = 5

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., 2001	Sl No. of SRC Proc., 2000	Centre/Division
40	27	Hydrology & Engg., Dehra Dun
41	New	Chandigarh/ Hydrology & Engg., Dehra Dun
42	New	Hydrology & Engg., Dehra Dun

TOTAL = 3

P-5: PARTICIPATORY INTEGRATED WATERSHED MANAGEMENT

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

Sl. No. of SRC Proc., 2001	Sl No. of SRC Proc., 2000	Centre/Division
43	46	HRD & SS, Dehra Dun/Chandigarh
44	56	Koraput

TOTAL = 2

5.2: Landuse Planning

Sl. No. of SRC Proc., 2001	Sl No. of SRC Proc., 2000	Centre/Division
45	48	Soil Sci. & Agronomy, Dehra Dun /Bellary/Udhagamandalam

TOTAL = 1

5.3: Impact on Production, environment and biodiversity

Sl. No. of SRC Proc., 2001	Sl No. of SRC Proc., 2000	Centre/Division
46	28	Agra
47	29	Chandigarh
48	37	Chandigarh
49	41	Daita
50	38	Koraput
51	42	Kota
52	39	Udhagamandalam
53	40	Vasad

TOTAL = 8

5.4: Farming system approach

Sl. No. of SRC Proc., 2001	Sl No. of SRC Proc., 2000	Centre/Division
54	30	Koraput
55	New	Soil Sci. & Agronomy, Dehra Dun
56	New	Hydrology & Engg., Dehra Dun

TOTAL = 3

5.5: Watershed technologies (Strategic research)

Sl. No. of SRC Proc., 2001	Sl No. of SRC Proc., 2000	Centre/Division
57	47	Hydrology & Engg., Dehra Dun/ Udhagamandalam

TOTAL = 1

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

6.1: Resource economics

Sl. No. of SRC Proc., 2001	Sl No. of SRC Proc., 2000	Centre/Division
58	32	Kota
59	33	Udhagamandalam
60	New	Agra
61	New	Vasad

TOTAL = 4

6.2: Institute Village Linkage Programme for Technology assessment and refinement

Sl. No. of SRC Proc., 2001	Sl No. of SRC Proc., 2000	Centre/Division
62	49	HRD & SS, Dehraun

TOTAL = 1

6.3: Common property resource management

Sl. No. of SRC Proc., 2001	Sl No. of SRC Proc., 2000	Centre/Division
63	57	Datia
64	New	Chandigarh

TOTAL = 2

P-7: HUMAN RESOURCE DEVELOPMENT AND TECHNOLOGY TRANSFER

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

Sl. No. of SRC Proc., 2001	Sl No. of SRC Proc., 2000	Centre/Division
65	34	HRD & SS, Dehra Dun
66	New	Vasad

TOTAL = 2

7.2: Organizational infrastructure and motivational parameters

Sl. No. of SRC Proc., 2001	Sl No. of SRC Proc., 2000	Centre/Division
Nil	Nil	Nil

TOTAL = Nil

7.3: Participatory approaches for dessemination of technology and adoption

Sl. No. of SRC Proc., 2001	Sl No. of SRC Proc., 2000	Centre/Division
67	35	HRD & SS, Dehra Dun
68	36	Kota
69	58	Koraput
70	New	Datia

TOTAL = 4

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CENTRE/DIVISION-WISE NUMBER OF ON-GOING PROJECTS

S. No.	CENTRE/DIVISION	SL. NO. OF ON-GOING PROJECTS	TOTAL
1.	Agra	9,12(a),16(a),16(b),17,46 & 60	**7**
2.	Bellary	8,14(a),18,20,22(a) & 45	**6**
3.	Chandigarh	14(b),16(g),24(a),28,34,37,41,43,47,48 & 64	**11**
4.	Datia	10,12(b),13(a),32,34,36,38,49,63 & 70	**10**
5.	Dehra Dun		
	• Hydrology & Engineering	3,5,7,11,33,35,39,40,41,42,56 & 57	**12**
	• Soil Science & Agronomy	1,2,12(c),16(c),21,26,27,45 & 55	**9**
	• HRD & SS	15(a),43,62,65 & 67	**5**
	• Plant Science	15(b),16(d),22(b),22(c),23(a),23(b),25(a)	**7**
6.	Koraput	13(b),20,44,50,54 & 69	**6**
7.	Kota	13(c),16(e),16(f),17,29,34,51,58 & 68	**9**
8.	Udhagamandalam	4,6,13(d),19,23(c),30,45,52,57 & 59	**10**
9.	Vasad	31,34,53,61 & 66	**5**
	GRAND TOTAL		**97**

CENTRE/DIVISION-WISE NUMBER OF NATP / IWDP / CGP / AP CESS FUNDED PROJECTS

S. No.	CENTRE/DIVISION	SL. NO. OF PROJECTS	TOTAL
1.	Agra	17	**1**
2.	Bellary	18,20 & 45	**3**
3.	Chandigarh	37,41,43 & *48*	**4**
4.	Datia	*49* & 63	**2**
5.	Dehra Dun		
	• Hydrology & Engineering	33,41,42 & 57	**4**
	• Soil Science & Agronomy	2,**21**,26,45 & 55	**5**
	• HRD & SS	43 & 62	**2**
6.	Koraput	20,44,*50* & 69	**4**
7.	Kota	17 & *51*	**2**
8.	Udhagamandalam	4,19,45, *52* & 57	**5**
9.	Vasad	*53*	**1**
	GRAND TOTAL		**33**

NUMBER OF NEW PROJECTS (CENTRE/DIVISION-WISE) APPROVED IN THE SRC MEETING, 2001

S. No.	CENTRE/DIVISION	SL. NO. OF PROJECTS	TOTAL
1.	Agra	9 & 60	**2**
2.	Chandigarh	16(g), 41 & 64	**3**
3.	Datia	10, 38 & 70	**3**
4.	Dehra Dun		
	• Hydrology & Engineering	3,11,39,41,42 & 56	**6**
	• Soil Science & Agronomy	21,27 & 55	**3**
5.	Udhagamandalam	4 & 13(d)	**2**
6.	Vasad	61 & 66	**2**
	GRAND TOTAL		**21**

NUMBER OF PROJECTS WITH INDIVIDUAL SCIENTISTS

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 2001 is as follows:

Name	Designation	Leader	Associate	Total
Dr. V.N. Sharda	Actg. Director & Head (H&E Division)	3	2	5
Soil Science and Agronomy Division				
Dr. K.S. Dadhwal	Head of the Division	1	1	2
Dr. P.C. Tyagi	Principal Scientist (Plant Breeding)	1	1	2
Mr. S.C. Mohan	Principal Scientist (Soil Fertility)	2	3	5
Dr. V.P.S. Tomar	Principal Scientist (Forestry)	--	1	1
Dr. Ratan Singh	Principal Scientist (Soils)	2	2	4
Dr. O.P.S. Khola	Senior Scientist (Agronomy)	1	2	3
Dr. N.K. Sharma	Senior Scientist (Agronomy)	--	4	4
Dr. B.N. Ghosh	Senior Scientist (Soils)	--	3	3
Dr.. R.K. Dubey	Scientist (Agronomy)	1	1	2
Dr.. S.K. Verma	Scientist (Animal Nutrition)	1	3	4
Mr. D. Mandal	Scientist (Soils)	--	1	1
Hydrology and Engineering Division				
Mr. K.P. Tripathi	Principal Scientist (Engineering)	1	2	3
Mr. G.P. Juyal	Principal Scientist (Engineering)	3	--	3
Dr. P.R. Ojasvi	Senior Scientist (Engineering)	1	2	3
Mr. S.S. Shrimali (O.S.L.)	Senior Scientist (C&A)	1	3	4
Mr. P.K. Goel (O.S.L.)	Scientist (Engineering)	--	--	NIL
Mr. M. Muruganandam	Scientist (Fisheries)	2	--	2
Plant Science Division				
Dr. S.K. Dhyani	I/c Head of the Division	1	5	6
Dr. Anurag Raizada	Senior Scientist (Forestry)	1	3	4
Dr. Harsh Mehta	Senior Scientist (Plant Breeding)	1	2	3
Mr. Charan Singh (O.S.L.)	Scientist (SS) (Forestry)	1	2	3
Mr. A.C. Rathore	Scientist (Horticulture)	3	1	4
Research Coordination & Management Unit				
Mr. B.P. Joshi	Principal Scientist (Engineering)	1	1	2
Dr. Pradeep Dogra	Scientist (SS) (Agril. Eco.)	--	4	4
Mr. A.K. Khullar	Scientist (Agril. Stat.)	--	1	1

Name	Designation	Leader	Associate	Total
Human Resource Development and Social Science Division				
Dr. A.S. Mishra	I/c Head of the Division	2	--	2
Mr. C. Prakash	Principal Scientist (Engineering)	--	2	2
Mr. D.S. Tomar	Senior Scientist (Agronomy)	1	2	3
Dr. B.L. Dhyani	Senior Scientist (Agril. Eco.)	1	2	3
Mr. Bankey Bihari	Scientist (Agril. Extn.)	1	2	3
Research Centre, Agra				
Dr. R.C. Yadav	Head of the Centre	1	2	3
Dr. H.C. Nitant	Principal Scientist (Soils)	1	4	5
Dr. Om Prakash	Principal Scientist (Agronomy)	1	4	5
Dr. R.C. Agnihotri	Principal Scientist (Soils)	--	--	NIL
Mr. Bhanwar Singh	Scientist (SS) (Agril. Eco.)	1	1	2
Mr S.K. Srivastava	Scientist (Engineering)	1	--	1
Dr. B. Balaji	Scientist (Forestry)	2	--	2
Research Centre, Bellary				
Dr. M.S. Rama Mohan Rao	Head of the Centre	2	2	4
Mr. R.N. Adhikari	Principal Scientist (Engineering)	1	1	2
Dr. S.K.N. Math	Principal Scientist (Soils)	1	3	4
Dr. S.L. Patil	Scientist (SS) (Agronomy)	1	3	4
Mr. A.K. Singh	Scientist (Engineering)	--	1	1
Ms. R. Saraswathy (O.S.L.)	Scientist (Soil Pedology)	--	2	2
Mr. K. Ilango	Scientist (Forestry)	1	1	2
Research Centre, Chandigarh				
Dr. R.K. Aggarwal	Head of the Centre	--	7	7
Mr. S.P. Mittal	Principal Scientist (Agronomy)	--	4	4
Dr. Y.K. Agnihotri	Principal Scientist (Agril. Stat.)	2	2	4
Dr. V.S. Katiyar	Principal Scientist (Engineering)	2	2	4
Mr. R.C. Bansal	Senior Scientist (Engineering)	2	1	3
Dr. (Ms.) Pawan Sharma	Senior Scientist (Soil Micro-bio.)	1	1	2
Dr. R.P. Yadav	Senior Scientist (Soils)	1	3	4
Dr. Pratap Singh	Senior Scientist (Agronomy)	1	3	4
Dr. (Ms.) S.L. Arya	Senior Scientist (Agril. Eco.)	1	3	4
Dr.Ram Prasad	Scientist (Horticulture)	1	6	7
Research Centre Datia				
Dr. A.K. Tiwari	I/c Head of the Centre	2	5	7
Dr. Dev Narain	Senior Scientist (Agronomy)	2	4	6
Mr. V.K. Bhatt (O.S.L.)	Scientist (SS) (Engineering)	--	1	1
Dr. Om Prakash	Scientist (SS) (Agril. Extn.)	2	1	3
Dr. M.L. Gaur	Scientist (SS) (Engineering)	3	1	4
Dr. Brij Lal	Scientist (Soil Fertility)	1	3	4
Research Centre, Koraput				
Dr. U.S. Patnaik	Head of the Centre	1	3	4
Dr. C. Prehraj	Senior Scientist (Agronomy)	--	1	1
Mr. P.R. Chaudhary	Scientist (SS) (Forestry)	2	2	4
Mr. Anchal Dass	Scientist (Agronomy)	1	4	5
Ms. Susama Sudhishri	Scientist (Engineering)	2	2	4
Dr. N.K. Paikaray	Scientist (Soil Science)	--	4	4

Name	Designation	Leader	Associate	Total
Research Centre, Kota				
Dr. K.D. Singh	Head of the Centre	1	6	7
Dr. S.N. Prasad	Principal Scientist (Agronomy)	1	3	4
Dr. Arjun Prasad	Principal Scientist (Agronomy)	1	2	3
Dr. R.K. Singh	Senior Scientist (Soil Fertility)	--	4	4
Dr. S.V. Singh	Scientist (SS) (Agril. Extn.)	1	1	2
Mr. A.K. Parandiyal	Scientist (SS) (Forestry)	2	3	5
Dr. Ashok Kumar	Scientist (SS) (Agril. Eco.)	1	4	5
Mr. Shakir Ali	Scientist (Engineering)	2	3	5
Mr. B.K. Sethy	Scientist (Engineering)	-	1	1
Dr. J. Somasundaram	Scientist (Soils)	-	1	1
Research Centre, Udhagamandalam				
Dr. A.K. Sikka	Head of the Centre	5	3	8
Mr. R. Ragupathy	Scientist(SS) (Forestry)	--	3	3
Dr. M. Madhu	Scientist (SS) (Agronomy)	1	8	9
Dr. D.V. Singh	Scientist (Soil Fertility)	2	4	6
Dr. Subhash Chand	Scientist (Agril. Eco.)	1	6	7
Ms. V. Selvi	Scientist (Engineering)	--	5	5
Dr.(Ms.) P.Sundarambal	Scientist (Agril. Exnt.)	--	4	4
Dr. P. Murlidharan	Scientist (Soils)	1	4	5
Dr. D.C. Sahoo	Scientist (Engineering)	-	3	3
Research Centre, Vasad				
Dr. Virendra Kumar	Head of the Centre	--	2	2
Dr. R.S. Kurothe	Principal Scientist (Engineering)	1	4	5
Dr. H.B. Singh	Principal Scientist (Agronomy)	--	3	3
Dr. S.P. Tiwari	Senior Scientist (Soil Fertility)	1	2	3
Mr. G.L. Bagdi	Scientist (SS) (Agril. Extn.)	1	1	2
Mr. V.C. Pandey	Scientist (Agril. Eco.)	1	2	3
Mr. D.R. Sena (O.S.L.)	Scientist (Engineering)	1	1	2

LIST OF PARTICIPANTS

1.	Dr. V.N. Sharda	Actg. Director	Chairman
CSWCRTI, DEHRADUN			
2.	Dr. K.S. Dadhwal	Head (SS&A Division)	Member
3.	Er. K.P. Tripathi	Principal Scientist (Engg.) & PI (P-4)	Member
4.	Dr. P.C. Tyagi	Principal Scientist (Plant Breeding)	
5.	Er. B.P. Joshi	Principal Scientist (Engineering)	Member Secretary
6.	Dr. V.P.S. Tomar	Principal Scientist (Agronomy)	
7.	Er. G.P. Juyal	Principal Scientist (Engineering)	
8..	Er. C. Prakash	Principal Scientist (Engineering) & PI (P-3)	Member
9.	Dr. Ratan Singh	Principal Scientist (Soils)	
10.	Dr. S.K. Dhyani	I/c Head (Pl.Sc. Division) & PI (P-5)	Member
11.	Mr. D.S. Tomar	Senior Scientist (Agronomy)	
12.	Dr. A. Raizada	Senior Scientist (Forestry)	
13.	Dr. O.P.S. Khola	Senior Scientist (Agronomy) & PI (P-2)	Member
14.	Dr. Harsh Mehta	Senior Scientist (Plant Breeding)	
15.	Dr. P.R. Ojasvi	Senior Scientist (Engineering)	
16.	Dr. B.L. Dhyani	Senior Scientist (Agril. Eco.) & PI (P-6)	Member
17.	Dr. N.K. Sharma	Senior Scientist (Agronomy)	
18.	Er. S.S. Shrimali	Senior Scientist (Computer Application)	
19.	Dr. B.N. Ghosh	Senior Scientist (Soils)	
20.	Dr. Pradeep Dogra	Scientist (SS) (Agril. Eco.)	Rapporteur
21.	Mr. A.K. Khullar	Scientist (Agril. Stat.)	Rapporteur
22.	Dr. R.K. Dubey	Scientist (Agronomy)	
23.	Mr. Bankey Bihari	Scientist (Agril.Extn.)	
24.	Mr. M. Muruganandam	Scientist (Fisheries)	
25.	Dr. S.K. Verma	Scientist (Animal Nutrition)	
26.	Dr. Himanshu Bourai	Visiting Scientist	
27.	Mr. S.K. Sinha	Sr. Technical Assistant (T-4)	Rapporteur
RESEARCH CENTRE, AGRA			
28.	Dr. H.C. Nitant	I/c Head of the Centre	Member
29.	Dr. R.C. Yadav	Principal Scientist (Engineering)	
30.	Dr. Om Prakash	Principal Scientist (Agronomy)	
31.	Dr. R.C. Agnihotri	Principal Scientist (Soils)	
32.	Dr. B. Balaji	Scientist (Forestry)	
RESEARCH CENTRE, BELLARY			
33.	Er. R.K. Adhikari	Principal Scientist (Engineering)	
34.	Dr. S.L. Patil	Scientist (SS) (Agronomy)	
35.	Mr. K. Ilango	Scientist (Forestry)	
RESEARCH CENTRE, CHANDIGARH			
36.	Dr. R.K. Aggarwal	Head of the Centre	Member
37.	Mr. S.P. Mittal	Principal Scientist (Agronomy)	
38.	Dr. Y. Agnihotri	Principal Scientist (Ag. Stat.)	
39.	Er. R.C. Bansal	Senior Scientist (Engineering)	
40.	Dr. Pratap Singh	Senior Scientist (Agronomy)	
41.	Dr. (Ms.) Pawan Sharma	Senior Scientist (Soil Micro-bio)	

42.	Dr.(Ms.) S.L. Arya	Senior Scientist (Ag. Eco.)	
43.	Dr.Ram Prasad	Scientist (Horticulture)	
RESEARCH CENTRE, DATIA			
44.	Dr. A.K. Tiwari	Pr. Scientist (Engineering)	
45.	Dr. Dev Narain	Senior Scientist (Agronomy)	
46.	Dr. Om Prakash	Scientist (SS) (Agril. Extn.)	
47.	Dr. Brij Lal	Scientist (Soils)	
RESEARCH CENTRE, KORAPUT			
48.	Dr. U.S. Patnaik	Head of the Centre	Member
49.	Dr. N.K. Paikaray	Scientist (Soils)	
RESEARCH CENTRE, KOTA			
50.	Dr. K.D. Singh	Head of the Centre	Member
51.	Dr. S.N. Prasad	Principal Scientist (Agronomy)	
52.	Dr. R.K. Singh	Senior Scientist (Soil Fertility)	
53.	Mr. Shakir Ali	Scientist (Engineering)	
54.	Dr. J. Somasundaram	Scientist (Soils)	
55.	Mr. B.K. Sethy	Scientist (Engineering)	
RESEARCH CENTRE, UDHAGAMANDALAM			
56.	Dr. A.K. Sikka	Head of the Centre	Member
57.	Ms. V. Selvi	Scientist (Engineering)	
58.	Dr. D.V. Singh	Scientist (Soils)	
59.	Dr. Subhash Chand	Scientist (Agril. Eco.)	
60.	Dr. P. Murlidharan	Scientist (Soils)	
61.	Mr. D.C. Sahoo	Scientist (Engineering)	
RESEARCH CENTRE, VASAD			
62.	Dr. Virendra Kumar	Head of the Centre	Member
63.	Dr. R.S. Kurothe	Principal Scientist (Engineering)	
64.	Dr. H.B. Singh	Principal Scientist (Agronomy)	
65.	Dr. S.P. Tiwari	Senior Scientist (Soil Fertility)	
66.	Mr. G.L. Bagdi	Scientist (SS) (Agril. Extn.)	