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**ICAR - Indian Institute of Soil and Water Conservation
Institute Research Committee (IRC) Proceedings - 2020
(July 01 to 06, 2020)**

Prioritization, Monitoring & Evaluation (PME) CELL

**ICAR - Indian Institute of Soil & Water Conservation,
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PREAMBLE BY THE CHAIRMAN

The Acting Director of the Institute, Dr. RS Yadav welcomed all the Heads of the Centres, Divisions and Scientists to the IRC 2020 meeting, which was for the first time held on web platform due to COVID-19 pandemic. He was of the opinion that the Institute's scientists have been delivering their best not only in their scientific endeavours but also for all round development of the Institute. He further added that time has come when we need to think and develop some mechanism that how can we take our technologies to a larger area and clientele. We need to develop strong liaison with various NGOs working on soil and water conservation aspects. Also, projects may be formulated and submitted to scientific organizations like DST, DBT etc. for funding. State Governments are also keen to fund good projects. Our Institute is recognized for its work on soil and water conservation, and various agencies look upon us to provide solutions to problems related to soil and water conservation.

While formulating a project we should always bear in mind the objective of the project. In case of core projects, the conditions of different agro-ecological regions need to be kept in mind. Other than the scientific aspect of the project, all rules and regulations to run a project alongwith proper utilization of the project budget is equally important. All project operations should be completed in a time bound manner to harness all potential results of the project.

We also need to keep in mind that how best we can deliver our services to the nation for welfare of farmers by efficiently using the available resources. Dr. RS Yadav also remarked that the scientists have done and are doing good work, which should be projected. He advised that out of the clear cut results of a project submitted by the scientist in RPP-IV, at least three good slides should be kept ready for presentation at various forums, including the Council. The contents of the slide should be self explanatory. Every Research Centre should submit a half-page text matter expressing reason of research conducted, scientific methodology followed, quantified salient results and national relevance of every concluded project to the PME Cell alongwith one-two photographs separately in jpeg format. Data collection and its statistical analysis should be robust. Standard units should be used for data collection and presentation. This improves the quality of research papers also.

To develop a good project and carry it forward on a sound footing, frequent interaction amongst the members of the project team is important. In this manner, various problems coming in way of the project can also be resolved. He further added that we need to expand our activities related to soil and water conservation for which we should collaborate with various agencies. IFS models need to be developed with respect to soil and water conservation. No farming system will sustain for a long time if soil and water conservation activities are not taken up. Thus, we should take lead and develop projects. Initiative should be taken by scientists to submit proposals and pursue them vigorously, so that they are approved and implemented timely.

He urged upon the scientists to actively participate in the prestigious TSP and SCSP programmes by formulating the holistic plan having soil & water conservation measures for the benefit of stakeholders. He concluded his address with the remark that the Institute has worked hard and given its best with respect to Natural Resource Management, therefore, it should be our objective to carry the work forward with determination and dedication as we have the potential to do so.

AGENDA & PROGRAMME OF IRC MEETING, 2020

DATE (Day)	TIME	AGENDA & PROGRAMME
01.07.2020 (Wednesday)	10:00 am	Welcome and Opening Remarks - Dr. R.S. Yadav, Acting Director & Chairman, IRC
	10: 30 am	Presentation of New Project Proposals by the Project Leaders 30 minutes will be given to each project (20 minutes for presentation and 10 minutes for discussion and comments) - S. No. 1 - Development-----Gujarat : Dr. R. A. Jat - S. No. 2 - Sustaining-----Rajasthan : Mrs. Anita Kumawat - S. No. 3 - To Develop-----Shivaliks : Dr. Ram Prasad - S. No. 4 - Soil-----Himalayas : Dr. S. Patra
	12:30 pm	Tea Break
	12:45 pm	Presentation of New Project Proposals by the Project Leaders - S. No. 5 - Assessment-----Region : Dr. Karma Beer - S. No. 6 - Sorghum-----Bundelkhand : Dr. Dinesh Kumar - S. No. 7 - Development-----Region : Dr. Karma Beer
	2:15 pm	Lunch Break
	2:45 pm	Presentation of New Project Proposals by the Project Leaders - S. No. 8 - Restoration-----Shivaliks : Dr. P.L. Bhutia - S. No. 9 - Modeling-----GIS : Dr. Manoj Kumar - S. No. 10 - Ecological -----Himalayan region : Dr. D.V. Singh - S. No.11 - Evaluation -----Himalayas : Devideen Yadav
02.07.2020 (Thursday)	10:00 am	Presentation of Observational Trial listed on Page No. 43 of IRC Proceedings, 2019 15 minutes will be given to each project (10 minutes for presentation and 05 minutes for discussion and comments) - S. No. 1 To develop-----Shivaliks : Dr. Ram Prasad
	10:15 am	Presentation of Core Projects by the Leaders of Core Groups 20 minutes will be given to each core project (15 minutes for presentation and 5 minutes for discussion and comments) - S. No. 7 (P-1) : Dr. Uday Mandal - S. No. 11 (P-1) : Dr. D. Mandal - S. No. 14 (P-1) : Dr. Gopal Kumar
	11:15 am	Tea Break
	11:30 am	Presentation of Core Projects by the Leaders of Core Groups - S. No. 37 (P-2.2) : Dr. Rajesh Kaushal - S. No. 68 (P-5) : Dr. V.C. Pande
	12:10 pm	Presentation of Projects To be Concluded in 2019-20 by the Project Leaders 15 minutes will be given to each project (10 minutes for presentation and 05 minutes for discussion and comments) - S. No. 1 (P-1) : Dr. P.R. Ojasvi - S. No. 3 (P-1) : Dr. R.S. Yadav - S. No. 15 (P-1) : Er. Saswat K. Kar - S. No. 25 (P-2.1) : Dr. Karma Beer
	1:10 pm	Lunch Break
	1:45 pm	Presentation of Projects To be Concluded in 2019-20 by the Project Leaders - S. No. 28 (P-2.1) : Dr. K. Kannan - S. No. 30 (P -2.2) : Dr. D.V. Singh - S. No. 32 (P-2.2) : Dr. Harsh Mehta - S. No. 39 (P- 2.2) : Dr. Ramesha M.N. - S. No. 52 (P -3) : Dr. Uday Mandal

DATE (Day)	TIME	AGENDA & PROGRAMME
03.07.2020 (Friday)	10:00 am	Presentation of Projects To be Concluded in 2019-20 by the Project Leaders - S. No 54 (P-3) : Mr. A.K. Gupta - S. No. 56 (P-3) : Dr. Rama Pal - S. No. 58 (P-3) : Dr. G.L Meena - S. No. 59 (P-3) : Dr. P.R. Bhatnagar
	11:00 am	Presentation of Projects To be Concluded in 2019-20 by the Project Leaders - S. No. 60 (P-3) : Dr. Gaurav Singh - S. No. 63 (P-5) : Dr. M. Muruganandam - S. No. 65 (P-5) : Dr. D.C. Meena - S. No. 69 (P-6) : Er. S.S. Shrimali - S. No. 72 (P-6) : Dr. Indu Rawat
	12:15 pm	Tea Break
	12:30 pm	Presentation of To be Continued Projects by the Project Leaders 15 minutes will be given to each project (10 minutes for presentation and 05 minutes for discussion and comments) - S. No. 02 (P-1) : Dr. M. Sankar - S. No. 04 (P-1) : Dr. Ch. J. Dash - S. No. 08 (P-1) : Dr. Sadikul Islam - S. No. 09 (P-1) : Dr. Sadikul Islam - S. No. 12 (P-1) : Dr. M. Sankar - S. No. 16 (P-1) : Dr. D.Dinesh
	2:00 pm	Lunch Break
	2:30 pm	Presentation of To be Continued Projects by the Project Leaders - S. No. 17 (P-2.1) : Dr. N.K. Sharma - S. No. 18 (P-2.1) : Dr. Raman Jeet Singh - S. No. 19 (P-2.1) : Dr. Lekh Chand - S. No. 20 (P-2.1) : Dr. Trisha Roy - S. No. 21 (P-2.1) : Dr. Lekh Chand - S. No. 22 (P-2.1) : Dr. S.L. Patil
04.07.2020 (Saturday)	10:00 am	Presentation of To be Continued Projects by the Project Leaders - S. No. 23 (P-2.1) : Dr. Ram Prasad - S. No. 24 (P-2.1) : Dr. D.C. Sahoo - S. No. 26 (P-2.1) : Dr. Kuldeep Kumar - S. No. 27 (P-2.1) : Dr. I. Rashmi - S. No. 31 (P-2.2) : Dr. Harsh Mehta - S. No. 33 (P-2.2) : Dr. J. Jayaprakash
	11.30 am	Presentation of To be Continued Projects by the Project Leaders - S. No. 36 (P-2.2) : Dr. A.C. Rathore - S. No. 38 (P-2.2) : Dr. A.K. Parandiyal - S. No. 40 (P-2.2) : Ms. M. Prabhavathi - S. No. 41 (P-2.1) : Dr. Dinesh Kumar
	12:30 pm	Tea Break
	12:45 pm	Presentation of To be Continued Projects by the Project Leaders - S. No. 42 (P-2.2) : Dr. M. Madhu - S. No. 43 (P-2.2) : Dr. S. Kala - S. No. 44 (P-2.2) : Dr. H.R. Meena - S. No. 46 (P-2.2) : Dr. V. Kakade - S. No. 48 (P-3) : Dr. Ch. J. Dash
	2:00 pm	Lunch Break
	2:30 pm	Presentation of To be Continued Projects by the Project Leaders - S. No. 49 (P-3) : Dr. D.C. Sahoo - S. No. 50 (P-3) : Dr. Charan Singh

DATE (Day)	TIME	AGENDA & PROGRAMME
		<ul style="list-style-type: none"> - S. No. 53 (P-3) : Er. Saswat K. Kar - S. No. 55 (P-3) : Er. Saswat K. Kar - S. No. 57 (P-3) : Dr. B.S. Naik - S. No. 61 (P-4) : Dr. B.L. Mina
05.07.2020 (Sunday)		BREAK
06.07.2020 (Monday)	10:00 am	<p>Presentation of To be Continued Projects by the Project Leaders</p> <ul style="list-style-type: none"> - S. No. 62 (P-4) : Dr. V. Kakade - S. No. 64 (P-5) : Dr. J.M.S. Tomar - S. No. 67 (P-5) : Dr. Ravi Dupdal - S. No. 70 (P-6) : Dr. Rajesh Bishnoi
	11.00 am	Tea Break
	11.15 am	<p>Presentation of Externally Funded Projects by the Project Leaders 20 minutes will be given to each project (15 minutes for presentation and 05 minutes for discussion and comments)</p> <ul style="list-style-type: none"> - S. No. 5 (P-1) : Dr. N.K. Sharma - S. No. 6 (P-1) : Dr. Sadikul Islam - S. No. 10 (P-1) : Dr. P. Raja - S. No. 13 (P-1) : Dr. D. Mandal - S. No. 29 (P-2.1) : Dr. K. Rajan - S. No. 34 (P-2.2) : Dr. A.C. Rathore
	1:15 pm	Lunch Break
	1:45 pm	<p>Presentation of Externally Funded Projects by the Project Leaders</p> <ul style="list-style-type: none"> - S. No. 35 (P-2.2) : Dr. Rajesh Kaushal - S. No. 45 (P-2.2) : Dr. K. Kannan - S. No. 47 (P-3) : Dr. Saswat Kumar Kar - S. No. 51 (P-3) : Dr. P.R. Ojasvi - S. No. 66 (P-5) : Dr. S.L. Patil - S. No. 71 (P-6) : Dr. Bankey Bihari
	3:45 pm	Tea Break
	4.00 pm	<p>Action Taken Report on the assigned in the IRC Meeting, 2019</p> <ul style="list-style-type: none"> - Dr. Harsh Mehta, Member Secretary, IRC
	4:00 pm	<p>Presentation & Discussion on TSP/ SCSP Running at Divisions & Research Centres</p> <ul style="list-style-type: none"> - Dr. Charan Singh, Principal Scientist & Co-ordinator of TSP/SCSP
	4:10 pm	<p>Presentation & Discussion on TOT Running at Divisions & Research Centres</p> <ul style="list-style-type: none"> - Dr. Bankey Bihari, I/c Head, HRD & SS Division
	4:20 pm	<p>Presentation & Discussion on Capacity Building at Headquarters & Research Centres</p> <ul style="list-style-type: none"> - Dr. Rajesh Bishnoi, Scientist (Agrl Extn.)
	4:30 pm	<p>Presentation & Discussion on Swachhhta Abhiyan at Headquarters & Research Centres</p> <ul style="list-style-type: none"> - Dr. Indu Rawat, Scientist (Home Management/ FRM)
	4:40 pm	<p>Plenary Session, Concluding Remarks and Recommendations</p> <ul style="list-style-type: none"> - Chairman, IRC
	5:00 pm	<p>Vote of Thanks</p> <ul style="list-style-type: none"> - Member Secretary, IRC

Note: S. No. of the project is as per IRC - 2019 proceedings.

IMPORTANT GUIDELINES FOR PRESENTATION:

1. Projects concluded in the year (i.e. 2019-20) should be presented giving overall findings under the project till date and conclusions in terms of stated short term / long term objectives, clearly spelling out the findings and possibilities for upscaling, and defining domain area, mechanism and resources required.
2. While presenting the progress of a project, the number of slides should be restricted to **10 only** including figures / photographs covering title, leader and associates, objectives, achievements and project expenditure (direct & indirect in one slide) during the year.
3. New project proposals must be based on extensive review, patent search and availability of resources in the Institute. It is mandatory for the PIs and Heads of the Research Centres & Divisions to ensure availability of all the resources required for new projects.
4. Any change in leader or associates should be presented in a slide form at the end of presentation of the project for approval.
5. **The presentation of the projects must be well rehearsed, so that it may be completed smoothly within the stipulated time frame.** This may be brought to the notice of all scientists of the Research Centre/Division.
6. Programme Leader(s) will work as moderator(s) during presentation, discussion and preparing comments of the project, which is mandatory for each project. The mandatory comments for a project must be finalized with active participation and comments of Programme Leader and OIC (PME Cell) which will be approved by the Competent Authority.

**ACTION TAKEN ON
“SALIENT RECOMMENDATIONS OF IRC MEETING – 2019”**

S. No.	Action Assigned	Action Taken Report
1.	<p>Action is again assigned by the IRC – 2019 that a technical bulletin may be published on the results obtained from the concluded project entitled “Enhancement in land productivity and livelihood security of small farmers of Nilgiris through multiple use of harvested water” by Dr. S. Manivannan, Pr. Scientist (Engg.) by July 31, 2019 positively.</p> <p style="text-align: center;">(Action: Dr. S. Manivannan).</p>	Draft prepared. Will be printed shortly.
2.	<p>Action is again assigned by the IRC – 2019 that a policy brief on peach may be brought out from the concluded project entitled “Peach based agri-horticulture landuse system for degraded Shiwaliks” by Dr. Ram Prasad, Pr. Scientist (Hort.) by December, 2019 positively.</p> <p style="text-align: center;">(Action: Dr. Ram Prasad)</p>	Policy or Research Brief on peach will be submitted by Oct, 2020.
3.	<p>Action is again assigned by the IRC – 2019 that a DSS for generating optimal IFS plan of a farmer may be worked out by Dr. Pradeep Dogra, Pr. Scientist (Ag. Eco.) and leader of concluded core project entitled “Multiple criteria decision for identifying suitable Integrated Farming Systems in different agro-ecological regions for optimizing resource conservation and productivity” by December, 2019 positively for which the cost is to be ascertained for outsourcing.</p> <p style="text-align: center;">(Action: Dr. Pradeep Dogra)</p>	For ascertaining cost of formulation of the DSS, including its essential component compromise programming (CP) optimization software using modern computer programming language, as the CP software in hand has limited capabilities, firm M/s SCIENCE, Dehradun for outsourcing was contacted. Required detail listing of steps for generation of an optimal IFS plan to formulate the DSS were explained to the firm. For CP software, the firm was asked to formulate it based on standard CP methodology. However, the firm expressed its inability to formulate CP software despite exploring all its sources.
4.	<p>Action is again assigned by the IRC – 2019 that the preparation of Ravine Atlas of India including the scientific method for delineating the affected areas due to ravines may be completed for other remaining areas also by Dr. R.K. Singh, Head, Research Centre, Kota, Dr. G.L. Meena, Scientist (Soils) and Dr. Gopal Kumar, Sr. Scientist (Soils) for which a project for external funding may be prepared.</p> <p style="text-align: center;">(Action: Dr. R.K. Singh, Dr. G.L. Meena and Dr. Gopal Kumar)</p>	A proposal external funding has already been submitted to PME Cell.

S. No.	Action Assigned	Action Taken Report
5.	<p>Action is again assigned by the IRC – 2019 that the statistical analysis about trend in borewell depth related to the concluded project entitled “Socio-economic implication and vulnerability of farmers to ground water exploitation in hard rock region of the Deccan” may be done by Mr. Suresh Kumar, Scientist (Ag. Econ.) and Dr. S.L. Patil, Head, Research Centre, Bellary by December, 2019 positively. A policy paper from the above project including techno-economical analysis may also be prepared.</p> <p>(Action: Mr. Suresh Kumar and Dr. S.L. Patil)</p>	<p>Policy paper will be done by December, 2020.</p>
6.	<p>Action is again assigned by the IRC – 2019 that the economic analysis related to the concluded core project entitled “Evaluation of hydrological behaviour and production potential of recommended landuse system / practices under different agro-ecological regions of India” may be done by Dr. J.M.S. Tomar, Pr. Scientist (Forestry) and leaders at other Research Centres by developing a proforma for economic analysis and should be included in the final report of the project. Final report (RPP III) of the project may be submitted objective-wise by September, 2019 positively.</p> <p>(Action: Dr. J.M.S. Tomar and leaders of other Research Centres)</p>	<p>Agra, Chandigarh: PI of core project apprised data common proforma has been developed but Centre could not get common proforma and sample analysis.</p> <p>Kota: Proforma for economic analysis is under process.</p> <p>Vasad : Submitted</p>
7.	<p>Action is again assigned by the IRC – 2019 that an extension bulletin including package of practices and economic analysis may be prepared from the concluded project entitled “Evaluating the effect of organic amendments on resource conservation and productivity of rainfed semi-arid vertisols” by Ms. M. Prabhavathi, Scientist (Soils) by July 31, 2019 positively. The technologies developed from the above project may be transferred to the farmers under TSP/SCSP by the next year. RPP IV on the above project may also be submitted.</p> <p>(Action: Ms. M. Prabhavathi)</p>	<p>Draft copy of the Bulletin will be submitted to the PME Cell by October, 2020.</p>

S. No.	Action Assigned	Action Taken Report
8.	<p>Action is again assigned by the IRC – 2019 that the document of 60 years research in Soil and Water Conservation may be published by the Head, Research Centres, Agra, Bellary, Kota and Udhagamandalam on or before July 31, 2019 positively. Similar document for 30 years of Research Centre, Datia may also be published by July 31, 2019 positively. This is a long pending activity.</p> <p>(Action: Head, Research Centres, Agra, Bellary, Datia, Kota and Udhagamandalam)</p>	<p>Agra: Document submitted to PME Cell. Ballari: The final report will be submitted by October, 2020. Kota: Document submitted to PME Cell. Datia: The information is compiled. It will be submitted at the earliest for further necessary action. Ooty: The information has been compiled for the sixty year document and sent to RCMU, Dehradun. Printing will be done by Oct., 2020 end.</p>
9.	<p>Action is again assigned by the IRC – 2019 that the Final report (RPP III) of the concluded project entitled “Assessment of impact of extraction of RBM (River bed material) on physiography of stream flow courses of Himalayan foot hill streams” may be submitted by July 31, 2019 positively by Er. S.S. Shrimali, Sr. Scientist (CAA), as some more data to be collected from the monitoring agencies or to be estimated. Comparison of process done by Mining Department and this Institute may be reported in RPP III.</p> <p>(Action: Er. S.S. Shrimali)</p>	<p>RPP III submitted</p>
10.	<p>Action is again assigned by the IRC – 2019 that the commercialization of plants should be tried to explore with the National Horticulture Boards located at Research Centres and Headquarters, Dehradun by Horticulture/ Forestry Scientists working at Research Centres and Plant Science Division, Dehradun for revenue/ resource generation of the Institute. Dr. A.C. Rathore, Pr. Scientist (Horticulture) will coordinate this assignment for Headquarters and all Research Centres. Proposals with budget, infrastructure and manpower may be submitted for this purpose by Plant Science, Dehradun and all Research Centre’s by December, 2019 positively.</p> <p>(Action: Dr. A.C. Rathore and Horticulture/ Forestry Scientists at Research Centres)</p>	<p>Dr. A.C. Rathore three proposals have been submitted by Chandigarh, Kota & Koraput to their respective state horticulture mission.</p> <p>Agra: Commercialization of plants is not possible at Agra Centre. Ballari: Consultation with state Horticulture Deptt. for establishing quality planting material production unit will be done by Dr. M.N. Ramesha. Chandigarh: The draft has been submitted to Dr. AC Rathore, PME Cell and NHB at Chandigarh. The response of NHB, Gurugram office is awaited. Kota: Proposal already been submitted to NHB, Regional Office Jaipur as well as PME Cell. Ooty : Commercialization is limited. However, grass and fodder are being sold to Deptts. and farmers. Vasad: Efforts are being taken to develop mother block of different cultivars, however they are facing difficulties from biotic interference.</p>

S. No.	Action Assigned	Action Taken Report
11.	<p>Action is again assigned by the IRC – 2019 that a video film of 5-10 minutes related to each Research Centre may be prepared by the Head of concerned Research Centre. Dr. Bankey Bihari, I/c Head, HRD&SS Division will coordinate this assignment. Further, video film of 2-3 minutes related to specific technology of the Research Centre may also be prepared for the benefit of trainees. These activities are to be taken up from possible funding by DKMA. (Action: Dr. Bankey Bihari and Heads of all Research Centres)</p>	<p>Ballari: will be submitted October, 2020. Chandigarh, Kota: Under process. Koraput : Action to be completed by March, 2021. Ooty: Draft script video film has been prepared and submitted to Dr. Bankey Bihari. Vasad: submitted to Dr. Bankey Bihari</p>
12.	<p>Action is again assigned by the IRC – 2019 that the Policy briefs/ Policy papers on related areas may be prepared by the Head of Research Centres Agra, Ballari and Datia by December, 2019 positively for sending to the Director General, ICAR, Politicians, Policy makers etc. for its ultimate use. (Action: Heads of Research Centres Agra, Ballari and Datia)</p>	<p>Agra: Under process. Ballari: Assignment will be completed Oct., 2020. Datia: PI of the project “Impact of land use land cover changes on soil erosion susceptibility in Bundelkhand region using Remote Sensing and GIS technique” based on which policy brief was to be brought out has been transferred to IARI.</p>
13.	<p>The recommendations of the concluded project entitled “Effect of varying water regimes on Zn and N dynamics and rice productivity in saline vertisols” may be taken into the farmer’s field under ToT. RPP IV of this project may also be submitted. (Action: Ms. M. Prabhavathi)</p>	<p>The final recommendation of the project was taken up in farmers field under Centre’s budget during <i>Kharif</i> 2019-20. RPP IV will be submitted 31st October, 2020.</p>
14.	<p>Economic analysis related to the concluded project entitled “ In situ moisture conservation practices under aonla based agro-forestry system for sustainable production in red soils of Bundelkhand” may be done with and without fruiting effect in Aonla by Dr. Dev Narayan, Pr. Scientist (Agro.). Recommendations of the project may be taken into the farmer’s field under ToT. RPP IV of the project may also be submitted. (Action: Dr. Dev Narayan and Head of Datia Centre)</p>	<p>Economic analysis done and submitted by PI who has now retired. Plants have been planted in the farmer’s field.</p>
15.	<p>A brochure for estimation of nutrient addition in soil may be brought out from the concluded project entitled “Soil fertility restoration and carbon sequestration potential of multipurpose trees for agro-forestry system in Himalayan foothills” by Dr. (Ms.) Vibha Singhal, Sr. Scientist (Agro-forestry) by December, 2019 positively. (Action: Dr. (Ms.) Vibha Singhal)</p>	<p>Report submitted.</p>

S. No.	Action Assigned	Action Taken Report
16.	<p>A new project may be developed by Dr. (Ms.) P. Sundarambal, Pr. Scientist (Ag. Extn.) after selecting ITKs which are unique and holds the promise for testing and developing as MTK and submitted for approval.</p> <p>(Action: Dr. (Ms.) P. Sundarambal)</p>	<p>Ooty: New project has been prepared and submitted to RAC.</p>
17.	<p>Full result, analysis, DSS and recommendations for the concluded core project entitled “Field evaluation of design of trenches under different agro-climatic regions” may be presented by Dr. P.R. Bhatnagar, core leader and Head, Research Centre, Vasad in the next IRC meeting. Vegetation index, moisture conservation and land degradation data may also be calculated. Valuable raw data from all Research Centres with proper description of the data should be deposited in the Library in soft as well as hard copy forms. Taking observations may be continued and discussed accordingly in the team of core project.</p> <p>(Action: Dr. P.R. Bhatnagar)</p>	<p>Vasad: Dr. P.R. Bhatnagar, PI of the core project has been transferred.</p>
18.	<p>A policy brief including the study of climate change from farmers’s perception point of view may be brought out from the concluded core project entitled “Assessing farmer’s knowledge, vulnerability and adapting capacity of soil and water conservation technologies under changing climatic scenario” by Dr. Bankey Bihari, I/C Head, HRD & SS Division and leaders of this core project at Research Centres by December, 2019 positively.</p> <p>(Action: Dr. Bankey Bihari)</p>	<p>Action awaited</p>
19.	<p>A policy brief highlighting the factors of unsustainability may be prepared from the concluded project entitled “Assessment of sustainability factors for soil and water conservation projects” by Dr. Madan Singh, Scientist (Ag. Extn.) by December, 2019 positively for sending to different State.</p> <p>(Action: Dr. Madan Singh)</p>	<p>Rough draft is ready and is enclosed.</p>
20.	<p>Adoption report of agro-forestry systems may be prepared from the concluded project entitled “Determination of heterogeneity in agro-forestry practices and acceptability alongwith altitude gradient in Western Himalayas” by Dr.Charan Singh, Pr. Scientist (Forestry) by September, 2019 positively linking with land holding size and elevation base aspects.</p> <p>(Action: Dr. Charan Singh)</p>	<p>Submitted</p>

S. No.	Action Assigned	Action Taken Report
21.	<p>A DSS (Decision Support System) for watershed planning, execution and monitoring should be developed as per the recommendations of RAC. A core group for this purpose is formed as under: Co-ordinator – Dr. P.R. Ojasvi, Team Leader – Dr. D.R. Sena, Members- Dr. N.K. Sharma, Dr. Pradeep Dogra, Dr. D. Mandal, Dr. Rajesh Kaushal, Dr. Gopal Kumar, Dr. Ramanjeet Singh, Dr. Uday Mandal and Dr. Sadikul Islam.</p> <p>(Action: Dr. P.R. Ojasvi and Dr. D.R. Sena)</p>	Under progress and being followed up.
22.	<p>The maximum total percent time spent by a scientist in approved running research projects should not be exceeded 80% and minimum 20% of his / her time should be kept spare for other scientific assignments of the Institute. Minimum 40% of his/ her time should be devoted by a scientist in running research projects of the Institute. Further, maximum 30% time as PI or Co-PI should be spent by a scientist in one running research project of the Institute.</p> <p>(Action: All Scientists/ Heads of Research Centres/ Divisions)</p>	All scientists have been instructed for compliance.
23.	<p>All pending RPPs of research projects should be filled up as per ICAR guidelines on RPPs and submitted urgently for updating the RPP record of the Institute.</p> <p>(Action: All Heads/ Scientists of Research Centres/ Divisions)</p>	All scientists have been instructed for compliance.

SALIENT RECOMMENDATIONS OF IRC MEETING – 2020

1. Action is again assigned by the IRC – 2020 that a policy or research brief on peach may be brought out from the concluded project entitled “Peach based agri-horticulture landuse system for degraded Shiwaliks” by Dr. Ram Prasad, Pr. Scientist (Hort.) by December, 2020.
(Action: Dr. Ram Prasad)
2. Action is again assigned by the IRC – 2020 that a Decision Support System (DSS) for generating optimal IFS plan of a farmer may be formulated under concluded core project entitled “Multiple criteria decision for identifying suitable Integrated Farming Systems in different agro-ecological regions for optimizing resource conservation and productivity”, for which Mr. Akshay Dheeraj, Scientist (Computer Application) may explore the possibility of formulating required compromise programming software and the DSS with inputs from Dr. Pradeep Dogra by March, 2021 as outsourcing could not provide the desired output.
(Action: Dr. Pradeep Dogra and Mr. Akshay Dheeraj)
3. Action is again assigned by the IRC – 2020 that the statistical analysis about trend in borewell depth related to the concluded project entitled “Socio-economic implication and vulnerability of farmers to ground water exploitation in hard rock region of the Deccan” may be done by Dr. Suresh Kumar, Scientist (Ag. Econ.) and Dr. S.L. Patil, Head, Research Centre Bellary by December, 2020. A policy paper from the above project including techno-economical analysis may also be prepared by December, 2020.
(Action: Dr. Suresh Kumar)
4. Action is again assigned by the IRC – 2020 that economic analysis related to the concluded core project entitled “Evaluation of hydrological behaviour and production potential of recommended landuse system / practices under different agro-ecological regions of India” may be done by project leader Dr. J.M.S. Tomar, Pr. Scientist (Forestry) by developing a proforma for economic analysis, and should be included in the final report of the project. Final report (RPP III) of the project may be submitted objective-wise by December, 2020.
(Action: Dr. J.M.S. Tomar)
5. Action is again assigned by the IRC – 2020 that an extension bulletin including package of practices and economic analysis may be prepared from the concluded project entitled “Evaluating the effect of organic amendments on resource conservation and productivity of rainfed semi-arid vertisols” by Ms. M. Prabhavathi, Scientist (Soils) by October, 2020. The technologies developed from the above project may be transferred to the farmers under TSP/SCSP by next year. RPP IV on the above project may also be submitted by December, 2020.
(Action: Ms. M. Prabhavathi)
6. Action is again assigned by the IRC – 2020 that the document of 60 years research in Soil and Water Conservation may be published by the Head, Research Centres Agra, Bellary, Kota and Udhagamandalam on or before December, 2020. Similar document for 30 years of Research Centre, Datia may also be published by December, 2020.
(Action: Head, Research Centres Ballari and Datia)

7. Action is again assigned by the IRC – 2020 that a video film of 5-10 minutes related to each Research Centre may be prepared by respective Head of Research Centre. Dr. Bankey Bihari, I/c Head, HRD&SS Division will coordinate this assignment. Further, video film of 2-3 minutes related to specific technology of the Research Centre may also be prepared for the benefit of trainees. The assigned works may be completed by March, 2021. These activities are to be taken up with possible funding from DKMA.

(Action: Dr. Bankey Bihari)

8. Action is again assigned by the IRC – 2020 that policy briefs / papers on related areas may be prepared by Head, Research Centres Agra, Ballari and Datia by December, 2020 for submitting to Director General (ICAR), politicians, policy makers etc. for their ultimate use.

(Action: Heads of Research Centres Agra and Ballari)

9. Action is again assigned by the IRC – 2020 that the recommendations of the concluded project entitled “Effect of varying water regimes on Zn and N dynamics and rice productivity in saline vertisols” may be taken **into the farmer’s field under ToT. RPP IV of this project** may also be submitted by December 2020.

(Action: Ms. M. Prabhavathi)

10. Action is again assigned by the IRC – 2020 that a policy brief including the study of climate change from farmer’s perception point of view may be brought out from the concluded core project entitled “Assessing farmer’s knowledge, vulnerability and adapting capacity of soil and water conservation technologies under changing climatic scenario” by Dr. Bankey Bihari, I/c Head, HRD&SS Division and leaders of this core project at Research Centres by December, 2020.

(Action: Dr. Bankey Bihari)

11. Action is again assigned by the IRC – 2020 that a Decision Support System (DSS) for watershed planning, execution and monitoring should be developed as per the recommendations of RAC by March 2021. A core group for this purpose is formed as under: Co-ordinator and Team Leader – Dr. P.R. Ojasvi, Members – Dr. N.K. Sharma, Dr. Pradeep Dogra, Dr. D. Mandal, Dr. Rajesh Kaushal, Dr. Gopal Kumar, Dr. Ramanjeet Singh, Dr. Uday Mandal and Dr. Sadikul Islam.

(Action: Dr. P.R. Ojasvi)

General Recommendations

1. All the PI of the research projects should ensure on record that Co-PIs in their projects are contributing in the project specific to his/her assigned targets. Contributions from Co-PIs should be spelled out clearly during the presentation in the IRC, failing which contributions of respective Co-PIs shall be considered NIL in the particular year.
2. During the presentation in the IRC, it was found that PIs/Co-PIs cites the reasons for not attaining the objectives/recording of the observations without bringing the facts on record into the notice of Competent Authority for facilitating or otherwise. Henceforth, reasons for any shortfall in achieving the targets should be on record.

RESEARCH PROGRAMMES AND SUB-PROGRAMMES

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

(Leader - Er. S.S. Shrimali)

- 1.1 Inventory and database of erosion status using modern tools and procedures
- 1.2 Soil erosion process modeling and climate change studies
- 1.3 Soil carbon dynamics and erosion productivity studies

P-2 CONSERVATION MEASURES FOR SUSTAINABLE PRODUCTION SYSTEM

- 2.1 Resource conservation measures for arable lands

(Leader - Dr. N.K. Sharma)

- 2.2 Resource conservation measures for non-arable lands

(Leader - Dr. Harsh Mehta)

P-3 WATERSHED HYDROLOGY FOR CONSERVATION PLANNING

(Leader - Dr. S. Patra)

- 3.1 Hydrological behaviour of land uses and management practices
- 3.2 Water harvesting, groundwater recharge and management
- 3.3 Decision support systems (DSS)

P-4 REHABILITATION OF AREAS AFFECTED BY MASS EROSION

(Leader - Dr. Shakir Ali)

- 4.1 Development and refinement of technologies for rehabilitation of ravines, landslides, mine spoils, riverbed mining, stream banks, torrents etc.

P-5 INTEGRATED WATERSHED MANAGEMENT FOR SOCIO-ECONOMIC GROWTH AND POLICY ADVOCACY

(Leader - Dr. Pradeep Dogra)

- 5.1 Participatory watershed management and integrated farming system (IFS)
- 5.2 Common property resource management

P-6 HUMAN RESOURCE DEVELOPMENT AND TECHNOLOGY TRANSFER

(Leader - Dr. Bankey Bihari)

- 6.1 Capacity development approaches and information and communication technology (ICT)
- 6.2 Participatory technology dissemination and adoption

STATUS OF PROGRAMME WISE RUNNING PROJECTS AND IRC COMMENTS

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

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

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
1.	Impact of land use land cover changes on soil erosion susceptibility in Bundelkhand region using Remote Sensing and GIS technique. (NRMAIISWCCIL 201500300089)	R. Ranjan R.S. Yadav	Datia	2015-16	2020-21 (To be concluded)	Bundelkhand region	Project is concluded. Division of H&E is to see the results. Letter is to be written to Director, IARI with request to direct Dr R. Ranjan to submit the project report & RPP III as per his handing over charge. (Action: Head, H&E Division, Dehradun)
2.	An evaluation of the potential to use the Fallout Radionuclide (FRN) Caesium – 137 (¹³⁷ Cs) in national scale soil erosion assessment in India. (NRMAIISWCSIP20180010 0149) (International Collaborative Project with University of Exeter, United Kingdom)	M. Sankar D. Dinesh V.K. Thilagam	Soil Science & Agronomy, Dehradun	2018-19	2021-22	Agricultural fields of Dehradun and Research Centres	As modus operandi of the project was not considered by c/a, hence it may be considered for some other external funding and resubmitted afresh subject to availability of external fund. (Action: Dr. M. Sankar)

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
3.	Regionalization of erosivity density and identification of hot-spot of erosion risk under different agro-ecological regions of India. (NRMAIISWCCIL 201800200150)	Ch. J. Dash S.S. Shrimali	Koraput	2018-19	2020-21 (To be concluded)	All the agro-ecological regions of India	Own equation may be developed instead of using others for reporting against Modified Fournier Index for all Research Centres & Headquarter. (Action: Ch. J. Dash)

1.2 SOIL EROSION PROCESS MODELING AND CLIMATE CHANGE STUDIES

4.	Study of atmospheric and soil carbon dioxide fluxes in temperate mountainous ecosystem of western ghats with reference to climate change impact assessment. (NRMAIISWCCOL 201700100131) (NRSC-ISRO, Hyderabad funded)	P. Raja K. Rajan K. Kannan Hombe Gowda	Udhagaman-dalam	2017-18	2020-21 (To be concluded)	Research Farm and Nilgiri district	Name of Dr. O.P.S. Khola is deleted. (Action: Dr. P. Raja)
5.	Assessment of potential soil erosion of India. (NRMAIISWCCIL 201800400152) (Core Project)	Uday Mandal P.R. Ojasvi Gopal Kumar D. Mandal	Hydrology & Engineering, Dehradun	2018-19	2021-22 (To be continued)	Headquarters, Dehradun	Workshop should be organized so that same methodology for data collection and analysis is followed by all Research Centres. Validate estimated K values with the respective values of Centres' Research Farms. Names of Dr. D.R. Sena (w.e.f. 31-12-19), Dr. Rajeev Ranjan (w.e.f. 13-12-19), Dr. P.P. Adhikary (w.e.f. 29-11-19) and Dr. H. Biswas (w.e.f. 13-12-19) are deleted at Dehradun, Datia, Koraput and Ballari, respectively. (Action: Dr. Uday Mandal and leaders at all Research Centres)
		K.K. Sharma	Agra	2019-20		Agra	
		B.S. Naik	Ballari	2019-20		Ballari	
		O.P.S. Khola V.K. Bhatt	Chandigarh	2019-20		Chandigarh	
		Dinesh Kumar	Datia	2019-20		Datia	
		Ch. J. Dash Shakir Ali G.L. Meena	Koraput Kota	2019-20 2019-20		Koraput Kota	

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
		S. Manivannan V.K. Thilagam	Udhagaman- dalam	2019-20		Udhagman- dalam	
		Gaurav Singh D. Dinesh	Vasad	2019-20		Vasad	
6.	Development of Artificial Intelligence (AI) models for watershed scale modelling using the data of Ramganga watershed. (NRMAIISWCCIL 201900100160)	Sadikul Islam Saswat K. Kar S.S. Shrimali P.R. Ojasvi A. Dheeraj	Hydrology & Engineering, Dehradun	2019-20	2022-23 (To be continued)	Ramganga River Catchement	Name of Mr. Akshay Dheeraj is included. (Action: Dr. Sadikul Islam)
7.	Development of rainfall energy based erosivity factor to formulate a daily based generic erosion equation. (NRMAIISWCCIL 201900200161)	Sadikul Islam Uday Mandal Gopal Kumar Shakir Ali D.C. Sahoo A. Dheeraj	Hydrology & Engineering, Dehradun	2019-20	2024-25 (To be continued)	Dehradun, Koraput & Kota	Drop size calibration may be done. Name of Dr. D.R. Sena is deleted (w.e.f. 31-12-19) and of Mr. Akshay Dheeraj is included as fifth associate. (Action: Dr. Sadikul Islam)

1.3 SOIL CARBON DYNAMICS AND EROSION PRODUCTIVITY STUDIES

8.	Erosion productivity relationships for evaluating vulnerability and resiliency of soils under different agro-climatic regions of India. (NRMACSWCRTI CIL200800100014) (Core Project)	D. Mandal N.K. Sharma Pradeep Dogra Sadikul Islam S. Patra	Soil Science & Agronomy, Dehradun	2008-09	2020-21 (To be concluded)	Research Farm of Headquarters and all Research Centres	Cumulative analysis - soil wise, slope wise and agro-ecological region wise - may be done across the centres & presented in the IRC as warranted being a core project. Significant outputs / outcomes are expected through statistical analysis and modelling. Name of Dr. S. Patra is added as associate at Dehradun. In case of Datia, Dr. R.S. Yadav is added as Co-PI. Name of Dr. H. Biswas (w.e.f. 13-12-19) from Ballari, Dr. P.P. Adhikary (w.e.f. 29-11-19) from Koraput, and Dr Dev Narayan (w.e.f. 30-04-20) from Datia is deleted. (Action: Dr. D. Mandal and leaders at all Research Centres)
		S.K. Dubey K.K. Sharma R.K. Dubey	Agra	2009-10			
		S.L. Patil	Ballari	2009-10			
		Sharmistha Pal V.K. Bhatt	Chandigarh	2009-10			
		Dinesh Kumar R.S. Yadav	Datia	2009-10			
		M. Madhu	Koraput	2009-10			

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
		R.K. Singh Kuldeep Kumar B.L. Mina	Kota	2009-10			
		K. Kannan P. Raja V. Selvi	Udhagaman- dalam	2009-10			
9.	Assessment of soil organic carbon in transit under erosion processes: A source or sink for atmospheric CO ₂ . (NRMACSWCRTI CIL201100400050)	M. Sankar Lekh Chand CCPI: Suresh Kumar, IIRS, Dehradun	Soil Science & Agronomy, Dehradun	2011-12	2023-24 (To be continued)	Research Farm, Dehradun	Explore possibilities for funding of the project and submit the proposal to PME Cell within 15-20 days after receipt of final IRC proceedings. Name of Dr. D.R. Sena (w.e.f. 31-12-19) is to be deleted. (Action: Dr. M. Sankar)
10.	Development and validation of a spatially explicit simulation framework to quantify runoff-erosion-carbon flux at watershed scale. (NRMACSWCRTI CIL201400200082)	Saswat K Kar A.C. Rathore Trisha Roy	Hydrology & Engineering, Dehradun	2014-15	2020-21 (To be concluded)	Research Farm, Dehradun	Project is extended for one year till 2020-21. (Action: Er. Saswat K. Kar)
11.	Environmental tracer based study on erosion induced loss of soil organic carbon and its impact on agronomic productivity and environmental quality. (NRMAIISWCCOL 201500700093) (ICAR-National Fellow funded)	D. Mandal	National Fellow Programme	2015-16	2024-25 (To be continued)	Research Farm, Dehradun and Doon Valley region	Project is extended for five years till November 2024 by funding agency. (Action: Dr. D. Mandal)

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
12.	Land use effect on soil carbon stock and soil quality in Mahi ravine ecosystem of semi-arid tropics. (NRMAIISWCSIP 201700200132) (Collaborative project with NBSSLUP)	D. Dinesh Gaurav Singh Ram A. Jat CCPI: P.C. Moharana Co-CCPI: Bagawati I. Tailor	Vasad	2017-18	2020-21 (To be concluded)	Mahi ravines in Gujarat	Name of Dr. V. Kakade (w.e.f. 31-07-20) is deleted. Name of Dr. Ram A. Jat is added. (Action: Dr. D. Dinesh)
13.	Carbon sequestration potential of prevailing and recommended land uses in reclaimed degraded ecosystems under different agro-ecological regions of India. (NRMAIISWCCIL 201900300162) (Core Project)	Gopal Kumar D. Mandal Rajesh Kaushal Ramanjeet Singh Trisha Roy S. Patra P.R. Ojasvi	Soil Science & Agronomy, Dehradun	2019-20	2023-24 (To be continued)	Sainji Watershed	A virtual workshop may be organised for formulating a uniform procedure for studies by all the Research Centres to arrive at some recommendations. Baseline data must be collected to measure carbon build-up. Names of Dr. S. Patra at Dehradun; Dr. B.S. Naik, Dr. M. Prabhawati, and Dr. M.N. Ramesha at Ballari; Dr. Dinesh Jinger, Dr. Ram A. Jat and, Dr. M. Madhu at Koraput are included as associates. Name of Dr. D.R. Sena (w.e.f. 31-12-19), Dr. H.Biswas (w.e.f. 13-12-19), Mr. A.S. Morade (w.e.f. 06-08-19), Dr. Rajeev Ranjan (w.e.f. 13-12-19), Dr. P.P. Adhikary (w.e.f. 29-11-19), P. Jakhar (w.e.f. 29-11-19) and V. Kakade (w.e.f. 31-07-20) are deleted. (Action: Dr. Gopal Kumar and leaders at all Research Centres)
		A.K. Parandiyal D.C. Meena S.K. Dubey	Agra			Jalalpur Watershed	
		S.L. Patil B.S. Naik M. Prabhawati M.N. Ramesha	Ballari			Netranahalli Watershed	
		Sharmistha Pal Pankaj Panwar V.K. Bhatt O.P.S. Khola P.L. Bhutia	Chandigarh			Sukhomajari Watershed	
		Dinesh Kumar R.S. Yadav	Datia			Jigna Watershed	

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
		M. Madhu Karma Beer	Koraput			Rajput Watershed	
		G.L. Meena R.K. Singh A.K. Singh H.R. Meena Anita Kumawat	Kota			Badakheda Watershed	
		V.K. Thilagam S. Manivannan K. Kannan Hombe Gowda	Udhagaman- dalam			Ayalur Watershed	
		D. Dinesh Gaurav Singh Dinesh Jinger Ram A. Jat	Vasad			Antisar Watershed	

P-2 CONSERVATION MEASURES FOR SUSTAINABLE PRODUCTION SYSTEM

2.1 RESOURCE CONSERVATION MEASURES FOR ARABLE LANDS

14.	Restoration of shifting cultivated lands for resource conservation and sustainable production in Eastern Ghats. (NRMAIISWCCIL 201500800094)	D.C. Sahoo Karma Beer	Koraput	2015-16	2022-23 (To be continued)	Shifting cultivated area in Koraput district	Names of Dr. P.P. Adhikary (w.e.f. 29-11-19) and Dr. P. Jakhar (w.e.f. 29-11-19) are deleted. (Action: Dr. D.C. Sahoo)
15.	Conservation tillage systems for enhancing productivity and resource use efficiency under rainfed area of South-Eastern Rajasthan. (NRMAIISWCCIL 201500900095)	Kuldeep Kumar B.L. Mina Shakir Ali Ashok Kumar Anita Kumawat	Kota	2015-16	2020-21 (To be concluded)	Research Farm, Kota	As weed management is important for conservation agriculture, data on weed dynamics should be recorded and analysed. Estimation of Global Warming Potential can be done for additional information. Name of Ms. Anita Kumawat is included as fourth associate. (Action: Dr. Kuldeep Kumar)

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
16.	Resource conservation and productivity enhancement through organic and inorganic amendments in soyabean-mustard cropping systems. (NRMAIISWCCIL 201600300117)	I. Rashmi B.L. Mina Kuldeep Kumar Shakir Ali Ashok Kumar	Kota	2016-17	2020-21 (To be concluded)	Research Farm, Kota	System yield/productivity and system economics may be calculated. Energy calculations w.r.t. inputs and outputs may also be worked out. (Action: I. Rashmi)
17.	Development of conservation agriculture practices for rainfed production systems in North-Western Himalayan region. (NRMAIISWCCIL 201700300133)	N.K. Sharma Ramanjeet Singh Uday Mandal Trisha Roy A.K. Gupta	Soil Science & Agronomy, Dehradun	2017-18	2022-23 (To be continued)	Research Farm, Dehradun	
18.	Evaluation of conservation tillage based <i>Arundo donax</i> mats for resource conservation and enhancing cropping intensity on sloping crop lands. (NRMAIISWCCIL 201700400134)	Ramanjeet Singh N.K. Sharma Gopal Kumar	Soil Science & Agronomy, Dehradun	2017-18	2020-21 (To be concluded)	Research Farm, Dehradun	
19.	Determining resource conservation potential of bio-degradable waste and their on-farm utilization to increase crop productivity and profitability. (NRMAIISWCCIL 201700500135)	Lekh Chand N.K. Sharma M. Sankar	HRD&SS, Dehradun	2017-18	2021-22 (To be continued)	Research Farm, Dehradun	Name of Dr. M. Sankar is included as second associate. Name of Dr. U.K. Maurya (w.e.f. 30-11-19) is deleted. (Action: Dr. Lekh Chand)

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
20.	Utilization of different industrially derived waste along with <i>Arbuscular Mycorrhizal Fungi</i> (AMF) for sustainable soil management. (NRMAIISWCCIL 201700600136)	Trisha Roy Uday Mandal Devideen Yadav	HRD&SS, Dehradun	2017-18	2020-21 (To be concluded)	Research Farm, Dehradun	Soil physical properties may be studied with respect to yield with application of wastes. (Action: Dr.(Ms.) Trisha Roy)
21.	Effect of integrated nutrient management on soil properties and productivity of chickpea under rainfed vertisols of South India. (NRMAIISWCSIP 201900500164) (AICRPDA Collaborative Project with CRIDA, Hyderabad)	S.L. Patil Ramesha M.N. Ravi K.N.	Ballari	2018-19	2022-23 (To be continued)	Research Farm, Ballari	Names of Dr. H. Biswas (w.e.f. 13-12-2019) and Mr. A.S. Morade (w.e.f. 06-08-19) are deleted. Name of Dr. Ramesha M.N. is included. (Action: Dr. S.L. Patil)
22.	Efficient utilization of fruit / vegetable waste (FVW) for improving soil health and productivity of organic agri-oleri system. (NRMAIISWCCIL 201800500153)	Sathiya K. Ram Prasad V.K. Bhatt Sharmishta Pal	Chandigarh	2018-19	2022-23 (To be continued)	Research Farm, Chandigarh	Intangible benefits from utilization of wastes need to be listed in the study. Name of Dr. Swarn Lata Arya (w.e.f. 29-02-20) is deleted and of Dr. Sharmishta Pal is added as associate. (Action: Dr. Sathiya K.)
23.	Soil erosion and runoff studies in system crop intensification of different crops with mulching. (NRMAIISWCCIL 201900400163)	Lekh Chand D.V. Singh S. Patra	HRD&SS, Dehradun	2019-20	2022-23 (To be continued)	Research Farm, Dehradun	Name of Dr. S. Patra is added as Co-PI. (Action: Dr. Lekh Chand)

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
24.	Biochar for acid soil improvement and climate change mitigation in temperate ecosystem. (NRMAIISWCCOL 201900600165) (DST funded)	K. Rajan P. Raja K. Kannan	Udhagamandalam	2019-20	2021-22 (To be continued)	Research Farm, Udhagamandalam	Energy utilized for making biochar and energy stored in the biochar may be calculated for its economic viability. Explore possibility of using crop residues as biochar as per the national objective. Compare efficacy of material used in the study for making biochar with dolomite as other input material for biochar, and compare economics. (Action: K. Rajan)
25.	Evaluation of maize based inter-cropping system to conserve soil and water and improve farm income in rainfed areas of North-Western Himalaya. (NRMAIISWCCIL 202000100171) (New Project)	Devideen Yadav Ramanjeet Singh D.V. Singh Gopal Kumar S. Patra A.K. Gupta	Soil Science & Agronomy Division, Dehradun	2020-21	2024-25 (To be continued)	Research Farm, Dehradun	In the title, instead of tuber, rhizomatric crop may be used. For farm income, post harvesting processing component may also be included. (Action: Dr. Devideen Yadav)
26.	Sustaining crop productivity and enhancing resource use efficiency through soil surface management in intercropping systems in semi-arid region of south-eastern Rajasthan. (NRMAIISWCCIL 202000200172) (New Project)	Anita Kumawat I. Rashmi A.K. Singh Ashok Kumar Kuldeep Kumar	Kota	2020-21	2024-25 (To be continued)	Research Farm, Kota	Study only two or three most important cropping systems (based on their cultivated area in the study region) to reduce the number of treatments. Use split plot design. (Action: Ms. Anita Kumawat)

2.2 RESOURCE CONSERVATION MEASURES FOR NON-ARABLE LANDS

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
27.	Evaluation of traditional minor millet based agro-forestry systems under recommended agri-silvicultural practices of North-Western Himalayas. NRMACSWCRTI CIL200900500034	Harsh Mehta J.M.S. Tomar D. Mandal Pawan Kumar	Plant Science, Dehradun	2009-10	2020-21 (To be concluded)	Research Farm, Dehradun	For farmers' acceptability, density of trees may be such that there is not much reduction in crop yield. Ecosystem services provided by the agro-forestry system may be studied. (Action: Dr. Harsh Mehta)
28.	Evaluation of <i>Bael</i> and Olive based agro-forestry system with soil amendments in Doon Valley. (NRMAIISWCCIL 201501100097)	J. Jayaprakash A.C. Rathore D.V. Singh Harsh Mehta	Plant Science, Dehradun	2015-16	2024-25 (To be continued)	Research Farm, Dehradun	Provisions may be made to ensure that there is no water logging again, as olive plants are susceptible to water logging. Data may be checked for the low variability between the control and treatments. (Action: Dr. J. Jayaprakash)
29.	Evaluation of rooting media and rootstocks of major sub-tropical fruits spp. for raising quality planting materials on degraded lands. (NRMAIISWCCIL 201700800138) (HM-NEH funded)	A.C. Rathore Harsh Mehta J. Jayaprakash M. Sankar Saswat K. Kar	Plant Science, Dehradun	2015-16	2025-26 (To be concluded)	Research Farm, Dehradun	Project is extended by five years till 2025-26 by the funding agency. The degraded sites may be defined. (Action: Dr. A.C. Rathore)
30.	Evaluation of promising fruit species with different moisture conservation practices in red soils of Bundelkhand region. (NRMAIISWCCIL 201501300099)	Dinesh Kumar R.S. Yadav Mukesh K. Meena	Datia	2015-16	2020-21 (To be concluded)	Research Farm, Datia	Quantity and timing of irrigation water applied is to be reported in next IRC. Economics is to be calculated from data recorded right from establishment. Names of Dr. R.S. Yadav and Mukesh K. Meena are added. Name of Dr. Rajeev Ranjan (w.e.f. 13-12-19) is deleted. (Action: Dr. Dinesh Kumar)

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
31.	Evaluation of cover crops under cashew and mango plantation for improving soil health and productivity in Eastern Ghats High Land Region of Odisha. (NRMAIISWCCIL 201501400100)	M. Madhu D.C. Sahoo Karma Beer	Koraput	2015-16	2020-21 (To be concluded)	Watershed in Semiliguda block, Koraput	Infiltration rate is very low and needs to be checked. Name of Dr. P.P. Adhikary (w.e.f. 29-11-19) is deleted. (Action: Dr. M. Madhu)
32.	Improvisation of soil working techniques for enhancing tree establishment under rainfed conditions of North-Western Himalayas. (NRMAIISWCCIL 201600400118)	D.V. Singh J. Jayaprakash Vibha Singhal A.C. Rathore Devideen Yadav	Soil Science & Agronomy, Dehradun	2016-17	2023-24 (To be continued)	Dhoolkot Research Farm, Pasauli, Dhanpau and Lakhwar villages, Dehradun district	Effect of treatments need to be studied on productivity of the crops. Accordingly, objectives may also be added. Name of Dr. Devideen Yadav is included as associate. The project is extended by four years upto 2023-24. (Action: Dr. D.V. Singh)
33.	Upscaling research assessment of productivity, hydrological behaviour, resource conservation and intangible benefits of selected commercial bamboo species in Uttarakhand. (NRMAIISWCCOL 201701000140) (INBAR funded)	Rajesh Kaushal D. Mandal Pradeep Dogra J.M.S. Tomar D.V. Singh Harsh Mehta A.K. Gupta Saswat K. Kar	Plant Science, Dehradun	2016-17	2020-21	Mednipur and Dhoolkot, Dehradun	Economics with respect to age of bamboo may be calculated. Name of Er. Saswat K. Kar is included. Name of Dr. Ambrish Kumar (w.e.f. 09-09-19) is deleted. Project is extended again by one more year till 2020-21 by the funding agency. (Action: Dr. Rajesh Kaushal)

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
34.	Evaluation, characterization and selection of elite genotypes of <i>Cassia auriculata</i> for cultivation in semi- arid regions. (NRMAIISWCCIL 201600600120)	S. Kala H.R. Meena I. Rashmi A.K. Singh	Kota	2016-17	2021-22 (To be continued)	Research Farm, Kota	The word 'development' in the title may be replaced with 'selection'. Root measurement needs to be looked into as only tap root has been measured. (Action: Mrs. S.Kala)
35.	Resource utilization and productivity of Dragon fruit based horti-silviculture system under rainfed agro eco-systems of Central Gujarat. (NRMAIISWCCIL 201600700121)	Dinesh Jinger D. Dinesh Gaurav Singh	Vasad	2016-17	2022-23 (To be continued)	Research Farm, Vasad	Data of fruit length, diameter succulency etc. may be recorded and presented. Study the effect of shade net with respect to temperature. Photos of <i>Melia dubia</i> to be taken and shown in next IRC meeting. Names of Dr. Dinesh Jinger and Mr. Manoj Singh are included as second and third associate, respectively. Name of Dr. V. Kakade (w.e.f. 31-07-20) is deleted. (Action: Dr. D. Dinesh)
36.	Assessment and improvement of nutritional quality of horticultural crops on sloping lands in North-West Himalayas. (NRMAIISWCCIL 201701100141)	A.C. Rathore M. Sankar D.V. Singh	Plant Science, Dehradun	2017-18	2022-23 (To be continued)	Research Farm and Pasauli village, Vikasnagar	Economics of the treatments needs to be worked. Soil moisture should be recorded. (Action: Dr. A.C. Rathore)
37.	Regulated deficit irrigation and canopy architecture management for fig (<i>Ficus carica L.</i>) in semi-arid vertisols. (NRMAIISWCCIL 201701200142)	M. Prabhavathi M.N. Ramesha	Ballari	2017-18	2022-23 (To be continued)	Research Farm, Ballari	Deficit irrigation treatment may be done from 2021-22 instead of 2020-21 after replanting for gap filling as survival of plants is low due to drought conditions. Addition of some amendments in pits to mitigate salinity of soil should be done alongwith replanting. R3 replication may be taken out of the study as it has had no statistical significance till now, however its plants are to be saved. Dr. M. Prabhavathi will replace Mr. A.S. Morade as leader of project. Name of M.N. Ramesha is added as Co-PI. (Action: Dr. M. Prabhavathi)

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
38.	Improving out-planting success of various multipurpose tree species in Yamuna ravines using improved planting stock and bio-fertilizers. (NRMAIISWCCIL 201800700155)	A.K. Parandiyal S.K. Dubey	Agra	2018-19	2020-21 (To be concluded)	Research Farm, Agra	
39.	Microsite modification and soil and water conservation techniques for improving productivity of <i>Melia dubia</i> on degraded lands. (NRMAIISWCCIL 201900700166)	Rajesh Kaushal Gopal Kumar D.V. Singh J.M.S. Tomar A.K. Gupta Harsh Mehta Pawan Kumar Sadikul Islam Devideen Yadav Vibha Singhal	Plant Science, Dehradun	2019-20	2026-27 (To be continued)	Research Farm, Dehradun	Package of practices may be provided to the State Government. Name of Dr. Vibha Singhal is included at Dehradun. Name of Dr. P.R. Bhatnagar (w.e.f. 27-06-20) and Dr. V. Kakade (w.e.f. 31-07-20) are deleted at Vasad. Names of Dr. Ram A. Jat and Dr. Gaurav Singh are included at Vasad. (Action: Dr. Rajesh Kaushal)
		Pankaj Panwar V.K. Bhatt Sharmistha Pal P.L. Bhutia O.P.S. Khola	Chandigarh			Research Farm, Chandigarh	
		Hombe Gowda K. Kannan S. Manivannan	Udhagaman dalam			Farmers' Field	
		Dinesh Jinger D. Dinesh V.C. Pande Ram A. Jat Gaurav Singh	Vasad			Research Farm, Vasad	
40.	Evaluation of agri-horticulture land use systems for degraded eco-system of South-Eastern Rajasthan. (NRMAIISWCCIL 201900800167)	H.R. Meena S. Kala G.L. Meena Shakir Ali Ashok Kumar Kuldeep Kumar I. Rashmi	Kota	2019-20	2025-26 (To be continued)	Research Farm, Kota	

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
41.	Establishment and promotion of suitable grasses for soil conservation and fodder production in Nilgiris. (NRMAIISWCCOL 201900900168) (DBT funded)	K. Kannan P. Sundarambal K. Rajan P. Raja	Udhagamandalam	2019-20	2020-21 (To be concluded)	Research Farm, Udhagamandalam	Whether annual crops are considered for carbon sequestration needs to be seen. (Action: Dr. K. Kannan)
42.	Evaluation of rainwater management practices in mango based agri-horticultural system. (NRMAIISWCCIL 202000300173) (New Project)	Karma Beer M. Madhu D.C. Sahoo	Koraput	2020-21	2026-27 (To be continued)	Research Farm, Koraput	Two new projects may be merged as a single project and the title may be modified accordingly. (Action: Karma Beer)
43.	Fruit based multitier cropping system for livelihood security in Shivalik region. (NRMAIISWCCIL 202000400174) (New Project)	Ram Prasad Manoj Kumar Sharmistha Pal P. L. Bhutia O.P.S. Khola	Chandigarh	2020-21	2026-27 (To be continued)	Research Farm, Chandigarh	Change title to “Development of fruit based multitier cropping system for livelihood security in Shivalik region”. In place of kagzi lemon, lime would be better. All core parameters related to fruiting need to be recorded. (Action: Dr. Ram Prasad)
44.	Restoration of lantana infested degraded forest of Shivaliks, India. (NRMAIISWCCIL 202000500175) (New Project)	P. L. Bhutia V.K. Bhatt Sharmistha Pal Pankaj Panwar Manoj Kumar O.P.S. Khola	Chandigarh	2020-21	2027-28 (To be continued)	Research Farm, Mansa Devi	Eco-system services restoration aspect of the experiment needs to be studied, for which PI and Co-PIs of the ongoing core project on eco-system services evaluation may be consulted. <i>Toona ciliate</i> and <i>Dalbergia sissoo</i> can also be used. The budget of the project needs to be scaled down to realistic before submission in the RPP-I. (Action: Dr. P.L. Bhutia)

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
45.	Ecological impacts of soil conservation and afforestation works on degraded lands in North-Western Himalayan region. (NRMAIISWCCIL 202000600176) (New Project) Eco-Task Force (Collaborative Project)	D.V. Singh Rajesh Kaushal S. Patra M. Sankar J. Jayaprakash P.R. Ojasvi N.K. Sharma	SS&A Division, Dehradun	2020-21	2022-23 (To be continued)	Mohand, Aglar, Shahjahanpur, Kiarkuli, Kalsi, Jounsar bhabar, Lakhwar, Mussoorie and Sahastradhara	For the study, an untreated site as per identified criteria should be selected as a benchmark for comparison of data. (Action: Dr. D.V. Singh)

P-3 WATERSHED HYDROLOGY FOR CONSERVATION PLANNING

3.1 HYDROLOGICAL BEHAVIOUR OF LANDUSES AND MANAGEMENT PRACTICES

46.	Hydrologic systems analysis across multiple spatial scales and its implications on hydro-logic processes in sub-humid catchment of Eastern Ghat High Land Region of Odisha. (NRMAIISWCCIL 201501500101)	Ch. J. Dash	Koraput	2015-16	2021-22 (To be continued)	Watershed in Semiliguda block, Koraput	Rate of infiltration should be studied. Name of P.P. Adhikary (w.e.f. 29-11-19) is deleted. (Action: Dr.(Ms.) Ch. J.P. Dash)
47.	Enhancing food and water security in arid region through improved understanding of quantity, quality and management of blue, green and grey water. (NRMAIISWC SOP 201901000169) (DST funded Network Project)	P.R. Ojasvi Shakir Ali S.S. Shrimali Saswat K. Kar	Hydrology & Engineering, Dehradun	2018-19	2022-23 (To be continued)	Rajasthan	

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
48.	Evaluation of catchment-storage-command area relationship for improving rainwater productivity under integrated production systems. (NRMAIISWCCIL 201800600154)	D.C. Sahoo Karma Beer M. Madhu	Koraput	2018-19	2022-23 (To be continued)	Research Farm, Koraput	As papaya is not performing well it may be replaced with drumstick. Use the terminology two-tier in place of multi tier. Replace the term 'high density plantation' (of banana) with 'plantation' as the spacing in which banana has been planted is not as per high density plantation norms. Name of Dr. D.C. Sahoo is included as leader of project. Name of Dr. M. Madhu is included. Names of Dr. Praveen Jakhar (w.e.f. 29-11-19) and Dr. P.P. Adhikary (w.e.f. 29-11-19) are deleted. (Action: Dr. D.C. Sahoo)
49.	Effects of conservation agriculture practices on soil pore system and hydraulic properties in north-western Himalayas. (NRMAIISWCCIL 202000700177) (New Project)	S. Patra M. Sankar Ramanjeet Singh Saswat K. Kar Devideen Yadav	H&E Division, Dehradun	2020-21	2023-24 (To be continued)	Selakui Research Farm	Heterogeneity in soils of plot sites need to be recorded. A schedule should be prepared for recording data in ongoing projects within which this project will work. Extra parameters can be recorded but with the existing facilities. Once other facilities through respective equipment as per SFC are available, further studies can be taken up. After analysis of one year data, the project may be extended to other Research Centres as a core project. (Action: Dr. S. Patra)

3.2 WATER HARVESTING, GROUNDWATER RECHARGE AND MANAGEMENT

50.	Development and rejuvenation of natural springs through soil and water conservation measures. (NRMAIISWCSIP 201501700103) (Collaborative project with Wadia Institute of Himalayan Geology)	Charan Singh <hr/> CCPI: S.K. Rai Co-CCPI: Vineet Kumar	Plant Science, Dehradun	2015-16	2020-21 (To be concluded)	Mid Himalayas in Garhwal region	New project team may be proposed by Dr. Charan Singh for continuing the study for a long term to draw intended and logical conclusions by saturating the plantation. Name of Dr. U.K. Maurya (w.e.f. 30-11-19) and Ambrish Kumar (w.e.f. 09-09-19) are deleted. (Action: Dr. Charan Singh)
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S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
51.	Consortia Research Platform-Water Theme 1 Water Resources Augmentation/ Conservation. (NRMAIISWCSOL 201501900105) (Water Platform Project)	P.R. Ojasvi S.S. Shrimali	H&E, Dehradun	2015-16	2020-21 (To be concluded)	Headquarters and Research Centres	Project is extended for one more year till 2020-21. Name of Dr. Dinesh Kumar is included at Datia. Name of Dr. H. Biswas (w.e.f. 13-12-19), from Ballari, Dr. P. Jakhar (w.e.f. 29-11-19) from Koraput and Dr. Rajeev Ranjan (w.e.f. 13-12-19) from Datia is deleted. (Action: Dr. P.R. Ojasvi and leaders at Research Centres)
		K.K. Sharma S.K. Dubey	Agra				
		B.S. Naik S.L. Patil	Ballari				
		V.K. Bhatt Sharmistha Pal Pankaj Panwar	Chandigarh				
		Dinesh Kumar	Datia				
		D.C. Sahoo Ch. J. Dash	Koraput				
		G.L. Meena R.K. Singh	Kota				
		S. Manivannan V.K. Thilagam	Jdhagamandalam				
52.	Water quality assessment and its impact on adjacent soil and vegetation in riparian areas of Hindon and Kali rivers. (NRMAIISWCCIL 201501800104)	A.K. Gupta	Plant Science, Dehradun	2015-16	2020-21 (To be concluded)	Hindon & Kali rivers' basins in Saharanpur, Muzaffarnagar, Meerut etc. distts.	RAC recommendation of relating water quality parameters with yield and quality (including heavy metals contamination) of main 3-4 crops in the 80 km sampling stretch must be addressed. Results must be supported with statistical analysis. The project is extended for one year till 2020-21 to complete the left over work. Since the PI will be proceeding for higher studies, therefore, the name of scientist who will pursue this project in the absence of present PI may be proposed by the PI. (Before proceeding on study leave, left over work should be completed) Name of Dr. U.K. Maurya (w.e.f. 30-11-19) and Dr. Ambrish Kumar (w.e.f. 09-09-19) are deleted. (Action: Mr. A.K. Gupta)

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
53.	Quantitative and qualitative assessment and management strategy for the sustainable development of the groundwater resources in Haridwar district. (NRMAIISWCSP 201701300143)	Uday Mandal	Hydrology & Engineering, Dehradun	2017-18	2020-21 (To be concluded)	Haridwar district	For groundwater quality, recommendations of ICAR-CSSRI used pan India may be used for the study. The project is extended by one year till 2020-21. Name of Dr. D.R. Sena (w.e.f. 31-12-19) is deleted. (Action: Dr. Uday Mandal)
54.	Employing system approach on zero energy drip irrigation system in bench terrace farming for hill region. (NRMAIISWCCIL 201701400144)	Saswat K. Kar P.R. Ojasvi A.C. Rathore Devideen Yadav	Hydrology & Engineering, Dehradun	2017-18	2020-21 (To be concluded)	Research Farm & Udpalta village, Uttarakhand	The project should be operated to have a whole system that works with micro-irrigation. Keep track of all aspects till completion of the project. Name of Dr. Devideen Yadav is included as associate. (Action: Er. Saswat K. Kar)
55.	Evaluation of direct recharge filter for revival of defunct and low yielding borewell vis-a-vis augmentation of ground water table in semi-arid region of Karnataka. (NRMAIISWCCIL 201701500145)	B.S. Naik S.L. Patil Ravi Dupdal	Ballari	2017-18	2020-21 (To be concluded)	Molakalmur, Chitradurga district, Karnataka	
56.	Design and evaluation of HDPE sheet embedded gabion check dams for water harvesting in North West Himalayas. (NRMAIISWCCIL 201800800156)	Saswat K. Kar Rajesh Kaushal Gopal Kumar	H&E Division, Dehradun	2018-19	2022-23 (To be continued)	Dehradun and Tehri Garhwal	Name of Dr. Saraswat Kumar as added leader of project. Name of Dr. Ambrish Kumar (w.e.f. 09-09-19) is deleted. (Action: Mr. Saswat K. Kar)

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
57.	Modelling of micro watershed using remote sensing and GIS. (NRMAIISWCCIL 202000800178) (New Project)	Manoj Kumar V.K. Bhatt O.P.S. Khola Sharmistha Pal Ram Prasad P. L. Bhutia	Chandigarh	2020-21	2025-26 (To be continued)	Research Mansa Devi	Selection of three models should be based on knowing lacunae of available models. Criteria for locating a structure should be brought out from the study. Performance of the structures constructed may be studied individually as well as all together. Can study progressively the impact of structures constructed over the years, therefore all structures should not be constructed in third year. The budget of the project needs to be rational before submission in the RPP-I. (Action: Dr. Manoj Kumar)
58.	Developing dual purpose farm pond for water harvesting and ground water recharge in SAS Nagar, Punjab (NRMAIISWCCOL 202000900179) (New Project) (NABARD funded)	Pankaj Panwar Sharmistha Pal O.P.S. Khola	Chandigarh	2020-21	2020-21	SAS Nagar, Punjab	

P-4 REHABILITATION OF AREAS AFFECTED BY MASS EROSION

4.1 DEVELOPMENT AND REFINEMENT OF TECHNOLOGIES FOR REHABILITATION OF RAVINES, LANDSLIDES, MINE SPOILS, RIVERBED MINING, STREAM BANKS, TORRENTS ETC.

59.	Enhancing productivity of ravine lands by plantation of <i>A. sapota</i> with intercropping systems. (NRMACSWCRTI CIL200801000023)	Gaurav Singh V.C. Pande D. Dinesh Dinesh Jinger	Vasad	2008-09	2022-23 (To be continued)	Research Farm, Vasad	Name of Dr. V. Kakade (w.e.f. 31-07-20) is deleted. (Action: Dr. Gaurav Singh)
60.	Ecological restoration of stone mine spoil area in South-Eastern Rajasthan. (NRMAIISWCCIL 201502300109)	B.L. Mina S. Kala, H.R. Meena Shakir Ali Ashok Kumar	Kota	2015-16	2024-25 (To be continued)	Mine spoil sites in Kota district	Nutrient content in soil may be analysed. (Action: Dr. B.L. Mina)

P-5 INTEGRATED WATERSHED MANAGEMENT FOR SOCIO-ECONOMIC GROWTH AND POLICY ADVOCACY**5.1 PARTICIPATORY WATERSHED MANAGEMENT AND INTEGRATED FARMING SYSTEM (IFS)**

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
61.	Evaluation of criteria and techniques for classification of fisheries - sensitive watersheds for conservation and production management. (NRMAIISWCCIL 201502400110)	M. Muruganandam A.K. Gupta Saswat K. Kar	Hydrology & Engineering, Dehradun	2015-16	2020-21 (To be concluded)	Garhwal Himalayas	Project is extended again for one more year till 2020-21 for collecting more data for analysis. (Action: Dr. M. Muruganandam)
62.	Economic impact assessment of water harvesting structure-Farm Pond in the semi-arid regions of Karnataka. (NRMAIISWCCIL 201800900157)	Ravi Dupdal S.L. Patil B.S. Naik Ramesha M.N.	Ballari	2018-19	2022-23 (To be continued)	Northern dry zone of Karnataka – Ballari and Vijayapur districts	Main reason for failure of structure (pond) may be found out. Optimum pond size as per beneficiary may be worked out. Name of Mr. A.S. Morade (w.e.f. 06-08-19) is deleted. Name of Dr. Ramesha M.N. is included. (Action: Dr. Ravi Dupdal)
63.	Valuation of ecosystem services from natural resource conservation and management interventions in different agro-ecological regions in India. (NRMAIISWCCIL 201801000158) (Core Project)	Pradeep Dogra D. Mandal Rajesh Kaushal Ramanjeet Singh S. Patra D.C. Meena S.K. Dubey K.K. Sharma A.K. Parandiyal R.K. Dubey Rama Pal	PME Cell, Dehradun Agra	2018-19	2020-21 (To be concluded)	Developed watersheds / NRM intervention sites at Headquarters and Research Centres	A document / bulletin may be finalized after analysis of the data. Names of Dr. P.R. Bhatnagar (w.e.f. 27-06-20) and Dr. V. Kakade (w.e.f. 31-07-20) at Vasad, Mr. A.S. Morade (w.e.f. 06-08-19), at Ballari, Dr. S.L. Arya(w.e.f. 29-02-20) at Chandigarh, Dr. Rajeev Ranjan (w.e.f. 13-12-2019) at Datia, Dr. D.R. Sena (w.e.f. 31-12-19), at Dehradun, and, Dr. P. Jakhar (w.e.f. 29-11-19) and Dr. P.P. Adhikary (w.e.f. 29-11-19) at Koraput are deleted. Name of Dr. S. Patra is included at Dehradun. Name of Dr. Suresh Kumar added as PI at Koraput. (Action: Dr. Pradeep Dogra and leaders at Research Centres)

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
		Ravi Dupdal B.S. Naik M. Prabhavathi	Ballari				
		O.P.S. Khola V.K. Bhatt Pankaj Panwar Sharmistha Pal Sathiya K. P.L. Bhutia	Chandigarh				
		M.K. Meena R.S. Yadav	Datia				
		V.C. Pande Gaurav Singh Dinesh Jinger	Vasad				
		Suresh Kumar M. Madhu	Koraput				
		Ashok Kumar I. Rashmi A.K. Singh Kuldeep Kumar S. Kala G.L. Meena	Kota				
		S. Manivannan V.K. Thilagam P. Sundarambal Hombe Gowda	Udhagaman- dalam				
64.	Resource conservation practices for Doubling Farmers Income in North West Himalayas: An adaptive approach. (NRMAIISWCCIL 201901100170)	J.M.S. Tomar Saswat K. Kar Rajesh Kaushal M.Muruganandam Gopal Kumar Ramanjeet Singh Pawan Kumar Indu Rawat P.R. Ojasvi	Plant Science, Dehradun	2019-20	2023-24 (To be continued)	Navi-Sahiya, Udpalta	Benchmark data to judge increase in farmer's income must be collected and presented. Interventions must be decided based on the benchmark data. Use guidelines for doubling farmer's income for collecting benchmark data. Name of Dr. Madan Singh (w.e.f. 30.11.19) is deleted. (Action: Dr. J.M.S. Tomar)

P-6 HUMAN RESOURCE DEVELOPMENT AND TECHNOLOGY TRANSFER**6.1 CAPACITY DEVELOPMENT APPROACHES AND INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)**

S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
65.	Developing ICT based e-learning tools for conservation measures and watershed management. (NRMAIISWCCIL 201502600112)	S.S. Shrimali Rajesh Kaushal Bankey Bihari Akshay Dheeraj	Hydrology & Engineering, Dehradun	2015-16	2020-21 (To be concluded)	Different agro-ecological regions of India	Project is extended again for one year. Name of Mr. Akshay Dheeraj is included as third associate. (Action: Er. S.S. Shrimali)
66.	Exploring the potential of mKRISHI to disseminate the knowledge about soil and water conservation technologies to the stakeholders: An innovative approach to reach the unreached. (NRMAIISWCCIL 201801100159)	Rajesh Bishnoi Bankey Bihari D.C. Meena Ravi K.N. Sharmistha Pal M.K. Meena Karma Beer Kuldeep Kumar V.K. Thilagam D. Dinesh	HRD&SS, Dehradun	2018-19	2022-23 (To be continued)	Dehradun and eight Research Centres	Impact / feedback of the services provided may be included in the results. Name of Dr. Rajesh Bishnoi is added as project leader. Name of Dr. Madan Singh (w.e.f. 30-11-19) is deleted. (Action: Dr. Rajesh Bishnoi)

6.2 PARTICIPATORY TECHNOLOGY DISSEMINATION AND ADOPTION

67.	Farmer participatory technology application for sustainable resource management and livelihood security in North-West Himalayas. (NRMAIISWCCOL 201701700147) (ICAR Scheme)	Bankey Bihari Rajesh Bishnoi S.S. Shrimali Lekh Chand M. Muruganandam Trisha Roy	HRD&SS, Dehradun	2016-17	2020-21 (To be concluded)	Raipur Block, Dehradun	Project extended for one more year by funding agency upto 2020-21. Name of Dr. U.K. Maurya (w.e.f. 30-11-19) and Dr. Madan Singh (w.e.f. 30-11-19) is deleted. (Action: Dr. Bankey Bihari)
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S. No.	Title of the Project (Project Code / RPP No.)	Leader and Associates	Centre / Division	Start	Completion	Location of Project	IRC Comments
68.	Establishment of biotech-KISAN Hub for aspirational districts of Eastern Plateau and Hills, and Western Hills. (NRMAIISWCCOL 202001000180) (New Project) (DBT funded)	M. Madhu D.C. Sahoo Karma Beer	Koraput	2020-21	2021-22 (To be continued)	Koraput, Rayagada & Malkangiri	
69.	Upscaling sustainable technological solutions and replicable models for ensuring food and nutrition, livelihood and social security of Scheduled Tribes in selected Gram Panchayats of Koraput district, Odisha. (NRMAIISWCCOL 202001100181) (New Project) (DST Funded)	Ch. Jyotiprava Dash Karma Beer D.C. Sahoo M. Madhu	Koraput	2020-21	2021-23 (To be continued)	Selected Gram Panchayat in Koraput district	

S. No.	Prog. No.	Project Code No. (RPP No.)	Title of the Project	Leader and Associates	Centre / Division	Year of Start	Location of Project
4.	2.1	NRMAIISWCCIL 201700700137	<i>Jhola kundi</i> based vegetable farming with soil moisture conservation practices for increasing profitability of tribal farmers of Eastern Ghats High Land region.	Karma Beer Ch. J. Dash P. Jakhar	Koraput	2017-18	Research Farm
Comments: The result should be supported by statistical analysis. Submit RPP-IV. A bulletin may be published.							(Action: Dr. Karma Beer)
5.	2.1	NRMACSWCRTICIL 201400300083	Cover crops and reduced tillage for enhancing productivity and soil health in rainfed farming system in the hilly areas.	K. Kannan V.K. Thilagam P. Raja	Udhagamandalam	2014-15	Research Farm
Comments: Economics of the system should be calculated for the benefit of farmers. Technology brochure / bulletin should be published. Submit RPP IV.							(Action: Dr. K. Kannan)
6.	2.2	NRMACSWCRTICIL 201200200071	Development and characterization of quality planting material of important MPT's for degraded lands of North-West Himalayas.	Harsh Mehta Rajesh Kaushal A.K. Gupta Pawan Kumar	Plant Science, Dehradun	2012-13	Research Farm
Comments: A letter should be sent to the State Forest Department for promoting these species alongwith recommendations. A pamphlet should be brought out.							(Action: Dr. Harsh Mehta)
7.	2.2	NRMAIISWCCIL 201501200098	Phyto-rehabilitation of saline - sodic vertisols through <i>Prosopis juliflora</i> based silvipastoral system.	Ramesha M.N. H. Biswas A.S. Morade	Ballari	2015-16	Research Farm
Comments: Submit RPP III. However, work may be continued as an Observational Trial, to collect data for two years as per need. Classification of the soil of the study site as sodic soil needs to be checked as the observed pH value is not as per sodic soil. ESP parameter of the soil needs to be estimated. Understorey vegetation under the tree vis-a-vis without should be recorded and reported.							(Action: Dr. Ramesha M.N.)
8.	3.2	NRMAIISWCCIL 201502100107	Study on pollution status of Yamuna river and its impact on soil and crop health in Western U.P.	Rama Pal S.K. Dubey R.K. Dubey K.K. Sharma	Agra	2015-16	Yamuna river belt
Comments: RAC-2019 comments regarding comparison with other similar works done at Agra and remaining crops analysis must be addressed. The work assigned to Dr. K.K. Sharma may be completed in 1-2 months.							(Action: Dr. Rama Pal)
9.	3.2	NRMACSWCRTICIL 201001000046	Estimation of water budget components for predominant land uses of South-Eastern Rajasthan for conservation planning.	G.L. Meena R.K. Singh H.R. Meena Shakir Ali	Kota	2010-11	Research Farm
Comments: An overview of all components together in water budget must be given.							(Action: Dr. G.L. Meena)

S. No.	Prog. No.	Project Code No. (RPP No.)	Title of the Project	Leader and Associates	Centre / Division	Year of Start	Location of Project
10.	3.2	NRMAIISWCCIL 201502200108	Strategies for rainwater harvesting and its multiple uses in rainfed agriculture in Central Gujarat	P.R. Bhatnagar D. Dinesh V.C. Pande V. Kakade	Vasad	2015-16	Research Farm and farmers fields in adopted watersheds
11.	3.2	NRMAIISWCCIL 201701600146	Field evaluation of ground water recharge filters developed by ICAR-IISWC, Vasad.	Gaurav Singh V.C. Pande	Vasad	2017-18	Different watersheds adopted by Vasad Centre
12.	5.1	NRMAIISWCCIL 201601000124	Socio-economic analysis of farming/ livelihood systems of farmers across different land categories in Yamuna ravine area.	D.C. Meena A.K. Parandiyal	Agra	2016-17	Ravine areas in U.P.
<p>Comments: Recommendations / conclusions should be drawn based on scientific logic, including for Doubling Farmer's Income. Marketing analysis of farm outputs of sampled farmers with scientific tool as a part of the fourth objective must be presented in the technical report. (Action: Dr. D.C. Meena)</p>							
13.	5.1	NRMAIISWCCOL 201601100125	Refining methodologies for data validation, planning, monitoring and evaluation of watersheds.	S.L. Patil H. Biswas B.S. Naik A.S. Morade M. Prabhavathi Ravi Dupdal Ravi K.N. P.R. Ojasvi Pradeep Dogra S.S. Shrimali	Ballari	2016-17	Research Centre, Ballari, Karnataka
14.	6.2	NRMAIISWCCIL 201701800148	Role of women in conservation and management of natural water resources for domestic and irrigation uses.	Indu Rawat Madan Singh Vibha Singhal	HRD&SS, Dehradun	2017-18	Mid-Himalayas of Uttarakhand
<p>Comments: Study the flow pattern and longevity of water availability in the natural water resources post monsoon alongwith change in flora in the catchment of these resources as these two may help in rejuvenating the water resources. Co-relate the flora near the water resources that are functional. Find the reasons for results obtained. (Action: Dr. Indu Rawat)</p>							

NEW PROJECTS APPROVED DURING IRC MEETING – 2020

S. No.	Programme No.	Project Code No. (RPP No.)	Title of the Project	Centre/Division
1.	2.1	NRMAIISWCCIL 202000100171	Evaluation of maize based inter-cropping system to conserve soil and water and improve farm income in rainfed areas of North-Western Himalaya	SS&A Division, Dehradun
2.	2.1	NRMAIISWCCIL 202000200172	Sustaining crop productivity and enhancing resource use efficiency through soil surface management in intercropping systems in semi-arid region of south-eastern Rajasthan	Kota
3.	2.2	NRMAIISWCCIL 202000300173	Evaluation of rainwater management practices in mango based agri-horticultural system	Koraput
4.	2.2	NRMAIISWCCIL 202000400174	Fruit based multitier cropping system for livelihood security in Shivalik region	Chandigarh
5.	2.2	NRMAIISWCCIL 202000500175	Restoration of lantana infested degraded forest of Shivaliks, India	Chandigarh
6.	2.2	NRMAIISWCCIL 202000600176	Ecological impacts of soil conservation and afforestation works on degraded lands in North-Western Himalayan region. (Eco-Task Force Collaborative Project)	SS&A Division, Dehradun
7.	3.1	NRMAIISWCCIL 202000700177	Effects of conservation agriculture practices on soil pore system	H&E Division, Dehradun
8.	3.2	NRMAIISWCCIL 202000800178	Modelling of micro watershed using remote sensing and GIS	Chandigarh
9.	3.2	NRMAIISWCCOL 202000900179	Developing dual purpose farm pond for water harvesting and ground water recharge in SAS Nagar, Punjab (NABARD funded)	Chandigarh
10.	6.2	NRMAIISWCCOL 202001000180	Establishment of biotech-KISAN Hub for aspirational districts of Eastern Plateau and Hills, and Western Hills (DBT funded)	Koraput
11.	6.2	NRMAIISWCCOL 202001100181	Upscaling sustainable technological solutions and replicable models for ensuring food and nutrition, livelihood and social security of Scheduled Tribes in selected Gram Panchayats of Koraput district, Odisha (DST Funded)	Koraput

STATUS OF NUMBER OF PROJECTS

No. of projects in 2019-20	Projects concluded in 2019-20	New projects added in 2020-21	Total no. of projects in 2020-21
A	B	C	D = A-B+C
72	14	11	69

TOTAL NUMBER OF PROJECTS IN DIFFERENT RESEARCH PROGRAMMES

Research Programmes	P-1	P-2	P-3	P-4	P-5	P-6	Total
Total No. of Projects	13	32	13	2	4	5	69

OBSERVATIONAL TRIALS APPROVED FOR 2020-21

S. No.	Title of the Project	Leader & Associates	Centre/ Division
1.	Evaluation of Olive cultivars for resource conservation and enhancing productivity of degraded lands.	Ram Prasad	Chandigarh
Comments: The project may be conducted as an Observational Trial for one more year till 2020-21 in degraded lands only. (Action: Dr. Ram Prasad)			
2.	Phyto-rehabilitation of saline - sodic vertisols through <i>Prosopis juliflora</i> based silvipastoral system.	M.N. Ramesha M. Prabhawathi	Ballari
Comments: The concluded project may be continued as an Observational Trial, to collect data for two years. Classification of the soil of the study site as sodic soil needs to be checked as the observed pH value is not as per sodic soil. ESP parameter of the soil needs to be estimated. (Action: Dr. Ramesha M.N.)			
3.	Sorghum and mungbean strip intercropping with round melon (<i>Tinda</i>) for soil and water conservation in red soils of Bundelkhand	Dinesh Kumar R.S. Yadav	Datia
Comments: New plots be prepared for the study by end of 2020. (Action: Dinesh Kumar)			

DIVISION/CENTRE-WISE NUMBER OF RUNNING PROJECTS**A. S. NO. OF PROJECTS AT DIFFERENT LOCATIONS**

S. No.	DIVISION / CENTRE	S. NO. OF ONGOING PROJECTS	TOTAL
1.	Dehradun		
	➤ Hydrology & Engineering	5, 6, 7, 10, 47*, 49, 51*, 53, 54, 56, 61, 65	12
	➤ Soil Science & Agronomy	2, 8, 9, 13, 17, 18, 25, 32, 45	09
	➤ Plant Science	27, 28, 29*, 33*, 36, 39, 50, 52, 64	09
	➤ HRD&SS	19, 20, 23, 66, 67	05
	➤ PME Cell	63	01
	➤ National Fellow Programme	11*	01
2.	Agra	5, 8, 13, 38, 51*, 63	06
3.	Ballari	5, 8, 13, 21, 37, 51*, 55, 62, 63	09
4.	Chandigarh	5, 8, 13, 22, 39, 43, 44, 51*, 57, 58*, 63	11
5.	Datia	1, 5, 8, 13, 30, 51*, 63	07
6.	Koraput	3, 5, 8, 13, 14, 31, 42, 46, 48, 51*, 63, 68*, 69*	13
7.	Kota	5, 8, 13, 15, 16, 26, 34, 40, 51*, 60, 63	11
8.	Udhagamandalam	4*, 5, 8, 13, 24*, 39, 41*, 51*, 63	09
9.	Vasad	5, 12, 13, 35, 39, 59, 63	07
		TOTAL	110

B. PROGRAMME-WISE NUMBER OF PROJECTS AT DIFFERENT LOCATIONS

S. No.	DIVISION / CENTRE	P-1	P-2	P-3	P-4	P-5	P-6	TOTAL
1.	Dehradun							
	➤ Hydrology & Engineering	4	-	6	-	1	1	12
	➤ Soil Science & Agronomy	4	5	-	-	-	-	09
	➤ Plant Science	-	6	2	-	1	-	09
	➤ HRD&SS	-	3	-	-	-	2	05
	➤ PME Cell	-	-	-	-	1	-	01
	➤ National Fellow Programme	1	-	-	-	-	-	01
2.	Agra	3	1	1	-	1	-	06
3.	Ballari	3	2	2	-	2	-	09
4.	Chandigarh	3	4	3	-	1	-	11
5.	Datia	4	1	1	-	1	-	07
6.	Koraput	4	3	3	-	1	2	13
7.	Kota	3	5	1	1	1	-	11
8.	Udhagamandalam	4	3	1	-	1	-	09
9.	Vasad	3	2	-	1	1	-	07
	TOTAL	36	35	20	02	12	05	110

NUMBER OF PROJECTS WITH INDIVIDUAL SCIENTIST

The number of projects with each individual scientist of the Institute, after the IRC Meeting of 2019 is as follows:

S. No	Name	Designation	Leader	Associate	Total	S. No. of projects to be concluded
Hydrology and Engineering Division						
1.	Dr. P.R. Ojasvi	Head of Division	2(47*,51*)	6(5,6,13,45,54,64)	8	51*,54
2.	Dr. M. Muruganandam	Pr. Scientist (Fisheries)	1(61)	2(64,67)	3	61,67
3.	Er. S.S. Shrimali	Sr. Scientist (Com.App.)	1(65)	5(3,6,47*,51*,67)	6	3, 51*,65, 67
4.	Er. S. Patra	Scientist (SS) (Engg.)	1(49)	6(8,13,23,25,45,63)	7	8,63
5.	Er. Uday Mandal	Scientist (Engg.)	2(5,53)	3(7,17,20)	5	20,53
6.	Er. Deepak Singh	Scientist (Engg.)	----- On Study Leave-----			
7.	Dr. Sadikul Islam	Scientist (Ag. Stat.)	2(6,7)	2(8,39)	4	8
8.	Er. Saswat K. Kar	Scientist (Engg.)	3(10,54,56)	7(6,29*,33*,47*,49,61,64)	10	10,29*,54,61
9.	Mr. Akshay Dheeraj	Scientist (Com.App.)	-	3(6,7,65)	3	65
Soil Science and Agronomy Division						
10.	Dr. N.K. Sharma	Head of Division	1(17)	4(8,18,19,45)	5	8,18
11.	Dr. D.V.Singh	Pr. Scientist (Soils)	2(32,45)	6(23,25,28,33*,36,39)	8	-
12.	Dr. D. Mandal	ICAR-National Fellow	2(8,11*)	5(5,13,27,33*,63)	7	8,27,63
13.	Dr. Gopal Kumar	Sr. Scientist (Soils)	1(13)	7(5,7,18,25,39,56,64)	8	18
14.	Dr. M. Shankar	Scientist (Soils)	2(2,9)	5(19,29*,36,45,49)	7	29*
15.	Dr. Ramanjeet Singh	Scientist (Agro.)	1(18)	6(13,17,25,49,63,64)	7	18,63
16.	Dr. Devideen Yadav	Scientist (Agro.)	1(25)	5(20,32,39,49,54)	6	20,54
Plant Science Division						
17.	Dr. Harsh Mehta	Head of Division & OIC, PME Cell	1(27)	4(28,29*,33*,39)	5	27,29*
18.	Dr. Charan Singh	Pr. Scientist (Forestry)	1(50)	-	1	50
19.	Dr. J.M.S. Tomar	Pr. Scientist (Forestry)	1(64)	3(27,33*,39)	4	27
20.	Dr. A.C. Rathore	Pr. Scientist (Hort.)	2(29*,36)	4(10,28,32,54)	6	10,29*,54
21.	Dr. Rajesh Kaushal	Pr. Scientist (Forestry)	2(33*,39)	6(13,45,56,63,64,65)	8	33*, 63,65
22.	Dr. J. Jayaprakash	Sr. Scientist (Forestry)	1(28)	3(29*,32,45)	4	29*
23.	Dr. (Ms.)Vibha Singhal	Sr. Scientist(Agro-For.)	-	2(32,39)	2	-
24.	Mr. A.K. Gupta	Scientist (Envt. Sc.)	1(52)	5(17,25,33*,39,61)	6	52,61
25.	Mr. D.M. Kadam	Scientist (Hort.)	----- On Study Leave-----			
26.	Dr. Pawan Kumar	Scientist (Pl. Breeding)	-	3(27,39,64)	3	27
Human Resource Development and Social Science Division						
27.	Dr. Bankey Bihari	Head of Division	1(67)	2(65,66)	3	65,67
28.	Dr. Lekh Chand	Sr. Scientist (Agro.)	2(19,23)	2(9, 67)	4	67
29.	Dr. (Ms.) Indu Rawat	Scientist(HM/FRM)	-	1(64)	1	-
30.	Mr. Rajesh Bishnoi	Scientist (Agril. Extn.)	1(66)	1(67)	2	67
31.	Dr. (Ms.) Trisha Roy	Scientist (Soils)	1(20)	4(10,13,17,67)	5	10,20,67*
Prioritization, Monitoring and Evaluation Cell						
32.	Dr. Pradeep Dogra	Pr. Scientist (Ag. Eco.)	1(63)	2(8,33*)	3	8,63
Research Centre, Agra						
33.	Dr. S.K. Dubey	Head of Centre	1(8)	4(13,38,51*,63)	5	8,38,51*,63
34.	Dr. A.K. Parandiyal	Pr. Scientist (Forestry)	2(13,38)	1(63)	3	38,63
35.	Dr. K.K. Sharma	Pr. Scientist (Engg.)	2(5,51*)	2(8,63)	4	8,51*,63
36.	Dr. R.K. Dubey	Sr. Scientist (Agro.)	-	2(8,63)	2	8,63

S. No	Name	Designation	----- On Study Leave-----			
			Leader	Associate	Total	S. No. of projects to be concluded
37.	Mr. R.B. Meena	Scientist (Soils)	----- On Study Leave-----			
38.	Dr. D.C. Meena	Scientist (Ag. Eco.)	1(63)	2(13,66)	3	63
39.	Dr. (Ms.) Rama Pal	Scientist (Envt. Sc.)	-	1(63)	1	63
Research Centre, Ballari						
40.	Dr. S.L. Patil	Head of Centre	3(8,13,21)	3(51*,55,62)	6	8,51*,55,
41.	Dr. B.S. Naik	Sr. Scientist (Engg.)	3(5,51*,55)	3(13,62,63)	6	51*,55,63
42.	Mr. M.N. Ramesha	Scientist (Forestry)	-	4(13,21,37,62)	4	-
43.	Ms. M. Prabhavathi	Scientist (Soils)	1(37)	2(13,63)	3	63
44.	Mr. A.S. Morade	Scientist (Hort.)	-----On Study Leave-----			
45.	Dr. Ravi Dupdal	Scientist (Ag. Eco.)	2(62,63)	1(55)	3	55,63
46.	Dr. Ravi K.N.	Scientist (Ag. Extn.)	-	2(21,66)	2	-
Research Centre, Chandigarh						
47.	Dr. O.P.S. Khola	Head of Centre	2(5,63)	5(13,39,43,44,57,58*)	8	63
48.	Dr. V.K. Bhatt	Pr. Scientist (Engg.)	1(51*)	8(5,8,13,22,39,44,57,63)	9	8,51*,63
49.	Dr. Ram Prasad	Pr. Scientist (Hort.)	1(43)	2(22,57)	3	-
50.	Dr. Pankaj Panwar	Pr. Scientist (Forestry)	2(39,58*)	4(13,44,51*,63)	6	51*,63
51.	Dr.(Ms.)Sharmistha Pal	Scientist (SS) (Soils)	2(8,13)	9(22,39,43,44,51*,57,58*,63,66)	11	8,51*,63
52.	Dr. (Ms.) Sathiya K.	Scientist (Agro.)	1(22)	1(63)	2	63
53.	Dr. (Ms.) P.L. Bhutia	Scientist (Agro.)	1(44)	5(13,39,43,57,63)	6	63
54.	Mr. Manoj Kumar	Scientist (Engg.)	1(57)	2(43,44)	3	-
Research Centre Datia						
55.	Dr. R.S. Yadav	Head of Centre	-	3(1,8,13,30,63)	5	1,8,30,63
56.	Dr. Rajeev Ranjan	Scientist (Soils)	1(1)	-	1	1
57.	Er. (Ms.) M. Pramanik	Scientist (Engg.)	----- On Study Leave-----			
58.	Mr. M.K. Meena	Scientist (Ag. Eco.)	1(63)	2(30,66)	3	30,63
59.	Dr. Dinesh Kumar	Scientist (Agro.)	4(5,8,13,30,51*)	-	5	8,30,51*
Research Centre, Koraput						
60.	Dr. M. Madhu	Head of Centre	4(8,13,31,68*)	4(42,48,63,69*)	8	8,31,63
61.	Dr. D.C. Sahoo	Pr. Scientist (Engg.)	3(14,48,51*)	5(7,31,42, 68*,69*)	8	31,51*
62.	Dr. Suresh Kumar	Scientist (Ag.Eco.)	1(63)	-	1	63
63.	Dr. (Ms.) Ch. J. Dash	Scientist (Engg.)	4(3,5,46,69*)	1(51*)	5	3,51*
64.	Dr. Karma Beer	Scientist (Hort.)	1(42)	7(13,14,31,48 66,68*,69*)	8	31
Research Centre, Kota						
65.	Dr. R.K. Singh	Head of Centre	1(8)	2(13,51*)	3	8,51*
66.	Dr. Ashok Kumar	Pr. Scientist (Ag.Eco.)	1(63)	5(15,16,26,40,60)	6	15,16,63
67.	Dr. Shakir Ali	Pr. Scientist (Engg.)	1(5)	6(7,15,16,40,47*,60)	7	15,16
68.	Dr. A.K. Singh	Pr. Scientist (Engg.)	-	4(13,26,34,63)	4	63
69.	Dr. B.L. Mina	Pr. Scientist (Soils)	1(60)	3(8,15,16)	4	8,15,16
70.	Dr. H.R. Meena	Sr. Scientist (Hort.)	1(40)	3(13,34,60)	4	-
71.	Dr. G.L. Meena	Scientist (Soils)	2(13,51*)	3(5,40,63)	5	51*,63
72.	Dr. Kuldeep Kumar	Scientist (Agro.)	1(15)	6(8,16,26,40,63,66)	7	8,15,16,63
73.	Dr. (Ms.) S. Kala	Scientist (Forestry)	1(34)	3(40,60,63)	4	63
74.	Dr. (Ms.) I. Rashmi	Scientist (Soils)	1(16)	4(26,34,40,63)	5	16,63
75.	Ms. Anita Kumawat	Scientist (Agro.)	1(26)	2(13,15)	3	15

S. No	Name	Designation	Leader	Associate	Total	S. No. of projects to be concluded
Research Centre, Udhagamandalam						
76.	Dr. K. Kannan	Head of Centre	2(8,41*)	4(4*,13,24*,39)	6	4*,8,41*
77.	Dr. S. Manivannan	Pr. Scientist (Engg.)	3(5,51*,63)	2(13,39)	5	51*,63
78.	Dr. (Ms) P.Sundarambal	Pr. Scientist (Ag. Ext.)	-	2(41*,63)	2	41*,63
79.	Dr. K. Rajan	Pr. Scientist (Soils)	1(24*)	2(4*,41*)	3	4*,41*
80.	Dr. P. Raja	Pr. Scientist (Soils)	1(4*)	3(8,24*,41*)	4	4*,8,41*
81.	Dr. Hombe Gowda	Sr. Scientist (Forestry)	1(39)	3(4*,13,63)	4	4*,63
82.	Er. (Ms) V. Selvi	Scientist (SS) (Engg.)	-	1(8)	1	8
83.	Dr. (Ms) V.K. Thilagam	Scientist (Soils)	1(13)	5(2,5,51*,63,66)	6	51*,63
Research Centre, Vasad						
84.	Dr. V.C. Pande	Head of Centre	1(63)	2(39,59)	3	63
85.	Dr. Ram A. Jat	Sr. Scientist (Agro.)	-	3(12,13,39)	3	12
86.	Dr. D. Dinesh	Scientist (Soils)	2(12,13)	6(2,5,35,39,59,66)	8	12
87.	Dr. Gaurav Singh	Scientist (Engg.)	2(5,59)	5(12,13,35,39,63)	7	12,63
88.	Dr. Dinesh Jinger	Scientist (Agro.)	2(35,39)	3(13,59,63)	5	63

- ❖ Figures in parenthesis are serial numbers of running projects listed in these proceedings.
- ❖ Figures with asterisk (*) are Externally Funded Projects listed in these proceedings.

LIST OF PARTICIPANTS

S.No.	Name	Designation	Participation in IRC as
1.	Dr. R.S. Yadav	Acting Director	Chairman
HEADQUARTERS, DEHRADUN			
2.	Dr. P.R. Ojasvi	Head of Division	
3.	Dr. N.K. Sharma	Head of Division	Member & PL: P-2.1
4.	Dr. Harsh Mehta	Head of Division & OIC, PME Cell	Member Secretary, IRC & PL: P-2.2
5.	Dr. Bankey Bihari	Head of Division	Member & PL: P-6
6.	Dr. Charan Singh	Pr. Scientist (Forestry)	
7.	Dr. Pradeep Dogra	Pr. Scientist (Ag. Eco.)	PL: P-5
8.	Dr. D.V.Singh	Pr. Scientist (Soils)	
9.	Dr. J.M.S. Tomar	Pr. Scientist (Forestry)	
10.	Dr. D. Mandal	ICAR-National Fellow	
11.	Dr. A.C. Rathore	Pr. Scientist (Hort.)	
12.	Dr. Rajesh Kaushal	Pr. Scientist (Forestry)	
13.	Dr. M. Muruganandam	Pr. Scientist (Fisheries)	
14.	Er. S.S. Shrimali	Sr. Scientist (Com.App.)	Member & PL: P-1
15.	Dr. (Ms.)Vibha Singhal	Sr. Scientist(Agro-For.)	
16.	Dr. Lekh Chand	Sr. Scientist (Agro.)	
17.	Dr. Gopal Kumar	Sr. Scientist (Soils)	Member Secretary, RAC
18.	Dr. J. Jayaprakash	Sr. Scientist (Forestry)	
19.	Er. S. Patra	Scientist (SS) (Engg.)	PL:P-3
20.	Dr. M. Shankar	Scientist (Soils)	
21.	Dr. Ramanjeet Singh	Scientist (Agro.)	
22.	Dr. Uday Mandal	Scientist (Engg.)	
23.	Mr. Rajesh Bishnoi	Scientist (Agril. Extn.)	
24.	Dr. (Ms.) Indu Rawat	Scientist(HM/FRM)	
25.	Mr. A.K. Gupta	Scientist (Envt. Sc.)	
26.	Dr. Sadikul Islam	Scientist (Ag. Stat.)	
27.	Dr. Devideen Yadav	Scientist (Agro.)	
28.	Dr. Pawan Kumar	Scientist (Pl. Breeding)	
29.	Er. Saswat K. Kar	Scientist (Engg.)	
30.	Mr. Akshay Dheeraj	Scientist (Com.App.)	
31.	Dr.(Ms.) Sangeeta N.Sharma	Chief Technical Officer	Rapporteur
32.	Mrs. Minakshi Pant	Personal Assistant	Rapporteur
33.	Ms. Ankita Kishore	Technical Assistant	Rapporteur
RESEARCH CENTRE, AGRA			
34.	Dr. S.K. Dubey	Head of the Centre	Member
35.	Dr. A.K. Parandiyal	Principal Scientist (Forestry)	
36.	Dr. K.K. Sharma	Principal Scientist (Engg.)	
37.	Dr. R.K. Dubey	Senior Scientist (Agronomy)	
38.	Dr. D.C. Meena	Scientist (Ag.Eco.)	
39.	Dr. (Ms.) Rama Pal	Scientist (Envt. Science)	
RESEARCH CENTRE, BALLARI			
40.	Dr.S.L. Patil	Head of the Centre	Member
41.	Dr. B.S. Naik	Senior Scientist (Engg.)	
42.	Mr. M.N. Ramesha	Scientist (Forestry)	
43.	Dr Prabhathi M	Scientist (Hort.)	
44.	Dr. Ravi Dupdal	Scientist (Ag. Eco.)	
45.	Mr. Ravi K.N.	Scientist (Ag. Extn.)	

S.No.	Name	Designation	Participation in IRC as
RESEARCH CENTRE, CHANDIGARH			
46.	Dr. O.P.S. Khola	Head of the Centre	Member
47.	Dr. V.K. Bhatt	Principal Scientist (Engg.)	
48.	Dr. Ram Prasad	Principal Scientist (Hort.)	
49.	Dr. Pankaj Panwar	Principal Scientist (Forestry)	
50.	Dr. (Ms.) P.L. Bhutia	Scientist (Agroforestry)	
51.	Dr. Manoj Kumar	Scientist (Engg.)	
RESEARCH CENTRE, DATIA			
52.	Dr. R.S. Yadav	Head of the Centre	Member
53.	Mr. M.K. Meena	Scientist (Soils)	
54.	Dr. Dinesh kumar	Scientist (Agro.)	
RESEARCH CENTRE, KORAPUT			
55.	Dr. M. Madhu	Head of the Centre	Member
56.	Dr. D.C. Sahoo	Principal Scientist (Engg.)	
57.	Dr. (Ms.) Ch. J. Dash	Scientist (Engg.)	
58.	Dr. Karma Beer	Scientist (Hort.)	
RESEARCH CENTRE, KOTA			
59.	Dr. R.K. Singh	Head of the Centre	Member
60.	Dr. Ashok Kumar	Principal Scientist (Ag. Econ.)	
61.	Dr. A.K. Singh	Principal Scientist (Engg.)	
62.	Dr. Shakir Ali	Principal Scientist (Engg.)	Member & PL:P-4
63.	Dr. B.L. Mina	Principal Scientist (Soils)	
64.	Dr. H.R. Meena	Senior Scientist (Hort.)	
65.	Dr. G.L. Meena	Scientist (Soils)	
66.	Dr. (Ms.) S. Kala	Scientist (Forestry)	
67.	Dr. Kuldeep Kumar	Scientist (Agronomy)	
68.	Mrs. Anita Kumawat	Scientist (Agronomy)	
69.	Dr. (Ms.) I. Rashmi	Scientist (Soils)	
RESEARCH CENTRE, UDHAGAMANDALAM			
70.	Dr. K. Kannan	Head of the Centre	Member
71.	Dr. S. Manivannan	Principal Scientist (Engg.)	
72.	Dr. P. Sundarambal	Principal Scientist (Ag. Extn.)	
73.	Dr. K. Rajan	Principal Scientist (Soils)	
74.	Dr. P. Raja	Principal Scientist (Soils)	
75.	Dr. Hombe Gowda	Senior Scientist (Forestry)	
76.	Dr.(Ms.) V.K. Thilagam	Scientist (Soils)	
RESEARCH CENTRE, VASAD			
77.	Dr. V.C. Pande	Actg. Head of the Centre	Member
78.	Dr. R.A. Jat	Senior Scientist (Agronomy)	
79.	Dr. D. Dinesh	Scientist (Soils)	
80.	Dr. Vijay D. Kakade	Scientist (Hort.)	
81.	Dr. Gaurav Singh	Scientist (Engg.)	
82.	Dr. Dinesh Jinger	Scientist (Agro.)	