

# Proceedings of IRC Meeting (June 18 - 19, 2018)



ICAR-Indian Institute of Soil Science  
Nabibagh, Berasia Road, Bhopal – 462 038 (M. P.)

## **GUIDANCE AND DIRECTIONS**

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**Dr. ASHOK K. PATRA,**  
Director and Chairman, IRC

**Dr. A.K. BISWAS**  
Principal Scientist & Head and Member Secretary, IRC

## **COMPILATION AND EDITING**

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**Dr. R. Elanchezhian**  
Principal Scientist and I/c PME Cell

## **SECRETARIAL ASSISTANCE AND COMPUTER PROCESSING**

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**Shri Sanjay Kumar Kori**  
Stenographer Grade -III

## **INTRODUCTORY REMARKS OF THE CHAIRMAN, IRC**

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The IRC meeting was held during June 18-19, 2018 in the committee room of the institute. The member Secretary IRC welcomed the Chairman and other members of IRC and briefed about the purpose and agenda of the meeting. I/c PME Cell presented an account of the completed and new projects in the institute and the modalities for presentation. The Director and Chairman of the IRC also welcomed all the members of IRC present over there. He took this opportunity to congratulate the award winning scientists for their recognitions and honors. He again stressed that all scientists must submit quality research proposals. The following concluded projects and new projects were presented.

## IRC Agenda (RPP-III and RPP-I)

Date: June 18-19, 2018 (10:30 AM; Venue: Committee Room)

### Institute in-house and external funded projects (RPP-III)

#### a) Institute in-house projects

Sl. No.	Title of Project	PI and Co-PI	Division/ Unit	Period		RPP Status	Remarks
1	Assessing impacts of climate change on different cropping systems in Central India and evaluating adaptation studies through crop simulation models	M. Mohanty, K.M. Hati, N.K. Sinha, Sangeeta Lenka, Pramod Jha, Neenu S., R.S. Chaudhary, R. Elanchezhian	Soil Physics	June 2011	May 2016	RPP-III to be submitted	Concluded successfully
2	Impact of Long Term Use of Sewage Water Irrigation on Soil and Crop Quality in Bhopal region of Madhya Pradesh	M.L. Dotaniya, Vasudev Meena (On study leave), Vassanda Coumar, Rajendiran S, Asha Sahu, S. Kundu	ESS	August 2013	July 2016		Concluded successfully
3	Studies on soil resilience in relation to soil organic matter in selected soils.	N. K. Lenka, Sangeeta Lenka, Brij Lal Lakaria, Asit Mandal	SC&F	July 2010	July 2015	RPP-III to be submitted	Concluded successfully
4	Biochar on soil properties and crop performance	Brij Lal Lakaria, Pramod Jha, A.K. Biswas, K.M. Hati, J. K. Thakur, M. Vassanda Coumar, A. K. Dubey (CIAE), S. Gangil (CIAE)	SC&F	January, 2012	March 2017		Concluded successfully Explore possibilities of application in acid soils of farmers
5	Nano-particle delivery and internalization in plant systems for improving nutrient use efficiency	R. Elanchezhian, A.K. Biswas, Tapan Adhikari, K. Ramesh, S. Kundu, A.K. Shukla, K. Raju Kumar (Nishad)	SC&F	July, 2013	July 2017	RPP-III to be submitted	Concluded successfully
6	Evaluation of modified urea materials and agronomic interventions for enhancing nitrogen use efficiency and sustaining crop productivity	B.P. Meena, K. Ramesh, Pramod Jha R. Elanchezhian	SC&F	October 2013	September 2017	RPP-III to be submitted	Concluded successfully
7	Standardization of foliar feeding of zinc for correcting its deficiency and grain enrichment in wheat	Pankaj K. Tiwari, A. K. Shukla, R. Elanchezhian and B. P. Meena	MSPE	October 2014	June 2017	RPP-II 2015-16, RPP-II 2016-17; RPP-III to be submitted	Not presented , to be presented in next IRC
8	Interactions among tannery effluents constituents on heavy metals uptake by spinach.	M. L. Dotaniya, J. K. Saha, Rajendiran S., M. Vassanda Coumar S. Kundu	ESS	January 2012	December 2016		Concluded successfully

#### b) Externally Funded Projects

9	(a) Use of nano sensors network for field detection of temperature and moisture stress in plant and soil	Tapan Adhikari, S. Kundu, C.D. Singh, Ajay, N.K. Sinha, A.K. Patra, Navkanta Bhat, K.S. Subramaniam and Bajendra	ESS	April 2015	March 2017		Concluded
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	(b) Conversion of naturally occurring plant nutrient containing minerals into nano form by top down approach to enhance the availability of plant nutrients in soil and faster reclamation of problem soils	Tapan Adhikari, S. Kundu, A.K. Shukla, K. Ramesh, S. Bhattacharjya, J.K. Saha, A.K. Patra	ESS	April 2015	March 2017		
10	Integrated assessment of soil and crops for enhancing productivity and C-sequestration potential of Vertisols of central India under changing climate scenarios (NICRA)	M. Mohanty, Pramod Jha, Sangeeta Lenka, J. Somasundaram, N.K. Sinha, R.S. Chaudhary and Muneshwar Singh	Soil Physics	Feb 2015	March 2017	RPP-II for 2015-16; 2016-17 to be submitted	Not presented, to be presented in next IRC
11	Biodegradation of pesticides under changing climate and metagenomic profiling of functional microbes (DBT)	K. Bharati, Neera Singh (IARI, New Delhi), T. K. Radha, S. R. Mohanty	Soil Biology	December 2013	April 2017	Report 2013-14, 2014-15, 2015-16, 2016-17, 2017-18 to be submitted	Concluded
12	Determination of critical limits for identifying heavy metals contamination and their threats in major soil types of India funded by ICAR-Extra Mural Project	J.K. Saha, M. Vassanda Coumar, Rajendiran S., M.L. Dotaniya, N.S. Bhogal	ESS	Jan 2016	March 2017	Report for 2015-16, 2016-17, 2017-18 to be submitted	Concluded

**c) Collaborative projects with other institutes where ICAR-IISS scientists are associated in**

13	Enhancing Resource Use Efficiency in Pulse Based Cropping System in Central India. Collaborating with ICAR-Indian Institute of Pulses Research, Kanpur (U.P.)	R. Elanchezhian and A.O. Shirale	SC&F	July 2014	June 2017	Report 2016-17 to be submitted	Concluded
14	Isolation and characterization of heavy metal resistant bacteria & evaluation for their use in agriculture. Collaborating with NBAIM, Mau (U.P.)	M.C. Manna, Asit Mandal, Asha Sahu, J.K. Thakur	Soil Biology	May 2014	March 2017	Report to be submitted	Not presented, to be presented in next IRC

**RPP-I (New Projects)**

**A) In-house Institute projects**

15	Cropping system diversification using moringa oleifera for water use efficiency nutrient use efficiency system productivity and farm economy	Prabhat Tripathi	SPD				Pre-IRC to be given
16	Micronutrients distribution in major soil orders of India as influenced by soil properties and land use pattern	S.K. Behera, A.K. Shukla	PC (MSPE)				Pre-IRC to be given
17	Mineralogy of Vertisols in relation K	Gurav Priya Pandurang, AO Shirale,	SC&F				Approved

	availability in central and western India	B.P. Meena, B.L. Lakaria, Sanjay Srivastava, P. Chandran					
18	Clay based adsorbents for removal of arsenic from soil and their effect on arsenic uptake by rice crop	Sonalika Sahoo	ESS				Not presented

#### B) Externally funded Projects

19	Ecogenomics of soil microbes involved in global climate mitigation and nitrogen use efficiency in rice-wheat agroecosystem of central India under elevated CO <sub>2</sub> and temperature" funded by DST	S R Mohanty, K Bharati, S Gangil (CIAE)	AINP on SBB				To be continued
20	Evaluation of Soybean-rhizobia interaction under elevated CO <sub>2</sub> and temperature to develop climate ready microbial inoculants for central India funded by AMAAS	S R Mohanty, A Mandal, K Bharati	AINP on SBB	April 2017	March 2020		To be continued
21	Strategies for enhancing yield of soybean (Glycine Max L) and pigeonpea (Cajanus cajan, L) in India using climate variability information and crop growth simulation models in collaboration to ICAR-IISR, Indore	M. Mohanty, B.S. Bhatia, N.K. Sinha	SPD				Not presented as it is yet to be approved
22	Sustainable adaptive water management resilient to variable climates in Madhya Pradesh funded by ICARDA	M. Mohanty	SPD	April 2018	March 2021		Not presented as it is yet to be approved
23	Assessing the impact of imbalanced use of chemical fertilizer on soil health using a soil function based quantitative approach funded by DST, New Delhi	N.K. Lenka, B.P. Meena, Sangeeta Lenka, AO Shirale, R.H. Wanjari, M.L. Dotaniya, R.K. Singh	SCF	May 2018	April 2021		To be continued

## **Concluding Remarks of the Chairman**

The Director in the end congratulated all the speakers for best presentations and praised about the outcome of the projects. He emphasized on proper evaluation of the RPP-III of the project. He also highlighted the importance of timely submission of RPPs for proper project monitoring. He has stressed upon the final output and subsequent line of work to be carried out from the concluded projects. He has urged all scientists to route all publications through PME Cell for proper compilation and record. He has requested all the PIs of contract research project to include cost of water resources. He informed all the PIs to keep of utility point of view in formulating new projects and conducting ongoing projects. Also, augmented for validation of probable technologies in the farmers' fields. He urged all to improve the visibility of the institute.

**Division wise/Co-coordinating Unit-wise Number of Projects\***

Sl. No.	AICRP/ Division	Sl. No. of Project	Total
1.	AICRP on LTFE	0	0
2.	AICRP on STCR	-	-
3.	AICRP on MSN	7, 16	2
4.	AINP on Biofertilizers	19, 20	2
5.	Soil Chemistry and Fertility	3, 4, 5, 6, 13, 17, 23	7
6.	Soil Physics	1, 10, 15, 21, 22	5
7.	Soil Biology	11, 14,	2
8.	Environmental Soil Science	2, 8, 9(a, b), 12, 18,	5
9.	ITMU	-	-
10	CRP on CA	0	0

*\*contractual projects are not included*

**Division-wise no. of Externally Funded Projects**

Sl. No.	Centre/Co-coordinating Unit	Sl. No. of Project	Total
1.	AICRP LTFE	-	-
2.	AICRP STCR	-	-
3.	AICRP MSN	-	-
4.	AINP SBB	19, 20	2
5.	Soil Chemistry and Fertility	13, 17, 23,	3
6.	Soil Physics	10, 15, 21, 22	4
7.	Soil Biology	11, 14	2
8.	Environmental Soil Science	9(a and b), 12, 18	3

**New Projects Approved**

Sl. No.	Division/Co-coordinating Unit	Sl. No.	Total
1	AICRP LTFE	-	-
2	AICRP STCR	-	-
3	AICRP MSPE	-	-
4	AINP SBB	19, 20	2
5	Soil Chemistry and Fertility	17	1
6	Soil Physics	-	-
7	Soil Biology	-	-
8	Environmental Soil Science	-	-
9	ITMU	-	-



## Project (serial numbers) with individual scientist

S. No.	Name of Scientist	Designation	Sl. Of projects	
			PI	Co-PI
1	Dr. A.K. Patra	Director	-	9(a), 9(b)
<b>AICRP on LTFE</b>				
1	Dr. Muneshwar Singh	Project Co-coordinator	-	10
2	Dr. R. H. Wanjari	Senior Scientist	-	23
<b>AICRP on STCR</b>				
1	Dr. Pradip Dey	Project Co-ordinator	-	-
2	Dr. N.S. Bhogal	Pr. Scientist	-	12
3	Dr. Abhishek Rathore*	Scientist (SS)	-	-
4	Dr. Hiranmoy Das*	Scientist	-	27
<b>AICRP on MSN</b>				
1	Dr. A.K. Shukla	Project Co-ordinator	37,38	5, 7, 9(b), 16
2.	Mr. Pankaj K. Tiwari*	Scientist	7	-
<b>AINP on BF</b>				
1	Dr. S.R. Mohanty	I/c Project Co-ordinator	19, 20	11
<b>Soil Chemistry and Fertility</b>				
1	Dr. A. K. Biswas	Head of Division & Pr. Scientist	-	4, 5
2	Dr. Sanjay Srivastava	Principal Scientist	-	17
3	Dr. Brij Lal Lakaria	Principal Scientist	4	3, 17
4	Dr. R. Elanchezhian	Principal Scientist	5, 13	1, 6, 7
5	Dr. N.K. Lenka	Principal Scientist		3,23
6	Dr. K. Ramesh	Principal Scientist	-	5, 6, 9(b)
7	Dr. Pramod Jha	Senior Scientist	-	1, 4, 6, 10
8	Dr. B.P. Meena	Scientist	6	2, 7, 17 , 23
9	Dr. Abhay Shirale	Scientist	-	13, 17, 23
10	Dr. Gurav Priya Pandurang	Scientist	17	-
<b>Soil Physics Division</b>				
1	Dr. R.S. Chaudhary	Head of Division and Prin. Scientist		1, 10,
2	Dr. Kuntal M. Hati	Principal Scientist	-	1, 4,
3	Dr. R.K. Singh	Principal Scientist	-	10
4	Dr. J. Somasundaram	Senior Scientist	-	-
5	Dr. A.K. Vishwakarma	Senior Scientist	17	-
6.	Dr. M. Mohanty	Scientist	10, 21, 22	11
7	Dr. N.K. Sinha	Scientist	-	1, 9(a), 10, 21
<b>Soil Biology</b>				
1	Dr. M.C. Manna	Head of Division and Prin. Scientist	14	-
2	Dr. A.K. Tripathi	Principal Scientist	-	-
3	Dr. A.B. Singh	Principal Scientist	-	-
4	Dr. S. Ramana	Principal Scientist	-	-
5	Dr. S.R. Mohanty	Senior Scientist	19, 20	11,
6	Dr. K. Bharati	Senior Scientist	11	19, 20
7	Dr. Asit Mandal	Scientist	-	3, 14, 20
8	Dr. Asha Sahu	Scientist	-	2, 14
9	Dr. J.K. Thakur	Scientist	-	4, 14
10	Dr. S. Bhattacharjya	Scientist	-	9(b),

<b>Environmental Soil Science</b>				
1	Dr. J.K. Saha	Head of Division and Prin. Scientist	12	8, 9(b),
2.	Dr. S. Kundu	Principal Scientist	-	2, 5, 8, 9(a), 9(b),
3.	Dr. Ajay	Principal Scientist		9(a),
4	Dr. Tapan Adhikari	Principal Scientist	9(a), 9(b),	5
5	Dr. M. Vassanda Coumar	Scientist		2, 4, 8, 12
6	Dr.(Mrs.) Sangeeta Lenka	Scientist Sr. Scale		1, 3, 10, 23
7	Dr. M.L. Dotaniya	Scientist	2, 8	12, 23
8	Dr. Rajendiran S.	Scientist		2, 8, 12
9	Mr. Vasudev Meena*	Scientist	-	2,
<b>Scientists from other Institutes</b>				
1.	KV Ramana Rao	Principal Scientist, CIAE, Bhopal	-	16c
2.	Dr. A.K. Dubey	Principal Scientist, CIAE, Bhopal	-	3
3.	Dr. S. Gangil	Principal Scientist, CIAE, Bhopal	-	3
4.	Neera Singh	IARI	-	21
5.	K. Raju Kumar	NIHSAD, Bhopal	-	5
6.	C.D. Singh, Navkanta Bhat, K.S. Subramaniam and Bajendra	CIAE, Bhopal		12(a)
7.	Dr. D.LN. Rao**	Emirates scientist	-	16

\*On deputation/Leave.

\*\*Emirates Scientist, ICAR-IISS, Bhopal

## NUMBER OF PROJECTS WITH INDIVIDUAL SCIENTIST

S. No.	Name of Scientist	Designation	No. of projects		Total
			PI	Co-PI	
1	Dr. A.K. Patra	Director	-	10, 12 (a, b),13,23,31,32	7
<b>AICRP on LTFE</b>					
1	Dr. Muneshwar Singh	Project Co-coordinator	1,40	10,13,18,32	6
2	Dr. R.H. Wanjari	Senior Scientist	-	13, 16 (a), 40,17	4
<b>AICRP on STCR</b>					
1	Dr. Pradip Dey	Project Co-ordinator	-	10,17,31	3
2	Dr. N.S. Bhogal	Pr. Scientist	-	30	1
3	Mr. Hiranmoy Das*	Scientist	-	27	1
<b>AICRP on MSN</b>					
1	Dr. A.K. Shukla	Project Co-ordinator	37,38	5,9,12(b),13,17	7
2	Mr. Pankaj Tiwari*	Scientist	9	37,38	3
<b>AINP on BF</b>					
1	Dr. S.R. Mohanty	I/c Project Co-ordinator	32,16	21,22	4
<b>Soil Chemistry and Fertility</b>					
1	Dr. A.K. Biswas	Head of Division & Pri. Scientist	16 (LCPC)	1, 3,5,13,37,38	7
2	Dr. Sanjay Srivastava	Principal Scientist	7, 16c	-	2
3	Dr. Brij Lal Lakaria	Principal Scientist	3	2,11,13,16(d),40,17	7
4	Dr. R. Elanchezhian	Principal Scientist	5	8,9, 14,15,17	6
5	Dr. N.K. Lenka	Senior Scientist	2,13,17	-	3
6	Dr. K. Ramesh	Principal Scientist	-	5,7,8,11,12(b),16(b)	6
7	Dr. Pramod Jha	Senior Scientist	16d	3,8,10,15,18	6
8	Dr. B.P. Meena	Scientist	8	1,9,13, 16(b),37,38	7
9	Mr. Abhay Sirale	Scientist	-	13,14,16(b),40,17	5
10	Dr. Gurav Priya Pandurang	Scientist	17	-	1
<b>Soil Physics</b>					
1	Dr. R.S. Chaudhary	Head of Division and Prin. Scientist	16 (Deputy LCPC)	1,10,15,18,31	6
2	Dr. Kuntal M. Hati	Principal Scientist	10,16	3,15,31	5
3	Dr. R.K. Singh	Principal Scientist	-	16(a),31,17	3
4	Dr. J. Somasundaram	Senior Scientist	16b	18	2
5	Dr. A.K. Vishwakarma	Senior Scientist	16a,17	-	2
6	Dr. M. Mohanty	Scientist	15,18,31	10	4
7	Dr. N.K. Sinha	Scientist	-	4,10,12(a),13,15,16(c),18,31	8
<b>Soil Biology</b>					
1	Dr. M.C. Manna	Head of Division and Prin. Scientist	23	24	2
2	Dr. A.K. Tripathi	Principal Scientist	-	6,7,16(a),23,28,	5
3	Dr. A.B. Singh	Principal Scientist	11	1, 13,17	4
4	Dr. S. Ramana	Principal Scientist	28	11,16(b)	3
5	Dr. S.R. Mohanty	Senior Scientist	32,16	21,22	4
6	Dr. K. Bharati	Senior Scientist	21	16(d),22,28,32,17,18	7
7	Dr. Asit Mandal	Scientist	-	2,20,23,24,18	5
8	Dr. Asha Sahu	Scientist	-	23,26,28,17	4
9	Dr. Jyoti Kumar Thakur	Scientist	-	3,10,11,16(d),17	5

10	Dr. S. Bhattacharya	Scientist	35	16(b),23,29	4
<b>Environmental Soil Science</b>					
1	Dr. J.K. Saha	Head of Division and Prin. Scientist	30	12(b),25,27,29,18	6
2	Dr. S. Kundu	Principal Scientist	-	5,12(a,b), 13,25,26,27	7
3	Dr. Ajay	Principal Scientist	34,18	12(a),29	4
4	Dr. Tapan Adhikari	Principal Scientist	12(a,b)	5,29,18	5
5	Dr. M. Vassanda Coumar	Scientist	29	3,10,25,26,30	6
6	Dr.(Mrs.) Sangeeta Lenka	Scientist	33	2,15,17,18	5
7	Dr. M.L. Dotaniya	Scientist	25,26	27,29,30	5
8	Dr. S. Rajendiran	Scientist	27	13,25,26,29,30	6
9	Mr. Vasudev Meena*	Scientist	-	26	1
10	Dr. Sonalika Sahoo	Scientist	-	-	-
<b>Institute Technology Management Unit (ITMU)</b>					
1.	Dr. Shinogi K C	Scientist	-	17	1

**Scientists from other Institutes involved in research projects**

1.	Dr. K.V. Ramana Rao	Principal Scientist, CIAE, Bhopal	-	16c	1
2.	Dr. A.K. Dubey	Principal Scientist, CIAE, Bhopal	-	3	1
3.	Dr. S. Gangil	Principal Scientist, CIAE, Bhopal	-	3	1
4.	Neera Singh	IARI, New Delhi	-	21	1
5.	K. Raju Kumar	NIHSAD, Bhopal	-	5	1
6.	C.D. Singh, Navkanta Bhat, K.S. Subramaniam and Bajendra	-		12(a)	1
7.	Dr. DLN Rao**	Emirites Scientist	-	16	1

\* On deputation/Leave.

\*\* Emirites Scientist of ICAR-IISS, Bhopal

## LIST OF PARTICIPANTS

S. No.	Name of Scientist	Designation
1.	Dr. A. K. Patra	Director & Chairman, IRC
2.	Dr. Muneshwar Singh	Project Co-ordinator, LTFE
3.	Dr. A.K. Shukla	Project Co-ordinator, MSN
4.	Dr. Pradip Dey	Project Co-ordinator, STCR
5.	Dr. R.S. Chaudhary	Head of Division and Principal Scientist
6.	Dr. A.K. Biswas	HOD & Member Secretary, IRC
7.	Dr. M.C. Manna	Head of Division and Principal Scientist
8.	Dr. J.K. Saha	Head of Division and Principal Scientist
9.	Dr. S. Kundu	Principal Scientist
10.	Dr. A.B. Singh	Principal Scientist
11.	Dr. Ajay	Principal Scientist
12.	Dr. A.K. Tripathi	Principal Scientist
13.	Dr. Sanjay Srivastava	Principal Scientist
14.	Dr. Brij Lal Lakaria	Principal Scientist
15.	Dr. Kuntal M. Hati	Principal Scientist
16.	Dr. R. Elanchezian	Principal Scientist
17.	Dr. S. Ramana	Principal Scientist
18.	Dr. K. Ramesh	Principal Scientist
19.	Dr. R.K. Singh	Principal Scientist
20.	Dr. R.H. Wanjari	Senior Scientist
21.	Dr. A.K. Vishwakarma	Senior Scientist
22.	Dr. J. Somasundaram	Senior Scientist
23.	Dr. S.R. Mohanty	Senior Scientist
24.	Dr. Pramod Jha	Senior Scientist
25.	Dr. K. Bharati	Senior Scientist
26.	Dr. M.V. Coumar	Scientist
27.	Dr. N.K. Sinha	Scientist
28.	Dr. Asit Mandal	Scientist
29.	Dr. Asha Sahu	Scientist
30.	Dr. Rajendiran S.	Scientist
31.	Dr. Jyoti Kumar Thakur	Scientist
32.	Dr. Shinogi K C	Scientist
33.	Dr. Bharat Prakash Meena	Scientist
34.	Dr. Sudeshana Bhattacharjya	Scientist
35.	Dr. Sonalika Sahoo	Scientist
36.	Dr. Gurav Priya Pandurang	Scientist

