



# **Results-Framework Document (RFD)**

**for**

## **Indian Institute of Soil Science (2014-2015)**

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## **Section 1: Vision, Mission, Objectives and Functions**

### **Vision**

Basic and strategic research on physical, chemical and biological processes in soils for improving soil health and crop productivity

### **Mission**

To provide scientific basis for enhancing and sustaining productivity of soil resource with minimal environmental degradation

### **Objectives**

- Appraisal and management of soil health
- Improving nutrient use efficiency
- HRD & capacity building

### **Functions**

To plan, coordinate, implement and monitor research and development programmes for improvement of soil health and serve as a knowledge repository in the field of soil science.

**Section 2 : *Inter se* priorities among Key Objectives, Success Indicators and Targets**

S. No.	Objectives	Weight	Actions	Success Indicators	Unit	Weight	Target / Criteria				
							Excellent	Very good	Good	Fair	Poor
							100%	90%	80%	70%	60%
1	Appraisal and management of soil health	40	Assessment of soil health	Soil health assessment under different crops and cropping systems	No.	10	8	6	4	2	0
			Management of soil health	INM packages developed for different agro-eco regions of the country	No.	15	10	8	6	4	2
				Developed conservation agricultural practices for crops / cropping systems	No.	10	3	2	1	0	0
				Developed management practices for remediation of polluted soils	No.	5	3	2	1	0	0
2	Improving nutrient use efficiency	25	Balanced and judicious use of fertilizers	Soil test based balanced fertilizer prescription equations developed	No.	15	4	3	2	1	0
				Technologies developed for improving nutrient use efficiencies	No.	5	3	2	1	0	0
				Efficient bio-fertilizers strains/ formulations developed	No.	5	6	5	4	3	2
3	HRD & capacity	15	Transfer of technology and creation of	Frontline demonstrations conducted	No.	8	30	25	20	15	10

	building		awareness/ knowledge	Farmers' trainings organized	No.	4	7	5	3	1	0
				Workshop/ seminar/ summer/ winter school organized	No.	3	10	8	6	4	2
*	Publication/Documentation	5	Publication of the research articles in the journals having the NAAS rating of 6.0 and above	Research articles published	No.	3	43	36	29	22	15
			Timely publication of the Institute Annual Report (2013-2014)	Annual Report published	Date	2	30.06.2014	02.07.2014	04.07.2014	07.07.2014	09.07.2014
*	Fiscal resource management	2	Utilization of released plan fund	Plan fund utilized	%	2	98	96	94	92	90
*	Efficient Functioning of the RFD System	3	Timely submission of Draft RFD for 2014-2015 for Approval	On-time submission	Date	2	May 15, 2014	May 16, 2014	May 19, 2014	May 20, 2014	May 21, 2014
			Timely submission of Results for 2013-2014	On-time submission	Date	1	May 1 2014	May 2 2014	May 5 2014	May 6 2014	May 7 2014
*	Enhanced Transparency / Improved Service delivery of Ministry/Department	3	Rating from Independent Audit of implementation of Citizens' / Clients' Charter (CCC)	Degree of implementation of commitments in CCC	%	2	100	95	90	85	80
			Independent Audit of implementation of Grievance Redress Management (GRM) system	Degree of success in implementing GRM	%	1	100	95	90	85	80

*	Administrative Reforms	7	Update organizational strategy to align with revised priorities	Date	Date	2	Nov.1 2014	Nov.2 2014	Nov.3 2014	Nov.4 2014	Nov.5 2014
			Implementation of agreed milestones of approved Mitigating Strategies for Reduction of potential risk of corruption (MSC)	% of Implementation	%	1	100	90	80	70	60
			Implementation of agreed milestones for ISO 9001	% of implementation	%	2	100	95	90	85	80
			Implementation of milestones of approved Innovation Action Plans (IAPs)	% of implementation	%	2	100	90	80	70	60

### Section 3: Trend Values of the Success Indicators

S. No.	Objectives	Actions	Success Indicators	Unit	Actual value for FY 2012 -13	Actual value for FY 2013-14	Target value for FY 2014 -15	Projected value for FY 2015 -16	Projected value for FY 2016-17
1	Appraisal and management of soil health	Assessment of soil health	Soil health assessment under different crops and cropping systems	No.	-	8	6	6	6
		Management of soil health	INM packages developed for different agro-eco regions of the Country	No.	8	10	8	9	9
			Developed conservation agricultural practices for crops / cropping systems	No.	-	3	2	3	3
			Developed management practices for remediation of polluted soils	No.	-	3	2	2	2
2	Improving nutrient use efficiency	Balanced and judicious use of fertilizers	Soil test based balanced fertilizer prescription equations developed	No.	4	4	3	4	4
			Technologies developed for improving nutrient use efficiencies	No.	2	3	2	3	3
			Efficient bio-fertilizers strains/ formulations developed	No.	2	9	5	6	6
3	HRD & capacity building	Transfer of technology and creation of awareness/ knowledge	Frontline demonstrations conducted	No.	15	28	25	26	28
			Farmers' trainings organised	No.	10	5	5	6	6

			Workshop/ seminar/ summer/ winter school organized	No.	4	12	8	9	9
*	Publication/D ocutmentation	Publication of the research articles in the journals having the NAAS rating of 6.0 and above	Research articles published	No.	34	35	36	37	38
		Timely publication of the Institute Annual Report (2013-2014)	Annual Report published	Date	-	-	02.07.2014	-	-
*	Fiscal resource management	Utilization of released plan fund	Plan fund utilized	%	99.9	99.8	96	98	98
*	Efficient Functioning of the RFD System	Timely submission of Draft RFD for 2014-2015 for Approval	On-time submission	Date	-	-	May 16 2014	-	-
		Timely submission of Results for 2013-2014	On-time submission	Date	-	-	May 2, 2014	-	-
*	Enhanced Transparency / Improved Service delivery of Ministry/Department	Rating from Independent Audit of implementation of Citizens' / Clients' Charter (CCC)	Degree of implementation of commitments in CCC	%	-	-	95	-	-
		Independent Audit of implementation of Grievance Redress Management (GRM) system	Degree of success in implementing GRM	%	-	-	95	-	-

*	Administrative Reforms	Update organizational strategy to align with revised priorities	Date	Date			Nov.2, 2014		
		Implementation of agreed milestones of approved Mitigating Strategies for Reduction of potential risk of corruption (MSC)	% of Implementation	%	-	-	90	-	-
		Implementation of agreed milestones for ISO 9001	% of implementation	%	-	-	95	-	-
		Implementation of milestones of approved Innovation Action Plans (IAPs)	% of implementation	%	-	-	90	-	-



#### Section 4(a): Acronyms

S. No.	Acronym	Description
1	HRD	Human Resource Development
2	INM	Integrated Nutrient Management
3	IPNS	Integrated Plant Nutrient Supply System
4	KVK	Krishi Vigyan Kendra

#### Section 4(b): Description and definition of success indicators and proposed measurement methodology

S. No.	Success Indicator	Description	Definition	Measurement	General Comments
1	Soil health assessment under different crops and cropping systems	Soil health monitoring with the use of imbalanced and inadequate fertilizer application is essential to monitor the changes in different agro-eco regions. Assessment of soil health through delineating nutrient deficiency areas is essential for location specific fertilizer recommendation.	Long-term fertilizer experiments are assets to address the issue of soil health under continuous use of imbalanced and inadequate fertilizer application and also balanced and integrated nutrient use.	Soil health assessment/ improvement through different interventions.	
2	INM packages developed for different agro-eco regions of the country	Agricultural inputs like nutrient and water are not only costly but also scarce. Therefore, development of INM nutrient prescriptions for various crops and cropping systems is essential for attaining higher productivity levels.	Integrated plant nutrient supply systems (INM/ IPNS) encompassing conjunctive use of both chemical and organic nutrient sources will be developed to provide optimum nutrition to crops for sustaining better crop productivity for different crops and cropping systems.	No. of IPNS systems developed for crops and cropping systems	

3	Developed conservation agricultural practices for crops / cropping systems	Conservation agriculture is an important aspect in improving soil health through optimization of tillage and residue retention for better soil health.	Various crops and cropping systems would be evaluated and best practices would be identified for improved soil health.	Conservation agriculture technologies for sustainable crop production	
4	Developed management practices for remediation of polluted soils	Judicious use of polluted water/sewage is important to meet the nutrient and water demand of crops especially near to urban areas	Assessment of soils polluted with sewage water and its remediation through plant at different sites	Technologies for use of polluted water	
5	Soil test based balanced fertilizer prescription equations developed	Soil test based fertilizer prescription is the demand of the hour due to large scale field variability on the farm level. Also the resource availability with the client need to be included sometimes to provide nutrients to crops through various resources than alone from the fertilizers.	Soil test based prescription equations would be developed for different crops in different agro-eco-regions.	No. of prescriptions developed	
6	Technologies developed for improving nutrient use efficiencies	Enhancing nutrient use efficiency is of utmost importance keeping in view the high cost of fertilizers and less availability due to limited production.	Different techniques will be employed to enhance the nutrient use efficiency.	No. of technologies developed	
7	Efficient bio-fertilizers strains/formulations developed	Soil is full of microbial life and very limited organisms have to be exploited for increasing nutrient use efficiency.	A continuous effort is required to research upon the beneficial microbial strains and their formulations to enhance nutrient use efficiency.	No. of formulations/strains identified	
8	Frontline demonstrations conducted	Frontline demonstrations (on-farm and off-farm) at different agro eco-regions is required to convince the stakeholders that the technology works at their location too.	Frontline demonstrations would be conducted at different locations in the country	No. of demonstrations conducted	
9	Farmers' trainings organised	Human resource development is a dynamic process. Farmers need to be educated through the experts directly. At	Farmers' training will be conducted for farmers from different regions for faster	No. of trainings organized	

		this level they feel the pulse of high end research and many a time come to know the things they never heard at their farms.	technology transfer		
10	Workshop/seminar/ summer/ winter school organized	Human resource development is a dynamic process. Scientists working in a narrow research areas many a time need to be updated on recent techniques/advances in research.	Scientists interaction would be facilitated through these activities	No. of workshops/summer/winter schools organized	

**Section 5: Specific performance requirement from other departments that are critical for delivering agreed results**

Location Type	State	Organization Type	Organization Name	Relevant Success Indicator	What is your requirement from this organization	Justification for this requirement	Please quantify your requirement from this organization	What happens if your requirement is not met
Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

**Section 6: Outcome/ Impact of activities of Department/ Ministry**

S. No.	Outcome/ Impact	Jointly responsible for influencing this outcome/ impact with the following organisation(s)/ departments/ ministry(ies)	Success Indicator (s)	Unit	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
1.	Ensuring good soil health through balanced fertilization	State Agricultural Universities/ KVKs/ State Agricultural Departments	Increase in micronutrient fertilizer use	%	2	5	5	5	5
			Increase in bio fertilizer use over previous year	%	5	5	5	5	5
			Increase in organic manure use	%	2	3	3	3	3