



Results-Framework Document (RFD)
for
Directorate of Rice Research
(2012-2013)

Rajendranagar, Hyderabad – 500 030
Andhra Pradesh

<http://www.drricar.org>

Section 1: Vision, Mission, Objectives and Functions

Vision

Welfare of the present and future generations of Indian rice farmers and consumers by ensuring food and nutritional security

Mission

Develop technologies to enhance rice productivity, resource and input use efficiency and profitability of rice cultivation without adversely affecting the environment

Objectives

1. Strengthening frontier research for enhancing rice production, productivity and quality to meet domestic and export demands
2. Identification of technologies suitable for different rice ecologies/environments
3. Improving efficiency of resources, inputs and farm machinery for sustainable production
4. Integrated management of biotic stresses
5. Validation, dissemination and commercialization of technologies developed and promoting public-private partnership

Functions

- To conceptualize, initiate, monitor Institutional Research Projects aimed at enhancing rice production and productivity
- To propose, defend/compete and initiate network/single institute research projects with external funding in frontier and emerging areas of rice research
- To organize AICRP on rice studies involving multi-location testing and identification of technologies for diverse rice ecologies
- To coordinate breeder seed production of rice varieties and hybrid parental lines to meet the demands of DAC
- To coordinate front-line demonstrations of proven varietal and production technologies as per the DAC requirements
- To disseminate knowledge and skills through formal training, informal out-reach activities and exploring ICT

Section 2:

Inter se Priorities among Key Objectives, Success indicators and Targets

Objective	Weight	Action	Success indicator	Unit	Weight	Target/ Criteria value				
						Excellent	Very Good	Good	Fair	Poor
						100%	90%	80%	70%	60%
Strengthening frontier research for enhancing rice production, productivity and quality to meet domestic and export demands	28	Development of better hybrids for different rice ecologies	Development and evaluation of test hybrids	No.	5	40	30	20	10	5
			Improvement of parental lines	No.	5	15	10	7	5	3
		Development of better varieties for domestic and export purpose	Development and evaluation of breeding lines for higher yield and quality	No.	5	6	5	4	3	2
			Development and improvement of varieties with stress tolerance	No.	5	5	4	3	2	1
		Characterization and evaluation of germplasm for biotic stresses	Agro-morphological characterization and screening of new germplasm accessions for stress resistance	No.	8	1000	800	700	600	500
Identification of technologies suitable for different ecologies/ environments	25	Organization of coordinated trials in different disciplines	Data receipt and analysis	Date	5	25/01/2013	31/01/2013	10/02/2013	20/02/2013	28/02/2013
			Report preparation & presentation	Date	10	26/03/2013	27/03/2013	28/03/2013	29/03/2013	30/03/2013
			Constitution & Conduct of trial	No.	5	75	65	60	50	40
			Monitoring of trials at centers	No.	5	40	35	30	25	20
Improving efficiency of resources, inputs and farm machinery for sustainable production	15	Improving productivity of rice and rice based cropping systems	Evaluation of crop management practices for improved productivity	No	5	8	6	4	2	0
		Enhancing efficiency of resources and inputs	Evaluation and monitoring for improved efficiency of soil, water and inputs	No	5	7	5	3	2	0
		Assessment of crop responses to changing climate	Identification of crop parameters/indicators and efficient genotypes for heat and water stress tolerance and modelling	No.	5	20	15	10	5	3

Objective	Weight	Action	Success indicator	Unit	Weight	Target/ Criteria value				
						Excellent	Very Good	Good	Fair	Poor
						100%	90%	80%	70%	60%
Integrated management of biotic stresses	15	Identification of new sources of resistance	Screening advanced breeding lines for resistance	No.	5	500	475	350	250	150
		Evaluation of new molecules and formulations of pesticides / weedicides for bio-efficacy and safety	Screening of pesticides in greenhouse and field trials	No.	5	35	30	25	20	15
		Development and evaluation of novel methods of pest management and their integration	Studies on biology, ecology, biocontrol, botanicals and other means of pest management and their integration	No.	5	5	4	3	2	1
Validation, dissemination and commercialization of technologies developed and promoting public-private partnership	5	On-farm validation and popularization of technologies	Laying out FLDs/OFDs	No.	1	350	325	300	275	250
			Multi-location breeder seed production for varieties and parental lines	No.	1	300	260	200	150	100
		Organization of sponsored and need based training programmes and maintenance of rice knowledge portal	Conducting training programmes on rice production technologies	No.	2	11	10	8	6	5
			Web articles updated/added to the portal	No.	1	600	550	500	450	400
Efficient Functioning of the RFD System	3	Timely submission of RFD	On-time submission	Date	2	23/03/2012	26/03/2012	27/03/2012	28/03/2012	29/03/2012
		Timely submission of Results	On-time submission	Date	1	01/05/2013	02/05/2013	03/05/2013	06/05/2013	07/05/2013
Administrative reforms	5	Implement ISO 9001	Prepare ISO 9001 action plan	Date	1	04/06/2012	05/06/2012	06/06/2012	07/06/2012	08/06/2012
			Implementation of ISO 9001 action plan	Date	2	25/03/2013	26/03/2013	27/03/2013	28/03/2013	29/03/2013
		Implement mitigating strategies for reducing potential risk of corruption	Implementation of corruption reducing strategies	%	2	100	95	90	85	80
Improving Internal Efficiency /responsiveness service delivery of Ministry /Department	4	Implementation of Sevottam	Independent Audit of Implementation of citizen's charter	%	2	100	95	90	85	80
			Independent Audit of Implementation of public grievances redressal system	%	2	100	95	90	85	80

Section 3: Trend Values of the Success Indicators

Objective	Action	Success indicator	Unit	Actual value	Actual value	Target value	Projected value	Projected value
				FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15
Strengthening frontier research for enhancing rice production, productivity and quality to meet domestic and export demands	Development of better hybrids for different rice ecologies	Development and evaluation of test hybrids	No.	*	*	30	35	40
		Improvement of parental lines	No.	*	*	10	12	14
	Development of better varieties for domestic and export purpose	Development and evaluation of breeding lines for higher yield and quality	No.	*	*	5	6	7
		Development and improvement of varieties with stress tolerance	No.	*	*	4	5	6
	Characterization and evaluation of germplasm for biotic stresses	Agro-morphological characterization and screening new germplasm accessions for stress resistance	No.	*	*	800	850	900
Identification of technologies suitable for different ecologies/ environments	Organization of coordinated trials in different disciplines	Data receipt and analysis	Date	31/01/2011	31/01/2012	31/01/2013	31/01/2014	31/01/2015
		Report preparation & presentation	Date	10/04/2011	04/04/2012	27/03/2013	26/03/2014	25/03/2015
		Constitution & Conduct of trial	No.	60	60	65	70	75
		Monitoring of trials at centers	No.	30	30	35	35	35
Improving efficiency of resources, inputs and farm machinery for sustainable production	Improving productivity of rice and rice based cropping systems	Evaluation of crop management practices for improved productivity	No	*	*	6	7	8
	Enhancing efficiency of resources and inputs	Evaluation and monitoring for improved efficiency of soil, water and inputs	No	*	*	5	6	7
	Assessment of crop responses to changing climate	Identification of crop parameters/indicators and efficient genotypes for heat and water stress tolerance and modelling	No.	*	*	15	16	17

Objective	Action	Success indicator	Unit	Actual value	Actual value	Target value	Projected value	Projected value
				FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15
Integrated management of biotic stresses	Identification of new sources of resistance	Screening advanced breeding lines for resistance	No.	300	450	475	500	525
	Evaluation of new molecules and formulation of pesticides / weedicides for bio-efficacy and safety	Screening of pesticides in greenhouse and field trials	No.	6	25	30	32	35
	Development and evaluation of novel methods of pest management and their integration	Studies on biology, ecology, biocontrol, botanicals and other means of pest management and their integration	No.	*	*	4	5	6
Validation, dissemination and commercialization of technologies developed and promoting public-private partnership	On-farm validation and popularization of technologies	Laying out FLDs	No.	45	300	325	350	375
		Multi-location breeder seed production for varieties and parental lines	No.	125	251	260	270	280
	Organization of sponsored and need based training programmes and maintenance of rice knowledge portal	Conducting training programmes on rice production technologies	No.	5	9	10	12	14
		Web articles updated/added to the portal	No.	100	500	550	600	650
Efficient Functioning of the RFD System	Timely submission of RFD	On-time submission	Date	30/05/2011	23/03/2012	26/03/2012		
	Timely submission of Results	On-time submission	Date	07/07/2011	27/04/2012	02/05/2013		
Administrative reforms	Implement ISO 9001	Preparation of action plan	Date	*	*	05/06/2012		
		Implementation of action plan	Date	*	*	26/03/2013		
	Implement mitigating strategies for reducing potential risk of corruption	Implementation of corruption reducing strategies	%	*	*	95		
Improving Internal Efficiency /responsiveness service delivery of Ministry /Department	Implementation of Sevottam	Independent Audit of Implementation of citizen's charter	%	*	*	95		
		Independent Audit of Implementation of public grievances redressal system	%	*	*	95		

* The success indicators are new initiatives taken up during FY 2012-13. Hence, actual values for FYs 2010-11, 2011-12 are not available.

Section 4:

Description and Definition of Success Indicators and Proposed Measurement Methodology

Objective 1: With respect to strengthening frontier research for enhancing rice production, productivity and quality to meet domestic and export demands, it is envisaged to intensify research on development of hybrids with better grain and cooking quality aimed at expansion of area under hybrids mainly in southern India. At least one new hybrid will be developed during this period. With respect to evaluation of genetic resources/germplasm for sustainable use, the large collection of rice germplasm maintained at NBPGR, New Delhi is being characterized for tolerance/resistance to biotic and abiotic stresses and also for agro-morphological traits. These well characterized accessions will be a resource in breeding programme. It is envisaged to evaluate at least 10,000 lines during this period.

Objective 2: Identification of technologies suitable for different ecological and socio-economic environment through the largest AICRP network on rice aims at rapid identification of varietal and other rice production technologies and facilitate rapid dissemination of seeds of promising varieties. The network caters to all the rice ecologies, and socio-economic environment of the rice farmers.

Objective 3: Our endeavors in improving soil health and enhancing water and input use efficiency, and develop farm machinery and improving processing are aimed at reduction of the cost of cultivation, to increase profits for the farmer and to sustain rice farm system productivity.

Objective 4: With respect to integrated pest management, research efforts are focused on strengthening of components of IPM like host-plant resistance, need based chemical control, identification and effective utilization of biocontrol agents, identification and evaluation of novel methods of pest population regulation and synthesis and demonstration of site specific IPM package.

Objective 5: Effective transfer of technology ensures targeted outcome from the research outputs. This is done by conducting FLDs to ensure that farmers are convinced of the potential of the new varieties. Also by gearing up breeder seed production, sufficient quantities of seed of improved varieties are ensured for supply to farmers. Skill based training courses will help in rapid transfer of non-seed based technologies. Harnessing ICTs is crucial for rapid and effective transfer of information and knowledge.

Section 5:

Specific Performance Requirements from other Departments

- Conduct of Frontline Demonstrations is in collaboration and cooperation of the Department of Agriculture and Cooperation.
- Breeder seed production is taken up at the behest of indents received from DAC, and seed will be produced by our cooperators.
- Part of our germplasm evaluation depends on receipt of INGER nurseries from IRRI, Philippines.

Section 6:

Outcome/Impact of RSC

S.No.	Outcome/Impact of RCs	Jointly responsible for influencing this outcome/impact with the following RCs/ Departments	Success indicator	Unit	2010-11	2011-12	2012-13	2013-14	20 14-15
1	Enhanced rice productivity	DAC/line Departments	Release of new varieties/hybrids	No.	-	10	13	14	15
			Front-line Demonstrations	No.	-	75	150	170	190
			Breeder seed production in Qtls	No.	-	200	250	300	325
			Dissemination of information to farmers through ICTs and training	No.	-	1000	1500	2000	2200
2	Improved breeding efficiency	-	Availability of molecular markers for important agronomic traits	No.	-	5	10	12	14
3	Reduced cost of cultivation	Line departments	Improved crop management practices	No.	-	3	4	5	6
			Technologies to save on cost of inputs	No.	-	5	6	8	10
			Technologies to save on cost of labour	No.	-	3	4	5	6