



**Results-Framework Document
(RFD)
for
Indian Agricultural Research Institute
(2013-2014)**

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Section-1

Vision, Mission, Objectives and Functions

Vision

Generation and extension of innovative technologies to achieve food, nutrition and livelihood security with sustainable agriculture, and economic prosperity along with quality human resource development under dynamic constrained physical and economic environment in the country.

Mission

The primary mission of the Institute is to explore new frontiers of science and knowledge and develop human resource to provide leadership to the country in technology development and policy guidance resulting in a vibrant, responsive and resilient agriculture which must be effectively productive, eco-friendly, sustainable, economically profitable and socially equitable.

Objectives

1. Germplasm enhancement and development of improved cultivars
2. Development and identification of appropriate crop production, protection and value addition technologies
3. Technology dissemination, capacity building and policy research
4. Excellence in human resources development

Functions

To function on the premise that research is the engine of science-led agricultural growth.

To follow the path of scientific research, technology development and extension and human resource development leading to the realization of new paradigms for achieving the congruence among enhanced productivity, sustainability, ecological and environmental security and socio-economic equity.

Section 2:

Inter se Priorities among Key Objectives, Success Indicators and Targets

| S.No | Objectives | Weight (%) | Actions | Success Indicators | Unit | Weight (%) | Target/Criteria value | | | | |
|------------------------------------|-----------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------|----------------------------------------------------------------------------|-----------|------------|-----------------------|-----------|--------|-------|-------|
| | | | | | | | Excellent | Very Good | Good | Fair | Poor |
| | | | | | | | 100% | 90% | 80% | 70% | 60% |
| 1 | Germplasm enhancement and development of improved cultivars | 35 | Evaluation of genetic material | Breeding lines and germplasm evaluated | Number | 6 | 18700 | 16850 | 15000 | 13000 | 11200 |
| | | | | Lines identified for unique traits | Number | 4 | 155 | 140 | 120 | 110 | 90 |
| | | | Development of improved cultivars | Entries contributed to AICRP multi-location trial | Number | 8 | 122 | 110 | 100 | 85 | 70 |
| | | | | Varieties identified for release | Number | 7 | 16 | 15 | 13 | 11 | 10 |
| | | | Seed production programme | Breeder seed produced | Weight MT | 5 | 830 | 750 | 670 | 580 | 500 |
| | | | | Truthfully labeled seed produced | Weight MT | 3 | 1440 | 1300 | 1160 | 1010 | 870 |
| Quality planting material produced | Number | 2 | | 33300 | 30,000 | 26600 | 23300 | 20000 | | | |
| 2 | Development and identification of appropriate crop production, protection and value addition technologies | 25 | Development of technologies for enhancing resource use efficiency | Technologies developed and validated | Number | 8 | 7 | 6 | 5 | 4 | 3 |
| | | | Development of strategies for biotic/abiotic stress management | Novel molecules, genes and biological formulations developed and or tested | Number | 8 | 22 | 20 | 18 | 16 | 13 |
| | | | Development of technologies for value addition | Novel processes/ technologies/ products developed | Number | 5 | 5 | 4 | 3 | 2 | 1 |
| | | | Recommendation of technologies | Technologies recommended | Number | 4 | 6 | 5 | 4 | 3 | 2 |
| 3 | Technology dissemination, capacity building and policy research | 19 | Field demonstrations and agro-advisories | Field demonstrations conducted and agro-advisories issued | Number | 8 | 6100 | 5500 | 4900 | 4300 | 3700 |
| | | | Training of farmers/ Extension officials | Trainings organized | Number | 8 | 90 | 80 | 70 | 60 | 55 |
| | | | Policy analysis | Policy briefs/papers prepared | Number | 3 | 3 | 2 | 1 | 0 | 0 |
| 4 | Excellence in human resources development | 10 | Post Graduate Teaching and AHRD Trainings | Application: Admission ratio (Ph.D.) | Ratio | 2 | 14:1 | 12.5:1 | 11.1:1 | 9.7:1 | 8.3:1 |
| | | | | Degrees awarded | Number | 4 | 220 | 200 | 180 | 155 | 130 |
| | | | | No. of trainings conducted | Number | 4 | 28 | 25 | 22 | 19 | 17 |

| | | | | | | | | | | |
|---------------------------------------------------------------------------------------------|---|-------------------------------------------------------|---------------------------------------------------------------------------|------|---|------------|-------------------|------------|------------|------------|
| * Efficient Functioning of the RFD System | 3 | Timely submission of Draft RFD (2013-14) for approval | On-time submission | Date | 2 | 15/05/2013 | 16/05/2013 | 17/05/2013 | 20/05/2013 | 21/05/2013 |
| | | Timely submission of Results for RFD (2012-13) | On-time submission | Date | 1 | 01/05/2013 | 02/05/2013 | 05/05/2013 | 06/05/2013 | 07/05/2013 |
| * Administrative reforms | 4 | Implement ISO 9001 as per the approved action plan | % Implementation | % | 2 | 100 | 95 | 90 | 85 | 80 |
| | | Prepare an action plan for Innovation | On-time submission | Date | 2 | 30/07/2013 | 10/08/2013 | 20/08/2013 | 30/08/2013 | 10/09/2013 |
| * 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

| S.No | Objectives | Actions | Success Indicators | Unit | Actual Value for FY 11/12 | Actual Value for FY 12/13 | Targeted Value for FY 13/14 | Projected Value for FY14/15 | Projected Value for FY 15/16 |
|------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------|---------------------------|---------------------------|-----------------------------|-----------------------------|------------------------------|
| 1 | Germplasm enhancement and development of improved cultivars | Evaluation of genetic material | Breeding lines and germplasm evaluated | Number | 16215 | 15000 | 16850 | 18800 | 20700 |
| | | | Lines identified for unique traits | Number | 100 | 120 | 140 | 200 | 220 |
| | | Development of improved cultivars | Entries contributed to AICRP multi-location trial | Number | 112 | 180 | 110 | 112 | 115 |
| | | | Varieties identified for release | Number | 18 | 20 | 15 | 16 | 17 |
| | | Seed production programme | Breeder seed produced | Weight MT | 320 | 450 | 750 | 860 | 990 |
| | | | Truthfully labeled seed produced | Weight MT | 960 | 1013 | 1300 | 1500 | 1700 |
| Quality planting material produced | Number | | 45,000 | 65000 | 30,000 | 50,000 | 75,000 | | |
| 2 | Development and identification of appropriate crop production, protection and value addition technologies | Development of technologies for enhancing resource use efficiency | Technologies developed and validated | Number | 5 | 6 | 6 | 7 | 8 |
| | | | Development of strategies for biotic/abiotic stress management | Novel molecules, genes and biological formulations developed and or tested | Number | 16 | 16 | 20 | 22 |
| | | Development of technologies for value addition | Novel processes/ technologies/ products developed | Number | 2 | 4 | 4 | 5 | 6 |
| | | Recommendation of technologies | Technologies recommended | Number | 5 | 5 | 5 | 6 | 6 |
| 3 | Technology dissemination, capacity building and policy research | Field demonstrations and agro-advisories | Field demonstrations conducted and agro-advisories issued | Number | 3742 | 5000 | 5500 | 6000 | 6500 |
| | | Training of farmers/ Extension officials | Trainings organized | Number | 70 | 70 | 80 | 100 | 120 |
| | | Policy analysis | Policy briefs/papers prepared | Number | 2 | 2 | 2 | 2 | 2 |
| 4 | Excellence in human resources development | Post Graduate Teaching and AHRD Trainings | Applications: Admission ratio (Ph.D.) | Ratio | 20:1 | 17:1 | 12.5:1 | 13:1 | 13.5:1 |
| | | | Degrees awarded | Number | 202 | 208 | 200 | 200 | 200 |
| | | | No. of trainings conducted | Number | 17 | 22 | 25 | 27 | 30 |

| | | | | | | | | |
|---------------------------------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------------------|------|---|---|-----------------|---|---|
| * Efficient Functioning of the RFD System | Timely submission of Draft RFD (2013-14) for approval | On-time submission | Date | - | - | 16/05/2013 | - | - |
| | Timely submission of Results for RFD 2012-13 | On-time submission | Date | - | - | 02/05/13 | - | - |
| * Administrative reforms | Implement ISO 9001 as per the approved action plan | % Implementation | % | - | - | 95 | - | - |
| | Prepare an action plan for Innovation | On-time submission | Date | - | - | 10/08/2013 | - | - |
| * 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 | - | - |

Section 4:

Acronyms

| S. No. | Acronym | Description |
|--------|---------|---------------------------------------------------------------------|
| 1. | AICRP | All India Coordinated Research Project |
| 2. | AHRD | Agricultural Human Resource Development |
| 3. | GAP | Good Agricultural Practices |
| 4. | SMS | Short Messages Service |
| 5. | DD | Door Darshan |
| 6. | MT | Metric Tonne |
| 7. | M.Sc. | Master of Science |
| 8. | Ph.D. | Doctor of Philosophy |
| 9. | IARI | Indian Agricultural Research Institute |
| 10. | ICAR | Indian Council of Agricultural Research |
| 11. | SAUs | State Agricultural Universities |
| 12. | DAC | Department of Agriculture and Cooperation |
| 13. | CGIAR | Consultative Group on International Agricultural Research |
| 14. | APEDA | Agricultural & Processed Food Products Export Development Authority |
| 15. | UPSC | Union Public Service Commission |

Section 4:

Description and Definition of Success Indicators and Proposed Measurement Methodology

| S. No. | Success indicator | Description | Definition | Measurement | General Comments |
|--------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------|
| 1 | Breeding lines and germplasm evaluated | Source material for the improved varieties to be evaluated | Material generated from the basic germplasm | Number of breeding lines evaluated | It depends on the leadership of scientists associated and collaboration |
| 2 | Lines identified for unique traits | Identification of breeding lines for special characteristics | Unique traits are the extra-ordinary traits in the plants that can be exploited for development of improved crop varieties | Number of such lines identified | |
| 3 | Entries contributed to AICRP multi-location trial | Breeding lines of field and horticultural crops tested at AICRP multilocational trials against popular cultivated varieties in that region for identification of new varieties for release | Best performing entries are identified as new variety for release | Number of such varieties identified | Number may vary depending upon the material available from the evaluated lines |
| 4 | Varieties identified for release | Breeding lines of field and horticultural crops tested at AICRP multilocational trials and identified as new varieties for release during Annual workshop | Breeding lines identified for release for superior traits by AICRP Workshop | Number of varieties identified | Number may vary depending upon timely evaluation and fair assessment |
| 5 | Breeder seed produced | Produce from nucleus and breeder seed is the starting point in seed chain of producing quality seeds for farmers | Breeder seed is the starting point in seed chain which is multiplied/converted in to foundation /certified seed | Quantity produced (MT) | Quantity may vary as per indent received, availability of land and other resources/ facilities |
| 6 | Truthfully labeled seed produced | Truthfully labeled seed are those seeds that are sold to the farmers by showing quality parameter without certification | The seeds which are sold by farmers or companies by showing quality parameter through their label without certification are known as truthful seeds. These seeds don't need permission from government, but seed law regulates the quality parameters mentioned in the label | Quantity produced (MT) | Quantity may vary as per indent received, availability of land and other resources/ facilities |
| 7 | Quality planting material produced | Production of quality planting material of fruit crops | Saplings of fruit plants | Number | |
| 8 | Technologies | Development of technologies that | Natural resources are chemical fertilizers, | Number | |

| | | | | | |
|----|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------|
| | developed and validated | enable crops to use resources efficiently for increasing production | water, and pesticides etc. that are essential for crops to grow | | |
| 9 | Novel molecules, genes and biological formulations developed and/or tested | Development and testing of novel molecules, biological formulations and isolation & incorporation of genes for biotic/abiotic stress management | Chemical/biochemical compounds that control insect pests and diseases and increase production. Genes are parts of chromosomes that confer resistance for biotic and abiotic stresses in crop plants | Number | |
| 10 | Novel processes/ technologies/ products developed | Technologies that add value to agricultural produce | Process by which low cost produce can be converted in high value product | Number | |
| 11 | Technologies recommended | Recommendation of technologies/GAPs to the farmers for increasing crop yield | Transfer of knowledge by subject matter specialists to the farming community for good farming practices | Number | |
| 12 | Field demonstrations conducted and agro-advisories issued | Trials and demonstrations conducted for technology testing and proving the technology potential production and advisories given to the farmers through direct communication/DD/Radio/ newspapers/SMSs | On-farm trials aims at testing new technologies under farmers condition and management, by using farmers own practice as control. Frontline demonstration is the field demonstration conducted on farmer's field under the close supervision of scientists. Agro-advisories are issued by various means of communication to the farmers for good agricultural practices, advance forewarnings of weather conditions | Number | Number may vary depending upon the contribution of the volunteer organizations |
| 13 | Trainings organized | Capacity building activities related to knowledge and skill improvement/ development programmes conducted for farmers,rural youth and extension personnel | Training is a process of acquisition of new skills, attitude and knowledge in the context of preparing for entry into a vocation or improving productivity in an organization or enterprise | Number | |
| 14 | Policy briefs/papers prepared | Policy briefs and policy papers prepared on various economic aspects | The purpose of policy briefs is to help the stakeholders, policy makers and planners for bringing out overall changes in agricultural system | Number | Number may vary according to the aptitude of scientists and number of externally funded projects received |
| 15 | Application: Admission ratio (Ph.D.) | Ratio of number of students applied for and selected for admission in Ph.D. course at IARI | | Ratio | The ratio may vary depending upon number of applicants in a particular year |
| 16 | Degrees awarded | M.Sc. and Ph.D. degrees awarded to the students | Master and Doctorate degrees | Number | Number may vary based on dedication and withdrawal of students |
| 17 | No. of trainings conducted | Advanced AHRD trainings provided to the scientist/researcher of ICAR Institutes/SAUs | A process of acquiring new knowledge for improvement in research, teaching and extension | Number | Number of trainings may vary as per the availability of fund |

Section 5:

Specific Performance Requirements from other Departments

| Location Type | State | Organisation Type | Organisation Name | Relevant Success Indicator | What is your requirement from this organisation | Justification for this requirement | Please quantify your requirement from this Organisation | What happens if your requirement is not met. |
|----------------------|--------------|--------------------------|-----------------------------------------|-----------------------------------|--------------------------------------------------------|-------------------------------------------|----------------------------------------------------------------|-----------------------------------------------------|
| Central Government | | Departments | Department of Agriculture & Cooperation | Breeder seed produced | Indent for quantity of breeder seed | Variety-wise indent for breeder seed | Quantity of breeder seed produced as per indent | Production of less or more quantity of breeder seed |

Section 6 :

Outcome / Impact of activities of organization

| S. No. | Out Come/Impact of organization | Jointly responsible for influencing this outcome / impact with the following department (s)/ministry(ies) | Success Indicators | Unit | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 |
|--------|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|----------------|-----------|-----------|-----------|-----------|-----------|
| 1 | Impact on adoption of IARI crop varieties at national and international level | DAC, Planning Commission, , Ministry of Environment & Forests, CGIAR Institutes APEDA, Ministry of Commerce, Basmati exporting companies | a) Wheat* | % | 22.5 | 27.5 | 23 | 22 | 22 |
| | | | b) Rice (Basmati belt) | % | 70 | 75 | 76 | 77 | 78 |
| | | | c) Share of IARI Basmati rice varieties in export | % | 74 | 75 | 75 | 75 | 75 |
| | | | d) Mustard* | % | 30 | 31 | 35 | 30 | 30 |
| | | | e) Pulses* | % | 8 | 9 | 9 | 9 | 9 |
| 2 | Impact on farmers income/ resources/ employment due to IARI technologies | DAC, Ministry of Panchayati Raj, Ministry of Rural Development and State Governments, SAUs, Volunteer organizations | Increase in farmers income | % | 15 | 20 | 22 | 23 | 25 |
| | | | Improved rural livelihood and buildup of social capital | Number (Lakhs) | 1.0 | 1.1 | 1.2 | 1.3 | 1.4 |
| | | | Conservation of resources and environmental quality | % | 5 | 6 | 8 | 9 | 10 |
| 3 | Achievement of students and faculty at National/International level | SAUs, CGIAR Institutes, Foreign Universities, UPSC | a) Employments to IARI graduates | % | 90 | 90 | 90 | 90 | 90 |
| | | | b) Awards & recognitions | Number | 65 | 86 | 60 | 60 | 60 |

* Percent area estimated based on breeders seed indent