

**SERIBIOTECH RESEARCH LABORATORY
(SBRL), KODATHI, BANGALORE, INDIA**

Result Framework Document (RFD)

XII Plan and 2015-16

(RFD for SBRL Bangalore)

SECTION 1

VISION, MISSION, OBJECTIVES, FUNCTIONS

THE VISION

To become a Centre of Excellence in Seribiotechnology

THE MISSION

To achieve excellence in research in frontier areas of modern biology for their potential application towards improving silk productivity that will transform the Indian Sericulture Industry into a competitive commercial production base

OBJECTIVES

- 1 Conduct and monitor scientific research in frontier areas of modern biology to seek their potential applications of towards improving silk productivity
- 2 Development and patenting of products and technologies for use of other CSB R&D units
- 3 Training
- 4 Strengthening institutional framework to support ongoing research and related programmes
- 5 Publication of R&D outcome
- 6 Collaborative research programmes with other R&D organizations in India and abroad
- 7 Efficient functioning of RFD System
- 8 Administrative reforms
- 9 Improving internal efficiency / responsiveness / service delivery of the institute

FUNCTIONS

- 1 To formulate and implement inhouse and extra mural research projects in frontier areas of modern biology
- 2 To take up collaborative projects with other institutions doing basic or applied research in areas related to sericulture and other allied areas.
- 3 To develop and disseminate the technologies developed to other CSB R & D institutes for further use
- 3 To train candidates on various seribiotechnology techniques towards revenue generation and human resource development

Inter se priorities among key objectives, success indicators and targets

Table-1: Format of the Results Framework Document (RFD) for XII Plan including 2015-16

#	Objectives	Wt	#	Actions	#	Success Indicator	Unit	Rel Wt	Target/Criteria Value				
									Excellent	Very good	Good	Fair	Poor
1	Conduct and monitor scientific research in frontier areas of modern biology and to seek potential applications of these work towards improving silk productivity	58	1	Implementation of scientific research projects in frontier areas of modern biology	i	Total on-going projects	Number	1	8	7	6	5	4
					ii	Projects concluded	Number	2	3	2	1	1	1
					iii	Projects initiated	Number	2	7	6	5	4	4
					iv	No. of Technologies/ innovations developed	Number	4	2	1	1	1	1
					v	New Technologies for field testing	Number	3	2	1	1	1	1
			2	Identification and characterization of pathogens	i	Pathogens identified and characterized	Number	6	4	3	2	1	1
			3	Identification and characterization of genes, identification of functions	i	Genes identified	Number	5	11	10	8	6	4
					ii	Functions identified	Number	4	6	5	4	3	2
					iii	Genes characterized	Number	5	4	3	2	1	1
					iv	Genes validated	Number	5	4	3	2	1	1
			4	Identification of proteins	i	Proteins identified	Number	4	6	5	5	4	3
			5	Development of diagnostic tools	i	Diagnostic tools developed	Number	4	2	1	1	1	1
			6	Identification of gene sequences	i	No. of sequences identified	Number	4	5	4	3	2	1
ii	No. of sequences deposited	Number			4	5	4	3	2	1			
7	Maintenence of Transgenic lines	i	Transgenic silkworm lines	Number	5	5	4	3	2	1			
2	Commercialization of products and technologies	4	8	Developing technologies and their transfer	i	Validation of technologies	Number	4	2	1	1	1	1
3	Capacity Building	5	10	Organizing training / orientation programmes for students/scientists	i	Candidates to be trained/oriented	Number	5	6	5	4	3	2

#	Objectives	Wt	#	Actions	#	Success Indicator	Unit	Rel Wt	Target/Criteria Value				
									Excellent	Very good	Good	Fair	Poor
4	Strengthening institutional framework to support on-going research and related programmes	3	12	Utilization of service buildings (laboratory, rearing house, grainages, staff quarters, hostels, guest house etc)	i	Extent of utilization of facilities for the core purpose of assigned mandates	%	1	100	90	85	80	70
			13	Optimum utilization of manpower	i	Utilization of scientific manpower for research activities	%	1	100	90	85	80	70
			14	Creation of infrastructures for undertaking research activities	i	Utilization of sanctioned grants	%	1	100	90	85	80	70
5	Publication of R&D innovations and package of practices for knowledge dissemination.	5	15	Facilitating the scientists and technologists to publish innovations	i	Publication of research articles by the institute	Number	5	5	4	3	2	1
6	Collaborative Research Programmes with other R&D organizations in India and abroad	6	16	Identifying potential R&D institutes in India and abroad and undertake collaborative research programmes for the benefit of both the countries.	i	Projects taken up for collaborative research.	Number	6	4	3	2	1	0

#	Objectives	Wt	#	Actions	#	Success Indicator	Unit	Rel Wt	Target/Criteria Value				
									Excellent	Very good	Good	Fair	Poor
Mandatory success indicators													
7	Efficient functioning of RFD system	3	17	Timely submission of draft RFD for 2015-16	i	On time submission	Date	2	May 1, 2015	April 30 2015	May 2 2015	May 4, 2015	May 6, 2015
			18	Timely submission of results of 2015-16	ii	On time submission	Date	1	May 1, 2016	May 2, 2016	May 3, 2016	May 4, 2016	May 5, 2016
8	Revenue Generation	2	19	Generation of funds as per XII Plan guidelines	i	Revenue generation through other methods	Rs.in lakhs	2	0.5	0.4	0.3	0.2	0.1
9	Administrative Reform	6	20	Implement mitigating strategies for reducing potential risk of corruption	i	% of implementation	%	2	100	98	95	85	75
			21	Implement ISO 9001 as per the approved action plan.	ii	Areas of operation covered	%	2	100	98	95	85	75
			22	Identify, design and implement major innovations	iii	Implementation of identified innovations	Date	2	May 1, 2016	May 2, 2016	May 3, 2016	May 4, 2016	May 5, 2016
10	Improving internal efficiency / responsiveness / service delivery of the organization	6	23	Update departmental strategy to align with 12th plan priorities	i	Timely updation of the strategy	%	2	Sep.10 2015	Sep.17 2015	Sep.24 2015	Oct.1 2015	Oct.8 2015
			24	Implementation of Sevottam	i	Independent audit of implementation of Citizen's charter	%	2	100	98	95	85	75
					ii	Independent audit of implementation of public grievances redressal system.	%	2	100	98	95	85	75
11	Ensuring compliance of the Financial Accountability Framework	2	25	Timely submission of ATNs on Audit paras of AG & Internal Audit	i	Percentage of ATNs submitted with in due date (4 months) from date of presentation of report	%	0.5	100	98	95	85	75
			26	Timely submission of ATRs to AG & CSB, HQ.	ii	Percentage of ATRs submitted within due date (6 months) from date of presentation of report	%	0.5	100	98	95	85	75
			27	Early disposal of pending ATNs on Audit paras of AG reports.	iii	Percentage of outstanding ATNs disposed off during the year	%	0.5	100	98	95	85	75
			28	Early disposal of pending ATRs on AG reports.	iv	Percentage of outstanding ATRs disposed off during the year	%	0.5	100	98	95	85	75

100

100

SECTION 3

(RFD for SBRL Bangalore)

Trend value of the success indicators

Table-2: Format of the Results Framework Document (RFD) for XII Plan including 2015-16 and last year of XI Plan

#	Objectives	#	Actions	#	Success Indicator	Unit	Actual Value 2011-12	Actual Value 2012-13	Target Value 2013-14	Actual Value 2013-14	Target Value 2014-15	Actual Value 2013-14	Target Value 2015-16	
1	Conduct and monitor scientific research in frontier areas of modern biology and to seek potential applications of these work towards improving silk productivity	1	Implementation of scientific research projects in frontier areas of modern biology	i	Total projects	Number	8	14	11	9	11	14	15	
				ii	Projects continued	Number	7	5	8	6	5	4	7	
				iii	Projects concluded	Number	0	5	1	2	2	4	2	
				iv	Projects initiated	Number	1	4	2	1	4	6	6	
				v	Project progress against milestone	%	98	98	98	95	---	---	---	
				vi	No. of Technologies/ innovations developed	Number	---	---	---	---	2	3	1	
				vii	New Technologies for field testing	Number	---	---	---	---	1	2	1	
		2	Maintenance of experimental genetic materials	i	Qty of stock maintained	Number	12	23	20	29	---	---	---	
		3	Technologies developed for further use	i	Adopted by other CSB R&D units for further research	Number	1	1	2	2	---	---	---	
				ii	Output adopted by R&D units that are later translated to the field.	Number	1	1	1	2	---	---	---	
		4	Technologies developed for validation	i	Diagnostic tools developed	Number	---	---	1	2	2	2	2	1
		5	Identification of pathogens	i	Microsporidian strains, bacteria, virus, fungi etc.	Number	17	22	5	6	4	8	8	3
		6	Identification of genes and their functions	i	No. of genes identified	Number	37	42	10	16	6	17	17	10
				ii	Functions elucidated	Number	27	24	5	5	3	7	5	
				iii	Genes characterized	Number	---	---	---	---	3	4	3	
				i	Genes validated	Number	---	---	5	23	---	3	3	
				ii	Genes to be cloned	Number	---	---	4	14	---	---	---	
				iii	Gene cloning	%	---	---	70	100	---	---	---	
					New sequences identified & deposited	Number	---	---	---	---	---	---	---	4
		7	Identification of proteins	i	Proteins identified	Number	---	---	8	15	6	9	9	5
		8	Identification of markers associated with economic traits	i	Genes identified as markers	Number	2	2	2	2	---	---	---	
				ii	Genes validated as markers	Number	2	2	2	2	---	---	---	
				iii	Gene markers mapped	Number	2	2	---	---	---	---	---	
iv	Mulberry microsatellites identified			Number	2	2	10	9	4	12	---			
v	Mulberry microsatellites validated			Number	---	---	5	0	4	12	---			
9	Development of disease resistant lines	i	Development of NPV resistant lines	Number	1	1	30	---	---	---	---			
10	Development of NPV resistant transgenic lines	i	Receipient lines introgressed	Number	---	---	5	5	5	---	---			
		ii	NPV tolerance enhancement	%	---	---	30	30	---	---	---			

#	Objectives	#	Actions	#	Success Indicator	Unit	Actual Value 2011-12	Actual Value 2012-13	Target Value 2013-14	Actual Value 2013-14	Target Value 2014-15	Actual Value 2013-14	Target Value 2015-16
				iii	Maintenance of transgenic lines	Number	---	---	---	---	5	6	4
		11	Organization of meetings and follow-up	i	Timely organization of meetings	%	100	100	98	100	---	---	---
				ii	Preparation of meeting minutes	Days	3	3	4	3	---	---	---
				iii	Preparation of notes for various meetings	%	100	100	98	100	---	---	---
				iv	Timely preparation and submission of Annual and other progress reports	%	100	100	98	100	---	---	---
2	Patenting of products and technologies	12	Developing technologies and their patenting	i	Technologies validated	Number	---	---	---	---	3	4	1
				ii	Technologies patented / filed for patenting	Number	1	0	1	0	1	0	---
3	Training	15	Organizing training programmes for students / CSB staff	i	Candidates trained	Number	3	9	6	9	5	24	5
4	Organic linkages CSS & CDP	16	Establish organic linkages between R&D institutes and CDP	i	Pebrine Monitoring in P4 & P3 stations	%	---	---	---	---	95	100	---
				ii	Certification of Oak tasar basic seed	%	---	---	---	---	60	100	---
5	Strengthening institutional framework to support ongoing research and related programmes	17	Utilization of service buildings (laboratory, rearing house, grainages, staff quarters, hostels, guest house etc)	i	Extent of utilization of facilities for the core purpose of assigned mandates	%	100	100	98	100	90	100	90
		18	Optimum utilization of manpower	i	Utilization of scientific manpower for research activities	%	100	100	98	100	90	100	90
		19	Creation of infrastructures for undertaking research activities	i	Utilization of sanctioned grants	%	100	100	98	100	90	100	90
6	Publication of R&D innovations and package of practices for knowledge dissemination.	20	Facilitating the scientists and technologists to publish innovations	i	Publication of research articles by the institute	Number	6	11	4	8	6	10	4
				ii	Printing and circulation of manuals by the institute	Number	0	0	---	---	---	---	---

#	Objectives	#	Actions	#	Success Indicator	Unit	Actual Value 2011-12	Actual Value 2012-13	Target Value 2013-14	Actual Value 2013-14	Target Value 2014-15	Actual Value 2013-14	Target Value 2015-16
7	Collaborative Research Programmes with other R&D organizations in India and abroad	21	Identifying potential R&D institutes in India and abroad and undertake collaborative research programmes for the benefit of both the countries.	i	Projects taken up for collaborative research.	Number	2	4	2	3	2	4	3
Mandatory Success Indicators													
8	Monitoring of efficient functioning of RFD system	22	Timely submission of draft RFD for 2013-14	i	On time submission	Date	--	April 13 2012	April 10 2013	Apr.10 2013	April 26 2014	April 25 2014	Apr.30 2015
		23	Timely submission of results of 2013-14	ii	On time submission	Date	--	May 2, 2013	May 2, 2014	May 2, 2014	May 2, 2015	May 1, 2015	May 2, 2016
9	Revenue Generation	24	Generation of funds as per XII Plan guidelines	i	Revenue generation through other methods	Rs.in lakhs	--	--	--	--	0.50	0.59	0.40
10	Administrative Reform	25	Implement mitigating strategies for reducing potential risk of corruption	i	% of implementation	%	--	98	98	100	98	100	98
		26	Implement ISO 9001 as per the approved action plan.	ii	Areas of operation covered	%	--	--	98	---	98	100	98
		27	Identify, design and implement major innovations	iii	Implementation of identified innovations	%	--	--	98	---	98	100	98
11	Improving internal efficiency / responsiveness / service delivery of the organization	28	Update departmental strategy to align with 12th plan priorities	i	Timely updation of the strategy	Date	--	--	Sep.17 2013	---	Sep.17 2014	Sep.10 2014	Sep.17 2015
		29	Implementation of Sevottam	i	Independent audit of implementation of Citizen's charter	%	--	98	98	100	98	100	98
				ii	Independent audit of implementation of public grievances redressal system.	%	--	98	98	100	98	100	98
12	Ensuring compliance of the Financial Accountability Framework	30	Timely submission of ATNs on Audit paras of AG & Internal Audit	i	Percentage of ATNs submitted with in due date (4 months) from date of presentation of report	%	--	98	98	100	98	100	98
		31	Timely submission of ATRs to AG & CSB, HQ.	ii	Percentage of ATRs submitted within due date (6 months) from date of presentation of report	%	--	98	98	100	98	100	98
		32	Early disposal of pending ATNs on Audit paras of AG reports.	iii	Percentage of outstanding ATNs disposed off during the year	%	--	98	98	100	98	100	98
		33	Early disposal of pending ATRs on AG reports.	iv	Percentage of outstanding ATRs disposed off during the year	%	--	98	98	100	98	100	98

SECTION 4

(RFD for SBRL Bangalore)

Description, definition of success indicators & proposed measurement methodology

Objectives	Success Indicator	Description and definition	Measurement of methodology
Conduct and monitor scientific research in frontier areas of modern biology and to seek their potential applications of towards improving silk productivity	Total ongoing projects	Projects in progress during the year	Number of projects in progress during the year
	Projects concluded	Projects taken up in previous years that are concluded during the year under report	Number of projects that have achieved targetted objectives. [Detailed outcome of concluded projects are separately submitted in RMIS format Part 10 to Central Office]
	Projects initiated	New approved projects initiated during the year under report	No.of proposed projects approved by RAC & Central Office for implementation
	No. of Technologies/ innovations developed	Technologies developed based on outcome of concluded projects	No. of technologies developed
	New technologies for field testing	Technologies developed that are field tested	No. of technologies developed that are field tested
	Pathogens identified and characterized	Identification and characterization of pathogens infecting mulberry and non-mulberry silkworm	The number and types of pathogens identified and characterized
	Genes identified	Identification of genes and their functions as well as characerization	
	Functions identified		
	Genes characterized		
	Proteins identified	Identification of proteins involved in immune response to pathogen infection in silkworms	No. of different proteins expressed
	Diagnostic tools developed	Diagnostic tools developed for easy and early detection of microsporidian infection in silkworms and Marker Assisted Selection for NPV resistance in <i>B.mori</i> .	No. of diagnostic tools developed
	No. of sequences identified	New sequences identified	No. of new sequences identified
No. of sequences deposited	New sequences deposited	No. of new sequences deposited	
Transgenic silkworm lines	Maintenance of NPV resistant transgenic silkworm lines	No. of transgenic lines maintained	

Commercialization of products and technologies	Validation of technologies	The technologies that are developed and will be validated so that they can be explored for utilization as diagnostic tools	No. of technologies validated
Transfer of technology	No. of technologies demonstrated	Technologies developed to be demonstrated	No. of technologies demonstrated
	Workshops conducted on TOT	Workshops conducted to make scientists and stakeholders aware of the technologies developed	No. of workshops conducted
Capacity Building Strengthening institutional framework to support ongoing research and related programmes	Organizing training / orientation programmes for students/scientists Extent of utilization of facilities for the core purpose of assigned mandates	Training / updating students / scientists in latest molecular biology techniques The infrastructure available at the institute and their utilization for the assigned mandates	Number of candidates trained Percentage of utilization based on the extent of utilization
	Utilization of scientific manpower for research activities	The R&D works assigned to the scientists posted at the institute by way of research projects and other related works	The target value considered as 90%
	Utilization of sanctioned grants for infrastructure creation	The grants earmarked for creation of infrastructure and other facilities	The amount incurred on creation of different infrastructural facilities

Publication of R&D outcome and innovations	Publication of research articles by the institute	Research papers, popular articles, review papers etc. published as an outcome of reseach work carried out at the institute	Number of publications
Collaborative research programmes with other R&D organizations in India and abroad	Projects taken up for collaborative research	Various collaborative research projects in frontier areas of modern biology taken up with other CSB as well as non-CSB R&D institutes in India and abroad	Number of projects taken up

SECTION 5

Specific performance requirement from other Departments / Institutes

Departments / Institutes	Relevant success indicators	What you need	Why do you need	How much you need	What happens if you do not get it
Other CSB Institutes, R&D Units of other Ministries	Conduct and monitor scientific research in frontier areas of modern biology and to seek potential applications of these work towards improving silk productivity Field testing, validation, transfer of technologies	Disease free mulberry and silkworm genetic resources Knowledge sharing in specific areas Data sharing on pests & diseases Collaboration for diseased silkworm sample collection Collaboration for validation, field testing and transfer of technologies developed	To enhance the time taken for bringing out new breeds and detection of pathogens through support with molecular biology based techniques	Full co-operation as per the requirement of the project/trial	Quality of the outcome of research work will be affected
State Sericulture Departments	Field testing of innovations & technologies	Conduct of field trials for technologies developed Data sharing on pests & diseases Collaboration for diseased silkworm sample collection	To prove the effectiveness of the technologies developed on a wider scale so as to fulfil the R&D requirements of the industry	Full co-operation as and when required	The efforts to prove the effectiveness of the developed technologies and their transfer to the field will be hampered
R&D institutes in India and abroad India	Collaborative research with other R&D organizations in India and abroad	Collaborative research in frontier areas of seribiotechnology Knowledge sharing	To update scientists on latest technologies to carry out research in high end biotechnology aspects.	As per the requirement of the research programs taken up	Research quality enhancement at the institute will be hampered
DST, DBT, etc.	Research collaboration and training	Research project funding and infrastructure development. Funding for appointing young research fellows Sponsoring scientists for training in modern areas of biotechnology	To obtain funds for taking up projects in high end biotechnology and infrastructure development. Requirement of young research fellows to support scientists in their research projects. To train scientists on latest technologies in biotechnology.	Funding of projects as well as appointment of young research fellows as & when proposed. Sponsoring scientists for training in modern areas of biotechnology.	Lack of external support will affect research quality and manpower as well as infrastructure requirement

SECTION 6

Outcome/Impact of activities of the Institute

The impact of the R&D activities of the institute will contribute to the improvement in productivity and renditta as per the plan proposed below:

SN	Year	Productivity (silk in kgs/ha)	Renditta
1	2013-14	91.55	7.62
2	2014-15	93.3	7.58
3	2015-16	93.89	7.54
4	2016-17	95.67	7.41

I hereby declare that:

- (1) The information given above is correct, and
- (2) I would make all efforts to achieve the milestones indicated in the RFD described above.

Signed on the

[Handwritten Signature]
23/5/15
Dr. Kanika Trivedy
Director, SBRL, Bangalore

Accepted by

[Handwritten Signature]
MEMBER SECRETARY



[Handwritten Signature]
23/5/15
Office Seal
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