



Results-Framework Document (RFD)

for

Central Institute for Research on Buffaloes

(2014–2015)

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Section 1:

Vision, Mission, Objectives and Functions

Vision:

To develop and propagate high yielding elite buffalo germplasm for quality milk and meat production while retaining inherent draughtability across different regions of the country

Mission

To improve buffalo through identification, conservation and propagation of elite germplasm having high efficiency of reproduction and nutrient utilization for sustainable production and commercialization

Objectives

1. Development, improvement and faster multiplication of superior buffalo germplasm
2. Improvement in feed efficiency /region specific feeding modules
3. HRD and capacity building / technology showcasing through extension activities

Functions

To promote and undertake research in all aspect of buffalo production and transfer of technology. Genetic improvement associated progeny testing, performance recording, certified semen production, freezing and faster multiplication of superior germplasm involving biotechnological tools. Improvement of production, reproduction, nutrient utilization and buffalo husbandry practices to economize buffalo productivity through All India Network Project on Buffalo Improvement in collaboration with SAUs/SVUs and other national institutions and establish linkages with international agencies and dissemination of developed technologies.

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	Development, improvement and faster multiplication of superior buffalo germplasm	50	Improvement in production and reproduction in Murrah and Nili-Ravi herd	Wet average in Murrah	Kg	7	8.10	8.00	7.90	7.80	7.70
				Wet average in Nili Ravi	Kg	7	8.30	8.20	8.10	8.00	7.90
				Calving interval in Murrah	Days	4	480	495	510	525	540
				Calving interval in Nili-Ravi	Days	4	430	445	460	475	490
			Dissemination of superior germplasm	Semen doses production/ bull	Number	8	15000	14000	13000	12000	11000
				Artificial insemination in field	Number	8	4100	3900	3700	3500	3300
				Embryo transfer in synchronised recipient buffalo	Number	6	26	22	18	14	10
Phenomics/ DNA repository for Marker Assisted Selection	Collection/update of phenomics data and DNA repository of different breeds of buffalo	Number	6	420	350	280	210	140			
2	Improvement in feed efficiency /region specific feeding modules	14	Developing balanced feeding practices	Developing feeding modules for different categories of buffaloes	Number	8	3	2	1	0	0
			Rearing buffalo male calves for meat production	Buffalo broiler production	Number	6	48	40	32	24	16
3	HRD and capacity building / technology showcasing through extension activities	16	Training programmes	Training programmes	Number	6	16	13	10	7	4
			Extension activities for stakeholders	Organization of buffalo mela, calf rallies, fertility and health camp	Number	5	19	16	13	10	07
			Transfer of technologies	Estrus induction in field buffaloes	Number	5	60	50	40	30	20

*	Publication/Documentation	5	Publication of the research articles in the journals having the NAAS rating of 6.0 and above	Research articles published	Number	3	11	9	7	5	3
			Timely publication of the Institute Annual Report (2013-2014)	Annual Report published	Date	2	June 30, 2014	July 02, 2014	July 04, 2014	July 07, 2014	July 09, 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 12/13	Actual value for FY 13/14	Target value for FY 14/15	Projected Value for FY 15/16	Projected Value for FY 16/17
1	Development, improvement and faster multiplication of superior buffalo germplasm	Improvement in production and reproduction in Murrah and Nili-Ravi herd	Wet average in Murrah	Kg	7.74	8.01	8.00	8.20	8.30
			Wet average in Nili Ravi	Kg	8.26	8.25	8.20	8.30	8.40
			Calving interval in Murrah	Days	485	495	495	470	460
			Calving interval in Nili-Ravi	Days	436	444	445	420	400
		Dissemination of superior germplasm	Semen doses production/ bull	Number	14765.5	14113.1	14000	17000	18000
			Artificial insemination in field	Number	4195	3969	3900	4400	4500
			Embryo transfer in synchronised recipient buffalo	Number	34	23	22	28	30
Phenomics/ DNA repository for Marker Assisted Selection	Collection/ update of phenomics data and DNA repository of different breeds of buffalo	Number	332	334	350	400	450		
2	Improvement in feed efficiency /region specific feeding modules	Developing balanced feeding practices	Developing feeding modules for different categories of buffaloes	Number	0	3	2	2	2
		Rearing buffalo male calves for meat production	Buffalo broiler production	Number	0	48	40	50	60
3	HRD and capacity building / technology showcasing through extension activities	Training programmes	Training programmes	Number	17	13	13	15	18
		Extension activities for stakeholders	Organization of buffalo mela, calf rallies, fertility and health camp	Number	12	18	16	18	20
		Transfer of technologies	Estrus induction in field buffaloes ⁵	Number	0	0	50	60	70

*	Publication/Documentation	Publication of the research articles in the journals having the NAAS rating of 6.0 and above	Research articles published	Number	9	16	9	12	14
		Timely publication of the Institute Annual Report (2013-2014)	Annual Report published	Date	-	-	July 02, 2014	-	-
	Fiscal resource management	Utilization of released plan fund	Plan fund utilized	%	99.88	98.38	96	99	99
*	Efficient Functioning of the RFD System	Timely submission of Draft RFD for 2014-2015 for Approval	On-time submission	Date	March 23, 2012	April 28, 2014	May 16, 2014	-	-
		Timely submission of Results for 2013-2014	On-time submission	Date	April 16, 2013	April 28, 2014	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.	DNA	Deoxyribonucleic acid
2.	HRD	Human Resource Development
3.	AI	Artificial Insemination
4.	SNPs	Single Nucleotide Polymorphisms
5.	NGOs	Non-Governmental Organizations
6.	SAUs	State Agricultural Universities
7.	SVUs	State Veterinary Universities
8.	PNB	Punjab National Bank
9.	PSU	Public Sector Undertaking

Section: 4 (b)

Description and definition of success indicators and proposed measurement methodology

S. No.	Success indicator	Description	Definition	Measurement	General Comments
1	Wet average in Murrah	Wet average for Murrah breed will be improved by better nutritional, reproductive, breeding and management practices	Average milk production per lactating per head per day	Kg	Productivity of the Murrah buffalo will be improved
2	Wet average in Nili Ravi	Wet average for Nili-Ravi breed will be improved by better nutritional, reproductive, breeding and management practices	Average milk production per lactating per head per day	Kg	Productivity of the Nili-Ravi buffalo will be improved
3	Calving interval in Murrah	Parameter to measure fertility management in the herd. Calving interval is expressed in days and it is calculated retrospectively	The average time interval between successive calvings	Days	Reproductive efficiency of the Murrah buffalo will be improved
4	Calving interval in Nili-Ravi	Parameter to measure fertility management in the herd. Calving interval is expressed in days and it is calculated retrospectively	The average time interval between successive calvings	Days	Reproductive efficiency of the Nili- Ravi buffalo will be improved
5	Semen doses production/ bull	Production of semen of pedigreed bulls and distribution for insemination in the field	Average number of semen doses produced per bull per year	Number	Optimum production of high quality semen/ bulls
6	Artificial insemination in field	Test mating of 14 th & 15 th sets bulls in adopted villages	AI with superior semen of pedigreed bulls	Number	Farmer's buffalo will be utilized for breed improvement through progeny testing

7	Embryo transfer in synchronised recipient buffalo	Embryo transfer technique will be used and the embryos of superior buffaloes will be transferred in lower merit buffalo	Embryo production from elite parents and their transfer into recipients	Number	For faster multiplication of elite female germplasm
8	Collection/ update of phenomics data and DNA repository of different breeds of buffalo	Blood/DNA and phenomics records viz. growth, production, reproduction and health of different breed of buffalo will be collected/ updated for future genomic studies	Phenomics database and blood/ DNA bank of identified resource families	Number	This shall be required for SNPs chip development for molecular breeding
9	Developing feeding modules for different categories of buffaloes	Development of balanced feeding modules for various categories of buffaloes, to improve the overall productivity	Development of specific feeding practices for different categories of buffalo based on local available feed and fodder	Number	Required for developing cost effective feeding regimes
10	Buffalo broiler production	For developing the meat type buffalo calves and feeding modules for economic rearing for meat production	Rearing of male buffalo calves having high growth rate, higher feed conversion efficiency and lean meat.	Number	Required for competitive edge in export of buffalo meat
11	Training programmes	Training programmes will be organized to improve knowledge and skill of farmers which will ultimately lead to better adoption of improved breeding, feeding and management practices. Training in AI will make the youth more skilful for breed improvement and livelihood earning	Training programmes on buffalo husbandry including artificial insemination, buffalo nutrition	Number	Adoption of improved buffalo husbandry, balanced nutrition and AI will ultimately result in enhancing the productivity and milk production
12	Organization of buffalo mela, calf rallies, fertility and health camp	Extension activities will be organized for transfer of technologies through different activities like buffalo mela, calf rallies and infertility treatment camps	Farmer will be motivated through extension activities for desirable behavioural changes	Number	This will ultimately lead to more adoption of improved buffalo husbandry practices
13	Estrus induction in field buffaloes	Administration of suitable hormone treatment for oestrus induction in anoestrous/ silent oestrus animals ensuring early insemination of buffaloes	Buffalo will be treated either with prostaglandin or progesterone implant or other suitable protocol that ensure timed insemination of buffaloes	Number	Anestrus problem in buffalo will be dealt which will lead to improved reproductive output of buffaloes

Section 5: Specific performance requirements 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	What happens if your requirement is not met
State Govt. Deptt.	Haryana	Department	Line department, NGOs	Artificial insemination in field	Increasing awareness of farmers, field activities, and participation in AI services	State Line Deptt. help to bring more number of animals under AI coverage with the pedigreed bull semen	Targeted number of AI will be carried out in the adopted villages	Less number of AI leading to less number of daughters born in field and thereby reducing the reliability of bull testing
PSU	Haryana	Punjab National Bank	PNB farmer training centres	Organization of buffalo mela, calf rallies, fertility and health camp and trainings	Farmer motivation and mobilization for undergoing health and infertility treatment	Identify the animals needed health and infertility treatment and mobilize farmers for trainings.	Target number of trainings and camps in collaboration with PNB farmer training centre	Difficult to identify animals which require health and infertility treatment in the villages Less number of farmers gets training

Section 6: Outcome/Impact

S. No.	Outcome/impact	Jointly responsible for influencing this outcome/ impact with the following organization (s)/ department(s) / ministry (ies)	Success indicators	Unit	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
1	Improvement in the productivity through quality germplasm production, evaluation and dissemination	State Animal Husbandry Department	Bull evaluated by test mating	Number	12	14	15	15	15
			Frozen semen doses produced	Number	63857	106779	70000	75000	80000
			Semen doses disseminated to the field	Number	93269	93143	100000	110000	120000
			Bull disseminated	Number	6	94	60	60	60
2	Superior germplasm production in the field	State Animal Husbandry Department	Progenies born in the field	Number	1159	1230	1250	1300	1350
3	Human resource development in buffalo husbandry	PNB Farmers training centres	Persons trained	Number	201	732	250	300	350

Past Achievements of the Success Indicators:

S.No.	Success indicator (s)	Past Achievements of the Success Indicators							Mean of the Achievements	Projected value of the success indicator for 2014-15 as per the approved RFD 2013-14
		n th year	-	V 2009- 2010	IV 2010- 2011	III 2011- 2012	II 2012- 2013	I 2013- 2014		
1	Wet average in Murrah			7.01	7.45	7.83	7.74	8.01	7.61	-
2	Wet average in Nili Ravi			7.0	7.11	7.74	8.26	8.25	7.67	-
3	Calving interval in Murrah			469	520	492	485	495	492	440
4	Calving interval in Nili-Ravi			478	500	464	436	444	464	440
5	Semen doses production/ bull			2510	5689	17838	14766	14113	10983	14500
6	Artificial insemination in field			2803	3419	3308	4195	3969	3539	4200
7	Embryo transfer in synchronised recipient buffalo			-	13	1	34	23	18	-
8	Collection/ update of phenomics data and DNA repository of different breeds of buffalo			-	-	529	332	334	398	400
9	Developing feeding modules for different categories of buffaloes			-	-	-	-	3	3	3
10	Buffalo broiler production			-	-	-	-	48	48	40
11	Training programmes			4	6	6	17	13	9	11
12	Organization of buffalo mela, calf rallies, fertility and health camp			-	7	18	12	18	14	9
13	Estrus induction in field buffaloes			-	-	-	-	-	-	-

Classification of the Success Indicators according to its categories

S.No.	Success Indicator(s)	Input	Activity	Internal Output	External Output	Outcome	Measures Qualitative Aspects
1	Wet average in Murrah	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE
2	Wet average in Nili Ravi	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE
3	Calving interval in Murrah	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE
4	Calving interval in Nili-Ravi	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE
5	Semen doses production/ bull	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE
6	Artificial insemination in field	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE
7	Embryo transfer in synchronised recipient buffalo	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE
8	Collection/ update of phenomics data and DNA repository of different breeds of buffalo	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE
9	Developing feeding modules for different categories of buffaloes	FALSE	FALSE	TURE	FALSE	FALSE	TRUE
10	Buffalo broiler production	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE
11	Training programmes	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE
12	Organization of buffalo mela, calf rallies, fertility and health camp	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE
13	Estrus induction in field buffaloes	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE