



RESULTS-FRAMEWORK DOCUMENT (RFD)

for

CENTRAL INSTITUTE FOR RESEARCH ON BUFFALOES

(2013–2014)

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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	60	Genomics studies & creation of phenomics/ DNA repository for Marker Assisted Selection	Collection/update of phenomics data and DNA repository of different breeds of buffalo	Number	10	350	300	250	200	150
			Selection of future set (s) of bulls and progeny testing of 10 th set of bull	Selection of bull on the basis of pedigree records and physical parameters	Number	9	15	13	11	9	8
			Dissemination of superior germplasm through production of disease free semen/frozen embryo	Semen doses production/bull	Number	8	15000	14000	12000	10000	8000
				Artificial insemination in field	Number	8	4100	3800	3500	3000	2500
				ET at farm and in field	Number	5	20	18	15	12	10
			Improvement in production and reproduction in Murrah and Nili-Ravi herd	Lactation yield in Murrah	Kg	5	2400	2350	2300	2250	2200
				Calving interval in Murrah	Days	5	460	475	490	510	540
				Lactation yield in Nili-Ravi	Kg	5	2200	2150	2100	2050	2000
Calving interval in Nili-Ravi	Days	5		450	480	500	520	540			
2	Improvement in feed efficiency /region specific feeding modules	15	Developing balanced feeding practices	Developing feeding modules for milch and meat buffaloes	Number	8	3	2	1	0	0
			Rearing buffalo male calves for meat production	Buffalo broiler production	Number	7	40	35	30	25	20
3	HRD and capacity building / technology showcasing through extension activities	14	Training programmes	Farmer's training programme on buffalo husbandry/AI/ nutrition	Number	7	12	10	9	8	7
			Extension and transfer of technologies	Organization of buffalo mela, calf rallies, infertility treatment camps	Number	7	10	8	7	6	5
	Efficient Functioning of the RFD System	3	Timely submission of Draft RFD (2013-14) for approval	On-time submission	Date	2.00	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	1.00	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	%	2.00	100	95	90	85	80
			Prepare an action plan for Innovation	On- time submission	Date	2.00	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	%	2.00	100	95	90	85	80
				Independent Audit of implementation of public grievance redressal system	%	2.00	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	Target value for FY 13/14	Projecte d Value for FY 14/15	Projected Value for FY 15/16
1	Development, improvement and faster multiplication of superior buffalo germplasm	Genomics studies & creation of phenomics/DNA repository for Marker Assisted Selection	Collection/update of phenomics data and DNA repository of different breeds of buffalo	Number	-	-	300	400	450
		Selection of future set (s) of bulls and progeny testing of 10 th set of bull	Selection of bull on the basis of pedigree records and physical parameters	Number	-	-	13	15	18
		Dissemination of superior germplasm through production of disease free semen/frozen embryo	Semen doses production/ bull	Number	17838	14765.5	14000	14500	15000
			Artificial insemination in field	Number	3308	4195	3800	4200	4500
			ET at farm and in field	Number	-	-	18	30	30
		Improvement in production and reproduction in Murrah and Nili-Ravi herd	Lactation yield in Murrah	Kg	2374	2335	2350	2450	2500
			Calving interval in Murrah	Days	485	481	475	440	420
			Lactation yield in Nili-Ravi	Kg	2045	2042	2150	2200	2250
Calving interval in Nili-Ravi	Days		464	435.8	480	440	420		
2	Improvement in feed efficiency/region specific feeding modules	Developing balanced feeding practices	Developing feeding modules for milch and meat buffaloes	Number	-	-	2	3	3
		Rearing buffalo male calves for meat production	Buffalo broiler production	Number	-	-	35	40	45
3	HRD and capacity building/technology showcasing through extension activities	Training programmes	Farmer's training programme on buffalo husbandry/AI/ nutrition	Number	-	17	10	11	12
		Extension and transfer of technologies	Organization of buffalo mela, calf rallies, infertility treatment camps	Number	-	12	8	9	10
	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	-	-	02.05.2013	-	-
	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 grievance redressal system	%	-	-	95	-	-

Section 4: Acronyms

SI.No.	Acronym	Description
1	AI	Artificial Insemination
2	ET	Embryo Transfer
3	DNA	Deoxyribonucleic Acid
4	HRD	Human Resource Development
5	FPT	Field Progeny Testing
6	SAUs	State Agricultural University
7	SVUs	State Veterinary University
8	SNP	Single Nucleotide Polymorphism
9	MOET	Multiple Ovulation Embryo Transfer
10	ATMA	Agricultural Technology Management Agency
11	PNB	Punjab National Bank

Section: 4 :Description and Definition of Success Indicators and Proposed Measurement Methodology

S.No.	Success indicator	Description	Definition	Measurement	General Comments
1	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 used for SNPs chip development for molecular breeding
2	Selection of bull on the basis of pedigree records and physical parameters	Selection and test mating of future set (s) and progeny testing of 10th set of bull will be carried out based on the physical parameters, dams' yield and son of the proven sire	Bull selection for breed improvement through selective breeding	Number	Part of network project on buffalo improvement
3	Semen doses production/ bull	Semen of the progeny tested/superior bulls will be cryopreserved and used/distributed for insemination in the field	Number of semen doses cryopreserved per bull per year	Number	Semen of selected bulls will be evaluated and cryopreserved for buffalo improvement programme
4	Artificial insemination in field	Test mating of 14th set bulls in ten adopted villages under the FPT programme	AI with superior semen of test bulls for progeny testing programme	Number of artificial inseminations	Farmer's buffalo will be utilized for breed improvement
5	ET at farm and in field	For faster multiplication of superior germplasm, MOET technique will be used and the embryos of superior buffaloes will be transferred on farm and at field in lower merit buffalo	Embryo recovery from elite donors and their transfer into recipients	Number	For faster multiplication of elite female germplasm
6	Lactation yield in Murrah	Increase in lactation yield for Murrah breed will indicate genetic gain for milk yield under ongoing buffalo breed improvement programme	305 days lactation yield of Murrah will be improved	Kg	Lactation yield of Murrah buffalo will be used to assess genetic gain
7	Calving interval in Murrah	Calving interval for Murrah breed will be improved by improving feeding, reproductive	Calving interval of Murrah buffalo will be improved by reducing serving	Days	Reproductive efficiency of the Murrah buffalo will be

		and managerial technologies	period		improved
8	Lactation yield in Nili-Ravi	Increase in lactation yield for Nili-Ravi breed will indicate genetic gain for milk yield under ongoing buffalo breed improvement programme	305 days lactation yield of Nili-Ravi will be improved	Kg	Lactation yield of Nili-Ravi buffalo will be used to assess genetic gain
9	Calving interval in Nili-Ravi	Calving interval for Nili-Ravi breed will be improved by improving feeding, reproductive and managerial technologies	Calving interval of Nili-Ravi buffalo will be improved by reducing serving period	Days	Reproductive efficiency of the Nili-Ravi buffalo will be improved
10	Developing feeding modules for milch and meat buffaloes	Development of balanced feeding modules for different categories of buffaloes, to improve the overall buffalo productivity	Feeding modules for specific area will be developed based on the availability of feed and fodder in that area	Number	Supplementation of critical nutrients and recommendation for economic feeding regime for different regions of the country
11	Buffalo broiler production	For developing the meat type buffalo calves and feeding modules for economic rearing for meat production	Developing meat type buffalo having high growth rate, higher feed conversion efficiency and lean meat.	Number	This will facilitate attainment of competitive edge in export of buffalo meat
12	Farmer's training programme on buffalo husbandry/AI/nutrition	Training programmes will be organized to improve the performance of farmers so that their overall understanding and adoption of improved buffalo husbandry and balanced nutrition/managerial practices enhances. Training in AI will help the youth to become layman inseminators for further livelihood earning and dissemination of the practice amongst farmers	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 milk production
13	Organization of buffalo mela, calf rallies, infertility treatment camps	Extension activities will be organized for transfer of technologies through different activities like buffalo mela, calf rallies and infertility treatment camps	Modern buffalo husbandry practices shall be transferred to farmers through various methods of demonstration, training and technology show-casing	Number	This will ultimately lead to more awareness about different aspects of buffalo husbandry

Section 5: Specific performance requirements from other Departments

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	Haryana	State department of Animal husbandry	Line department & Farmers	Artificial insemination in field	Adoptability of AI and embryo transfer	Animal health coverage and creating AI awareness	Cannot be quantified at this stage as it depends on the stake holder requirements	There may be shortfall in the target value proposed to be achieved
State	Haryana	State department of Animal husbandry	Line department & Farmers	ET for faster multiplication of germplasm on farm and field	Adoptability of AI and embryo transfer	Animal health coverage and creating ET awareness	Cannot be quantified at this stage as it depends on the stake holder requirements	Proposed target number may not be achieved
State	All state of India	ATMA and Govt. farmers training centres	ATMA and PNB farmers training centre.	Training programmes, organization of buffalo mela, calf rallies, infertility treatment camps	Farmer motivation for undergoing training	Since buffalo population distributed in different part of country	Cannot be quantified at this stage as it depends on the stake holder requirements	Proposed target number may not be achieved

Section 6: Outcome/impact of activities of Organization/Ministry

S.No.	Outcome/impact of activities of organization	Jointly responsible for influencing this outcome/ impact with the following organization (s)/ department(s) / ministry (ies)	Success indicator(s)	Unit	2011-12	2012-13	2013-14	2014-15	2015-16
1	Improvement in the productivity through quality germplasm production, evaluation and dissemination	Buffalo network centres.	Bull evaluated by test mating	Number	16	12	12	15	15
			Frozen semen doses produced	Number	73095	63857	60000	60000	65000
			Semen doses disseminated to the field	Number	129219	93269	125000	130000	135000
			Bull disseminated	Number	61	6	30	30	35
2	Superior germplasm production in the field	Network centres and farmers	Progenies born in the field	Number	732	1159	1000	1000	1000
3	Human resource development in buffalo husbandry	ATMA and PNB Farmers training centres	Persons trained	Number	208	201	230	250	300