Results-Framework Document (RFD)

for

NATIONAL INSTITUTE OF ANIMAL NUTRITION AND PHYSIOLOGY

(2013 - 2014)

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Section 1

Vision, Mission, Objectives and Functions

Vision

Productivity enhancement for profitable and sustainable livestock production

Mission

Improving production and reproductive efficiency in livestock through basic physiological and nutritional approaches

Objectives

1. Improving nutrient assimilation and physiological functions for enhancing livestock production
2. Feeding strategies for reducing climate change impact on livestock
3. Human resource development

Functions

1. Conduct basic and fundamental research to address physiological and nutritional problems related to biophysical translation of nutrients for productive functions in livestock
2. Developing quality human resource in frontier areas of animal nutrition and physiology
3. Research translation to connect discovery with applications

Section 2
Inter se priorities among key objectives, success indicators and targets

Sl. No.	Objective (s)	Weight	Action (s)	Success Indicator(s)	Unit	Weight	Target /Criteria Value				
							Excellent 100%	V. Good 90%	Good 80%	Fair 70%	Poor 60%
1.	Improving nutrient assimilation and physiological functions for enhancing livestock production	40	Identification of factors / bio-molecules influencing production and reproduction in livestock	Factors / bio-molecules identified	Number	25	5	4	3	2	1
			Development of repository of anaerobic rumen microbes for better feed utilization	Anaerobic rumen microbes catalogued	Number	15	25	22	18	16	12
2.	Feeding strategies for reducing climate change impact on livestock	31	Developing models for assessing climate change impact on feed resources in different states	States covered	Number	11	6	5	4	3	2
			Cataloguing of feeds based on methane production potential	Feed resources catalogued	Number	20	30	25	22	20	15
3.	Human resource development	18	Capacity building and skill development	Trainings / workshops conducted	Number	18	8	7	6	5	4
4.	Efficient functioning of RFD System	3	Timely submission of Draft RFD (2013-2014) 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

5.	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
6.	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 grievance redressal system	%	2	100	95	90	85	80

Section 3
Trend values of the success indicators

Sl. No.	Objective(s)	Action(s)	Success indicator(s)	Unit	Actual Value for FY 11-12	Actual Value for FY 12-13	Target Value for FY 13-14	Projected Value for FY 14-15	Projected Value for FY 15-16
1.	Improving nutrient assimilation and physiological functions for enhancing livestock production	Identification of factors /bio-molecules influencing production and reproduction in livestock	Factors / bio-molecules identified	Number	-	-	4	4	4
		Development of repository of anaerobic rumen microbes for better feed utilization	Anaerobic rumen microbes catalogued	Number	-	-	22	25	30
2.	Feeding strategies for reducing climate change impact on livestock	Developing models for assessing climate change impact on feed resources in different states	States covered	Number	-	4	5	6	---
		Cataloguing of feeds based on methane production potential	Feed resources catalogued	Number	25	25	25	---	---
3.	Human resource development	Capacity building and skill development	Trainings / workshops conducted	Number	8	7	7	7	7
4.	Efficient functioning of RFD System	Timely submission of Draft RFD (2013-2014) for approval	On-time submission	Date	-	-	16.05.2013	-	-
		Timely submission of Results for RFD (2012-13)	On-time submission	Date	-	-	02.05.2013	-	-

5.	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	-	-
6.	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

S. No.	Acronym	Description
1	ASMM	Area Specific Mineral Mixture
2	DAHDF	Department of Animal Husbandry, Dairying & Fisheries
3	GHG	Green House Gas
4	GoI	Government of India
5	SAUs	State Agricultural Universities

Section 4 : Description and definition of success indicators and proposed measurement methodology

SI. No.	Success Indicator	Description	Definition	Measurement	General Comments
1	Factors / bio-molecules identified	Acute shortage of quality inputs is affecting production and reproduction in livestock and poultry. There is a need to understand basic mechanism of the nutrient uptake and different physiological functions so as to optimize production and reproduction by identifying suitable biochemical/molecular markers. Majority of factors or biomolecules that influences nutrient bioavailability and utilization, production and reproductive process need to be further explored in livestock	The major problem of low productivity and reproductive efficiency in the livestock needs to be addressed by understanding the mechanism of nutrient bioavailability and utilization through identifying biochemical markers responsible for various physiological functions	Number	Understanding the mechanism and the factors/biomolecules that influences production and reproduction will help in designing strategies for optimum feeding and management practices in livestock so as to maximize animal production
2	Anaerobic rumen microbes catalogued	There is a need to identify and characterize rumen microbes which can breakdown the lignocellulosic biomass and to maintain a repository	Low digestibility of poor quality crop residues is a major concern in providing quality feed. This needs to be addressed through understanding the rumen	Number	There is acute shortage of feed and fodder in the country and animals have to be fed on poor quality crop residues. To

		of potential fibre degrading microbes. The country is bestowed with a diverse group of region-specific breeds of ruminants and so are their rumen microbes. Each breed has a unique set of rumen microbes with diverse capability of fibre digestion. Majority of these rumen microbes remains uncharacterized and uncatalogued	microbial diversity so as to modulate for enhanced fibre utilization		enhance the utilization of crop residues we need to understand the rumen ecosystem and have repository of some of the best fibre digesting microbes for their future use and application
3	States covered	Assessing the impact of climate change on availability of feed resources in different regions is essential to develop strategies for addressing feed/ fodder shortage	Climate change can strongly affect the availability of feed resources in different regions of the country. Hence, there is a need to develop models to assess the availability of feeds which in turn will help in taking strategic measures to address the problem of feed deficiency	Number	Climate change is likely to affect the crop production and their biomass yield and in order to be in readiness to know the level of impact, modeling study to assess the feed availability is important
4	Feed resources catalogued	Assessment of methane production potential of various feeds would help in developing mitigation strategies and reduce the carbon footprint	Enteric methane emission from livestock is one of the major problem for global warming and mitigation strategies need to be worked out by understanding the methane production potential of various feeds and by cataloguing them	Number	Livestock produce enteric methane which is a green house gas (GHG). Animals fed on poor quality roughages tend to produce more methane. It is necessary to catalogue the feed resources based on their methane production potential so as to develop practical ameliorative strategies
5	Trainings / workshops conducted	To develop quality human resource and providing skill development to various stakeholders, the training program in various facets of animal nutrition and physiology is required.	Due to significant growth of animal husbandry sector in the country, there is increased demand of trained human resources. To maintain this demand, development of quality human resource	Number	As feeding and management of animals accounts for about 60-70% of the total cost of livestock production, providing training and skill development

			is important which could be achieved by providing training and skill in frontier areas of animal nutrition and physiology for overall growth of animal productivity		will help the various stake holders including farmers to adopt to recent techniques for improving the production and get better economic returns

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
Central/ State	All states of India	National Institutes/State Agricultural Universities	National Institutes/State Agricultural Universities	Anaerobic rumen microbes catalogued	Collaboration for timely submission of rumen bacteria	Since there is a large diversity of livestock population maintained on different feeding systems, there is a possibility of existence of elite fibre digesting bacteria in the population and hence there will be opportunity for replacing the poor fibre degrading bacteria with elite fibre degrading bacteria	50%	There will be some reduction in the target value to be met
Central/ State	All states of India	SAUs / DAHDF, GoI / Directorate of Extension /SAUs	SAUs / DAHDF, GoI / Directorate of Extension/ SAUs	Trainings/ workshops conducted	Nomination of trainees from their parent departments	Since the feeding and management varies across the country, it is necessary to train all the stake holders. Modern day animal husbandry requires periodic up gradation of skill and knowledge of farmers and other stakeholders. Hence training is required	50%	Reduction in the number of trainees will not be economically feasible as minimum number of trainees is required under each training programme

Section 6

Outcome/impact of organization/ministry

S. No.	Outcome/Impact of Organization	Jointly responsible for influencing this outcome/impact with the following organization (s) / ministry (ies)	Success indicator (s)	Unit	2011-12	2012-13	2013-14	2014-15	2015-16
1	Improved productive/reproductive efficiency of livestock	Livestock farmers, state agricultural universities, milk federations / feed industries	Animals displayed estrous/ conceived by supplementing area specific mineral mixture (ASMM)	Percentage	30%	35%	40%	45%	50%
			Increase in egg production by using red spectrum light	Percentage	-	2.0%	2.25%	2.5%	3.0%
			Reduction in the cost of feeding of dry fodder by replacing paddy straw with areca sheath	Percentage	-	35%	40%	45%	50%
2	Development of quality human resources	State Agricultural Universities, /Animal Husbandry departments	Persons trained	Number	100	150	200	200	200