



Results - Framework Document (RFD)

for

National Research Centre on Mithun (2012-2013)

Jharnapani, Medziphema,
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Section 1: Vision, Mission, Objectives and Functions

Vision

- Profitable and productive Mithun based livestock production system for North Eastern hilly tribes

Mission

- To develop and facilitate dissemination of technologies relevant to efficient and profitable production of quality meat, milk and other products for improving the economic status of poor Mithun rearers of North Eastern region of our country.

Objectives

- Genetic studies for improvement of Mithuns
- Enhancing reproductive and productive efficiency of Mithun
- Improving the health status of Mithun
- Transfer of technology developed by the Institute through extension activities

Functions

- Identification, evaluation, and characterization of Mithun germplasm available in the country
- Conservation and improvement of Mithun for meat and milk
- To act as a repository of germplasm and information centre on Mithun

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

Objectives	Weight (%)	Actions	Success Indicators	Unit	Weight (%)	Target/Criteria value				
						Excellent	Very Good	Good	Fair	Poor
						100%	90%	80%	70%	60%
Genetic studies for improvement of Mithuns	24	Molecular cytogenetic studies	Number of homology studies among related species	Number	6	4	3	2	1	0
		Microsatellite characterization of Mithuns	Number of microsatellite markers to identify/study	Number	6	19	18	15	12	10
		Developing prediction formula for body weight estimation	Animals to be recorded.	Number	6	50	45	40	35	30
		Identification of SNPs/polymorphism in leptin gene of Mithun	Number of animals to be screened for SNPs	Number	6	25	20	15	10	5
Enhancing reproductive and productive efficiency of Mithun	40	Standardization of superovulation and embryo transfer	Animals to superovulate and embryo recovery and transfer	Number	6	8	7	6	5	4
		Follicular dynamics study to understand follicular development	Cyclic study of follicles	Number	6	3	2	1	0	0
		Expression study of genes regulating muscle growth	Identification of genes	Number	6	8	7	5	4	3
		Quantification of Mithun milk lactoferrin and characterization of lactoferrin gene	Quantification of lactoferrin through ELISA and PCR study in Mithuns	Number	4	10	9	8	7	6
		Evaluation of feed blocks in terms of nutrient utilization	Types of feed block	Number	10	5	4	3	2	1

		Evaluation of physical and biochemical parameters of Mithun semen	Number of bulls to be studied	Number	8	8	6	5	4	3
Improving the health status of Mithun	14	Evaluation of efficacy of chemotherapeutic and herbal drugs against GI helminths	No. of drugs to be tested	Number	5	5	4	3	2	1
		Survey for prevalence of common disease condition	No. of animals to be surveyed	Number	5	400	300	250	200	100
		Organization of animal health cum vaccination camp	No. of camps to be organized	Number	4	6	5	4	3	2
Transfer of technology developed by the Institute through extension activities	10	Survey of Mithun rearing villages and interaction with Mithun rearing tribes for creating awareness about scientific animal husbandry practices	No. of villages to be surveyed	Number	5	4	3	2	1	0
		Demonstration of technologies developed by the Institute for Mithun husbandry	Organizing technology camps	Number	5	5	4	3	2	1
Efficient functioning of RFD system	3	Timely submission of RFD for 2012-13	On-time submission	Date	2	Mar.23 2012	Mar.26 2012	Mar.27 2012	Mar.28 2012	Mar.29 2012
		Timely submission of Results for 2012-13	On-time submission	Date	1	May 1 2013	May 2 2013	May 3 2013	May 6 2013	May 7 2013
Administrative Reforms	5	Implement ISO 9001	Prepare ISO action plan	Date	1	June 4 2012	June 5 2012	June 6 2012	June 7 2012	June 8 2012
			Implementation of ISO 9001 action plan	Date	2	Mar.25 2013	Mar.26 2013	Mar.27 2013	Mar.28 2013	Mar.29 2013
		Implement mitigating strategies for reducing potential risk of corruption	% of implementation	%	2	100	95	90	85	80
Improving Internal Efficiency / responsiveness /	4	Implementation of Sevottam	Independent Audit of Implementation of Citizen's	%	2	100	95	90	85	80

service delivery of Ministry / Department			Charter							
			Independent Audit of Implementation of public grievance redressal system	%	2	100	95	90	85	80

Section 03: Trend values of the success indicators

Objectives	Actions	Success Indicators	Unit	Actual Value for FY 10/11	Actual Value for FY 11/12	Target Value for FY 12/13	Projected Value for FY 13/14	Projected Value for FY 14/15
Genetic studies for improvement of Mithuns	Molecular Cytogenetic studies	Number of homology studies among related species	Number	-	-	3	.*	.*
	Microsatellite characterization of Mithuns	Number of microsatellite markers to identify/study	Number	-	-	18	10	.**
	Developing prediction formula for body weight estimation	Animals to be recorded.	Number	5	10	45	55	.**
	Identification of SNPs/polymorphism in leptin gene of Mithun	Number of animals to be screened for SNPs	Number	-	-	20	15	.**
Enhancing reproductive and productive efficiency of Mithun	Standardization of superovulation and embryo transfer	Animals to superovulate and embryo recovery and transfer	Number	2	5	7	8	10
	Follicular dynamics study to understand follicular development	Cyclic study of follicles	Number	2	3	2	3	.**
	Expression study of genes regulating muscle growth	Identification of genes	Number	1	7	7	9	.**
	Quantification of Mithun milk lactoferrin and characterization of lactoferrin gene	Quantification of lactoferrin through ELISA and PCR study in Mithuns	Number	-	-	9	10	.**
	Evaluation of feed blocks in terms of nutrient utilization	Types of feed block	Number	5	6	4	1	.**
	Evaluation of physical and biochemical parameters of Mithun semen	Number of bulls to be studied	Number	-	-	6	7	.**
Improving the health status of	Evaluation of efficacy of chemotherapeutic and herbal	No. of drugs to be tested	Number	2	3	4	5	3

Mithun	drugs against GI helminths							
	Survey for prevalence of common disease condition	No. of animals to be surveyed	Number	150	440	300	350	400
	Organization of animal health cum vaccination camp	No. of camps to be organized	Number	5	6	5	8	9
Transfer of technology developed by the Institute through extension activities	Survey of Mithun rearing villages and interaction with Mithun rearing tribes for creating awareness about scientific animal husbandry practices	No. of villages to be surveyed	Number	2	2	3	4	2
	Demonstration of technologies developed by the Institute for Mithun husbandry	Organizing technology camps	Number	4	5	4	7	8
Efficient functioning of RFD system	Timely submission of RFD for 2012-13	On-time submission	Date	-	-	Mar. 26 2012	-	-
	Timely submission of Results for 2012-13	On-time submission	Date	-	-	May 2, 2013	-	-
Administrative Reforms	Implement ISO 9001	Prepare ISO action plan	Date	-	-	June 5, 2012	-	-
		Implementation of ISO 9001 action plan	Date	-	-	March 26, 2013	-	-
	Implement mitigating strategies for reducing potential risk of corruption	% of implementation	%	-	-	95	-	-
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	-	-

- *This action will be completed in FY12/13. Hence not shown during FY- 13/14 & FY 14/15
- **This action will be completed in FY 13/14. Hence not shown during FY 14/15

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

Objective No. 1.

Molecular cytogenetic studies will be useful to identify chromosomal characteristics between Mithun and related species of animals, while the development of prediction equation for weight from the body measurements will be useful under field condition where there is no record keeping system available

As Mithuns are used mostly as meat animals, study of leptin gene of Mithun will be useful to select animals with better growth rate, more body weight and higher feed conversion efficiency. Microsatellite characterization of Mithuns will be very important to know the genetic differences among the strains of Mithuns, if any

Objective No. 2.

Enhancement of reproductive efficiency, follicular dynamics study in Mithun and quantification of lactoferrin in Mithun milk will be helpful for improved reproductive efficiency and milk production, respectively.

Preparation of low-cost feed block for Mithun using locally available feed resources will improve production efficiency in Mithuns.

The evaluation of physical and biochemical parameters of Mithun semen will be useful for preparation of suitable semen extender and preservation of Mithun semen specifically in liquid nitrogen.

Objective No. 3.

Different drugs will be tested in different doses for their efficacy against various GI helminths. It will be useful in preparing the deworming schedule and calendar for the control of GI helminths.

Survey will be made in randomly selected villages across the Nagaland state and samples will be collected for the investigation of the prevalence and incidence of common diseases in farm and field condition. It will be useful in preparing the disease map of the state for Mithuns.

Animal health cum vaccination camp will be organized in randomly selected village for control of parasites and Foot and Mouth disease.

Objective No. 4.

Transfer of technology through extension activities will be important for identification of risk factors and barriers for successful transfer of technology developed by the Institute and strategies for addressing them.

Section 5: Specific performance requirements from other departments that are critical for delivering agreed results.

- State Animal Husbandry Department in adoption of technology transfer.
- Availability of adequate number of animals under field conditions.

Section 6: Outcome / Impact of activities of organization/ Ministry.

S. No	Outcome / impact of organisation / RSCs	Jointly responsible for influencing this outcome / impact with the following organisation/mini stry (ies)	Success indicator (s)	Unit	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
1	Genetic studies for improvement of Mithuns	State AH Department, Nagaland	Development of elite bulls in nucleus herd of Mithun	Number	-	-	-	1	2
2	Enhancing reproductive and productive efficiency of Mithun	State AH Department, Nagaland	Animals to superovulte and embryo recovery and transfer in farm and field level	Number	2	5	5	8	10
			Types of feed block developed	Number	2	3	4	5	2
3	Improving the health status of Mithun	State Vety & AH Department, Nagaland	No. of drugs to be tested against GI helminths	Number	2	3	4	5	3
			No. of animals to survey for prevalence of common disease condtion	Number	150	440	400	450	500
			No. of health camps to organize	Number	5	5	6	7	8