Practices, Beliefs and Knowledge of Mithun Husbandry Followed by the Mithun Farmers of Nagaland

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ABSTRACT

*Mithun (*Bos frontalis*) is a prize animal for the people of the North East India in general and the state of Nagaland in particular, where it is the state symbol. Because of being semi wild in nature and in absence of much empirical studies, a benchmark is necessary relating to its husbandry. Therefore, practices, beliefs and knowledge of farmers about mithun was taken up for study in three mithun dominated districts namely, Kohima, Phek and Zunheboto districts with fifty each mithun farmers, all of whom lived in difficult and remote areas. The total sample size of respondents was 150. A comprehensive, reliable and valid interview schedule was applied to collect required information. They were converted to objective data and simple statistical analyses were done to arrive at conclusion. The study revealed that, the loose rearing with fences was adopted and was found provide better growth. Common salt feeding for better meat quality and increasing bondage between owner and mithuns were prominent. Natural streams and rivers were the sources of drinking water. Ear notching, body markings, marks in the horn and the voice of mithun for identification of the animal were some of the traditionally adopted devices. Milking of mithun was not practiced and exclusively fed to the calf for better growth. No other use of mithun hide and meat was recorded except for consumption. The mithun horn was used primarily as decoration items and sometimes as drinking cups. No modern treatment in case of disease of mithun was seen but, in the case of leech infestation and external wounds, salt was locally applied in addition to preparation from locally available herb in some small ailments. A huge gap in between the existing practices and the scientific knowledge existed in case of mithun husbandry.*

***Key words**: Mithun; Mithun husbandry; Mithun farmers; Practices; Beliefs; Knowledge;*

Mithun (*Bos frontalis*), since time immemorial, has played an important role in the social, cultural and economic lives of the Naga people. As such it is also a state symbol of Nagaland. It is basically reared as a meat animal. At present, farmers rear mithun under free grazing condition without much emphasis on scientific rearing methods. The number of research done in the selected area is almost sparse. The available literatures indicate the significance of mithun and its rearing in all spheres of lives of the people of Nagaland. These realities raise many questions that need to be answered based on empirical evidence and not merely by conjectures and intuitions particularly in the context of traditional practices of mithun husbandry followed by the farmers, and knowledge and beliefs associated with the practices. And, therefore this study was taken up.

METHODOLOGY

For the purpose of the study, 50 farmers were randomly selected from the mithun dominated pockets of three randomly selected districts of Nagaland state *viz.*, Kohima district, Phek district and Zunheboto district. Thereby, making the sample size 150. Ten most relevant aspect of traditional mithun rearing practices was covered in the study namely; system of rearing, breeding system, feeding of mithun, water source for mithun, identification of mithun, milking of mithun, use of mithun hide, use of mithun horn and treatment of diseases/ infections. An interview schedule was prepared pertaining to the questions relevant to the study.

Through direct questioning the queries were ascertained and the knowledge and beliefs associated with each said practice, if any was classified accordingly. In the context of the present study, knowledge in this study is operationalised as the information of the respondents which is in accord with established facts. Belief is operationalised as what the respondents believes or accepts to be true and practices is operationalised as what is traditionally followed by the farmers. The frequency of the responses were then determined for the purpose of interpretation. The data was collected over a period of three months (January, February and March in the year 2015).

RESULTS AND DISCUSSION

For easy interpretation the results and discussion were grouped in the following sub-heads:

System of rearing: The study revealed that loose system of rearing with fencing was followed by all the respondents in the three districts as well as in the pooled sample. In Kohima district 8 per cent believed that loose system should be followed as allowing animal to move freely in its habitat promotes its better growth, this belief was shared by 2 per cent and 3.33 per cent of the respondents in Zunheboto and in the pooled sample. The belief that animal should be allowed to live freely in its habitat was shared by 28 per cent, 34 per cent, 20.66 per cent of the respondents in Kohima and Zunheboto districts and in the pooled sample respectively. The belief that since olden days the practice was followed hence, it is still followed was shared by 22 per cent, 16 per cent and 12.66 per cent of the respondents in Kohima and Zunheboto districts and in the pooled sample.

The reported findings were similar to that of *Heli (1993)* who reported that Arunachalees still practiced the tradition of rearing where mithuns were let loose and allowed to graze freely on their own. It is further supported by the findings of *Kiba (2012)* who reported that the mithuns were reared exclusively under the free grazing system in fenced jungle areas.

*Breeding: T*he practice of natural breeding was followed by all the respondents in Kohima, Phek and Zunheboto districts and in the pooled sample. While in Zunheboto district and in the pooled sample, 20 per cent and 6.66 per cent of the respondent practiced natural breeding along with partial breeding with selected superior bull.

The present studies is similar to that of *Pal and Rajkhowa (2001)* who reported that only natural breeding was practiced for breeding mithuns. It was also similar to the findings of *Kiba (2012)* who revealed that Sumi Naga tribes topped the list in considering the mithun as a highly significant animal and for such reasons selective breeding was followed by them in breeding mithuns to evolve a phenotypic trait befitting the desired configuration.

Feeding: It was seen from the study that only salt feeding either by the owner or the mithun grazer was followed by all the respondents in the three districts and in the pooled sample. The belief that such a practice enhances the meat quality of mithun was shared by 24 per cent, 16 per cent, 13.33 per cent of the respondents in Phek and Zunheboto districts and pooled sample respectively. The belief that mithun liked to be salt fed was shared by 30 per cent of the respondents in Kohima and Phek districts respectively, 32 per cent and 30.66 per cent of the respondents in Zunheboto district and pooled sample respectively. The belief that salt feeding makes the mithun docile was shared by 40 per cent, 48 per cent, and 52 per cent of the respondents in Kohima, Phek and Zunheboto districts respectively. The belief that salt feeding creates bond between the mithun and its owner was shared by 66 per cent, 28 per cent, 52 per cent and 48.66 per cent of the respondents in Kohima, Phek and Zunheboto districts and pooled sample respectively.

The findings were similar to that *Kiba (2012)* where it was reported that in traditional mithun rearing, animals were not provided with any additional feedings, the animals however, were provided with regular lick of common salt.

The findings were also similar to that of *Heli (1993)* who also reported in his study that the mithun owners often paid at least a weekly or monthly visit to their respective mithuns with the package of salt and fed them, to retain the link between themselves and their mithuns.

Source of drinking water: The natural streams and rivers as the source of drinking water were expressed by all the respondents of the three districts and pooled sample. In Kohima, Phek and Zunheboto districts, 22 per cent, 46 per cent and 50 per cent respectively, and 39.33 percent of the respondents from pooled sample shared the belief that such practice was a source of good health of mithun.

The present findings are further supported by that of *Kiba (2012)* who also reported that the mithun basically strived on the natural mineral water springs.

Identification of mithun: The practice of ear notching for identification was practiced by 62 per cent, 66 per cent, 52 per cent and 60 per cent of the respondents in Kohima, Phek and Zunheboto districts and in the pooled sample respectively. The knowledge that such a practice for identification was permanent was expressed by 80.64 per cent, 90.90 per cent, 100 per cent, and 90 per cent of the respondents in Kohima, Phek and Zunheboto districts and in pooled sample respectively . It was also observed that 18 per cent, 16 per cent, 28 per cent and 20.66 per cent of the respondents in Kohima, Phek and Zunheboto districts and in pooled sample respectively practiced identification of mithun by body marks. While 12 per cent, 10 per cent, 8 per cent and 10 per cent of the respondents in Kohima, Phek and Zunheboto districts and in pooled sample respectively, identified their mithun through the voice of the mithun.

The present findings are similar to the studies of *Heli (1993)* and *Kiba (2012)* where it was reported that the mithun owners identifies their mithun based on colour, body markings and ear notching, structure of the horn and through the voice call.

Milking of mithun: All the respondents in the three districts and in the pooled sample respectively expressed that milking was not practiced and only the mithun calves

Table 1: Frequency distribution of respondents based on the traditional mithun husbandry practice followed and belief associated with the practice

Variable	Practice	District	No. (%)	Belief	District	No. (%)
System of rearing	Loose with fencing	Kohima	50 (100)	Free grazing promotes better growth	Kohima	4 (8)
		Phek	50 (100)		Zunheboto	1(2)
		Zunheboto	50 (100)		Pooled	5 (3.33)
		Pooled	150 (100)	Allowing the animal to live freely	Kohima	14 (28)
					Zunheboto	17 (34)
					Pooled	31 (20.66)
				Tradition to be followed	Kohima	11 (22)
					Zunheboto	8 (16)
					Pooled	19 (12.66)
Breeding	Natural breeding	Kohima	50 (100)			
		Phek	50 (100)			
		Zunheboto	50 (100)			
	Breeding with superior bull	Zunheboto	10 (20)			
		Pooled	10 (6.66)			
Feeding	Salt feeding at regular interval	Kohima	50 (100)	Enhances meat quality	Phek	12 (24)
		Phek	50 (100)		Zunheboto	8 (16)
		Zunheboto	50 (100)		Pooled	20 (13.33)
		Pooled	150 (100)	Mithun likes it	Kohima	15 (30)
					Phek	15 (30)
					Zunheboto	16 (32)
					Pooled	46 (30.66)
				Makes mithun docile	Kohima	20 (40)
					Phek	24 (48)
					Zunheboto	26 (52)
					Pooled	70 (46.66)
				Creates bond between man and mithun	Kohima	33 (66)
					Phek	14 (28)
					Zunheboto	26 (52)
					Pooled	73 (48.66)
Drinking water source	Natural rivers & streams	Kohima	50 (100)	Source of good health of mithun	Kohima	11 (22)
		Phek	50 (100)		Phek	23 (46)
		Zunheboto	50 (100)		Zunheboto	25 (50)
		Pooled	150 (100)		Pooled	59 (39.33)

(Figures in parentheses indicates percentage)

Table 2: Frequency distribution of the respondents based on identification of mithun, milking and use of hides

Variable	Practice	District	No. (%)	Knowledge associated with practice	District	No. (%)
Identification of mithun	Ear notching	Kohima	31 (62)	Permanent	Kohima	25 (80.64)
		Phek	33 (66)		Phek	30 (90.90)
		Zunheboto	26 (52)		Zunheboto	26 (100)
		Pooled	90 (60)		Pooled	81 (90)
	Body markings	Kohima	9 (18)			
		Phek	8 (16)			
		Zunheboto	14 (28)			
		Pooled	31 (20.66)			
	Marks in the horn	Kohima	4 (8)			
		Phek	4 (8)			
		Zunheboto	6 (12)			
		Pooled	14 (9.33)			
	Voice	Kohima	6 (12)			
		Phek	5 (10)			
		Zunheboto	4 (8)			
		Pooled	15 (10)			
Milking of mithun	Milking is not practiced and is consumed only by the calves	Kohima	50 (100)	For the better growth of the calves	Kohima	25 (50)
		Phek	50 (100)		Phek	32 (64)
		Zunheboto	50 (100)		Zunheboto	15 (30)
		Pooled	150 (100)		Pooled	72 (48)
Use of mithun hide	It is consumed along with meat & not use for any other purpose	Kohima	50 (100)			
		Phek	50 (100)			
		Zunheboto	50 (100)			
		Pooled	150 (100)			

consumed the milk. In Kohima, Phek and Zunheboto districts and in pooled sample,50 per cent, 64 per cent, 30 per cent and 48 per cent had the knowledge that such a practice ensured the better growth of the calves.

The present findings are similar to that of *Pal and Rajkhowa (2001)* where it was reported by them that mithun milk was not at all let down and could be consumed by the farmers. It is similar to that of *Kiba (2012)* who reported that milking of mithun was generally not known to be practiced. The aggressive and semi wild nature of mithun also might have been a limiting factor for milking of the animal.

Use of mithun hide: The study revealed that all the respondents of the three districts and in the pooled sample consumed mithun hide along with the meat and expressed that it was not used for any other purpose apart from consumption.

The present findings were similar to that of *Kiba (2012)* who reported that the mithun hide was consumed by the people along with the meat.

Use of mithun horn: It was seen that 70 per cent, 42 per cent, 84 per cent and 65.33 per cent of the respondents in Kohima, Phek and Zunheboto districts and in pooled sample respectively used the mithun horn as a decoration item. The belief that the practice remained a sense of pride was expressed by 65.7 per cent, 95.23 per cent, 59.52 per cent, and 69.38 per cent of the respondents in Kohima, Phek and Zunheboto districts and in the pooled sample respectively. On the other hand, the same as a sign of prosperity was expressed by 20 per cent, 71.41 per cent, 59.52 per cent and 47.95 per cent of the respondents in Kohima, Phek and, Zunheboto districts and in pooled sample respectively.

Kiba (2012) depicted the use of the mithun horn as drinking cups and decoration items which was similar to that of the findings of the present study.

Use of mithun meat: All the respondents in Kohima, Phek and Zunheboto districts and in the pooled sample respectively used mithun meat only for consumption as a food source. In Kohima, Phek and Zunheboto districts and in the pooled sample, 24 per cent, 20 per cent, 44 per cent and 29.33 per cent of the respondents respectively expressed the belief that the practice was followed as mithun meat was nutritious and health promoting.

Table 3: Frequency distribution of respondents based on use of mithun horn and meat

Variable	Practice	District	No. (%)	Belief associated with the practice	District	No. (%)
Use of mithun horn	As decoration item	Kohima	35 (70)	As a sense of pride	Kohima	23 (65.71)
		Phek	21 (42)		Phek	20 (95.23)
		Zunheboto	42 (84)		Zunheboto	25 (59.52)
		Pooled	98 (65.33)		Pooled	68 (69.38)
				Sign of prosperity	Kohima	7 (20)
					Phek	15 (71.42)
					Zunheboto	25 (59.52)
					Pooled	47 (47.95)
	Drinking cups	Phek	21 (42)			
		Zunheboto	20 (40)			
		Pooled	41 (27.33)			
Use of mithun meat	Only use for consumption as a food source	Kohima	50 (100)	Considers it as nutritious, health promoting	Kohima	12 (24)
		Phek	50 (100)		Phek	10 (20)
		Zunheboto	50 (100)		Zunheboto	22 (44)
		Pooled	150 (100)		Pooled	44 (29.33)

(Figures in parentheses indicates percentage)

Table 4: Frequency distribution of respondents based on the treatment against diseases

Variable	Practice	District	No. (%)	Belief associ-ated	District	No. (%)	Knowledge associated with practice	District	No.(%)
Treatment against diseases	In leech infestation salt is rubbed leech attached	Kohima	20 (40)				Helps to detached the leech from the body of animal	Kohima	20 (100)
		Phek	10 (20)					Phek	10 (100)
		Zunheboto	14 (28)					Zunheboto	14 (100)
		Pooled	44 (29.33)					Pooled	44 (100)
	In case of wound, local herb preparation applied to the wound	Kohima	19 (38)	Promotes faster wound healing	Kohima	10 (52.63)			
		Phek	12 (24)		Phek	8 (66.66)			
		Zunheboto	17 (34)		Zunheboto	15 (88.23)			
		Pooled	48 (32)		Pooled	33 (68.75)			

(Figures in parentheses indicates percentage)

The present findings were similar to that of *Pal and Rajkhowa(2001)* where it was reported that there was great demand for mithun meat and consumers considered the meat as more tender and superior over the meat of other species of livestock except pork.

Treatment for diseases: It was observed that 40 per cent, 20 per cent, 28 per cent and 29.33 of the respondents in Kohima, Phek and Zunheboto districts and in pooled sample respectively, followed the practice of rubbing salt in the area where the leech remained attached to the body of the mithun in case of leech infestation. In Kohima, Phek and Zunheboto districts and in pooled sample 40 per cent, 20 per cent, 28 per cent and 29.33 per cent of the respondents respectively, had the knowledge that the practice was followed as it helped to detach the leech from the body of the mithun where it remained attached. The study also revealed that 38 per cent, 24 per cent, 34 per cent and 32 per cent of the respondents in Kohima , Phek and Zunheboto districts and in pooled sample respectively, in case of wounds in the skin applied preparation of locally available herbs to the wound. In Kohima, Phek and Zunheboto districts and in pooled sample, 52.63 per cent, 66.66 per cent, 88.23 per cent and 68.77 per cent of the respondents respectively expressed the belief that the practice promotes faster wound healing.

The present findings were similar to that of the findings of *Dhali et al (2009)* who suggested that in

case of leech infestation, spraying of common salt solution (10 ml) into the nasal cavity with the help of syringe was sometimes useful along with the manual removal of the leeches. The findings were also similar to that of *Gupta et al (1999)* where it was reported that the Nishi tribe of Arunachal Pradesh treated the sick mithuns with traditional medicines prepared from local herbs.

CONCLUSION

The traditional practices followed in mithun (*Bos frontalis*) rearing in Nagaland from the study revealed that, the loose rearing system with fences was adopted and was found provide better growth to the animal. Common salt feeding for better meat quality and increasing bondage between owner and mithuns were prominent. Natural streams and rivers were the sources of drinking water. Ear notching, body markings, marks in the horn and the voice of mithun for identification of the animal were some of the traditionally adopted devices. Milking of mithun was not practiced and exclusively fed to the calf for better growth. No other use of mithun hide and meat was recorded except for consumption. The mithun horn was used primarily as decoration items and sometimes as drinking cups. No modern treatment in case of disease of mithun was seen but, in the case of leech infestation and external wounds, salt was locally applied in addition to preparation from locally available herb in some small ailments. A huge gap in between the existing practices and the scientific knowledge existed in case of mithun husbandry.

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