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ANALYSIS OF PREVAILING DAIRY FARMING PRACTICES OF BHEEL TRIBES OF WESTERN RAJASTHAN

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ABSTRACT

The Present study was conducted to identify the existing dairy farming practices of Bheel tribes of Jodhpur district of Rajasthan state, taking into account of 50 tribal respondents selected from ICAR-CAZRIs adapted village Ujaliya of Baori block/tahsil. The data were collected through a well-structured interview schedule and the results were interpreted with the help of tabular analysis. It was observed that the majority dispose placenta through deep burial and fed colostrum to their new borne calves. They also practiced natural means of naval separation and mostly they covered their animals with jute bags during winter and provided water two times a day. It was also found that they never dewormed, groomed or castrated their animals. Stall feeding is the most common practice among them for feeding, preferred non-bushy grazing land and feed fodders for increasing the milk production. The results also reflects that they isolate their animal when it fall sick, applied turmeric paste for small wounds, use sap of Aloe Vera for burns to get cooling sensation, contact a veterinarian for its treatment and never get their animal vaccinated on time. Findings of the study also indicated that the respondents tied their animals below the tree shade, practiced knuckling method of milking and milked two times in a day. After milking, mostly they boil it and prepared curd & ghee for home consumption. Animal carcasses are buried after their death.

INTRODUCTION

The majority of the tribal households in India depends on agriculture and animal husbandry for their livelihood.The hot western region of Rajasthan distributed in the above 9 districts of the state have livestock wealth of more than 26 million, which is about 50 per cent of the total population of the state reflects the immense importance of livestock. So livestock farming including small ruminant production system is considered to be an effective instrument to combat drought proofing. Even though it is being a complementary enterprise, the statistics of this region reflects the milk production and productivity per animal is less compared to its maximum production potential.

Limitations in area expansion, scattered land holdings, low soil fertility, rain dependent agriculture, shortage of fodder during winter, low milk production per animal and the attack from wild animals are considered to be the major limiting factors for tribal households affecting agriculture & animal husbandry. Over the years the central and state government have been taking various initiatives to uplift the tribal population in our country. India witnessed several changes over the years in its emphasis, approaches, strategies and programmes. The scientific dairy innovations, interventions, technologies and practices focused towards tribal households brought some advancement but still there are considerable gaps for improvement. In order to bring a change in their dairy farming practices it is essential for the policy maker to understand and analyze their prevailing practices to provide better solution for their welfare and economic upliftment in the future.

RESEARCH METHODOLOGY

The main objective of this study is to analyze the prevailing dairy farming practices of Bheel tribes. Both conventional and participatory methods have been used to document the local knowledge in

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general and dairy farming in particular. The present study was conducted in Jodhpur district (having considerable population of Bheel Tribe) of Rajasthan state. A total of 50 tribal households were selected from ICAR-CAZRIs adapted village Ujaliya of Baori block/tahsil. The data were collected through a pre-tested and well-structured interview schedule and the results were interpreted with the help of tabular analysis under five heads viz., Conventional practices, Breeding practices, Feeding practices, Healthcare practices and Management practices.

RESULTS AND DISCUSSION

An attempt has been made in order to understand the existing dairy farming practices of Bheel tribes and the results were presented as follows.

Conventional Practices

Calving, the process of giving birth to a calf is a complex process and is considered to be a critical time for both mother and the calf. Usually no assistance is needed at the time of calving. However, during calving difficulty the tribals usually seek the assistance from knowledgeable neighbour, friend, para veterinarians / stockman if available in the nearby vicinity. As observed from Table 1, 76 per cent of tribal households generally don't practice naval cutting and let to fall off naturally (Khatik, 1994 and Avinashilingam, 2005) but about one fourth (24.00%) of the tribal households reported that the umbilical cord was cut by using new shaving blade or surgical instruments.

After calving, disposing placenta was mostly done by deep burial (68.00 %) followed by throw off (32.00%) (Avinashilingam, 2005). The tribal households believed that colostrum feeding will prevent the bad spirits from attacking the young calves and increase immunity to the new borne calf. About 62.00 per cent of respondents supported colostrum feeding to newborn calves followed by 38.00 per cent respondents did not allow feeding colostrum to the newborn calves (Avinashilingam, 2005). Regarding the watering of animals, majority of respondents (58.00%) offered water to their animals two times a day. This was followed by 42.00 per cent of respondents, who offered water only once. Most of the tribal household (88.00%) provided gunny bags or hard blankets to protect calves from cold, whereas 12.00 per cent of respondents don't provide any bedding material to their animals.

After rearing the major part of the calf feeding is through grazing. More than 60 per cent of dairy farmers allowed calves of two to four months for grazing(Srivastava, 1982; Kokate, 1984 and Khatik, 1994), whereas, 32.00 per cent of respondents allowed their animals at the age of four to six months followed by only 6 per cent of respondents allowed their calves within less than two months. It was also found during the study that the bheel tribal households never dewormed, groomed or castrated their animals. The above findings indicates that the tribal households still following conventional practices viz. letting the umbilical cord to fall of naturally, disposing placenta by deep burial, feeding colostrum and provide blankets and gunny bags to the newborn.

Breeding Practices

Breeding practices of Bheel tribes reflects that they are not far in identifying their heifer is matured for service. Perlustration of Table 2 reveals that majority of tribal households (80.00%) identified could identify their heifer is mature for service by observing the primary symptoms like cows stand to be mounted by other cows, mucus discharge, swelling and reddening of vulva, bellowing, restlessness and trailing and urinates frequently. Only in some cases (20.00 %) with silent exhibitors, these signs were not marked. Mostly they never provide any special ration to induce heat in heifers/buffaloes/ cows with a few exceptions. Traditionally, tribals believed in natural breeding practice. The Table 2 shows that only a few individuals (18.00 %) got their cows/ buffaloes artificially inseminated. More than three fourth of the households (78 %) diagnosed pregnancy of animal only after three months. They explained that there was an increase belly and pelvic regions in the latter stage of

Table 1: Conventional Practices in Dairy Farming

n=50

S.No.	Practices	Frequency (%)
a.	Which practice you follow for naval separation in the calf?	
	Surgical instruments used	12 (24.00)
	Natural	38 (76.00)
b.	How do you dispose off placenta?	
	Burried	34 (68.00)
	Thrown away	16 (32.00)
c.	Are you feeding colostrum to newborn calves?	
	Yes	31 (62.00)
	No	19 (38.00)
d.	Frequency of watering to the animals	
	2times / day	29 (58.00)
	1time/day	21 (42.00)
e.	Do you provide bedding material to protect calves from cold	
	Yes	44 (88.00)
	No	6 (12.00)
f.	Do you get your calves dewormed?	
	Yes	-
	No	50 (100.00)
g.	At what age you allow the calf for grazing?	
	4-6 months	16 (32.00)
	2 - 4 months	31 (62.00)
	<2 months	3 (6.00)
h.	Do you prefer to castrate the male calves?	
	Yes	0 (0.0)
	No	50 (100.0)
i.	Do you groom your calves?	
	No	50 (100.0)
	Yes	-

Note: Figures in parenthesis indicates percentage in their respective category.

pregnancy (Khatik, 1994 and Avinashilingam, 2005).

The methods tribals used for identifying their heifer for service exhibits their sound knowledge in dairy farming.The reasons for not getting their cows & buffaloes inseminated by the superior semen available at local veterinary hospitals was due to their orientation towards natural service for breeding. They also reported that urine turns whitish during pregnancy.

Feeding Practices

Feeding and nutrition are important to maintain the animal body functioning properly, replacing worn out tissues, maintaining body temperatures and

supplying energy for muscular activity. It is a major factor to determine how well our cows will perform in terms of milk production, growth, body condition and overall health. A perusal at Table 3 indicates that the majority of the respondents (66.00%) practice stall feeding of animals followed by almost an equal percentage of respondents practiced grazing alone and grazing along with stall feeding. Almost all the tribals(98.00%) offered feeds and fodders to animals mainly for more milk production, whereas only 2.00 per cent of tribal households offered feeds and fodders for increasing fat content (Khatik, 1994).

Most of the tribal households (82.00%) preferred non-bushy type of grazing land for calves followed by succulent (16.00%) and near to water resources (2.00%). Grazing was the preferred ration schedule followed by weaned calves after three months. Due to the non-availability of fodder during winter months was the main reason for the tribal households for allowing the animals for open grazing.

Healthcare Practices

A well managed health care system in livestock produce good animals with good health. Whereas in bheel tribes it is upside down. The Table 4 data depicts that more than fifty per cent of the respondents (58.00%) got their animals treated by their native medicines and a substantial percentage (36.00%) took help from their relatives and friends. It was also noted that there are very few, who took help from practicing veterinarian (6.00%). This findings are in line with Nagaraju, (2001) and Md Shahid Eqbal, (2013).

The findings from Table 4 reveals that the majority of the respondents (98.00%) segregate / separate their animal during illness (Khatik, 1994). The tribes who do the animal separation also sanitize the shed, applied turmeric paste for small wounds, use aloe vera sap for burns to get cooling sensation as well as clean the utensils regularly.More than three fourth of the tribals won't vaccinate their animals at all. Only 18.00 per cent of tribal dairy farmers vaccinated their animal at proper time. This might be due to the fact that most of the tribal dairy farmers were illiterate and possess high religious belief and faith towards god. Besides the above, unavailability of veterinarians and the vaccines at village / cluster level are may be the possible reasons for the tribals for not vaccinating their animals at proper time.

Table 2: Breeding Practices in Dairy Farming

n=50

S.No.	Practices	Frequency (%)
a.	Do you identify that your heifer is mature for service?	
	Yes	38 (80.00)
	No	12 (20.00)
b.	Do you provide any special ration to induce heat in your heifers &cows/buffaloes?	
	Yes	6 (12.00)
	No	44 (88.00)
c.	Do you get your cows/buffaloes artificially inseminated?	
	Yes	9 (18.00)
	No	41 (82.00)
d.	Within what period do you identify that your animal is pregnant?	
	1 - 6 months	39 (78.00)
	> 6 months	11 (22.00)

Note: Figures in parenthesis indicates percentage in their respective category.

Table 3: Feeding Practices in Dairy Farming

n=50

S.No.	Practices	Frequency (%)
a.	Indicate the feeding practices followed?	
	Grazing	8 (16.00)
	Stall feeding	13 (66.00)
	Grazing and Stall feeding	9 (18.00)
b.	Why do you offer feeds and fodders to animals?	
	To increase milk yield	49 (98.00)
	To increase fat content	1 (2.00)
c.	Type of grazing land preferred for calves?	
	Succulent	8 (16.00)
	Non-Bushy	41 (82.00)
	Near to water sources	1 (2.00)
d.	What ration schedule do weaned calves follow after 3 months?	
	Only grazing	50 (100.00)
	Grazing and dry fodder	-
	Grazing, dry fodder and concentrate	-

Note: Figures in parenthesis indicates percentage in their respective category.

Table 4: Healthcare practices in Dairy Farming

n=50

S.No.	Practices	Frequency (%)
a.	Whom you contact when your animal fall sick?	
	Veterinarian	3 (6.00)
	Self-treatment	29 (58.00)
	Relatives and friends	18 (36.00)
b.	What general precautions you take when your animal is sick?	
	Isolate	49 (98.00)
	Nothing	1 (2.00)
c.	Do you get your animals vaccinated at proper time?	
	Yes	9 (18.00)
	No	41 (82.00)

Note: Figures in parenthesis indicates percentage in their respective category.

Management Practices

A look at Table 5 makes it clear that majority of the tribal dairy farmers (68.00%) have separate animal shed for their animals (Pandey, 1989)

Table 5: Management practices in Dairy Farming

n=50

S.No.	Practices	Frequency (%)
a.	Housing arrangements	
	Separate animal shed	34(68.00)
	No separate shed, open areas	16 (32.00)
b.	What is the frequency of milking in your buffalo/ cow?	
	1time/day	3 (6.00)
	2times/day	47 (94.00)
c.	Method of Milking	
	Full Hand	8 (16.00)
	Knuckling	40 (80.00)
	Stripping	2 (4.00)
d.	Do you wash the udder before milking?	
	Yes	44 (88.00)
	No	6 (12.00)
e.	Do you let out calf for suckling before actual milking starts?	
	Yes	45 (90.00)
	No	5 (10.00)
f.	How milk is kept after milking? (Do you boil the milk)	
	Yes	42 (84.00)
	No	8 (16.00)
g.	Do you prepare the following	
	Curd	6 (12.00)
	Ghee	2 (4.00)
	Lassi	3 (6.00)
	All the above	39 (78.00)
h.	Do you sell milk?	
	Yes	39 (78.00)
	No	11 (22.00)
i.	How the carcasses are disposed of?	
	Hand over to the cobbler	40 (80.00)
	Buried	6 (12.00)
	Thrown out in the field	4 (8.00)

Note: Figures in parenthesis indicates percentage in their respective category.

followed by 32.00 per cent of tribal households who doesn't have any shed allocated for their animals and kept their animals in open space (Khatik, 1994, Selvaraj, 2002 & Avinashilingam, 2005).

Milking twice a day is the normal practice for most of the tribal households (94.00 %) followed by 6.00 per cent who milks only once. Knuckling is the preferred method of milking practiced by about

80 per cent followed by full hand (16.00%) and stripping (4.00 %). It is almost customary to all the tribals households i.e. 90 per cent to wash the udder before milking and let out calf for suckling before milking. Majority of respondents (84.00%) did not boil the milk after milking and majority of tribal households (78.00%) prepared Curd, Ghee and Lassi. The tribal households sold the milk mostly (78.00%) leaving 22.00 per cent who kept for home consumption. Majority of the respondents (79.08%) were selling milk whatever they produced. More than 80 per cent of the respondents replied that their animal carcasses were hand over to the cobbler, whereas 12 per cent buried it and very few thrown out open in the field.

The above findings show that the Bheel tribal groups are managing their animals in separate cattle sheds and wash their animal's udder before milking. Selling of milk within the village is a positive and appreciative attempt by the tribal households towards income generation and economic independence. But their inefficiency reflects by not producing consistent amount of milk and supplying regularly to the nearby cooperatives.

CONCLUSION

On the basis of above, it could be concluded that the Bheel tribes of Rajasthan are still practicing their conventional dairy farming practices, whereas a small number had taken initiative to move towards scientific dairying.

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