



Indigenous animal production practices in Santhal Pargana region of Jharkhand

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ABSTRACT : Indigenous knowledge is passed down from generation to generation, usually by word of mouth and provides a valuable resource for sustainable agricultural development. The study was carried out in Dumka district of Santhal Pargana region in the state of Jharkhand. The sample consisted of 150 farmer respondents. The results revealed that the farmer belonging to agriculturally less progressive villages were found to be using more number of ITK in comparison to those of progressive villages. The results also reported that ITK practices mentioned at Sr. number 1 and 3 (For land preparation and pre-sowing), Sr. number 2 (for soil treatment), Sr. number 2 (for sowing), Sr. number 1 and 2 (For nursery raising and transplanting) and Sr. number 3 (for inter culturing and weed management) were found to be used by majority of the respondents in both the agriculturally progressive and less progressive villages.

KEY WORDS : Attributes, ITK, Animal production practices

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INTRODUCTION

Jharkhand has been nurturing a tradition of very rich civilization over a period of five thousand year. A number of evidences in the form of folklores, folktales, proverbs and sayings contain profound literature of ideas, concepts and practices which are designed to address the process of building harmonious relationships among man, animal and nature. These are mostly based on the indigenous technical knowledge (ITK) and experiences that gathered momentum through generations and are being developed and standardized through innumerable experimentations and practices. ITK is local knowledge that is unique to a given culture or society. The enhancement of the quality

of life of the people of Jharkhand, who in great majority live in rural areas and depend on agricultural and livestock production systems, would be impossible by keeping this rich tradition of ITK aside (Sivanarayan *et al.*, 1993). Keeping this in view the present study was conducted to collect and analyze the attributes of selected ITK about livestock production practices.

MATERIAL AND METHODS

The study was conducted in Dumka district of Santhal Parganas region in the state of Jharkhand. In order to study the indigenous animal technologies, two villages, namely, Chandpura and Asanpahari from agriculturally less progressive block (Kathikund) and Dakri and Khajura from agriculturally progressive block (Dumka) were selected randomly. Twenty-five farm families belonging to different size class from each of the four selected villages were selected by PPS method. The elderly person from each selected family was made

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respondent for eliciting information on ITK. As such altogether 100 farmer respondents were selected. The date was collected with the help of structured interview schedule. The statistical measures used in the study were frequency and percentage.

RESULTS AND DISCUSSION

The results of the present study as well as relevant discussions have been presented under following sub heads:

Indigenous animal production technologies :

For collection and analysis of indigenous animal production technologies all the activities were broadly divided into three heads *i.e.* livestock feeding, breeding and disease management.

Livestock feeding :

Frequency distribution of respondents according to their use of indigenous technical knowledge/practices for livestock feeding has been presented in Table 1.

Table 1 show that altogether four indigenous technical knowledge/practices were found to be used by the respondents for livestock feeding in both agriculturally progressive and less progressive villages. Practice mentioned at serial number 3 was found to be used by majority of the respondents (65 %) with respect to the practices at serial number 1, 2 and 4, it was observed that these were being used by only 26, 41 and 19 per cent of the respondents, respectively.

The pigs were observed to be fed the residues of rice beer and boiled rice bran because boiled rice bran and residues of rice beer (Harian) is a rich source of carbohydrate and minerals. Grazing is a common practice

of feeding for all animals since stall feeding is not done. When the animals use to return after grazing, they are provided water mixed with salt, because grazing provides all essential elements to animals except minerals. Goats are fed leaves of jackfruit, gular and ber during scarcity period of grasses in grazing lands, as leaves of jackfruit, gular and ber increases milk production.

The lactating cows and buffaloes are provided linseed cake and gur @ 1 kg and 250 g, respectively per animal because linseed cake and gur provided essential elements and energy that increases milk yield. The gur is carbohydrate and after metabolism it provides different essential elements for increasing milk production.

Livestock breeding :

Frequency distribution of respondents according to their use of indigenous technical knowledge/practices for animal breeding has been presented in Table 2.

Table 2 show that altogether three indigenous technical knowledge /practices were found to be followed by the respondents for breeding in both agriculturally progressive and less progressive villages practice mentioned at serial number 3 was found to be used by 35 per cent of the respondents were as practices at serial number 1 and 2 were found to be used by only 21 per cent of the respondents.

Table further revealed that all the three indigenous technical knowledge/practices were being practice largely by the respondents belonging to agriculturally less progressive villages in comparison to the progressive villages.

Cows and buffaloes in anoestrus condition are fed one to two places of bamboo shoot which induces heat in the animals as reported by 21 per cent of the respondents.

Table 1 : Frequency distribution of respondents by their use of indigenous technical knowledge/practices for livestock feeding

Sr. No.	ITK/Practices	ITK/Practices followed by respondents		
		Agri. progressive villages (n=50)	Agri. less progressive villages (n=50)	Pooled (n=100)
1.	Pigs are fed boiled rice bran and residues of rice beer (Haria)	7(14.0)	19(38.0)	26(26.0)
2.	Grazing is common practice of feeding for all animals since starve fooding is not done. When the animals returns after grazing given water mixed with salt	13(26.0)	28(56.0)	41(41.0)
3.	Goats are fed leaves of jackfruit (<i>Artocarpus hetephyllus</i>), gular (<i>Ficus glumerata</i>) and ber (<i>Zizyphus mauritiana</i>) during scarcity period of green grass in grazing land at kid birth	26(52.0)	39(78.0)	65(65.0)
4.	Lactating cows and buffaloes are provided linseed cake and gur @ 1 kg and 250 g respectively per animal	6(12.0)	13(26.0)	19(19.0)

Figures in parentheses indicate percentages

Since, bamboo rhizome contains high level of minerals and vitamins and bring the animals in heat by fulfilling the deficiencies required for heat. Simultaneously, in anoestrus condition cows and buffaloes are also fed one kg sprouted wheat daily for 8 to 10 days which induces heat in the animals as reported by 21 per cent of the respondents. Sprouted wheat contains high amount of vitamin which is essential for growth of epithelium of urinogenital system.

Again in anoestrus condition cows and buffaloes are fed one kg mustard cake for 10 to 15 days which also induces heat in the animals, as mustard cake is portentous and provide energy to the body. This practice was reported by 35 per cent of the respondents. Similar practices have been also reported by Balasubramanian *et al.* (1994).

Disease management :

Frequency distribution of respondents according to

their use of indigenous technical knowledge/practices for disease management along has been presented in Table 3.

Table 3 show that altogether four indigenous technical knowledge /practices were found to be followed by the respondents for disease management in both agriculturally progressive and less progressive villages practice mentioned at serial number 2 was found to be used by majority of the respondents (75 %), were as practices at serial number 1, 3 and 4 were used by only 47, 22 and 5 per cent of the respondents, respectively.

Control measure listed at serial number 1 was used for control of worms (Round worm, tapeworm and treamatodas) in animal as reported by 47 per cent of the respondents. In this practice 30 to 50 g leaves of Bhand is fed for three days which controls the worms in animal. Because leaves of Bhand are anthelmintic, it contains active principle which has been proved to be a board

Table 2 : Frequency distribution of respondents by their use of indigenous technical knowledge/practices for breeding

Sr. No.	ITK/Practices	ITK/Practices followed by respondents		
		Agri. progressive villages (n=50)	Agri. less progressive villages (n=50)	Pooled (n=100)
1.	Cows and buffaloes in anoestrus condition are fed one to two pieces of bamboo (<i>Dendracalamus strictus</i>) off shoots which induces heat in the animals	8(16.0)	13(26.0)	21(21.0)
2.	In anoestrus condition cows and buffaloes are also fed one kg sprouted wheat daily for 8 to 10 days which induces heat in the animal	3(6.0)	18(36.0)	21(21.0)
3.	In anoestrus condition cows and buffaloes are also fed one kg mustard cake for 10 to 15 days which also induces heat in the animal	9(18.0)	26(52.0)	35(35.0)

Figures in parentheses indicate percentage

Table 3 : Frequency distribution of respondents by their use of indigenous technical knowledge/practices for disease management

Sr. No.	ITK/Practices	ITK/Practices followed by respondents		
		Agri. progressive villages (n=50)	Agri. less progressive villages (n=50)	Pooled (n=100)
1.	For control of worms (Round worm, tapeworm and treamatodas) in gastrointestinal tract of the animals, 30 to 50 g leave of Bhand (<i>Glycine max</i>) is fed for two to three days	18(36.0)	29(58.0)	47(47.0)
2.	To control diarrhea in animal like cattle and buffaloes 10 gram <i>Dhania</i> (<i>Coriandum sativum</i>), 10 gram of white Jeera (<i>Cuminum cyminum</i>) and 20 g of Bhang (<i>Avena sativa</i>) are grinded and mixed with water and fed to the animal	29(58.0)	46(92.0)	75(75.0)
3.	For control ectoparasites like lice and tick in cattle and buffaloes 250 gram tobacco leaves are boiled with one litter of water which after cooling applied throughout the body of the animal	9(18.0)	13(26.0)	22(22.0)
4.	For control of ectoparasites like lice and tick in cattle and buffaloes 250 g neem (<i>Azadirechta indica</i>) leaves are boiled in one litter water which after cooling is applied throughout the body of the animal	2(4.0)	3(6.0)	5(5.0)

Figures in parentheses indicate percentages

spectrum anthelmintic. Therefore, when given to animals orally, it eliminates different kinds of gastrointestinal nematodes trematode and cystoids.

The control measure listed at serial number 2 was used for control of diarrhea in animal like cattle and buffaloes as reported by 75 per cent of the respondents. In this practice 10 g dhanian (*Coriandrum sativum*), 10 g white jeera (*Cuminum cyminum*) and 20 g bhang (*Avena sativa*) are grinded and mixed with water and fed to animal. Because bhang produces constipation and dhanian and white jeera are also astringent in nature, when these ingredients are administered orally together checks diarrhea by producing soothing effects to the epithelial cell of G.T. tract and produces constipation and checks diarrhea.

The control measure listed in serial number 3 was used for controlling ectoparasites like lice and tick in cattle as reported by 22 per cent of the respondents. In this practice 250 g tobacco leaves are boiled with one liter water, which after cooling applied throughout the body of the animal, because tobacco contains nicotine which is cholinergic in nature and paralyze ticks. In high concentration besides paralyzing them, it becomes toxic and thereby eliminates them from the animal body.

The control measure listed serial number 4 was also found to be used for control of lice and tick as reported by 5 per cent of the respondents. In this practice 250 g neem leaves are boiled in one liter of water which after cooling is applied throughout the body of the animal. Because neem has been proved to contain insecticidal property, it kills and eliminates the external parasites of

animal.

Conclusion :

The foregoing findings lead to conclude that the farmers belonging to agriculturally less progressive villages were found to be using more number of ITK about livestock production practices in comparison to those of progressive villages. The technologies that were rated as high for their overall performance by both the categories of respondents need to be tested and validated in order to explore their efficacy and potentiality. This will help animal scientists in generation of low cost, need-based, location-specific and eco-friendly appropriate technology to make them more readily acceptable by the resource poor livestock farmers. This collection of ITK is of great significance in conserving and maintains sustainability of the environment.

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