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Farmer's opinion to minimize the constraints in scientific dairy farming practices of Nalanda

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Dairy sector has a significant role in supplementing family income and generating employment in the rural areas particularly among the landless, small, marginal farmers besides providing cheap and nutritious food to millions of people (Ramesha and Divya 2014).

Despite several years of planed efforts, the pace of development is non-uniform in different parts of country. In Bihar, the pace of dairy development is not uniform (Kumar *et al.* 2011). Nalanda is poor in dairy sector despite several dairy development programmes running in the district. Identifying farmer's problems, knowing their opinion about solution relevant to dairy development problems and assisting them to meet these solutions will certainly boost the farmers in dairy sector of Nalanda. The study was conducted to assess the alternative solution of constraints perceived by farmers in adoption of scientific dairy farming practice (SDFP).

The study was conducted in selected adopted villages namely Dawarikabigha, Chatiyana, Jorarpur, Sarilchak, Katari and Malama, which represent different blocks under the operational area of KVK, Nalanda. Simple random technique was applied to select 20 dairy farmers from each village constituting 120 dairy farmers as total respondents. Data were collected by conducting personal interview of respondents with the assistance of structured interview schedule developed for the purpose. The constraints faced by dairy farmers were identified (Table 1).

Breeding: The poor conception rate and problem of repeated breeding in dairy animals was the major hurdle (87.50%) in development of dairy in the study area (Table 2).

The result is also further supported by Kumar *et al.* (2011 a,b, 2015 a,b) and Meena *et al.* (2013). About 88.33% farmers opined that proper treatment for improving the poor conception rate and repeated breeding should be ensured in the villages. In addition to this, proper awareness and training should be conducted either at village level or at KVK for the farmers by subject matter specialists to minimize the problem. Similarly, 67.50% farmers opined that proper knowledge about advantages of AI and related technical aspect should be provided at training-cum-awareness camps; 71.66% suggested that training programmes on care and management of crossbreed cows or exotic dairy breeds should be conducted. However, our finding was contrary to the findings of Misra and Pal (2003) and Dabas *et al.* (2004) because their areas have better functioning of AI and farmers were aware about the advantages of AI services.

Feeding: The major constraints were farmer's preferences (85.00%) to grow cereal crops instead of fodder crops (Table 2).

In addition to this, inadequate resources for cultivation of fodder crops throughout the year (79.16%), high cost of ingredients of concentrate mixture (77.50%), under-feeding due to limited financial resources (75.00%), poor availability of high yielding variety seeds of fodder (62.33%), poor availability and high cost of compound feed and minerals mixture (63.33%) were also responsible for slowing down the dairy growth the area.

Study revealed that 85.00% farmers wanted encouragment for cultivation of green fodder; 81.66% required training programmes regarding scientific feeding of dairy animals besides 63.33% advocated for timely availability of HYV seeds of fodder and concentrate mixture preferably with subsidized rate from KVK, AH/Dairy development department; and 61.34% suggested proper training on preparation of low cost balance ration from their locally available resources. Almost similar opinions of dairy farming were also observed by Kumar *et al.* (2012).

Management and health care: Better management and proper health care of dairy animal is the major basis for dairy business. Farmers (85.83%) faced untimely availability of vaccine and medicine at each block of veterinary office (Table 2).

Farmers (84.16%) also opined that veterinary doctor, supporting staff, medicines and vaccines required for proper treatment should be available at the block level so that

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Table 1. Constraints in adoption of scientific dairy farming practices as perceived by respondents (120)

S. no	Constraints	Frequency	(%)	Rank	Mean (%)
A	Breeding				
1	Unavailability of frozen semen	66	55.00	5th	65.55
2.	Poor conception rate and problem of repeat breeding	105	87.50	1st	
3.	Inadequate knowledge and poor appreciation of AI services	88	73.33	2nd	
4.	Lack of good breedable bulls for natural services	77	64.16	3rd	
5.	Low genetic potential of local animal	72	60.00	4th	
6.	Scarcity of resources to maintain crossbreed/ superior breed of milch animals	64	53.33	6th	
B.	Feeding				
1.	Preference to grow cereals crop	102	85.00	1st	73.64
2.	Inadequate knowledge about scientific feeding of dairy animals	98	81.66	2nd	
3.	High cost of ingredients of concentrate mixture	93	77.50	4th	
4.	Under feeding due to limited financial resources	90	75.00	5th	
5.	Inadequate resources for cultivation of fodder crops round the year	95	79.16	3rd	
6.	Poor availability of high yielding variety seeds of fodder	82	68.33	6th	
7.	Poor availability and high cost of compound feed & mineral mixture	76	63.33	7th	
8.	Lack of grazing land facilities	71	59.16	8th	
C.	Management and health care				
1.	Veterinary hospitals poor equipped, lacking facilities for treatment, vaccine, medicine etc	103	85.83	1st	75.82
2.	Lack of proper knowledge about clean milk production.	101	84.16	2nd	
3	Lack of awareness of towards importance of deworming	95	79.16	3rd	
4.	Lack of awareness and knowledge about importance of vaccination	87	74.16	4th	
5.	Poor housing for dairy animals	85	70.83	5th	
6.	High cost/ charge levied by veterinary staff for providing medical assistance	85	70.83	6th	
7	Lack of knowledge about right time of drying up pregnant dairy animal	79	65.83	7th	
D.	Others				
1	Lack of knowledge in making value added dairy products	108	90.00	1st	78.12
2	Lack of dairy cooperative societies	101	84.16	2nd	
3	Lack of loan facilities and high rate of interest	85	70.83	3rd	
4	Unreasonable price of milk	81	67.50	4th	

morbidity and mortality of dairy animals could be minimized in the district. Animal health camps should be organized in the villages to provide vaccines and medicines. Farmers (65.83 %) wanted that awareness-cum-training programmes on advantages and different methods of clean milk production should be organized by the KVK, dairy development department, dairy cooperative Nalanda, animal husbandry department preferably in villages where dairy cooperatives societies are functioning. In addition to this, government or state dairy federation should encourage dairy farmers by providing comparatively better price of clean milk than the unclean milk.

Others: Majority of farmers (90.00%) have poor knowledge about preservation of milk through different value added milk product (Table 1). Farmers (84.16%) reported about lack of dairy cooperative societies (Table 1) as well as poor performance of established dairy cooperative societies. Poor loan facilities and higher rate of interest by banks, unreasonable price of milk were also a hurdle in adopting dairy as a business in the district. Emphasis on formation of village level dairy cooperative societies is among the priorities of solutions opined by 85.83% respondents (Table 2).

State and non-government agencies must lay emphasis on creation of village level dairy cooperative societies, so that farmers can get reasonable price of their milk. By their efforts the dairy cooperative society number has increased to 676 in the last 2 years. However, there is still an urgent need of dairy cooperative societies in remaining villages of the district. Farmers (84.16%) felt agencies should conduct skill based trainings for preservation and manufacture of value added dairy products, so that they could utilize milk with more profit. Farmers (79.16%) also opined that there should be provision of subsidy from the dairy development department. In addition to this, there should be easy loan to dairy farmers with lower interest for

Table 2. Farmers' opinion about the potential solutions related to constraint

S. No.	Opinion	Frequency	(%)	Rank	Mean (%)
A.	Breeding				
1.	Timely availability and smooth functioning of well equipped AI centre	88	73.33	2nd	72.99
2.	Proper treatment of poor conception rate and repeated breeding particularly in cross breed	106	88.33	1st	
3	Proper knowledge about advantages of AI through training	81	67.5	4th	
4.	Distribution/availability of good breedable bulls at free subsidized rate by animal husbandry, dairy development department or other agencies	77	64.16	5th	
5.	Proper training on care and management of cross bred cows and superior breeds of milch animals	86	71.66	3rd	
B.	Feeding				
1	Encouragement of farmers for cultivation of green fodder with their advantages in proper health of dairy animals	102	85.00	1st	72.44
2	Provision of training programmes regarding scientific feeding practices	98	81.66	2nd	
3	Availability of irrigation facility either by govt. or community effort	93	77.50	3rd	
4	Availability of HYV fodder seeds at subsidized rate	76	63.33	5th	
5	Availability of concentrate mixture at subsidized rate	79	65.83	4th	
6	Proper training and skill on preparation of low, cost balance ration form their own local village resources by KVK or animal husbandry and dairy development office	74	61.34	6th	
C.	Management and health care				
1	Timely availability of vaccine, medicine at Animal hospital	105	87.51	1st	76.00
2	Timely availability of veterinary doctors/ livestock assistant in the area for better health care and treatment of milk animals with availability of free medicine and service	101	84.16	2nd	
3	Awareness among farmers about importance of vaccination. deworming camps-cum-trainings	95	79.16	3rd	
4	Training about advantage of scientific housing of dairy animals	76	63.33	5th	
5	Provision of training related to techniques of clean milk production and appreciation of milk producer by govt. or other agencies involved in dairy development	79	65.83	4th	
D.	Others				
1	Emphasis on formation of dairy cooperative societies in villages	103	85.83	1st	81.05
2	Provision of training and technical skills for making value added dairy products	101	84.16	2nd	
3	Provision of loan from nationalized Bank for purchasing and construction of animal either dairy development dept or other agencies at subsidized rate or lower rate of interest	95	79.16	3rd	

purchasing of dairy animals to encourage the dairy business in the area.

SUMMARY

The study was conducted to assess the alternative solution of constraints perceived by farmers in adoption of scientific dairy farming practice (SDFP). It is evident from the study, that poor conception rate and repeat breeding, preference to grow cereal crops rather than fodder crops, non-availability of vaccine and medicine in veterinary hospital and lack of knowledge in making value added dairy products were the major constraints in adopting SDFP by majority of farmers. Considering the prevailing constraints in the study area, appropriate strategy should be formulated by KVK with the assistance of line department or with other agencies for upgrading the knowledge of farmers as well as adoption of SDFP.

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