

## Technological gap analysis of livestock production system in North-East U.P

BRAJ KISHORE<sup>1</sup>, A.K.SINGH<sup>2</sup> and NEHA UPRETI<sup>3</sup>

<sup>1</sup>Indian Bank, <sup>2,3</sup>Dept. of Extension Education, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi-221005 (U.P.)

**ABSTRACT :** Livestock contribute 4.11 per cent to total GDP which is about one-fourth of the GDP from agriculture sector. Dairy farming has been recognized as the major pillar of rural development in Uttar Pradesh. A study was undertaken in five villages of Harhua block of Varanasi district. Majority of respondents (55.2 %) possessed medium level of knowledge for dairy practices and their adoption percentage was also same. Technological gap in dairying between the respondents varied from 50.73 to 75.84 per cent, however it was highest for health care component (75.84%) followed by breeding (60.48%) and management, (60.05%). Extensive technological gap in adoption of practices calls for paying attention by the government as well as social organizations.

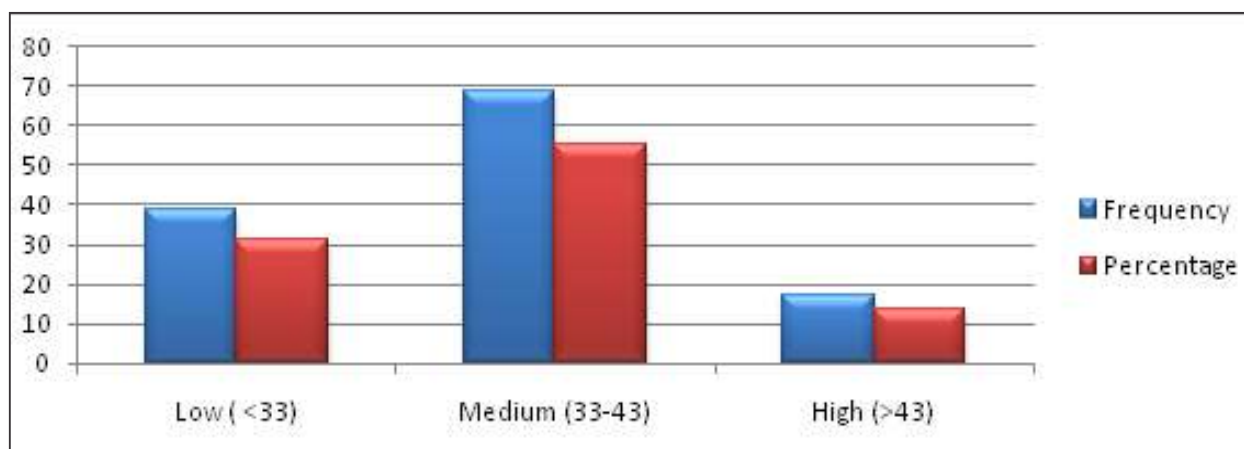
**Key words:** Dairy, recommended practices, adoption, technological gap

It is quite impressive that our nation ranks first in cattle population followed by Brazil and China (USDA, 2015). Livestock contribute 4.11 per cent of the total GDP which is about one-fourth of the GDP from agriculture sector (Livestock Census, 2012). The dairy sector provides the triple benefit of nutritious food, supplementary income and productive employment to approximately 70 million families. Maximum numbers of farmers are supported with dairy in their livelihood. This study was conducted in north eastern U.P. (Varanasi) which is endowed with a good number of resources for cattle rearing and milk production etc. Almost all the farmers maintain cattle. Despite highest in milk production and cattle population there is need for its improvement. Utilization of well researched technologies can create remarkable up gradation on cattle

as well as milk production. The present study was taken with the objective to quantify the technological gaps and shortfalls in dairy farming to strengthening the developmental initiatives.

### MATERIALS AND METHODS

The study was conducted in Varanasi district of Uttar Pradesh by following analytical research design. In this district, a progressive development block Harhua block was selected randomly as the locale of the study. Five villages namely Madwa, Lamhi, Banvaripur, Harballampur and Baniyapur were selected through random sampling technique for the study. From each selected village, list of dairy farmers were prepared and from each village, 25 farmers were selected randomly,



**Fig. 1:** Distribution of the respondents on the basis of overall knowledge of recommended dairy practice

thus making a sample size of 125 farmers. A pre-tested interview scheduled was administered to the selected respondents. The collected data was further analyzed and tabulated with appropriate statistical tools.

## RESULTS AND DISCUSSION

Technological gap in the study refers to the difference that dairy farmers could use if they desire to use it. Tripathi (1977) studied technological gap as the difference between recommended package of practices and extent of adoption of recommended practices

$$T_g = \frac{(\text{Recommended practices} - \text{Extent of adoption})}{(\text{Recommended practices})} \times 100$$

### Knowledge about Recommended Dairy Practices

The figure 1 indicates that majority of the respondents (55.2%) possessed medium knowledge level for different recommended dairy practices viz. breeding, feeding, management and health care, followed by 31.2 per cent at low and 13.6 per cent at high knowledge level. The results were in line with those of Meena and Chauhan (1999), who reported 56.04 per cent knowledge

level on the basis of knowledge index devised.

This knowledge level was considered inadequate to carry out profitable farming and was attributed to low educational level and high level of illiteracy. Avinashilingam *et al.* (2007) reported low level of knowledge about improved dairy farming practices in their study. Manhas (2011) also revealed that majority of respondents (61.5%) had medium level of knowledge regarding improved dairy farming practices.

### Adoption of Recommended Dairy Practices

Findings presented in figure-2 reveal that overall adoption of the recommended practices in breeding, feeding, management and health care of the dairy animals by the respondents was 55.2 per cent. They were found to be medium level adopters. The 37.6 per cent respondents were reported as low and only 10.4 per cent respondents were found as high level adopters of the recommended dairy practices.

The results are contradictory to Kumar and Sindhu (2002) who reported overall adoption indices as 65.08 and 56.25 per cent among respondents. Rezvanfar (2005)

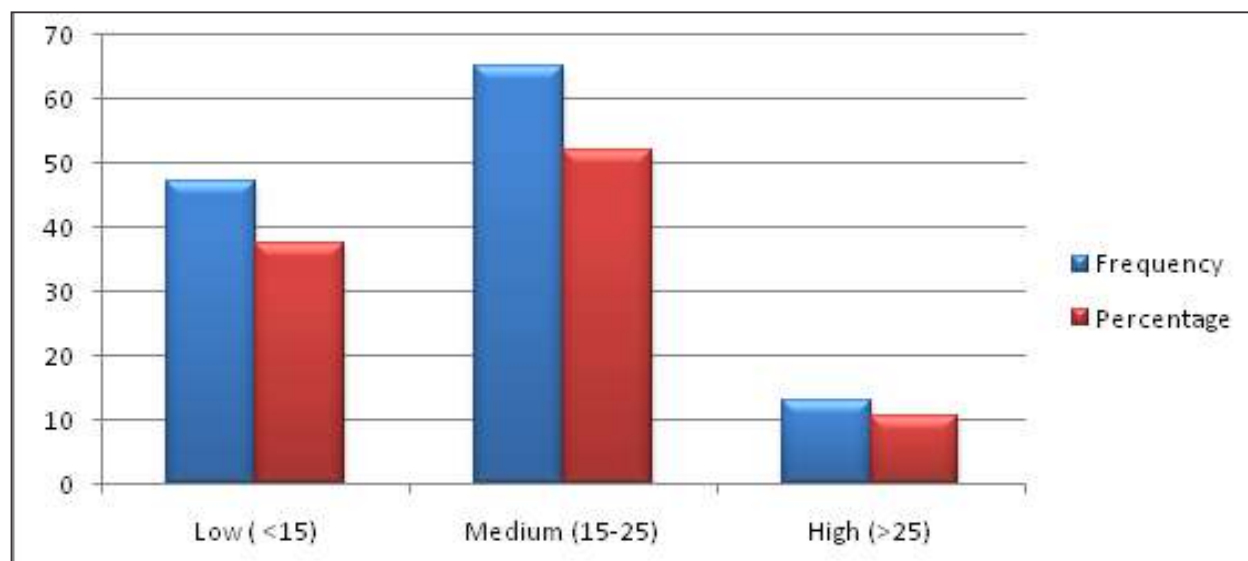
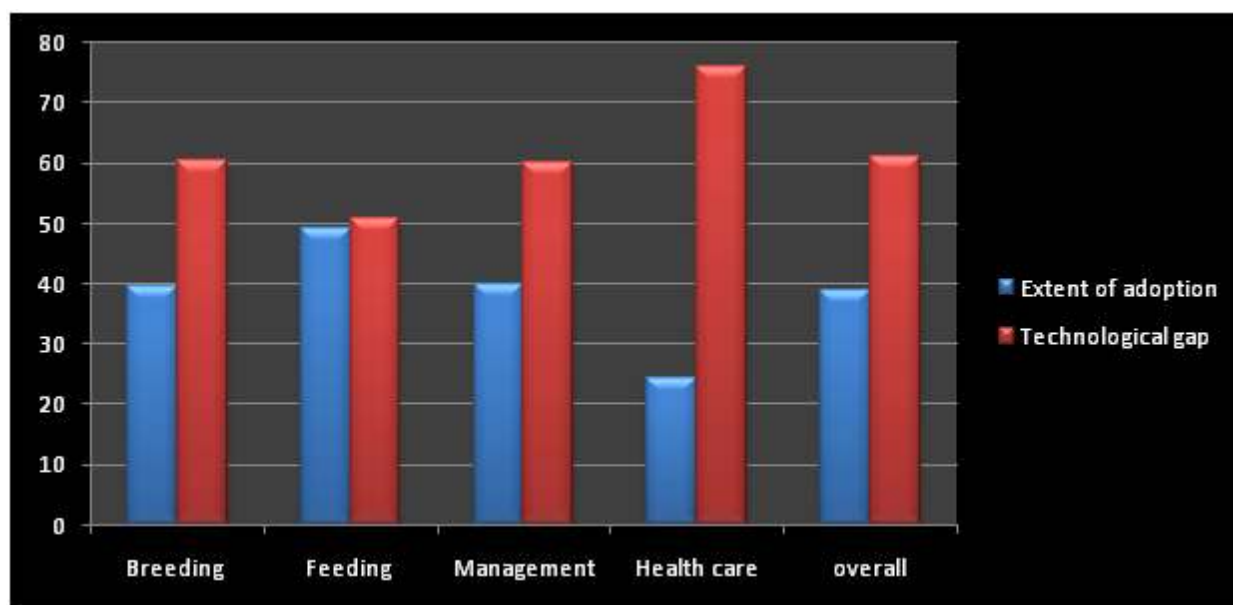


Fig. 2: Distribution of the respondents on the basis of adoption of recommended dairy practice

Table 1: Distribution of the respondents on the basis of extent of adoption and technological gap

S.No	Practice	Extent of adoption	Technological gap	Rank
1	Breeding	39.52	60.48	II
2	Feeding	49.27	50.73	IV
3	Management	39.95	60.05	III
4	Health care	24.16	75.84	I
5	Overall	38.86	61.14	

(Figures represent percentage)



**Fig. 3:** Distribution of the respondents on the basis of extent of adoption and technological gap

reported 59.09 per cent of the livestock farmer belonging to medium level of adoption behavior followed by 22.75 and 18.18 per cent livestock farmers with high and low level of adoption behavior with respect to dairy farming technologies which were by and large at par with the present study. Lawrence and Debasis (2011) also revealed that majority of the dairy farmers were in medium and high level of adoption category. The reason behind lower adoption according to Malik *et al.* (2005) was non-availability of veterinary services and AI facilities that hindered the adoption of improved dairy farming practices.

### Technological Gap

Data presented in Table-1 indicated that there exists a gap in the adoption level of respondents of recommended dairy farming practices.

The overall technological gap against recommended dairy farming practices was estimated taking into consideration the overall adoption of the recommended breeding, feeding, management, and health care practices in animals. The average technological gap in dairy farming for all the respondents varied from 50.73 to 75.84 per cent. In order to ascertain the difference in the level of gap of four aspects viz; breeding, feeding, management and health care of dairy animals, these aspects components were ranked on the basis of mean. Results depicted highest technological gap in the field of health care component (75.84%) followed by breeding (60.48%) and management, (60.05%). The least among

the four but significant gap was reported in case of feeding practices (50.73%).

Looking over the results, the extent of gap in all the components was more than 50 per cent and ranged from 50.73 to 75.84 per cent. The minimum average gap was observed in feeding of animals whereas maximum gap was observed in healthcare of animals followed by breeding and management practices. The findings are similar to that of Kumaret.al.(2012), who reported minimum technological gap in feeding. Roy et al. (2007) also reported prevalent adoption gap in breeding, feeding, management and healthcare practices.

### SUMMARY AND CONCLUSION

Most of the rural farmers who keep dairy animals have pretty rich traditional and indigenous knowledge but these cannot meet the increasing competition. Approximately 31 per cent with low level of knowledge and 37.6 per cent at low level in adoption of recommended practices is an alarming knock. There exist a technological gap which has led to the results as most of the respondents as medium level or low level adopters of the recommended dairy practices and very few as high level adopters. This may be due to the lack of knowledge or information sources, services, income or motivation to adopt recommended practices.

Most of the dairy farmers do not follow modern dairy management practices, which have been evolved through

considerable quantum of research work carried out by the scientists during the past three decades. There is an urgent need to sensitize the dairy farmers to the modern technologies and scientific interventions in dairy production in order to enhance milk yield and milk quality from dairy animals.

## REFERENCES

- Tripathi, A. (1977). A study on technological gap in adoption of new rice technology in costal Orissa and constraints responsible for the same. Ph.D. Thesis (Unpublished) IARI, New Delhi.
- Meena, M.S. and Chauhan, J.P.S. (1999). Constraints perceived by extension personnel in dissemination of information regarding improved dairy farming practices. *Journal of Dairying, Foods and Home Sciences*, 18(2): 133-135.
- Avinashilingam, N.A.V., Singh, U. and Kumar. R. (2007). Knowledge level of improved Dairy farming practices among tribal households of Nilgiris. *Agricultural Science Digest*, 27(2):128-130.
- Manhas, J.S. (2011). Knowledge of improved dairy farming practices among dairy farmers of Jammu region. *Journal of Dairying, Foods and Home Sciences*; 30(4): 309-312.
- Kumar, A. and Sidhu, D.S. (2002). Adoption dynamics of scientific dairy farming practices among dairy farmers of Bihar. *Indian Journal of Dairy and Biosciences*, 13(1): 73-76.
- Rezvanfar, A. (2005). Communication and socio-personal factors influencing adoption of dairy farming technologies amongst livestock farmers in Iran. *African Journal of Livestock Extension*, 4: 1-8.
- Malik, B.S., Meena, B.S. and Rao, S V.N. (2005). Study of existing dairy farming practices in Uttar Pradesh. *Journal of Dairying, Foods and Home Sciences*, 24(2): 91-95.
- Lawrence, C. and Ganguli, D. (2011). Adoption behavior of dairy farmers in Tamil Nadu. *Indian Journal of Animal Health*, 50(2): 5-10.
- Kumar, U., Jain, L.S. and Sharma, S.K. (2012). Studies on adoption of improved practices of cattle rearing. *Research Journal of Animal Husbandry and Dairy Science*, 3(1): 1-4.
- Roy, A., Brar, D.S. and Jha, S.K. (2007). Adoption gap in improved dairy farming practices at field-level in Burdwan District of West Bengal. *Indian Journal of Dairy Science*, 60(1):60-62.
- GOI.(2012). 19<sup>th</sup> Livestock Census All India Report, Ministry of Agriculture, Dept. of Animal Husbandry, Dairying and Fisheries, Krishi Bhawan, New Delhi.
- USDA (2015). Report on Livestock and Poultry: World markets and trade, United States Department of Agriculture, Foreign Agricultural Service.

*Received: November 6, 2015*

*Accepted: April 6, 2017*