IMPACT ASSESSMENT OF MILK COOPERATIVES ON DAIRYING STATUS OF BENEFICIARY FARMERS IN BIHAR

S.R.K. Singh*, Ram Chand and S.K. Jha
Division of Dairy Extension, NDRI, Karnal -132 001, India

ABSTRACT
This study was conducted during 2000-02 in the milk sheds of Bihar State Cooperative Milk Producers' Federation (COMPFED). By using stratified random sampling technique three dairy plants BMU, TIMUL, and BD were selected. In all 150 dairy farmers out of which, 72 dairy farmers at BMU, 48 at TIMUL and 30 at BD were selected as respondent. The results indicated that beneficiary farmers were having more dairy animals than non-beneficiary farmers. Milk production was higher among beneficiary than non-beneficiary farmers. Regarding milk consumption, majority of beneficiaries were consuming milk more than one litre per day as compared to non-beneficiaries in which it was less than one litre.Majority of the beneficiaries were categorised in medium level of milk sale (3.44 to 11.52 litres/day) as against non-beneficiaries which were selling less than 3.44 litres per day. Findings indicated that beneficiaries were moderate awareness and non-beneficiaries had less awareness about clean milk production techniques. However, both beneficiary and non-beneficiary farmers had medium level of knowledge about scientific dairying practices. A comparison of selected traits of beneficiary and non-beneficiary farmers revealed that there was significant (P=0.01) difference between them on herd size, milk production, milk consumption, milk sale, awareness and knowledge. This shows the impact of COMPFED on the dairy status of the dairy farmers in Bihar. Therefore, on the basis of above findings it could be inferred that despite having sufficient knowledge about scientific dairying, may be due to lack of proper motivation and entrepreneurial ability, non-beneficiary farmers are deprived of getting tangible and intangible benefits of improved dairying.

INTRODUCTION
The Indian dairy cooperative system is one of the biggest in the world. It consists of more than 74,000 primary dairy societies with a membership of above 10 million milk producers and providing a reliable marketing services to all milk producers irrespective of their class, caste and economy of scale throughout the country (Sasikumar, 1998). The cooperative milk marketing accounts for 6.58 per cent of country's total milk production, which accounts for 11.7 per cent of the available marketed surplus (Anonymous, 1999). Bihar accounts for about 26 million bovine populations, and 10.5 million litres per day milk production (Anonymous, 1997). Bihar State Cooperative Milk Producers' Federation (COMPFED), based on the 'Anand Pattern', has current turnover of Rs. 300 crores. Having a vast network of dairy cooperatives in Bihar (i.e. 4000 DCSs functioning in 8000 villages of 23 districts), it is able to market 3.50 lakh liters processed liquid milk everyday. Besides, COMPFED has also a booming business in other milk products, namely peda, milk cake, lassi, rasgolla, khoa, ice-cream, surbhi, etc. sold under the brand name 'SUDHA'. The success story of SUDHA as well as its claim of being “Pride of Bihar” is attested by the fact that Sudha products are popular not only in Bihar but also in other states like Kolkata, Delhi, Guwahati, and Orissa, etc. In this way COMPFED is helping a lot in transforming the economic condition of the dairy farmers in Bihar. This paper aimed to highlight the impact of COMPFED as perceived by the beneficiary dairy farmers.

MATERIAL AND METHODS
The present ex-post facto study was conducted in purposively selected milk federation, COMPFED, Bihar, an apex dairy organization at state level.

* Vivekanand Parvatiya Krishi Anusandhan Sansthan, Almora (Uttaranchal).
Selection of Milk Union/Dairies

For selection of milk union/dairy union/dairies, 'Stratified Random Sampling Method' was used. A comprehensive list of functional milk union and dairies was prepared. Then, on the basis of the installed capacity, three strata were prepared. From each stratum, one organization was selected. Thus, Barauni Milk Union (BMU), Tirhut Milk Union Ltd. (TIMUL), and Bhagalpur Dairy (BD) were selected.

Selection of Dairy Cooperative Societies (DCS)

After getting the total numbers of functional Dairy Cooperative Societies from the respective dairy units, three Dairy Cooperative Societies from each milk union/dairy were selected randomly. Thus, Gopalpur, Pavra and Matihani (from BMU); Kalwari, Pilki and Bela (from TIMUL) and Dhruvganj, Phulkia and Rannuchak (from BD) dairy cooperative societies were selected randomly.

Selection of the respondents

The respondents were selected from nine DCS through proportionate sampling technique. Thus, total 150 dairy farmers in which 75 beneficiaries (B) and 75 non-beneficiaries (NB) of COMPFED were selected randomly from their respective dairy cooperative societies. From milk shed area of BMU (36+36), TIMUL (24+24), and BD (15+15) beneficiary and non-beneficiary dairy farmers were selected. The ‘with’ and ‘without method’ of impact assessment was used in this study. And the economic impact was ascertained by comparing the difference in status of beneficiary (B) and non-beneficiaries (NB) of COMPFED. The data were collected with the help of pre-tested, semi-structured interview schedule and questionnaire.

RESULTS AND DISCUSSION

Herd size: The presence of optimum herd size with proper proportion of productive animals is the significant feature of a progressive dairy farmer. The analyzed data in Table 1 reveals that at BD, majority of beneficiaries (66.67%) had medium herd size (3 to 8 animals) as compared to non-beneficiaries (46.67%) which had small (less than 3.0 animals). Whereas, at TIMUL, majority (54.16%) beneficiaries had medium herd size (3 to 9 animals) as compared to 50.00 per cent non-beneficiaries which had small herd (less than 3.0 animals). Further, at BMU, 72.22 per cent beneficiaries had medium herd size (2 to 6 animals) as compared to 55.55 per cent non-beneficiaries. Thus, it is clear from above findings that average herd size of the respondents was ranging from 3 to 7 dairy animals and the relative percentage was more in case of beneficiaries as compared to non-beneficiaries dairy farmers. This indicates that the beneficiaries had more flair for dairying than non-beneficiaries. Moreover, due to regular technological interventions by the respective dairies and assisting the farmers through availability of the required credits for purchasing the milch animals the number of productive herd has increased over the years among beneficiaries. There is significant difference among B and NB as supported by 'f' value significant at 0.01 level of probability (Table 2). Thus, COMPFED made observable impact in increasing the herd size in the operational area.

Milk production (litres/day/household): The higher milk production can ensure better returns to the practicing dairy farmers. The analyzed data in Table 1 indicated that at BD, 73.33 per cent beneficiaries and 53.33 per cent non-beneficiaries had an average milk production of 4.5 to 12.62 litres/day. Whereas, at TIMUL, 58.33 per cent beneficiaries were producing milk 3.66 to 14.50 litres/day as against 70.83 per cent non-beneficiaries (less than 3.66 litres/day). However, at BMU, 58.33 per cent beneficiaries were producing milk ranged from 8.37 to 15.93 litres/day as compared to non-
variables were categorized in medium categories as against in the enhancement of milk production of the non-beneficiaries, which are in low categories (Table 1). Thus, there is still a greater scope to enhance the milk production in the operational area especially among the NBs. The above findings also clarify that the milk production is greater among the beneficiaries than non-beneficiaries and the difference is significant at 0.01 level of probability (Table 2). Therefore, COMPFED made greater impact and helped in the enhancement of milk production of the area.
Milk consumption (litres/day/household): Several empirical studies supported that despite sufficient milk produced by the dairy farmers, milk consumption is quite low due to weak socio-economic condition (Kumar, 1997, Kumar, 1998). At BD, it is evident from Table 1 that majority of the beneficiaries (60.00%) were consuming milk from 1 to 4 litres/day as compared to non-beneficiaries (40.00%) were consuming milk less than 1.0 litre/day. At TIMUL, majority of the beneficiaries (62.50%) and non-beneficiaries (62.50%) were consuming milk 1.61 to 4.41 litres/day and less than 1.61 litres/day, respectively. Whereas, at BMU, 58.33 per cent beneficiaries were consuming milk 1.44 to 4.36 litres/day as against 72.22 per cent non-beneficiaries were consuming milk less than 1.44 litres/day. On pooled basis, the data indicates that 65.33 per cent beneficiaries were consuming milk 1.48 to 4.30 litres/day as compared with 64.00 per cent non-beneficiaries that were consuming milk less than 1.48 litres/day. Above findings highlighted that majority of the non-beneficiaries are consuming milk less than one litre per day which far below from the recommended amount of milk. The existing differences in their milk consumption were significant at 0.01 level of probability (Table 2). Therefore, these non-beneficiaries could be motivated to be the member of the milk cooperatives by which they could get more milk through scientific dairying. Thus, there is greater scope to raise milk consumption amongst the respondents in the studied milk shed areas particularly non-beneficiaries.

Milk sale (litres/day/household): A glance of Table 1 reveals that at BD majority of the beneficiaries (66.67%) and non-beneficiaries (53.33%) were selling 2.60 to 10.82 litres of milk per day. However, at TIMUL, 66.66 per cent beneficiaries were selling 2.22 to 30.38 litres of milk per day as compared to 58.33 per cent non-beneficiaries, which were selling less than 2.22 litres of milk per day. At BMU, majority of the beneficiaries (66.66%) were selling 6.44 to 30.28 litres of milk/day and non-beneficiaries (33.33%) were selling less than 6.44 litres of milk/day. Further, on pooled basis, majority (68.00 %) beneficiaries were selling 3.44 to 11.52 litres of milk per day as compared to majority (50.67%) non-beneficiaries which were selling less than 3.44 litres of milk per day followed by 29.33 per cent beneficiaries and 2.67 per cent non-beneficiaries who were in milk sale category (i.e. more than 11.52 litres/day). Thus, beneficiary are selling more milk in comparison to the non-beneficiary farmers.

Awareness about clean milk production (ACMP)

The data given in Table 1 revealed that at BD, majority of beneficiaries (60.00%) and non-beneficiaries (53.33%) were moderate and less awareness about practices related to clean milk production. Although in case of beneficiaries only 40.00 per cent of them had high level of awareness. At TIMUL, it is clear that majority of beneficiaries (54.16%) and non-beneficiaries (41.67%) were moderately aware with clean milk production. At BMU, most of the beneficiaries (47.22%) were having high awareness as compared to non-beneficiaries amongst which 61.11 per cent had low level of awareness about clean milk production. On pooled basis, in case of beneficiaries, majority (77.33%) had moderately aware with clean milk production, followed by 20.00 were with high awareness, whereas, in case on non-beneficiaries, majority (53.33%) had low awareness, followed by 40.00 per cent of them which had moderate awareness about practices related clean milk production. The findings indicated that majority of the non-beneficiary farmers had less awareness about clean milk production. Thus they should be motivated further for the same
so that the quality of milk could be improved.

**Knowledge about scientific dairy practices (SDP)**

Upon perusal of Table 1 indicated that majority of beneficiaries (73.33%) and non-beneficiaries (53.33%) were having medium level of knowledge about SDPs, at BD. However, at TIMUL, majority of beneficiaries (62.50%) and non-beneficiaries (41.67%) were having medium level of knowledge about SDPs. It is evident from Table 1 that majority of beneficiaries (69.44%) and non-beneficiaries (47.22%) had medium level of knowledge about SDPs at BMU. On pooled basis, 74.67 per cent beneficiaries and 61.33 per cent non-beneficiaries had medium level of knowledge about SDP, whereas, in case beneficiaries, 20.00 per cent had high level of knowledge as against non-beneficiaries of which 34.67 per cent had low knowledge about SDPs. The findings indicates that though non-beneficiaries having sufficient knowledge about scientific dairying, even they are not being motivated to join the milk cooperative movement due to some other social factors associated with them.

**CONCLUSION**

The above detailed discussion about the beneficiaries and non-beneficiaries, it is quite evident that beneficiaries have greater advantage due to being members of the milk cooperatives. They are getting technical help in dairying operations and marketing of milk. Thus, it could be recommended that dairy officials should try to motivate the non-beneficiary farmers also in their areas, so that they can get benefits of this movement. This will, in turn, lead to the rapid development of the whole state. Moreover, by getting regular income from profitable dairying the overall living conditions of the dairy farmers could be improved.

**REFERENCES**