IMPACT ON SOCIO-ECONOMIC CONDITIONS OF COOPERATIVE DAIRY MILK COLLECTION GROUP FARMERS IN MADHEPURA DISTRICT, BIHAR

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ABSTRACT: The study examined the impact of cooperative milk collection centre on socio-economic conditions of farmers in Madhepura District, Bihar. The farmers cooperatively sell milk in the collection centre namely Gaushala chowk which is also a chilling plant under COMFED. The primary data were collected from 120 cooperative farmers through purposive random sampling method. The present collection camp covers 4 villages with 120 milk farmers and total milk collected in last 12 months was 216000 litres. The average herd size per small dairy farmer was 0.08, 0.10, 2.38 and 1.20 for local buffalo, improved buffalo, local cow and improved cow, respectively. The average herd size per medium dairy farmer was 1.15, 0.35, 4.18 and 2.05 and per large dairy farmer was 1.15, 0.45, 6.68 and 3.88 for local buffalo, improved buffalo, local cow and improved cow, respectively. The major component of variable costs incurred was feed which includes green fodder, dry fodder, concentrates and grains. The average total variable cost incurred by dairy farmer per animal per year was ₹ 53024.13, ₹ 135037.40 and ₹ 230104.80 for small, medium and large dairy farmer, respectively. The total cost of producing milk per animal per year was ₹ 56494.13, ₹ 151822.40 and ₹ 256774.80 for small, medium and large dairy farmers, respectively. The net return obtained per animal per year was ₹ 212752.57, ₹ 491060.50 and ₹ 710669.10 by small, medium and large dairy farmer, respectively. Higher cost of cattle feed, Easy availability of veterinary facilities, high cost of improved animal; low price of milk, lack of suitable transportation, delay in getting milk price were the major constraints faced by cooperative dairy farmers. It was also found that the number of dairy farmers decreased in the cooperative milk collection centre with the increase of distance. So, this model might be replicated in every village. There was also a scope for reduction in cost of milk production by using modern methods and technologies of dairy farming that was completely absent in the study area.

Keywords: milk collection centres; small, medium and large dairy farmers, average herd size.

Milk is only the food having some of all nutrients necessary to maintain life and promote body growth. Milk contains the fat-soluble vitamin D and the water-soluble B complex; vitamin C is also present for all age groups and almost complete single food for the young. Half a liter of milk per day will supply about a quarter of daily recommended intake of protein and all the calcium required by an active man to vitamins to help the health (Encyclopedia Britannica).

Livestock farming is an important economic activity since the commencement of human civilization. In the early stages of civilization when agriculture was not properly known, cattle formed the principal property of the people. In course of time, together with the gradual development of agriculture, livestock farming was also pursued and properly developed. Men first came to practice agriculture, which included the raising of domestic animals in the New Stone Age, *i.e.*, the Neolithic Age. Thus, the history of dairy farming is related with the history of civilization. The dairy development activities in India started by Central Government formed the National Dairy Development Board (NDDB) in 1965 on the experimental basis with a small-scale milk processing plant under the Department of Agriculture. The Central Dairy Plant was established in 1965 and in started to milk collection, processing and marketing activities.

RESEARCH METHODOLOGY

The present study involves the detailed sampling design nature and mode of collection of data and analytical tools employed in achieving the objective of the study. Different concepts and methods followed in the course of the study are outlined. The present research was taken up in Madhepura district of Bihar. A methodology adopted in present study was discussed under the following sub headings.

Description of the study area: This study was conducted in Madhepura district of Bihar during 2020-21. Madhepura district is one of the thirty-eight districts of Bihar state and Madhepura district is a part of Kosi division.Madhepura district occupies an area of 1,788 square kilometers.

Sampling Procedure

FIRST STAGE (Selection of District): Selection of district was first stage of sampling. Madhepura district of Bihar was selected purposively for present study according to abundance of farmers who rely on cooperative milk collection camp.

SECOND STAGE (Selection of Block): Selection of block is second stage of sampling. A complete list of 13 blocks is there under Madhepura district. Out of 13, two blocks was selected purposively.

THIRD STAGE (Selection of Village): Selection of village was the third stage of sampling. A complete list of selected block was obtained from the block development authority concerned block. From the list the 5per cent of villages was selected randomly for the present study.

FOURTH STAGE (Selection of Farmer): Selection of farmers was fourth stage of sampling. A complete list of cooperative milk society farmers was obtained and out of total list 5per cent of farmers was selected randomly. The milk producer households in the present study have been categorized on the basis of number of cattle.

Group1: Small dairy farmers: Less than 5 milking animals

Group2: Medium dairy farmers: 6-10 milking animals

Group3: Large dairy farmers: above 10 milking animals

TOOLS OF ANANLYSIS

Tabular Analysis

The technique of tabular analysis is used to study the list of villages and number of dairy farmers under the cooperative milk collection centre, composition of dairy animals of sample farmers, pattern of milk marketing of dairy farmers. Simple percentages and averages was also be computed and compared to interpret the results.

Budgeting technique

Budgeting technique is used for working out the costs- returns of milk production. It includes analysis of costs and returns structure in milk production, returns from milk production income differences of different activities in study area.

Benefit- Cost Ratio

The benefit cost ratio (BCR) will be worked out by using following formula:

$$\text{B: C ratio} = \frac{\text{present worth of benefit}}{\text{present worth of cost}}$$

Dairy farmers are facing many milk marketing problems and constraints in the study area. The collection center buys the milk in the morning only. There is no market to sell the milk in the evening. The price of milk is determined by the COMFED and it is very low. There is vast difference between the buying price and selling price of milk by COMFED. So that the low price of milk is another problem. To some places, collection centers are far from their houses. It takes long time to take the milk to the collection center. And acidity of milk is also a problem of dairy farmers. If milk acidifies in the collection centers, farmers should bear its loss.

There are other problems such as lack of artificial insemination, lack of scientific testing equipment in the collection center and lack of vehicles and comfortable road to transport milk. The technical knowledge of the staff of collection center is very low. Availability of nutritious fodder and cattle feed, high cost of feeds, improved dairy animals, poor extension and health services etc. were economic constraints faced by dairy farmers.

In the study area, there is no alternative market to sell the milk. If farmer want to sell the milk in market center, they would reach *Murliganj* and *Kumarkhand* bazar in study area. Another severe milk marketing problem is 'milk holiday'. Banda, Strike and technical problem create such situation. In this situation, farmers get heavy lose as there is no alternative milk market. Farmers are obligate to consume their surplus milk production undesirable, though they want to sell it. The following table shows the problem and constraints of milk marketing of the sample households.

The table 4.9.1 shows that more than 55.32 respondent said that higher cost of cattle feed is the first problem in the production of milk. On the other hand 51.45 respondents said that lack of easy availability of veterinary facilities was the main problem for them. Likewise, about 51.31 respondents said that high cost of improved animals was the another major problem in the study area. And more than 49.34 respondents said lack of loan facility other problems of milk marketing such as lack of nutritional fodder, lack of technical facility, lack of better management, lack of good transportation, lack of technical knowledge, acidification of milk etc.

The study has shown the various economic problems faced by dairy farmers. From Table 4.9.1 it could be seen that six problems were identified by the respondents. It could be observed that higher cost of cattle feed was ranked as the foremost reason which caused difficulties in obtaining better income to dairy farmers. Poor health services and no easy availability of veterinary facilities were ranked second. Farmers also stated that they are facing problems due to high cost of improved animal and ranked this third. Lack of loan facilities, Lack of nutritional fodder and Lack of technical facility were ranked 4th, 5th and 6th respectively.

The study has shown the various marketing problems faced by dairy farmers. From Table 4.9.2 it could be seen that five problems were identified by the respondents. It could be observed that low price of milk was ranked as the foremost reason which affect the prices received by dairy farmers in milk marketing. Lack of suitable transportation facility were ranked second as they are far away from the collection center. Farmers also stated that they are facing problems due to Delay in getting price of milk and ranked this third. Milk holiday and Timing of milk collection and measurement of milk at collection center were ranked 4th and 5th respectively in milk marketing.

Table- **Marketing constraints faced by dairy farmers in different size group**

S. N.	**Constraints**	**Garrett total score**	**Rank**
Lack of suitable transportation	6599	54.99	II
Low price	6877	57.31	1
Delay payment	6248	52.07	III
Festival holiday	5012	41.77	IV
Timing	4888	40.73	V
Measurement	4057	39.62	VI

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