



MILK PROCESSING IN BIHAR : AN EMERGING DAIRY BUSINESS OPPORTUNITY

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ABSTRACT

The study pertaining to the state of Bihar which has maximum concentration of livestock in the state. The district of Bhagalpur comes under this region. In the district Naugachia block have been selected where buffalo, cow, etc. has been found in a large number. Two most prominent villages of the block were selected. A systematic survey of both selected villages has been done. 65 processing units were enlisted and grouped into four categories i.e., Unit-I, Unit-II, Unit-III and Unit-IV out of the total categorized units on the basis of probability proportion finally 13 units were selected for in-depth study. The study finds that upto 60 percent of the total milk produced, consumed as fluid form and rest 40 percent converted into various milk product like- curds, ghee, khoa, paneer and butter through processing of milk. The produce quantities of processed milk product were sold per day. The expenditure borne by enterprises found increase with the increase of scale of production. Most of the processing units were found economically feasible and able to create employment in the area. The overall conclusions emerge from the study was that the activities of milk processing create employment, income and reduces poverty in the area but still there were need for appropriate institutional arrangement particularly for poor and small enterprises for their livelihood.

Key words : Milk processing, emerging dairy business opportunity, Bihar

In India during the year 1904 first cooperative act was passed and since then the cooperative movement has started. In the year 1912, emphases were given on non-credit cooperative society. In the country milk revolution started in India in 1946 from Anand (Gujarat) has made a big contribution in the success of non-credit cooperative. Undoubtedly, dairy cooperatives established an effective partnership between farmers and dairy industries. The main beneficiaries were farmers who getting additional regular income.

Diversification of agricultural enterprises through livestock processing activities will provide profit, employment and prosperity. It is a matter of common observation that farming system of the state of Bihar is already diversified in crop and live stock productivities. But these activities are not able to produce additional income and employment to the people of the state. Thus, despite more than five decades of planned development strategy is still couples with problems of food deficiency, malnutrition, inequality, vulnerability, migration of labour, unemployment etc. were commonly seen among the people of the state. Thus, there is need of a new vision for its development.

Bihar is the third most populous state of the country. Agriculture is the largest industry of the state economy. About 90 percent of its population is dependent on agriculture and allied activities for

livelihood. It contributes 34 percent of the gross domestic product of the state and engages 81 percent of work force. In the state livestock has special importance in the areas having low agricultural income and provides stable income in such areas. Livestock is the main source of drought power rural transportation, milk, meat, skin, dung, bones etc. in the state. Livestock and their products provide direct cash income to the farmers (FAO/ILR/1995).

Hence, the importance of livestock has been recognized and commands a special significance. It is known as productive assets especially in rural areas.

More than 75 percent of the total rural households of the state of Bihar have been maintaining livestock, specially cattle, buffaloes and goat with a view to meet their domestic needs in the form of milk and by way of commercial sale of these items also. As per the latest livestock census, total population of cattle in the state is about 99 lakh, buffaloes-about 49 lakh and goats about 151 lakh which contributes 10.04 percent 6.41 percent and 13.64 percent is total livestock in the state respectively (15th census). As per one estimate during the year 2009-10, the livestock population in the state has been growing at an average rate of 3 percent of total population, its share to gross domestic product is very little and their production shows declining trend estimated at 0.03 percent every year. But still livestock

sector is one of important employment providing enterprises under allied agricultural activities.

Hence, this study was undertaken with focusing on livestock processing which has special significance as regards the economic upliftment and relevant for rural households in fulfilling their livelihood. The state agriculture is based on traditional agricultural and allied activities. Milk farming has been the subsidiary activities in this region. Out of 3.75 mt. of milk production in the state, this region constitutes around 40 percent of the total production. Thus it is a highly potential area for the processing of milk. The prime use of milk produced is in the form of consumption proposes directly. But the product of milk like- curd, butter, ghee, cheese, milk shake etc. are also used in very limited quantities i.e., 5-10 percent.

It is in the light of above context the milk processing activities in the state of Bihar taken into consideration for access to focus the prospects of diversification of agriculture through milk processing businesses. This is the back drop of the present paper with following objectives of the study :

To work out the scale of milk processing by various enterprises in the study area.

To estimate the expenditure incurred by different enterprises in the area.

To work out income earned through processing of milk.

Assess the possibilities of the milk processing activities in the area.

RESEARCH METHODOLOGY

The study used primary data that collected from Bhagalpur district of Bihar. The sampled district comes under potential milk producing region of the state. The multistage sampling method was adopted for the selection of milk enterprise (Unit). Two villages selected from the district for in depth study.

The villages were selected from Naugachia block of the district. The villages were selected on the basis of higher concentrates of milk processing units. A systematic survey of both the sampled villages was done for enlisting the existing milk enterprises (Units). About 65 units were enlisted from the sampled villages and after that units were stratified into four categories :

Own Account Manufacturing Enterprises - Employing only the owner. (Unit-I)

Non-Directory Manufacturing Establishment- Employing owner with five workers. (Unit-II)

Directory Manufacturing Enterprises- Employing Owner with more than five workers. (Unit-III)

Processing Industry-Employing above 20 workers. (Industry)

On the basis of probability proportion, 6 enterprises were selected from unit-I, 4 enterprises from unit-II and 2 enterprises from unit-III and one industry from the study area. Thus a sample of 13 units from two villages of the block were selected randomly.

These sampled units were found engaged in processing of milk to cream or butter. The processing industry produced various forms of milk. In this way the sample of 12 processing enterprise and 1 industry, which taking together, become 13 manufacture enterprises forms the sample size of the study.

RESULTS AND DISCUSSION

Existing milk enterprises in the samples area : During the course of field survey, it was found that in the sample area, upto 60.00 percent of the total produce of milk was consumed in fluid form and the rest of milk converted in the various form of milk products. The practice of converting into milk products was higher in the form of better followed by curds, ghee, khoa, paneer etc. In the sample area potential of cream or butter was quite higher and concentration of processing units were selected which were prominent in the area. These units produced a large quantity of butter/cream. It was found that in the sampled area; mostly three types of processing units has been prominent i.e., first types of enterprises employing only the owner and run unit with the help of their family workers, which is termed as (Own Account Manufacturing Enterprises). The second type of unit works with at least five workers employed in the unit in which at least one was hired worker is termed as (Non- Directory Manufacturing Enterprises). The third one was enterprises works with more than six workers including one worker on hired basis and it is termed as (Directory Manufacturing Enterprises). The last selected unit i.e., industry which employed more than 20 workers. Locality of the samples enterprise from block needs quarter. The average distance of enterprises from the metallic road was about 6.5 km. In case of first type of unit, about 3.5km. In case of second type unit and about 4.5km in case of third type unit. The milk processing industry is located at Bhagalpur district at a distance of about 5.5

Table-1 : Scale of operation of milk enterprises in the study area.

(In Average)

Sl. No.	Particulars	Enterprises-wise scale of operations		
		1 st Unit	2 nd Unit	3 rd Unit
1.	Product (cream) sold per day (in kg)	16.5	65.84	98.30
2.	Fluid milk purchased per day (in kg)	141.83	655.50	881.80
3.	No. of workers engaged per day (in No.)	2.16	5.40	6.50
4.	No. of hired worker per day (in No.)	0	1.20	1.50
5.	Quantity of produce (cream) per day by enterprises (in kg)	16.5	65.84	98.30

Table-2 : Expenditure incurred in operation of different enterprises.

(In average)

Sl. No.	Particulars	Unit-I	Unit-II	Unit-III
1.	Cost of milk processing machine (Rs.)	13,500.00	21,850.00	35000.00
2.	Cost of supporting equipment for milk processing	1900.00	2750.00	4060.00
3.	Chemical & other cost (Rs.)	28.00	125.00	170.00
4.	Depreciation cost per day (Rs.)	4.27	6.83	10.85
5.	Miscellaneous expense per day (Rs.)	1.00	1.66	2.33
6.	Cream producing capacity of the machine per hours (kg.)	50	100	100-150
7.	Purchase price of fluid milk in Rs./lit.	10.30	10.85	11.05
8.	Transportation etc. cost per (kg.)	0.04	0.12	0.08
9.	Rent of enterprises per day (Rs.)	11.50	15.00	16.90
10.	Payment of wage to labour per day (Rs.)	151.20	378.00	455.00
11.	Other expenditure	0.76	1.82	1.64
12.	Total expenditure per day by ENTP in (Rs.)	1657.62	7641.11	10400.69

kms. This milk processing industry was runs under the control of COMFED, Patna.

Scale of mil processing by sampled enterprises :

The scale of operation by each sampled enterprises and manufacturing industry presented in table-1.

Above table-1 reveal that the scale of operational unit indicates their quantities of cream selling per day was 16.5kg, 65.84kg and 98.30kg by unit-I, unit-II and Unit-III respectively. The table further indicates that each unit were found purchased fluid milk and scale for processing increasing with the increase of scale of enterprises. The table witnessed that there are positive relationship with scale of operation and engagement of workers. The table again shows that hired workers engage by unit-II and unit-III. The produce quantities of cream found also varied with variation of enterprise.

Enterprise-wise expenditure incurred : The expenditure incurred by the sampled enterprise presented under table-2. The average per day expenditure of enterprises has been worked out and presented :

The above table-2 self explanatory containing data related to per enterprises expenditure incurred by

each processing unit. It shows that larger per enterprise expenditure per day to have incurred by the unit-III (Rs. 10,400.69) followed by unit-II (Rs. 7641.11) and unit-I (Rs. 1657.62). The expenditure of enterprises increases with the increase the production scale.

Income Earned From the Enterprises : In the present section analyzed per day the income from investments by worked out of the selected units in terms of specific parameters. The returns, from investments indicated the feasibility of each enterprise in the study area. The analyses data have been presented.

The data presented in table-3 showed incomes earned by the sample enterprises. The table shows the highest net return in case of unit-III (Rs. 975.11) followed by unit-II (Rs. 815.00) and unit-I (Rs. 368.26). This indicated the returns over cost were higher in almost all the sampled enterprises of milk processing. It means all the units were at advantageous positions in the sampled area. The table further indicates that the amounts of total expenditure and total income higher in unit-III where larger scale of production done by the unit. It can also be noted here that all the units were in advantageous positions. But the benefit cost ratio was

Table-3 : Income earned by the sampled milk processing enterprises.

(In average)

Sl. No.	Particulars	Unit-I	Unit-II	Unit-III
1.	Amount received from the sale of product (In Rs.)	1166.39	4503.44	6085.00
2.	Sale price of the product per kg (In Rs.)	70.69	68.40	61..91
3.	Amount received from the sale of cream free milk	859.49	3952.67	5290.80
4.	Total per day earning (in Rs.)	2,025.88	8,456.11	11,375.80
5.	Total per day expenditure (In Rs.)	1657.62	7641.11	10400.69
6.	Net profit from ENTP (In Rs.)	368.26	815.00	975.11
7.	B.C. Ratio	1:1.23	1:1.11	1:10

found higher in unit-III (1.23) followed by unit-II (1:11) and unit-I (1:10). It indicates that all units were comparatively in better position in terms of feasibility of the unit.

Thus, the livestock processing (Milk Enterprises) in the study areas were found remunerative or profitable ventures and also economically feasible. Specially unit-II and unit-III has capacity to create additional employment in the area. Overall conclusion emerged from the analysis that the enterprise has capacity to encouraging in creating income and employment for the farmers.

Opportunities of dairy business : An attempt has been made to analyze the opportunities of the milk units on the basis of surveyed areas and suggest, some points to promote milk enterprises unit in the study area.

Prospects : Due to operation flood commercial dairy farming has been growing up and production of milk increases so milk processing units made very. Qualitative changes in the process of milk farming development. This has become the sun rise sector in agriculture & allied sector for creating an employment generating ventures because, as per the forecast of Dairy India (1997) and Jain et. al. (1995), milk processing units will be the most important livestock products based manufacturing industries in future. At present India is ranked on 10th position in the world trade out of 31 important commodities in terms of value of butter production (2010-11).

Thus, it is hoped livestock processing unit will be significant worth by achieving the objectives of sustainable livelihood along with successful reduction of poverty from the rural masses of the country. Therefore, the development of the milk processing unit creates a lot of prosperity in the study area and the state also.

The Bihar state dairy corporation was established in 1972, but the corporation failed in replicating the organizational innovation. Therefore, in April 1983 the Govt. of Bihar constituted COMPFED plan under operation flood and implemented in 23 districts. However, the corporation could be able to collect fluid milk up to some extent from the ever increasing milk production of the state. After taking several efforts hardly 20 to 25 percent of milk was procured by COMPFED. Thus it shows a vast prospect for establishing of milk processing unit. These units will be able to consume surplus produce of fluid milk in the way of processing and marketing.

In the state urgent need for the development of processing of milk, because almost farmers were producing milk but they could not getting better returns. The surplus milk can be utilized by value addition, processing etc. for production of various forms of milk so processing unit of milk is essential.

Problems : Some important steps required for rapid establishment of unit i.e., Milk processing machine and their supporting equipments provide of the local level which is very low at present in the area.

Awareness and adoption may be created related to milk processing benefits in the areas. Most of the farmers were found unaware from this.

The NGOs & SHGs come forward to provide incentives/ promotional support to milk processing units in the region. Because only government officials played the role.

CONCLUSIONS

The study has established a positive relationship between milk production and its processing in terms of higher returns from the production of processed product. The value addition due to ever increasing milk production has been found for further enhancement in

the profitability of milk production activities in the study areas and whole of the state also. There is need for management of production, processing and marketing of milk produce. The study has observed an immediate attention required to provide more and more processing units in the milk surplus areas of the state. This will be helpful in encouragement of dairy farmers as well as farming. This can be done by the institutional credit on priority basis which promote these units in a faster rate.

The value addition in milk certainly provide an additional income, quality food, employment and will be helpful in socio-economic development of the sampled area and the state.

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