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Income and employment generation through dairying in Maharashtra State

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Abstract

The study on income and employment generated by milk producers through various operation and management of dairy activities in milk production was conducted in Vidarbha and Marathwada region of Maharashtra State. The regions were purposively selected due to low milk production and productivity compared to other region of State. During 2021-23, primary data were collected randomly selected from 410 milk producers and tabular analysis was performed. The study revealed that the overall employment generated from small, medium and large herd size category were 176.5, 254.80 and 325.31 man-days annually. The overall income generated from buffalo and crossbred cows of Rs. 55887.00 and Rs. 91426.19 annually. The milk producer maintaining local cow produced Rs.13777.80 annually. The overall income from buffalo and crossbred cow was significantly higher than local cow. The participation of men, women and childrens in different operations like bringing fodder followed by feeding recorded the highest labour utilization followed by other activities including chaff cutting grazing, giving water, cleaning cattle shed and animals, milking, marketing of milk and milk products and Health care of dairying was studied. The study clearly showed positive impact of dairying on income and employment generation in the study area.

Keywords: Income, employment, dairying, labour, Income and employment generation

Introduction

Dairying contribute to livelihood through generating continuous round-the-year income and employment as they used to meet their daily requirement, providing a source of natural capital assets to maintain a livelihood in times of crisis like the COVID-19 pandemic. Evidence suggests that the white revolution in India has been more successful than the green revolution. There are still many resource-poor farmers in the country that depend on rain-fed farming to make ends meet, and this is especially true in the Vidarbha and Marathwada region of Maharashtra. Recurring droughts and uneven rainfall distribution in recent years have had a negative impact on agricultural output, revenue, and employment. Human resources is a crucial input for executing various dairy tasks and accounts for approximately one-fifth of the overall cost of milk production in rural regions (Singh and Chauhan, 2015) [7]. This necessitates the participation of men, women, and children in the different operations and activities of dairy farming that generate employment. It has been analyzed and studied how milk producers with varying herd sizes utilize labour per day to accomplish a variety of operations in their dairy farming. The average yearly labour requirement in man-days for dairy farming has been estimated for the household sample of the study region. The annual employment generated by milch animals in various herd size categories and each milk cow was analyzed.

Material and Methods

The Vidarbha and Marathwada regions of Maharashtra State were chosen purposively since it has lower milk output and

productivity than other regions of the state. The milk producers of Bhandara, Yavatmal, Nanded, and Latur from the Vidarbha and Marathwada regions of the Maharashtra State, were randomly selected for data collection. About 52.20 percent of milk producers are considered small, 30.98 percent medium, and 16.83 percent large in terms of the size of their herds. Two districts from Vidarbha and Marathwada region were selected for study. Two blocks were randomly selected from each district. And, from each block, three villages were chosen randomly. Accordingly, a total of 410 participants were selected for the investigation and a complete enumeration of all the households with respect to milch animals was made. All the milk producing households were classified into three herd size categories, viz., Small (1-3 milch animals), Medium (4-5 milch animals) and Large (more than 6 milch animals).

Employment Generation

Employment generation was studied with the help of tabular analysis using averages and percentages. Actual time spent by a human being in various operations of dairy farming was recorded for each household, such as Bringing fodder, Chaff cutting, Feeding, Grazing, Giving water, Cleaning cattle shed/ animals, Health care, Milking, Making milk products, Selling milk. The total time spent was converted into man-days by assuming eight working hours for a day.

1 day of women labour = 0.67 man day (3 Women = 2 men)

1 man days labour = 0.5 man days of children (4 Children = 2 men)

Income Generation

It was worked out by using total milk produced by the milch animal (Local Cow / Crossbred cow / Buffalo) in a year and the prevailing price of milk. Also, herd size category wise income estimated by total milk produced by herd of animal maintained by milk producer and prevailing price of milk per liter was considered for estimation of annual income calculated.

Total Income = (Total milk production) X (Prevailing price of milk per liter)

Results and Discussion

Employment Generation

The study concluded that buffalo rearing was the most important in generating employment in dairy farming, followed by Crossbred cows. Producers with local cows tend to produce less milk, reducing the number of available dairy farming jobs. Women in households with a small herd size generate employment of 71.53 man days per year, while men in the same category generate 94.90 man days. At the same time, a household with a medium-sized herd will generate 104.90 man-days for women and 130.90 man-days for men. The large herd size group of dairy producers generates 325.31 man-days of employment per year per household, with men contributing more (215.35) than women (91.71). The overall employment generated with an increasing trend as the number of milking animals increased. Sharma and Sharma (2004) made similar observations in their study of the semi-arid region of Rajasthan.

Table 1: Family labour-use households across herd-size categories (Man-days/ household/annum)

Herd-size category	Members			
	Men	Women	Children	Total
Small (1-3)	94.90 (53.57)	71.53 (40.53)	10.04 (10.04)	176.5 (100.00)
Medium (3-4)	130.90 (51.37)	104.90 (41.18)	18.93 (7.43)	254.80 (100.00)
Large (5 and above)	215.35 (66.20)	91.71 (28.19)	18.25 (5.61)	325.31 (100.00)
Overall	147.22 (58.65)	88.75 (35.35)	15.06 (6.00)	251.03 (100.00)

Note: Figures within the parentheses indicate the percentage in respective totals

An examination of the proportion of work done by men, women, and children within a household indicated that the proportion of work done by women in dairying activities was higher than that done by men. It was discovered that women make the most significant contribution to the labour used in the dairying activities. An examination of the utilization of family labour in various activities of dairy farm was carried out. This examination focused on men, women, and children. It was discovered that the most time spent was 0.56 hours of men and 0.65 hours of women each day in carrying fodder from the fields. This discovery was consistent with Meena's past research, which she had conducted (2008). The women spent their time in preparing dairy products such as curd, khoa, etc. was 0.22 hours per day. It was discovered that women spent an additional 0.31 hours each day selling milk because they had to personally

transport their milk to milk collection facilities to sell it. It was discovered that children were involved in all dairy activities to some extent, except milking.

Table 2: Average labour-use in different activities in dairy enterprise across herd-size categories (hours/day/household)

Particulars of operations	Members			
	Men	Women	Children	Total
Bringing fodder	0.60	0.62	0.14	1.32
Chaff cutting	0.23	0.22	0.09	0.51
Feeding	0.31	0.36	0.14	0.78
Grazing	0.48	0.17	0.10	0.71
Giving water	0.30	0.28	0.15	0.70
Cleaning cattle shed/ animals	0.29	0.20	0.11	0.57
Health care	0.08	0.04	0.00	0.12
Milking	0.38	0.30	0.00	0.67
Making milk products	0.03	0.22	0.00	0.25
Marketing of milk and milk product	0.27	0.31	0.09	0.64
Miscellaneous works	0.27	0.17	0.14	0.51
Total time spent	3.23	2.90	0.96	6.79

Income generation

The average size of milking animals generated an overall gross revenue of around Rs 212076.29 per household on an annual basis. This amount was highest for household with a large number of bovine population of Rs.381857.39, and it was lowest for small herd size population of Rs.142286.92. With reference to the various species of milch bovines, the buffalo produced the highest average income from the large herd size category, which was Rs.94778.18, followed by the small and medium herd size categories, which generated Rs.91834.92 and 88019.03 respectively. It's possible that the higher milk yield and higher fat content in buffalo milk, which ultimately led to a larger revenue, as compared to other species of milch bovines.

In aggregate terms, the average income from crossbred cow milk production was highest in the medium herd size group, which was around Rs 58647.72. This was followed by the large and small herd size categories, which were Rs.55796.36 and Rs.52881.82 respectively.

The poor performance of local cows is reflected in the local cows' milk production. The income earned from small herd size category was approximately Rs 14903.15, followed by medium and large herd size category incomes of Rs 13014.61 and Rs.12528 respectively. It has also been reported by Dixit (1999), and Singh *et al.* that the local cow milk production has a negative net return (2004).

Table 3: Average income generation by milch bovine on different herd size categories of sample household (Rs/animal/annum)

Particulars of milch bovines	Herd Size category			
	Small	Medium	Large	Overall
Local Cow	14903.15	13014.61	12528.00	13777.80
Crossbred Cow	52881.82	58647.72	55796.36	55887.00
Buffalo	91834.92	88019.03	94778.18	91426.19

The negative performance of local cow is reflected in the negative net returns; nonetheless, the assertion should not be made too strongly. The low milk production of these cows was a major contributor to this predicament. These animals are an integral part of the farming system as a whole thus that must be kept in mind. So, local farmers continue to raise cows for draught power and extra cash. It is not

acceptable to just accept the low output of local animals without making any effort to improve their breeding,

feeding, and management.

Table 4: Average gross income of different herd size categories of sample household (Rs/annum/household)

Herd Size Category of Sample household			
Small	Medium	Large	Overall
142286.92	237431.00	381857.39	212076.29

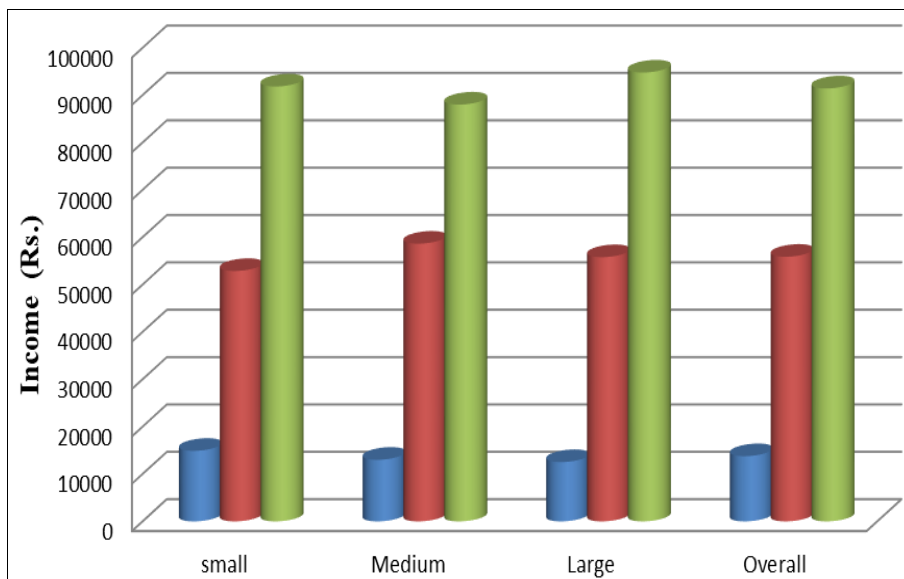


Fig 1: Average household income per annum different herd size category

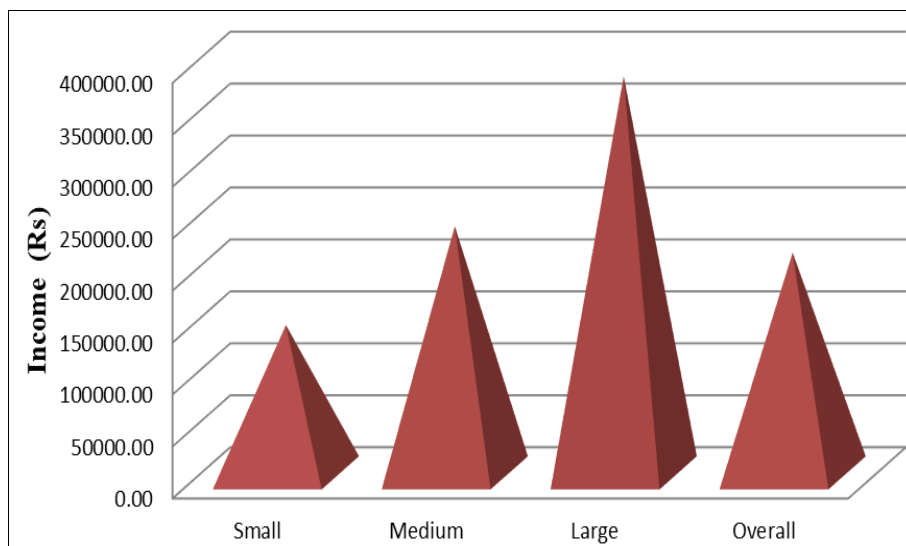


Fig 2: Average household income per annum different herd size category

Conclusion

It can be concluded that there is a positive impact of dairying on women empowerment, income and employment generation in the study area. Dairying acted a cushion against uncertainties like income shocks due to crop failure in the drought prone area like Vidarbha and Marathwada region of Maharashtra State. Therefore, animal husbandry and dairying will be an important option for income and employment generation in rural area with agriculture farming.

This study concluded that dairying has a positive effect on the study area's economy, particularly on women's empowerment, income, and employment creation. In

drought-prone areas, such as the Vidarbha and Marathwada regions of Maharashtra State, dairying provided a safety net in the event of financial shocks caused by crop failure due to draught and other uncertainties. Consequently, dairying and animal husbandry will be a viable alternative for rural areas looking to generate income and employment with agriculture farming.

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