

Role of National Dairy Development Board (NDDDB) in Creating Entrepreneurs in Rural Punjab: An Evaluation

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Abstract

There is a strong requirement to encourage and train dairy farmers to adopt manufacturing of value-added milk products. The present study was conducted to study adoption of value-added milk products by trainees at commercial level. A total of 150 Punjab Dairy Development Board trainees were selected as respondents. The data was collected using structured interview schedule. Out of six learned products, adoption was highest in case of butter. Increasing income and ample of milk production were the main reasons for adoption. Discontinuation was highest for cream and flavoured milk. High material cost, non-cooperation from family members, not much additional income and high risk in starting the activity were the major reason for non-adoption. Lack of space, inadequate credit facility and high rate of interest on loans were major reason for discontinuation. There is need to support budding entrepreneurs by providing them credit facilities at lower rate of interest.

Key words: Value addition, Milk products, Dairy, Dairy farmers, NDDDB, PDDDB

JEL Classification: O13, L26, L31, I20

Introduction

Among the various livestock enterprises, dairying is the most important as it plays a crucial role in income generation for rural households. It provides employment to millions of rural people especially small and marginal farmers. Punjab is largest producer of milk with largest herds of buffalo and cattle. Although the statistics of milk production in Punjab is very much satisfying, the condition of dairy farmers is not good. Small farmers who are backbone of India's milk production are running under debt. In such scenario; dairy food processing by dairy farmers holds immense potential. To meet the increasing demand of the milk products in the urban areas, it is of utmost importance that one should produce milk products which are essentially value-added products (Tripathi and Wadhawan, 2018). Dairy farmers can add value to their milk by producing various products from it. They can make various items with the raw milk like curd, butter, flavoured milk, *khoa*, *paneer*, *lassi*, *channa* (Mittal *et al*, 2005). Value addition minimises waste and improves commodity quality that achieves better prices (Kedere 2006, MAMLFDR Kenya 2004). Value addition enhances profit margins. It plays a more positive role in supporting rural welfare and reducing poverty by providing farm level jobs (Niketha *et al*, 2018). Margins in the liquid milk are

4-5% and for value added dairy products it reaches up to 34% (Rao 2020).

Therefore, dairy farmers should be encouraged to adopt value added products of milk than selling raw milk in order to increase their income, to be economically stable (Mittal *et al*, 2006). National Dairy Development Board is improving value addition skills of dairy farmers in different states of India (NDDDB, 2019). In Punjab, trainings on value addition of milk are organised by Punjab Dairy Development Board (PDDDB) for the dairy farmers (DDB, 2013). The training of production of value-added dairy products by DDB is expected to play critical role in increasing the income and employment of rural dairy farmers. So, the present study was carried out to access the level of adoption of value added milk products by DDB trainees along with the reasons for adoption, discontinuation and non-adoption of milk processing.

Data Sources and Methodology

There are nine dairy training and extension centres in Punjab. The present study was conducted on 150 trainees from training and extension centre, Chitamali as it provides most comprehensive trainings in value addition i.e. the training centre provides on demand trainings on value addition of milk. The trainees who completed their training during last

five years i.e., 2015 - 2020 were considered for the study. Data was collected personally by using structured interview schedule to meet the objectives of the study.

Results and Discussion

Value added milk products learnt by trainees

Respondents have attended either two weeks or four weeks trainings. They learned different products during trainings. Overall six value added products were learnt by them. The table 1 shows the products learned by DDB trainees during different trainings attended by them. All the trainees learned *Paneer*, *DesiGhee* and Curd while Cream, Butter and Flavoured Milk were learned by only 23, 21 and 19 per cent respondents only. Therefore, the adoption related questions were asked from only those trainees who got training of the product.

Adoption status of different dairy products at commercial level

Adoption status of the dairy products namely paneer, cream, butter, desi ghee, curd and flavoured milk are presented in Table 2. The results show the adoption of different products varied between one third to fifty per cent.

It was found that 46 per cent of respondents adopted Paneer making at commercial level while 3.33 per cent discontinued and 50.66 per cent did not adopt. In case of cream, 28.57 per cent adopted cream making and 22.85 per cent discontinued. Nearly half (48.57%) of the respondents did not adopt the Cream making at commercial level. Half of the trainees (50%) adopted Butter making whereas 31.25 per cent did not adopt and 18.75 discontinued after once adopting at commercial level. Surprisingly, majority of the trainees (62.66%) did not adopt Desi Ghee making at commercial level while 32 per cent adopted and 5.33 per cent discontinued at later stage. Around half (49.33%) of the

trainees not did adopted Curd making at commercial level, 42 per cent adopted and 8.66 discontinued the curd making later on. Flavoured Milk has been adopted by 31.03 per cent while 27.58 per cent discontinued after once adopting it while rest of the trainees not adopted it. So among all products, adoption was highest in case of butter followed by paneer and curd. The results are partially in line with Veeranna and Singh 2004 who reported high level of adoption for dairy practices.

Reasons for adoption of dairy products manufacturing at commercial level

Table 3 represents the reasons for adoption of different products. It was found that around forty-one per cent respondents adopted Paneer making to increase income, all of respondents adopted Cream due to ample milk production at home followed by increased income and provide employment to other family members (50% each).

In case of Ghee making, majority of the respondents adopted it for increasing income (41.66%) followed by providing employment to other family members (35.41%) and personal interest (33.33%). One third of the respondents (33.33%) adopted curd making for increasing income. All the respondents (100%) shared that financial security was one of the reasons to adopt making flavoured milk. Other reasons for adoption of flavoured milk reported by majority respondents were encouragement by trainers during training and ample milk production at household level (66.66% each). Average percentage for adoption of value added milk products shows that increasing income and ample of milk production were the main reasons reported by 42.06 and 40.54 per cent of respondents respectively. The results are in congruence with Dahiya et al (2021) who reported utilization of surplus milk, interest and income generation as the major reasons for adoption of value added milk products.

Table 1. Different value added milk products learnt by DDB trainees during training.

Products	Paneer	Cream	Butter	Desi Ghee	Curd	Flavoured Milk
No of trainees	150	35	32	150	150	29
Percentage	100	23	21	100	100	19

Table 2. Adoption status of different dairy products at commercial level (n=150)

Dairy Products	Adoption	Discontinuance	Non-Adoption
Paneer (np=150)	69 (46)	5 (3.33)	76(50.66)
Cream (ncr=35)	10 (28.57)	8 (22.85)	17(48.57)
Butter (nb=32)	16 (50.00)	6 (18.75)	10(31.25)
Desi Ghee (nd=150)	48 (32.00)	8 (5.33)	94(62.66)
Curd (nc=150)	63 (42.00)	13 (8.66)	74(49.33)
Flavoured Milk (nf=29)	9 (31.03)	8 (27.58)	12(41.37)

Note: Figures in brackets are percentages

Table 3. Reasons for adoption of dairy products manufacturing at commercial level

Reasons for Adoption	(n=150)						Per cent Average
	Paneer (np=69)	Cream (ncr=10)	Butter (nb=16)	Desi Ghee (nd=48)	Curd (nc=63)	Flavoured Milk (nf=9)	
Personal Interest	11(15.94)	2(20)	3(18.75)	16(33.33)	7(11.11)	4(44.44)	23.93
Encouragement during training	5(7.24)	2(20)	2(12.50)	10(20.83)	7(11.11)	6(66.66)	23.06
Generate family employment	8(11.59)	5(50)	2(12.50)	17(35.41)	7(11.11)	2(22.22)	23.80
Increasing Income	28(40.57)	5(50)	5(31.25)	20(41.66)	21(33.33)	5(55.55)	42.06
Ample milk production	2(2.89)	10(100)	8(50)	3(6.25)	11(17.46)	6(66.66)	40.54
More profit from milk products	6(8.69)	1(10)	3(18.75)	11(22.91)	5(7.93)	4(44.44)	18.19

Note: Figures in brackets are percentages

Reasons for non-adoption of dairy products manufacturing at commercial level

Even after receiving training in dairy product making, a large percentage of trainees didn't adopt it at commercial level. The respondents were asked the reasons for non-adoption of these dairy products for commercial purpose. Table 4 shows in case of Paneer, one fourth of the respondents (25%) reported that they have not adopted it due to financial constraints. In case of Cream, majority (58.82%) of the respondents not adopted it due to lack of proper guidance. It is worrisome that even after receiving training, respondents felt that they were not given proper guidance sufficient to start the venture. High material cost to start enterprises (52.94%) was also one of the major reasons reported by more than half of the trainees.

Majority of the respondents (70%) not adopted butter making due to non-cooperation from the family. This can be due to the reason that butter making for household consumption is a routine activity in dairy families in Punjab and cooperation of family is required to make butter for commercial purpose. Sixty per cent of the trainees, non-adopted making butter due to high material cost to start the enterprise. In case of Flavoured Milk, majority of the respondents (75%) not adopted it due to non-cooperation from the family followed by high risk in starting activity (66.66%), high material cost to start enterprises (58%). Average Percentage shows the reasons for non-adoption of value added milk products as a whole. It depicts that high material cost to start activity was reported as the major reason for not adopting dairy product making.

Table 4. Reasons for non-adoption of dairy products manufacturing at commercial level.

Reasons for Non-Adoption	(n=150)						Per cent Average
	Paneer (np=76)	Cream (ncr=17)	Butter (nb=10)	Desi Ghee (nd=94)	Curd (nc=74)	Flavoured Milk (nf=12)	
Financial constraint	19(25.00)	5(29.41)	3(30.00)	10(10.63)	5(6.75)	2(16.66)	19.74
High material cost to start the enterprise	5(6.57)	9(52.94)	6(60.00)	10(10.63)	2(2.70)	7(58.33)	31.86
Lack of proper guidance	6(7.89)	10(58.82)	3(30.00)	16(17.02)	6(8.10)	2(16.66)	23.53
Lack of confidence	6(7.89)	8(47.05)	2(20.00)	18(18.08)	2(2.70)	2(16.66)	18.73
Non-cooperation from the family	2(2.63)	3(17.64)	7(70.00)	3(3.19)	3(4.05)	9(75.00)	28.75
Lack of family support	8(10.52)	6(35.29)	3(30.00)	8(8.51)	6(8.10)	5(41.66)	22.35
Not much additional income	10(13.15)	5(29.41)	4(40.00)	7(7.44)	5(6.75)	5(41.66)	25.58
High risk in starting the activity	7(9.21)	5(29.41)	2(20.00)	20(21.27)	4(5.40)	8(66.66)	25.32
Lack of skill	9(11.84)	6(35.29)	4(40.00)	16(17.02)	5(6.75)	3(25.00)	22.65

Note: Multiple responses, Figures in brackets are percentages

Table 5. Reasons for discontinuance of dairy products manufacturing at commercial level.

Reasons for Discontinuance	(frequency) (n=150)						
	Paneer (np=5)	Cream (ncr=8)	Butter (nb=6)	Desi Ghee (nd=8)	Curd (nc=13)	Flavoured Milk (nf=8)	Per cent Average
Lack of space	5(100)	6(75)	5(83.33)	3(37.5)	7(53.84)	4(50)	66.61
Inadequate credit facilities	4(80)	4(50)	4(66.66)	6(75)	7(53.84)	4(50)	62.58
High rate of interest on loans	2(40)	3(37.5)	2(33.33)	5(62.5)	10(76.92)	5(62.5)	52.13
Less availability of raw material	2(40)	3(37.5)	1(16.66)	3(37.5)	4(30.76)	4(50)	49.99
Marketing problem	3(60)	2(25)	3(50)	2(25)	5(38.46)	3(37.50)	39.33
Low price of product	2(40)	4(50)	1(16.66)	3(37.5)	6(46.15)	5(62.5)	42.14
Quality issue	5(100)	2(25)	3(50)	2(25)	3(23.07)	4(50)	45.51
Less profitability	2(40)	2(25)	4(66.66)	4(50)	4(30.76)	4(50)	43.73

Note: Multiple responses, figures in parantheses are per cent to respective sample size

Surprisingly non-cooperation from family members was second most ranked reason for non-adoption which indicates that children of farming families are more inclined to non-agricultural jobs these days. Another reason for not adopting dairy products making was that trainees felt that not much additional income will be generated even after value addition of milk so they shared that they preferred to sell raw milk. As the respondents were from low socio economic strata they also reported that they perceive high risk in starting the activity therefore didn't adopt dairy products making. The results are in congruence with Chawla and Chander (2017) who reported financial assistance, non availability of raw materials, market facility, non co-operation and lack of family encouragement as the major constraints faced by trained women in adoption of the practices.

Reasons for discontinuance of dairy products manufacturing at commercial level

The persual of table 5 depicts the reason for discontinuation of value added milk products. Paneer was discontinued due to lack of space and quality issue by all the trainees followed by 60 per cent trainees who discontinued it due to marketing problem. In case of Cream majority of the trainees (75%) discontinued due to lack of space in their house for cream making. They trainees shared that as they had one or two rooms in their home so were not able to continue processing. Half of the respondents (50%) said that they discontinued it due to inadequate credit facilities and low price of sold product. The respondents shared that they have to sell cream at less rates to halwais and they felt like being exploited by middle men.

In case of Butter, majority of respondents (83.33%) discontinued due to lack of space in their houses for continuing the enterprise. Half of the respondents discontinued products making due to marketing problem and quality issue. The

respondents shared that they were to compete with branded butter like Verka and Amul for quality, packaging and hence marketing was an issue. . In case of Desi Ghee, majority of respondents (75%) discontinued it due to inadequate credit facility followed by 62.5 per cent who discontinued the product making due to high rate of interest on loans. In case of Curd, majority of respondents (67.92%) discontinued due to high rate of interest on loan followed by lack of space in their homes for continuing enterprise (53.84%) and inadequate credit facilities (53.84). In case of Flavoured Milk, majority of respondents (62.50% each) discontinued due to high rate of interest on loan and low price of product followed by lack of space for work (50%), inadequate credit facility (50%) and quality issue (50%). Average percentage shows that lack of space in their houses, inadequate credit facility and high rate of interest on loans were the reasons for discontinuation of value added milk products.

Conclusion and Policy Implications

From the findings of the study, it can be concluded that half of the DDB trainees have adopted manufacturing of Butter at commercial level followed by Paneer and Curd. Overall adoption of various dairy products varied 30 to 50 per cent by DDB trainees which depicts that Dairy Development Board is successfully running Dairy Training and Extension Centres. Major reason for adoption of value added milk products, was ample milk production at household level. This is obvious as they didn't need to go anywhere for basic raw material. For non-adoption of value added milk products high initial cost was report as major hindrance. This could be due to the low income and inability to purchase basic machinery for the work. Sadly non-cooperation from family members was one of the reasons for non-adoption. This could be due to the inclination of rural youth towards non-agricultural occupations. For discontinuation of value

added milk products, inadequate credit facility and high rate of interest on loans were reported as the major reasons. The result shows that DDB trainings are playing crucial role in employment of rural youth and increasing income of dairy farmers. The need is to support the adopters by providing them proper and easy credit facility at cheaper rate of interest. Further, it is recommended that DDB should create a platform for interaction of entrepreneurs by annual workshops/annual entrepreneur's meet etc for follow up and create channels through social media for support.

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