

Household Income : Cooperative V/S Control Villages4.1 INTRODUCTION

Milk and milk products are the second largest contributor to the gross agricultural output.¹ India's milk production ranks fourth in the World. Although dairying has been part of life in India since times immemorial, the organized dairy industry took roots only in the mid-sixties. The gross value of output of milk and its products at current prices has almost trebled during the last decade to over Rs.7,300 crores.

The major sources of income to a live-stock owner in rural areas are the sale of milk/milk products, young stock and the farm yard manure. This chapter is devoted to an assessment of the impact of the Operation Flood-I on the level and sources of household income and employment in the Guntur, Surat and Bhopal milksheds. Household income consists of income from milk, crops and "other sources" which include self-employment in non-farm activities and wage paid employment. The gross income per month of the beneficiaries in the cooperative and control villages have been estimated on the basis of the total fluid milk, milk products and dung produced and the prices paid to the respondents during the period under reference.

4.2 Guntur Villages

Table 4.1 presents the data on the level and sources of household income in the cooperative and control villages in the Guntur

1. Dairy India 1985 - second Annual Addition P-3
Level and sources of household income.

Household income of various categories of households in the cooperative and Control Villages - Guntur

Category of household	Co-operative village (Krishnayapalam)				Control village (Abbarajupalem)				
	Share in total No. of h/h	Average annual income (Rs./hh)	Milk Crops	From other sources	Share in total No. of house-hold	Average annual income (Rs.h/h) from	Milk Crops	Other sources	Total
Landless	14.15	2432.16	-	3321.12	43.33	315.00	-	4236.56	4551.56
I upto 2.49	27.53	2948.86	1683.24	2204.22	12.00	330.00	2136.18	2227.34	4693.92
II 2.5-4.99	14.89	3084.60	1976.83	3071.24	10.67	532.50	2981.40	3359.50	6873.40
III 5-9.99	12.87	3248.20	3649.21	3339.22	17.33	1086.50	3846.70	4437.60	9370.80
IV 10 & above	30.56	3384.70	5963.80	2127.74	16.67	1124.50	6174.28	3192.86	10491.64
Landed house-holds	85.85	3172.60	3552.63	2497.56	56.67	833.19	4006.17	3400.51	8239.87
All categories	396	3067.68	3049.99	2614.05	150	608.55	2269.91	3762.22	6640.68

* Other sources include self-employment in non-farm activities & wage paid employment.

** Figures in parenthesis represent percentages of the aggregate income.

Household income of various categories of households in the control village-
Guntur

TABLE 4.1
(CONTD)

Category of household (Acres)	Share in total no. of house-holds	Control village (Dondapadu)				Total
		Average annual income (Rs./hh) from				
		Milk	Crops	Other sources		
Landless	21.51	-	-	4486.70	4486.70	
Upto 2.49	14.25	384.00	1991.80	2356.65	4732.45	
2.5-4.99	14.24	524.80	2848.20	3416.20	6789.20	
5-9.99	18.48	984.20	3979.10	4564.50	9527.80	
10 & above	31.52	1084.00	6217.30	3892.30	11193.60	
Landed house-hold	78.5	832	4311.99	3685.55	8829.53	
All cate-gories	330	653.00	3384.30	3857.65	7895.07	

*Other sources include self-employment in non-farm activities & wage paid employment.

** Figures in parenthesis represent percentages of the aggregate income.

milkshed by household category. The household income in the cooperative village was about 32 percent higher than in the control village of Abbarajupalem and about 11 percent higher than in Dondapadu. The income for the landed households was about 12% and 5% higher respectively. The average income for the landless group was 26% and 28% higher respectively in the cooperative village. Agriculture and dairying were the most important sources of income in the cooperative village while agriculture and sources other than dairying were important in the control village. It is significant to note that in the cooperative village the average income from milk for the landless households was 672% higher than in Abbarajupalem. In Dondapadu the landless did not derive any income from milk. In the control villages the income contributed by crops were about 13% and 21% higher respectively when compared with the cooperative village. The higher income from crops in the control villages can partly be attributed to the relatively better irrigational facilities and greater progressive attitude of the farmers.

"Other sources" were about 28 and 35% higher respectively in the control villages. Since there is no market for milk in the control villages, farmers concentrate more on agriculture and other sources. Crop farming was the most important source of household income in the control villages contributing about 57 and 66 percent respectively of the income. The average income from milk in the cooperative village was about 400% and

370% higher respectively than in the control villages for all the households and about 281% higher for the landed group. In general, the average income from milk increased with the increase in the size of land holding in the three villages.

4.3 Surat villages

The average household income in the cooperative village was about 9% higher than in the control village (Table 4.2). For the landed household it was about 22% higher and for the landless group about 41% higher. For the landed group, the average income had a positive correlation with the size of land holding in both the villages. Apart from crops milk was the most important source of household income in the cooperative village contributing about 28% of the income but 'other sources' was more important in the control village, contributing about 37% of the income. For the landed households also in the cooperative village milk was an important source of household income (25 percent) but crops took this place in the control village (55%). For the landless households "other sources" were the most important sources of household income in the control village while milk constituted about 38% of the total income in the cooperative village. The main reason for this is the assured market and remunerative price received for milk in the cooperative village as a result of which the landless groups are better off than their counter parts in the control village.

The average income from milk in the cooperative village was about 275% higher than in the control village. For the landed households it was about 256% higher. The landless group in the

TABLE 4.2

Household income of various categories of households in the Cooperative and Control villages - Surat.

Category of household (Acres)	Share in total No. of house-holds(%)	Cooperative village (Answal)			Share in Total No. of house-holds	Control village (Sunvalla)			
		Milk	Crops	Other Sources		Average annual income (Rs./hh from	Milk	Crops	Other Sources
Landless	35	1887.70	-	3166.40	5054.10	13.02	-	3588.00	3588.00
I upto 2.49	13	2160.30	1592.80	1994.15	5747.25	15.81	397.50	1432.20	1902.42
II 2.5-4.99	21	2513.45	2473.75	2414.55	7401.75	10.23	455.00	2138.55	1490.3
III 5-9.99	20	2583.95	6932.25	3720.25	13236.45	33.02	812.50	6031.15	2999.60
IV 10 & above	11	2673.55	7794.50	3678.55	1414.60	27.91	830.00	6317.80	3246.50
Landed house-holds	65	2491.61	4569.84	2946.13	10007.58	87	700.64	4829.00	2701.76
All categories	638	2280.24	2970.40	3023.23	8273.86	215	609.36	4200.10	2817.18

* Other sources include self-employment in non-farm activities & wage paid employment.

** Figures in parenthesis represent percentages of the aggregate income.

control village did not earn any income from milk. For the landed households the average income from milk had a positive correlation with the size of landholding in both the villages.

The average income from crops for the landed group in the control village was slightly higher (i.e. by about 3%) than in the cooperative village. This was mainly due to the greater irrigational facilities in the control village. The average income from crops had a positive correlation with the size of land holding in both the villages.

The average income from 'other sources' in the cooperative village was about 7% higher than in the control village. For the landless group, it was about 13% less and for the landed group about 9 percent less. This shows that the landless households in the control village are more dependant on income from 'other sources'. For the landed households, milk & crops were more important than wage - paid employment.

4.4 Bhopal Villages

As indicated in Table 4.3 the average household income in the cooperative village was, slightly higher (4%) than in the control village. For the landed groups, the average household income increased with the increase in the size of land holding in both the villages. Crop farming was the most important source of household income particularly in the control village contributing about 50% of the income. The contribution of milk to the household income in Charnal village was very small owing to very poor prices paid by the vendors. Surplus

Household income of various categories of households in the cooperative and control villages-Bhopal

TABLE 4.3

Category of household (Acres)	Cooperative village (Khaikheda)				Control village (Charnal)				
	Share in total No. of house-holds	Milk	Crops	Other sources	Share in total No. of house-holds	Milk	Crops	Other sources	Total
		Average annual income (Rs/hh) from				Average annual income (Rs./hh) from			
Landless	12	1854.40	-	4132.32	5986.72	7.00	-	4693.60	4693.60
I upto 2.49	25	1896.20	1983.30	3895.00	7774.50	6.25	443.20	2675.75	2939.29
II 2.5-4.99	24	2374.80	3472.80	2349.00	8196.70	14.84	544.45	3560.90	3130.95
III 5-9.99	19	2639.30	3625.75	2238.15	8503.20	32.42	763.85	3594.50	3551.90
IV 10 & above	20	2543.90	7694.25	3035.85	13272.00	39.45	964.80	7286.40	4197.75
Landed house-holds	88	2232.23	4030.97	2922.91	9186.11	93	792.54	5094.10	3717.58
All categories	186	2276.78	3557.04	3065.41	8899.25	256	736.75	4735.36	3784.32

*Other sources include self employment in non-farm activities & wage paid employment

**Figures in parenthesis represent percentages of the aggregate income.

milk is therefore used for ghee production. Thus the average income from milk in the cooperative village was about 209% higher than in the control village for all the households and about 182% higher for the landed group. The landless group in the control village derived absolutely no income from milk while the income derived by their counterparts in the cooperative village through sale of milk constituted 31% of their total income. Thus the total income of the landless group in the cooperative village was about 28% higher than in the control village.

The status of crop farming was better in the control village than in the cooperative village. The main reason for this was the predominance of irrigated farming in the control village resulting in greater use of new farm inputs and higher crop yields. A positive correlation between the average income from crops and the size of land holding was found to exist in both the villages.

The average income from 'other sources' in the control village was about 23% higher than in the cooperative village for all the households considered together and about 27% higher for the landed group and 14% higher for the landless group. This indicates that farmers are dependant on other sources of income in the control village to compensate for the poor income derived through milk sales.

The difference between members and non-members where the income pattern is concerned very clearly portrays the contribution of Operation Flood. Here, while the gradation of income occurs with the landless as

expected at the bottom, the average monthly income of the landless is seen to be significant at Rs.421.17 to Rs.498.89 per month (and a yearly average income of Rs.5252.34 as compared to a monthly income ranging between Rs.299 to Rs.391 per month in the control villages (and a yearly average income of Rs.4342.80). The total income, as expected, is much larger in the case of the largest landholding, categories, since they derive substantial income from their lands, which is absent to the landless and very little in the case of marginal farmers with less than 2.5 acres. But the income from 'other sources' earned by the landless and marginal farmers most of whom have crossed the lowest poverty line of Rs.5,000 per year at present prices should not be under-rated.

4.5 Farm Yard Manure

The value of animal dung in rural areas is often ignored. The dung, apart from serving as inorganic manure to enrich soil is also used in rural areas to plaster Kucha floors and to make dung cakes for fire. In all the villages surveyed dung was also sold in cart loads. In the Madhya Pradesh Villages dung cake was sold @ Rs.10-15 per cart, In Surat the selling rate was Rs.25 per cart. According to the data collected the value of farm yard manure ranged between Rs.81/- to Rs.94/- in the cooperative villages and Rs.65⁶⁵-74 in the control villages. These differences could be attributed to organized dairying in the cooperative villages.

TABLE 4.4

District	Value of farm yard manure per household per month(Rs)	
	Cooperative village	Control village
GUNTUR	90	65
SURAT	94	74
BHOPAL	81	69

4.6 INTEGRATION OF WOMEN IN ECONOMIC DEVELOPMENT

For the past 10 years there has been a growing interest on the involvement of women in the socio-economic development of the country. It was thought that the underlying development will not only help utilize the potential of one half of the population but would also lead to improvement in their social status. Since the year 1985, the International Year for women, many studies have been conducted which reflect the need to involve women more actively in the development process. It is felt that for the balanced growth of society, equal opportunities should be made available to both men and women for participation in economic activities and efforts should be made to formulate realistic schemes for their integration in economic development.

4.7 Employment Generation

Organized dairying has generated additional employment both at district and village levels. This has greatly benefitted various categories of farmers in improving their employment opportunities. Employment opportunities were not only created among the milk producers with more and more members of the cooperative villages but also at the district level which involved steady increase in staff viz. project officers, supervisors, inspectors, veterinary doctors etc. An attempt was made to study and compare the level and pattern of employment in the cooperative and control villages in the three milkshed districts. Due emphasis has been given to the employment of household members in crop farming, dairying and other activities including wage-paid employment and self employment other than farming. The participation of women in such employment in the three milksheds was also studied. Labour was measured in days of work per household

per annum. A work day was defined as the equivalent of eight hours by an adult male or female.

Widespread unemployment and under employment present a strong case for adoption of dairy farming and mixed farming to mitigate this problem.² A study made on the impact of the White Revolution on labour standard of living reveals that mixed farming created 32% of extra work as compared to arable farm. The dairy farming created 45% of extra work as against mixed farming and 92% of extra work as compared to arable farming. It was also estimated that an additional employment of 129 days as compared to mixed farming and 255 days as compared to arable farming were found by maintaining dairy farms.³ It has also been proved^{by} another study that milk production is more economical for landless persons and small farmers than in big farms.

4.8 Guntur Villages

In Guntur the total employment of family labour in all activities for all the households in the cooperative village was about 91% higher than in the control village of Abbarajupalam and about 24% higher than in Dondapadu (Table 4.5). Crop farming was most important for the landed groups in both the cooperative as well as the control villages contributing to about 37%, 31% and 39% respectively. Employment of family labour in dairying was 49% higher in the co-operative village when compared with the control village of Aobarajupalem and 46% higher when compared with

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2. Y.U.R Jayasankar S.R. Impact of White Revolution on labour standard of living. Rural India, Feb. 1977, P.60
 3. Madalia V.K. ^{Charan A.S.} ~~Caran A.K.~~ Economics of Maintenance of cows and buffaloes and their milk production, Financing Agriculture Vol.VII No.1, April - June 1976 P.32

TABLE 4.5
Level & sources of employment of family labour by categories of households in Guntur, Surat and Bhopal Villages.

Category of households	Employment in days per household per annum				Control village			
	Cooperative village		Control village		Cooperative village		Control village	
	Dairying	Crops	Other sources	Total	Dairying	Crops	Other sources	Total
GUNTUR								
Landless	94.84 (13.1)	-	628.85 (86.9)	723.49 (100)	46.74 (7.3)	-	596.40 (92.7)	643.14 (100)
Landed	193.14 (29.7)	261.47 (40.1)	196.78 (30.2)	651.39 (100)	146.19 (30.1)	196.37 (40.4)	143.67 (29.5)	486.23 (100)
All	176.23 (25.3)	261.47 (37.6)	257.88 (37.1)	695.58 (100)	103.09 (16.1)	196.37 (30.7)	339.85 (53.2)	639.31 (100)
SURAT								
Landless	86.48 (15.2)	-	481.65 (84.8)	568.13 (100)	56.86 (20.3)	-	223.50 (79.7)	280.36 (100)
Landed	190 (34.1)	203.88 (36.7)	161.88 (29.2)	556.56 (100)	98.63 (18.8)	247.93 (47.2)	178.68 (35.1)	525.24 (100)
All	154.33 (24.4)	203.88 (32.3)	273.65 (43.3)	631.86	93.19 (17.7)	247.93 (47.2)	184.52 (35.1)	525.64 (100)
BHOPAL								
Landless	77.69 (16.5)	-	394.56 (83.5)	472.25 (100)	37.79 (10.5)	-	323.45 (89.5)	361.24 (100)
Landed	184.84 (39.5)	223.65 (47.8)	59.73 (12.7)	468.22 (100)	97.55 (25.2)	186.86 (48.3)	102.33 (26.5)	386.74 (100)
All	172.17 (34.8)	223.65 (45.2)	99.33 (20.00)	495.15 (100)	93.35 (23.4)	186.86 (47.0)	117.88 (29.6)	398.09 (100)

* Figures in parenthesis represent percentages of employment.

TABLE 4.5

TABLE 4.5 (CONTD)

Category of households	Employment in days per household per annum				Total
	Control	Village	(Dondapadu)	Other sources	
	Dairying	Crops			
Landless	43.46	-	608.60		602.06
Landed	153.70	218.63	102.45		474.78
All	129.98	218.63	211.35		559.96

Dondapadu. The average level of employment in dairying by the landed groups in the cooperative village was higher by 32% and 26% respectively. Employment in 'other sources' was highest in Abbarajupalem i.e. 32% higher than in the cooperative village, but in Dondapadu it was 22% less. In both the control villages more attention was being paid to crop cultivation and other sources to compensate for their poor income from dairying.

4.9 Surat Villages

In Surat the total employment of family labour in all activities for all the households was about 632 days per household per annum in the control village (Table 4.5). Thus the total employment in the cooperative village was about 20% higher than in the control village. In dairying, the average level of employment for the landless and landed groups in the cooperative village was 47% and 93% higher respectively than in the control village. In crop cultivation however the average level of employment for the landed group was about 22% higher in the control village, indicating that greater efforts are put in crop cultivation to compensate for the very poor income from dairying. As far as 'other sources' are concerned employment for the landless group in the cooperative village was about 116% higher than in the control village indicating a more progressive attitude among the landless in the cooperative village. For the landed group however the average level of employment was 10% less in the cooperative village. This is probably because of greater concentration on dairying.

4.10 Bhopal Villages

In the Bhopal villages the total employment of family labour in all activities for all the households was lowest when compared to their

counterparts in Guntur and Surat (Table 4.5). These were 495.15 days in the cooperative village and 398.09 in the control village. In general this indicates the less progressive attitude among farmers in Bhopal as compared to those in Guntur and Surat. However the employment was 24% higher in the cooperative village than in the control village. Crop farming was most important for the landed groups in the cooperative and control villages contributing to about 45% and 47% of the total employment respectively. In dairying the average employment of family labour was 85% higher in the cooperative village than in the control village for all the groups. In the case of the landless and landed groups it was about 108% and 90% higher in the cooperative village than in the control village. In crop cultivation, employment was about 37% higher in the cooperative village. However in 'other sources', employment was 18% higher in the control village for all the groups. For the landless group in the cooperative village it was 22% higher than in the control village, but for the landed group it was 72% lower. The higher percentages in the cooperative village could be attributed to organized dairying as well as marked optimistic & progressive attitude of farmers.