

Adoption Behaviour of Dairy Project Beneficiaries Under Integrated Rural Development Programme*

A. BHEEMAPPA¹, D. M. CHANDARGI² AND J. TULASIRAM³

University of Agricultural Sciences, Dharwad - 580 005

(Received July, 1988)

ABSTRACT

There was no significant association between overall adoption level of dairy practices between beneficiary and non beneficiary respondents in Dharwad taluk. The personal characteristics of beneficiaries such as education and extension participation were significantly associated with the adoption level whereas age and size of the family were non-significantly associated. Lack of knowledge, inadequate veterinary facilities, no irrigation facilities for fodder growing, high cost of inputs, less land resources and lack of operating capital were the major problems encountered by the dairy project beneficiaries in the adoption of dairy management practices.

Adoption of new technology in dairy farming has a great potential for improving the economic conditions of rural poor by providing substantial employment opportunities. In order to meet the demand for milk (64.40 million tonnes by 2000 AD) and to increase income and employment opportunities, a number of programmes in the dairy sector like Intensive Cattle Development Programme (ICDP), Special Livestock Production Programme (SLPP) and Operation Flood Programme (OFP) have been implemented.

Dairy enterprise is a vital component of the Integrated Rural Development

Programme (IRDP) which helps the poor in acquiring income generating assets through subsidies and credit.

A large number of participants are benefitted under the dairy schemes of IRDP. Both financial and technical assistance are provided to them. It is important to know the extent of adoption of improved dairy management practices among the IRDP beneficiaries and the problems encountered by them in adoption of improved practices. Hence, the present study was conducted with the following specific objectives.

* Part of M.Sc. (Agri.) thesis submitted by the first author to the Univ. of Agril. Sci. Dharwad.

1 Extension Guide, EEU, College of Agriculture, Raichur.

2 Assistant Professor, Dept. of Agril. Extension, College of Agriculture, Dharwad.

3 Instructor, Dept. of Agril. Extension, College of Agriculture, Raichur.

1. To determine the overall adoption level of beneficiary and non-beneficiary respondents.
2. To determine the extent of adoption of improved dairy management practices among beneficiary and non-beneficiary respondents.
3. To explore the association between adoption and selected personal characteristics of beneficiary respondents, and
4. To identify the problems encountered by the beneficiary respondents in adoption of dairy practices.

MATERIAL AND METHODS

From the list of 26 villages under IRDP dairy project in Dharwad taluk, eight villages were randomly selected. From the alphabetical list of small farmers, marginal farmers and agricultural labourers benefitted under the scheme, five each were selected by the simple random technique, thus making a total sample of 120 beneficiaries.

Similarly, 120 non-beneficiaries were selected from the same eight villages. Thirteen important dairy management practices were used to measure the adoption level of respondents. The adoption quotient developed by Sen-gupta (1967) was used for quantitative measurement. The data for 1987 collected by personal interviews were analysed using frequencies, percentages, means, chi-square and test of goodness of fit.

RESULTS AND DISCUSSION

Distribution of respondents based on their adoption level: It is clear from Table 1 that there was non-significant difference in the adoption level of recommended dairy practices between beneficiaries and non-beneficiaries. Similar findings were reported by Raghavendra *et al.*, (1982) and Awanti (1984). Lack of technical knowhow, inadequate veterinary facilities and inability of the poor may be the possible reasons for low percentage of high adoption level.

Table 1. Distribution of beneficiaries and non-beneficiaries based on adoption of recommended dairy management practices

Category of respondents	Adoption				Total	
	Low		High		No. of dairy farmers	Per cent
	No. of dairy farmers	Per cent	No. of dairy farmers	Per cent		
Non - beneficiaries	63	52.50	57	47.50	120	100.00
Beneficiaries	50	46.67	64	53.33	120	100.00
Total	119	49.58	121	50.42	240	100.00

X^2 0.82

df - 1

Non significant at 5 per cent

Extent of adoption of individual practices: A perusal of Table 2 indicates that high percentage of both beneficiary and non-beneficiary respondents had adopted the practices of colostrum feeding for the new born calf, deworming in the calf, protecting animals against contagious disease, control of ectoparasites and proper feeding of the calved cattle. Practices such as artificial insemination, drying the milking cattle two months prior to calving, pregnancy test in cattle three months after service, and feeding concentrate to calf were followed by fewer farmers among both beneficiaries and non-beneficiaries. But a very low percentage of the respondents followed the practices of feeding of concentrate mixture to pregnant cattle and cutting of umbilical cord of calf immediately after birth. Growing of green fodder was not practiced by any of the respondents.

These differential levels of adoption of recommended dairy management practices were reported by Murthy (1970) Nachiappan (1975) and Hundal (1976). The reasons for low adoption of certain practices were identified as lack of resources, time, technical know-how and service facilities.

Relationship between adoption and selected personal characteristics of beneficiary respondents: It is evident from the Table 3 that age of beneficiaries was not significantly associated with level of adoption of dairy practices which was in line with the findings of Raghavendra (1982) and Gavi (1983). The reasons for such association may be due to the tendency of farmers to

adopt a few practices to achieve monetary gains.

Association between level of adoption and educational status was significant which is in agreement with the reports of Hundal (1976) and Awanti (1984). The presence of significant association was due to the exposure of literate farmers to written and printed media about improved practices leading to motivation for further action.

It is also seen from Table 3 that there was significant association between extension participation and adoption of dairy practices because participation in organised extension activities provides opportunity for interaction with other farmers and extension workers which leads to adoption. The findings were similar to the findings of Mahadevaswamy (1978).

Size of the family had no significant impact on the level of adoption which was in agreement with the findings reported by Kittur (1976) and Raghavendra *et al.*, (1982). This kind of relationship was seen because other members of the family have little influence on the head of the family in adoption of dairy practices.

Perceived problems of beneficiaries in adoption of dairy management practices: Adoption of an innovation is a decision making process wherein the adopters/practitioners have to face several problems which are technical, psychological and social in nature.

It is seen from Table 4 that a large percentage (more than 75 per cent) of

Table 2. Extent of adoption of dairy management practices among beneficiaries and non-beneficiaries IRDP

Sl. No.	Recommended practices	Adoption of practices			
		Beneficiaries		Non-beneficiaries	
		Number	Per cent	Number	Per cent
1.	Collostrum feeding to the new born calf	120	100.00	116	96.67
2.	Practicing deworming to calves	120	100.00	116	96.67
3.	Protecting animals from contagious diseases	120	100.00	108	90.00
4.	Control of ectoparasites in cattle	120	100.00	113	94.17
5.	Feeding of the cattle immediately after calving	105	87.50	95	79.17
6.	Practicing drying in milking two months before calving	96	80.00	53	44.17
7.	Artificial insemination to buffaloes / cows	75	62.50	47	39.17
8.	Following pregnancy test for dairy animals three months after service	51	42.50	43	35.83
9.	Feeding concentrate mixture to the calf	47	39.17	17	14.17
10.	Feeding concentrate mixture to pregnant cattle	33	27.50	12	10.00
11.	Treating umbelical cord of the new born calf	12	10.00	1	0.83
12.	Practicing weaning method of feeding in calves	1	0.83	0	0.00
13.	Green fodder growing in their own farm	0	0.00	0	0.00

Table 3. Socio-economic characteristics and adoption of recommended dairy management practices among dairy project beneficiaries

Characteristics	Adoption category						X ²
	Low		High		Total		
	No.	Per cent	No.	Per cent	No.	Per cent	
Age:							
Young	13	65.00	7	35.00	20	100.00	
Middle	24	42.11	33	57.89	57	100.00	3.29 N.S.
Old	19	44.19	24	55.89	43	100.00	
Education:							
Illiterate	44	55.70	35	44.30	79	100.00	7.57*
Literate	12	29.27	29	70.73	41	100.00	
Extension participation:							
Less	49	55.06	40	44.94	89	100.00	9.75**
More	7	22.58	24	77.42	31	100.00	
Family size:							
Small	27	50.94	26	49.06	53	100.00	
Big	29	43.28	38	56.72	67	100.00	0.70 N.S.

Note : * Significant at 5 per cent ** Significant at 1 per cent
N. S. - Non significant

Table 4. Problems encountered by the beneficiaries in adoption of recommended dairy management practices

N = 120

Sl. No.	Problems	No. of farmers	Percent
1.	Lack of knowledge	120	100.00
2.	Inadequate veterinary facilities	105	87.00
3.	No. of irrigation facilities	102	85.00
4.	High cost of inputs	97	80.83
5.	Less land resources	97	80.83
6.	Lack of operating capital	80	66.67
7.	Non availability of fodder	76	63.33
8.	Key village centre far off	75	62.50
9.	No shelter for dairy animals	65	54.17
10.	Failure of artificial insemination	45	37.50

beneficiaries faced the problems of lack of knowledge about dairy practices, inadequate veterinary facilities, absence of irrigation facilities, high cost of inputs and less land resources in the adoption of recommended dairy practices. These were in conformity with the researches of Dwarkinath *et al.*, (1974), Puttaswamy (1977), Srinivas-murthy (1978) and George (1984).

The problems of lack of operating capital for purchase of inputs and availing of services, non-availability of fodder for better feeding of cattle, key village centre being far off, and absence of housing facilities for the proper maintenance of dairy animal were expressed by more than 50 per cent of the respondents. This was in agreement with the studies reported by Govindappa (1974), Srinivasamurthy (1978), Sawant and Dhole (1978) and Nataraju (1983).

The problem of failure of artificial insemination was reported by 37.50 per cent of the dairy project beneficiaries which supports the studies of Sawant and Dhole (1978).

There is a need for intensification of educational efforts to increase the knowledge level as well as to promote adoption of improved dairy practices. Arrangements made for veterinary service facilities and rendering technical advice should be adequate to make adoption of dairy management practices economically profitable. The IRDP should make all out efforts to supply the needed inputs, training for dairy farmers in rearing cattle, treating for minor ailments and marketing of dairy products produced. In association with Agricultural University, Department of Agriculture and Voluntary organisations, the extension machinery should be strengthened.

REFERENCES

- Awanti, D. S., 1984, Adoption behaviour and motivation patterns of dairy farmers of Dharwad and Belgaum districts of Karnataka State *Mysore J. Agric. Sci.*, 18 : 174-75.
- Dwarakinath, R., Srinivasmurthy, J., Veerabhadraiah, V. and Ramachandra, K. T., 1974, *Potentialities of Marginal farmers for Agricultural Development, UAS Technical Series - 7*. Univ. Agric. Sci., Bangalore.
- Gavi, B. S., 1983, An evaluative study on the impact of Small Farmers Development Agency on adoption behaviour, annual income and employment potential of small farmers, marginal farmers and agricultural labourers of Dharwad district. *M. Sc. (Agri.) Thesis* Univ. Agric. Sci., Bangalore.
- George, K. M., 1984, Rural Development Programme - its strength and weaknesses, *Indian J. Agric. Econ.*, 39 : 266-75.
- Govindappa, T., 1974, Knowledge acceptance of recommended farm practices and extension contact among small farmers of Bangalore district and their farm problems. *M. Sc. (Agri.) Thesis*. Univ. Agric. Sci., Bangalore.
- Hundal, J. S., 1976, Differential adoption of improved dairy practices affecting some economic parameters of animals of milk suppliers in the milkshed area of Ludhiana milk plant. *M. Sc. Dissertation*. NDRI, Karnal, pp. 10-14.

- Kittur, M. M., 1976, A study on adoption behaviour of marginal farmers in relation to their characteristics and value orientation in Bijapur district of Karnataka State. *M.Sc. (Agri.) Thesis*, Univ. Agric. Sci., Bangalore.
- Mahadevaswamy, B. N., 1978, A comparative study of adoption behaviour, consultancy pattern and information source's credibility of small, marginal and other farmers in Bangalore district of Karnataka. *M.Sc. (Agri.) Thesis*, Univ. Agric. Sci., Bangalore.
- Murthy, N., 1970, A study of some factors influencing adoption of advanced cattle breeding operation in key village block, Karnool, Andhra Pradesh, *M.Sc. (Agri.) Thesis*, Andhra Pradesh Agric. Univ. Hyderabad.
- Nachiappan, P. R., 1975, The impact of Small Farmers Development Agency on some selected aspects in South Arcot district of Tamil Nadu. *M.Sc. Thesis*, Univ. agric. Sci., Bangalore.
- Nataraju, M. S., 1985, Relative influence of extension methods on knowledge, attitude and adoption of improved dairy management practices by small farmers, marginal farmers and agricultural labourers in Bangalore district. *Mysore J. Agric. Sci.*, 19 : 225.
- Pattaswamy, T., 1977, A study on knowledge, adoption and attitudes of small farmers towards mixed farming in Sira and Anekal talukas, *Mysore J. Agric. Sci.*, 11 : 602.
- Raghavendra, Byrareddy, H. N. and Sethurao, M. K., 1982, Factors associated with adoption of recommended dairy management practices around Bangalore North taluka. *Mysore J. Agric. Sci.*, 16 : 474.
- Sawant, G. K., and Dhole, P. T. 1978, Extent of adoption of cross breeding in cattle by the dairy farmers and problems faced by them in Ahmednagar district (Maharashtra). *Indian Dairymen*, 30 (12) : 825-28.
- Sengupta, T., 1967, A simple adoption scale for selection of farmers for high yielding varieties programme on rice. *Indian J. Extn. Educ.*, 3 (3) : 107-115.
- Srinivasamurthy, N. S., 1978, Impact of farmers service co-operative society sponsored by a nationalised bank of farmers. *M.Sc. (Agri.) Thesis*, Univ. Agric. Sci., Bangalore.