

## Extent of Adoption of Scientific Dairy Farming Practices in Khargone District of Madhya Pradesh

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### ABSTRACT

*The present study was carried out to assess the extent of adoption of scientific dairy farming practices in Khargone district of Madhya Pradesh. Random sampling method was used to select 80 dairy farmers as respondent for this study with the help of structured interview schedule. The data were collected from Madhya Pradesh state of India. From 52 district of Madhya Pradesh state one district was selected purposively on the basis of number of dairy farmers found here. Then from Khargone district one block was selected randomly. From one block five villages were selected randomly. From the study it was showed that 47.50 per cent dairy farmers had low adoption of scientific dairy farming practices followed by 32.50 per cent dairy farmers had medium adoption and 20.00 per cent dairy farmers had high adoption. The results clearly indicated that most of the dairy farmers had always low adoption of scientific dairy farming practices.*

**Keywords:** Dairy farmers, Extent of Adoption, Scientific dairy farming practices

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### INTRODUCTION

India has the largest animal population report for the 60% of the cattle population and 57% buffalo population in the world and dairy farming is important substance activities of the agriculture animals population of the country, the dairy farmers like assistant adventure to rural agriculture has stressed by National Commission of Agriculture. The economic survey 2015-16 emphasis that the Indian agriculture system is predominantly a mixed crop and livestock farming system, and livestock sector is supplementing farm income by providing employment, drought animals and manure and compost. India rank first in milk production, accounting for 18.5% of world production with achieving and annual milk production of 163.7 million tons during 2016-17.

Scientific Dairy Farming Exhibit is an important practical equipment used in supporting dairy farmers to produce, protected market, better quality milk and milk by products to content the confluence of the food diligence & consumers (FAO, 2017).The aim is ensure that the milk is produced at the farm level by healthy animals under acceptable conditions for animals and in balance with the environment. The scientific practices tool box consists of six areas that need to be managed namely: animal health, hygienic milking, nutrition, animal welfare, environment and socio economic condition. According to Word Organization for Animal Health (OIE), Animal Welfare means how an animal is coping with the condition in which it lives.

Low productivity of cattle and buffaloes owned by marginal and small dairy farmers in India is often attributed to unawareness and low adoption of innovations/improved livestock production technologies. It has been observed that the low adoption of dairy innovations and low productivity of milk is due to unawareness of technologies to the dairy farmers and lack of innovation culture among marginal and small farmers. The lack of innovation spirit among dairy farmers is particularly due to asymmetry of information pertaining to the innovations, technical know-how, market trends and infrastructural facilities. The supply and demand of improved livestock production technologies involves a multifaceted linkage among all the stakeholders to trigger adoption and diffusion of innovations. Adoption and diffusion of dairy innovations is essential to enhance the productivity of livestock and in turn income to dairy farmers to desired extent.

The livestock research organizations are actively involved in evolving various technologies and are being translated and diffused into the farming community so as to enable the farmers to adopt the same so as to improve production potential of livestock in the country. In spite of all these efforts, not more than 30 per cent of improved technologies released by the research organizations were disseminated by the dairy farmers [3, 5].

Dairy sector plays a prominent role in strengthening India's rural economy. It has the potential to act as an instrument to bring socioeconomic transformation. Small and marginal farmers and landless labours who derive a substantial part of their livelihood from sale of milk and own about 70% of cattle in rural areas. Therefore, dairy development in India has been an effective and important instrument of rural development as it generates self-employment opportunities, increases the income of landless, marginal and small farmers, while providing the much needed nutrition to the people.

Adoption is defined as a decision making and use of an alternation at the better course of action possible while adoption behaviour of an individual farmer has been conceptualized in five stages like awareness, interest, evaluation, trial and adoption stage. Diffusion is the process through which an innovation is spread through certain channels over time among members of a particular social system.

The importance of dairying in a country like India hardly needs emphasizing. India has vast resources of livestock, which play an important role in the national economy and also in the socioeconomic development of millions of rural households. India has one of the largest stocks of cattle and buffaloes: more than 50 percent of the world buffaloes and 20 percent of his cattle [1-2].

Keeping the importance of dairy innovations and its diffusion in view the present study entitled as "Extent of Adoption of Scientific Dairy Farming Practices in Khargone district of Madhya Pradesh".

## **MATERIAL AND METHODS**

The study was entirely concerned with Extent of Adoption of Scientific Dairy Farming Practices in Khargone district of Madhya Pradesh. There are nine blocks in Khargone district namely' Khargone, Bikangaon, Zirniya, Bhagwanpura, Kasrawat, Segaoon, Barwaha, Gogawa, and Maheswar among which Khargone block will be selected purposively, since population of livestock in this block is considered maximum as compared to other blocks. Khargone block consists of 118 villages. Out of which a cluster of five villages namely, Jamli, Lohari, Sontalaband, Chhalpawere selected on the basis of remote area of Khargone block. At first stage, village wise list of dairy farmers on the basis of high population will be prepared & at the second stage five villages of high population from the list will be selected to select sample respondents. The dairy farmers will be selected from each selected village through random sampling technique and the total sample size of dairy farmers is 80.

In the present study adoption was measured by collecting all the relevant items related to recommend scientific dairy farming practices with consultation of scientists and veterinarians in the study area and also concerned literature and previous research studies. The response of the respondents were taken against each of the practice on a three point continuum representing adoption full adoption, partial adoption and not adoption with scores of 2, 1 and 0 respectively.

The respondents were categorized into low, medium and high categories of adoption on the basis of mean and standard deviation of score in different aspects of adoption as well as

overall adoption of scientific dairy farming practices. The following formula was used to measure the adoption index of different aspects of scientific dairy farming practices. Formula of Adoption index:-

$$\text{Adoption index} = \frac{\text{No. of practices adopted}}{\text{No. of practices recommended}} \times 100$$

## RESULTS AND DISCUSSION

To gain more insight into the extent of adoption of recommended scientific dairy farming practices of the dairy farmers, item analysis was carried out with the help of frequencies and percentages and result were presented in Table 1.

**Table 1: Extent of adoption of scientific dairy farming practices**

S.N.	Practices	Extent of adoption			Total score	Mean score	Rank
		Complete	Partial	Not			
1.	Balance of nutrition and diet	35	25	20	95	1.18	IV
2.	Use of green fodder	42	21	17	105	1.31	II
3.	Permanently cleaning of cattle shed	30	39	11	99	1.23	III
4.	Use of complete hand method for milk segregate	48	22	10	118	1.47	I
5.	Use of improved breed of animal	26	32	22	84	1.05	VI
6.	Use of artificial gestation method	16	23	41	55	0.68	IX
7.	Regular use of disease resistance treatment	10	18	52	38	0.47	XI
8.	Use of silage	36	21	23	93	1.16	V
9.	Use of vaccines	28	20	32	76	0.95	VII
10	Use of essential instruments	19	27	34	65	0.81	VIII
11	Contact of milk cooperative society for use of milk sale	17	19	44	59	0.66	X
12.	Use of milk value addition	09	16	55	34	0.45	XII

The response of 80 dairy farmers were recorded the extent of adoption of scientific dairy farming practices of livestock management (Table 1). Use of complete hand method for milk segregate was found to have maximum adoption score i.e. 1.47 followed by use of green fodder (1.31), permanently cleaning of cattle shed (1.23), balance of nutrition and diet (1.18), use of silage (1.16), Use of improved breed of animal (1.05), use of vaccines (0.95), Use of essential instruments (0.81), use of instrument Use of artificial gestation method (0.68), contact of milk cooperative society for use of milk sale (0.66), regular use of disease resistance treatment (0.47) and use of milk value addition (0.45).

**Table 2: Distribution of overall extent of adoption of dairy farming practices N=80**

S.N.	Categories	No. of dairy farmers	Percentage
1	Low	38	47.50
2	Medium	26	32.50
3	High	16	20.00
	<b>Total</b>	<b>80</b>	<b>100</b>

Mean - 42.58, SD - 6.52

Table 2 displays the result of extent of adoption of scientific dairy farming practices, the dairy farmers were classified into low, medium and high extent of adoption categories on the basis of mean and standard deviation. The data indicated that among dairy farmers the majority of the dairy farmers (47.50 %) had low extent of adoption of scientific dairy farming practices followed by (32.50 %) of the dairy farmers and (20.00 %) of the dairy farmers who had medium extent and high extent of adoption of scientific dairy farming practices. The similar findings also reported [1-7].

The 'r' values of the considered socio-economic profile are presented in table 3. The result indicating that, out of the variables considered age and social participation of the dairy

farmers had no significant relationship with extent of adoption of scientific dairy farming practices. This result is in conformity with the findings of Singh A.K. *et al.*[1] and Krishna B. *et al.* [2] who had reported non-significant relationship of age with adoption of farm technologies.

On the other hand, Education, milk production, livestock position, annual income, milk sale, milk consumption, size of land holding, farming experience, source of information, mass media exposure, economic motivation, risk orientation and scientific orientation had significant relationship with extent of adoption of scientific dairy farming practices at 5% level of significance. These findings are in agreement with the findings of Singh A.K. *et al.*[1].

**Table 3: Correlation between profile of the dairy farmers and their extent of adoption of scientific dairy farming practices**

S. No.	Characteristics	'r' value
1	Age	-0.0302NS
2	Education	0.2645*
3	Milk production	0.2527*
4	Farming experience	0.2301*
5	Annual income	0.2548*
6	Livestock position	0.2648*
7	Milk consumption	0.2541*
8	Milk sale	0.2697*
9	Size of land holding	0.2679*
10	Social participation	-0.02247NS
11	Source of information	0.2839*
12	Mass media exposure	0.2615*
13	Risk orientation	0.2324*
14	scientific orientation	0.2684*

Significant at 0.05 level of significance

## CONCLUSION

India has the largest animal population report for the 60% of the cattle population and 57% buffalo population in the world and dairy farming is important substance activities of the agriculture animals population of the country, the dairy farmers like assistant adventure to rural agriculture has stressed by National Commission of Agriculture. Good and scientific dairy farming practices plays significance role in the production of market safe quality milk and milk product in the rural areas, so we can say that it is important to the every small and marginal farmer to increase their farm income from producing quality milk and milk product. Based on the various findings of this investigation, it was concluded that, majority of the dairy farmers (47.50 %) had low extent of adoption of scientific dairy farming practices followed by (32.50 %) of the dairy farmers and (20.00 %) of the dairy farmers who had medium extent and high extent of adoption of scientific dairy farming practices because of the dairy farmers being doing subsistence farming and not aware of scientific dairy farming practices. They should be aware through trainings and demonstrations.

The result indicating that, out of the variables considered age and social participation of the dairy farmers had no significant relationship with extent of adoption of scientific dairy farming practices because the social contact and social participation of the dairy farmers are very poor.

On the other hand, Education, milk production, livestock position, annual income, milk sale, milk consumption, size of land holding, farming experience, source of information, mass media exposure, economic motivation, risk orientation and scientific orientation had significant relationship with extent of adoption of scientific dairy farming practices at 5% level of significance because good level of education, availability of market, use of scientific dairy practices, good communication to extension officers.

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