

## **A CORRELATIONAL STUDY BETWEEN SOCIO-ECONOMIC VARIABLES AND DAIRY MANAGEMENT KNOWLEDGE LEVEL OF WOMEN DAIRY CO-OPERATIVE SOCIETY MEMBERS IN ODISHA**

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### **ABSTRACT**

100 WDCS members, having done dairying activities for 1 year or more were selected from 10 WDCS, through purposive sampling techniques. The majority of WDCS members (55 percent), belong to the middle age group (36-50 years). 16 per cent of WDCS members had high level knowledge on housing, followed by 69 per cent of WDCS members had medium level knowledge and 15 percent had low level knowledge of housing activities. 67 per cent of women dairy farmers had medium level knowledge on feeding, 19 percent members had a high level of knowledge on feeding and 14 per cent having low level knowledge on feeding practices, 72 percent women had medium knowledge about breeding practices as well as A.I., 13 percent were having low level of knowledge and 9 per cent women members were having a high level of knowledge on breeding practices. 73 percent of WDCS members had medium knowledge of health care practices of dairy cows, followed by 15 percent having high knowledge on dairy health care practices. Only 12 percent of WDCS members had low level knowledge on dairy health care practices. 62 per cent of WDCS members were having a medium level of knowledge on marketing of milk, followed by 23 per cent of WDCS members possessing high level knowledge. However, only 15 percent of WDCS members were having low level knowledge. When mean knowledge level is calculated among 5 activities of management practices, data revealed that highest mean (5.55 marks out of 10 marks) was secured by WDCS members on marketing activities, followed by 5.34 marks out of 10 marks, on housing, 5.26 marks out of 10 marks on feeding, 5.04 marks out of 10 marks on health care and 4.78 mark out of 10 marks on breeding. Thus, on an average, 68.60 percent of the respondents had medium level knowledge of all the above five activities, whereas 16.4 percent respondents had high level knowledge and 13.80 per cent respondents had low level knowledge, respectively. Correlation study revealed that, variables like age, family type, occupation, number of dairy animals, income from dairying, income from agriculture and other sources had positive correlation with knowledge level on dairy management practices. However, the education had negative correlation with knowledge level on dairy management practices. But, the variables like occupation, number of dairy animals, income from dairying, agriculture and other sources are significantly associated with the knowledge level on dairy management practices, among WDCS members at the 5 % level of significance.

**KEYWORDS:** Dairying, Dairy Management, Knowledge, Management Practice, Women Dairy Cooperative Society, Purposive Sampling

### **INTRODUCTION**

The prime objective of this research study is to scale up the knowledge on dairying practices, among WDCS members. It is

hypothesized that, the socio-personal and socio-economic variables like age, education, family type, family size, caste, occupation, type of house owned, major assets owned, no. of dairy cows owned and sources of income in rupees, have positive and significant influence on the development of the scientific knowledge of dairy management practices, among the WDCS members, leading to a better performance of WDCS. The dairy management practices include the activities related to dairy shed construction, feeding management, breeding and health care, and marketing of milk and milk products.

## RESEARCH DESIGN AND METHODOLOGY

The study and research design was developed in the light of developing the objectives, type of techniques and investigation was decided, statistical tools were selected for analysis. The members of WDCS having one year or more dairying activities and supplying milk to the WDCS regularly, was selected as respondents for the study. 10 WDCSs were selected based on their performance and from each WDCS, 10 members were selected randomly from the list of members, having the above criteria. Hence, there were all together 100 respondents selected from 10 WDCSs of Kendrapara district and considered as 100 samples for the study. The data were collected with the help of the schedule containing ten validated questions, under each practice. Each right answer to the respective question carries one mark. Thus, maximum ten marks have been allotted for the ten right answers, under each practice. The responses of WDCS members to the questions related to construction of dairy shed, feeding of dairy cows, breeding of dairy cows, health care and marketing of milk and milk products are collected and explained below.

## RESULT AND DISCUSSIONS

**Table 1: Distribution of Respondents as Per Age**

Sl. No.	Categories	Frequency (N=100)	%
1	Young age (up to 35 years)	15	15
2	Middle age (36-50 years)	55	55
3	Old age (Above 50 years)	30	30
<b>Total</b>		<b>100</b>	<b>100</b>

55 percent of WDCS members belonged to the middle age group followed by 30 per cent belonged to an old age group and 15 percent belonged to younger age groups, respectively.

**Table2: Distribution of Respondents as Per Education**

Sl. No.	Categories	Frequency (N=100)	%
1	No schooling	9	9
2	Functionally Literate	17	17
3	Primary School	30	30
4	Middle School	23	23
5	High School	16	16
6	College Education	5	5
<b>Total</b>		<b>100</b>	<b>100</b>

30 percent of the WDCS members passed the primary school, followed by 23 percent passed the middle school, 17 percent were functionally literate, respectively. 9 per cent of WDCS members did not have any schooling, whereas 5 percent of WDCS members have completed their college education.

54 percent belonged to general category, followed by 31 percent OBC, 12 percent SC and 3 percent ST, respectively. Hence, at present dairying is no more confined to caste barriers. Similarly, findings were reported by Suruchi (2015) and Durgaa (2009), that majority of the respondents i.e., 58.5 percent belongs to intermediate caste, followed by 33 percent and 8.5 percent, for high and low caste, respectively.

48 percent of families of WDCS members were having the adult members, within 3 to 5 members, followed by 36 percent families having more than 5 numbers of adult. Only 2 percent of the family members had more than 5 numbers of children. These research findings are in collaboration with the findings of Swain(2006), Bala and Chugh (2015) who reported that, the number of household members of their respondents was, within 6-16.

**Table 3: Distribution of Respondents as Per Occupation**

Sl.No.	Occupation Category	Frequency (N=100)	%
1	Wage Earning and dairy	6	6
2	Caste Occupation and dairy	8	8
3	Agriculture and dairy	51	51
4	Business and dairy	10	10
5	Service and dairy	6	6
6	Dairy only	19	19
<b>Total</b>		<b>100</b>	<b>100</b>

51 per cent WDCS members had dairying along with agriculture, as their source of income, followed by 19 per cent of WDCS members, having dairying business alone. 10 percent of the WDCS members were having a business along with dairy, followed by 8 percent of members who took up dairy as their caste occupation and 6 percent; each of WDCS members had dairy animals with wage earnings and services, respectively.

**Table 4: Distribution of Respondents as Per Major Assets Owned**

Sl. No.	Major assets	Frequency (N=100)	%
1	Bike/ Scooter	11	11
2	Television	19	19
3	Radio	19	19
4	Bicycle	44	44
5	Bed/ Sofa	7	7
<b>Total</b>		<b>100</b>	<b>100</b>

44 percent WDCS members possessed bicycles, followed by equal percent that is, 19 percent of them possessed television and radio. However, a very less percent of WDCS members (11 per cent), were in possession of bike/ scooter. Only 7 per cent of WDCS members had bed/ sofa.

### Knowledge Level on Dairy Management Practices

**Table5: Distribution of Respondents as Per theMark Range onHousing**

Knowledge Level on Housing			
Sl. No.	Mark Range	Frequency	Percent
1	High level (Mean +1 S.D) (>7.19)	16	16
2	Medium level (Mean- 1 S.D) to (Mean +1 S.D) (7.19-3.49)	69	69
3	Low level (Mean- 1 S.D) (<3.49)	15	15

69 percent of WDCS members have medium level knowledge of construction of cow shed, followed by 16 per cent of WDCS members having high level knowledge and secured more than 7.19 marks out of 10 marks. However, 15 per cent of WDCS members secured less than 3.49 marks out of 10 marks. It is inferred from this analysis that, they should have more training and exposure on visits of WDCS members; on dairy shed construction and management. Similar findings have been reported by Sharma (2005).

### Knowledge Level on Feeding

**Table 6: Distribution of Respondents as Per the Mark Range onFeeding**

Knowledge Level on Feeding			
Sl. No	Mark Range	Frequency	Percent
1	High level (Mean +1 S.D) (>7.5)	19	19
2	Medium level (Mean- 1 S.D) to (Mean + 1 S.D) (7.5-3.02)	67	67
3	Low level (Mean- 1 S.D) (<3.02)	14	14

The table above revealed that, 67 percent of WDCS members have medium level knowledge, 7.5-3.02 marks out of 10 marks, followed by 19 percent of respondents securing a high level of knowledge, (> 7.5 out of 10) in feeding of dairy cows. However, only 14 per cent WDCS members secured 3.02 marks out of 10 marks, which is considered as low level of knowledge on feeding of dairy animals. It is inferred from this analysis that, there should have been more training and exposure visits of WDCS members, on dairy cow feeding management. Similar observations were also reported, by Sharma et al (2007), Sharma and Singh (2008) and Meena et al (2009).

**Knowledge Level on Breeding of Dairy Cows**

**Table7: Distribution of Respondents as Per the Mark Range on Breeding of Dairy Cows.**

Knowledge Level on Breeding			
Sl. No.	Mark Range	Frequency	Percent
1	High level (Mean +1 S.D) (>6.15)	9	9
2	Medium level (Mean- 1 S.D) to (Mean + 1 S.D) (6.15-3.41)	72	72
3	Low level (Mean-1S.D) (<3.41)	13	13

The above table revealed that, 72 percent of the respondents had a medium level of knowledge, having 6.15- 3.41 marks out of 10 marks, followed by 13per cent of respondents had a low level of knowledge (<3.41) marks and only 9 per cent of respondents alone had the highest level of knowledge (6.15) marks out of 10 marks.It is inferred from this analysis that, there should have more training andexposure, through the visits of WDCS members ofthe dairy cowbreeding management.

**Knowledge Level of Health Care of Dairy Cows**

**Table8: Distribution of Respondents as Per the Mark Range onHealth Care of Dairy Cows**

Knowledge Level of Health Care of Dairy Cows			
Sl. No	Mark Range	Frequency	Percent
1	High level (Mean +1 S.D) (>7.03)	15	15
2	Medium level (Mean- 1 S.D) to (Mean + 1S.D) (7.03-3.02)	73	73
3	Low level (Mean- 1S.D) (<3.02)	12	12

The table above revealed that,a maximum of 73 per cent of WDCS members had medium level knowledge of health care practices of dairy cows, securing the marks ranging from 7.03 - 3.02 out of 10, followed by 15 percent of WDCS members who secured more than 7.03 marks out of 10 and was considered as having high knowledge on dairy health care practices. Only 12 percent of WDCS members were categorized by having low level knowledge on dairy health care practices, securing less than < 3.02 marks out of 10. It is inferred from this analysis that, there should have been more training and exposure visits of WDCS members of dairy cowhealth care management.

**Comparative Knowledge Level on Different Management Practices among WDCS Members**

When comparison is made between existing knowledge level, in different activities of dairy management practices, acquired among WDCS member’s data, as shown in the table below, which revealed that, 23 per cent of respondents were having high level knowledge on milk marketing, when compared with other four activities such as

knowledge level on housing, feeding, breeding and health care. This is followed by, knowledge on feeding(19 %), knowledge on housing (16%) and knowledge on health care (15%). However, 73 per cent WDCS members happened to belong to medium level knowledge category in health care, followed by 72 per cent of respondents, having a medium level knowledge on breeding, 69 per cent of respondents on housing and 62 per cent of respondents on marketing.

**Table9: Comparative Knowledge Level on Different Management Practices among WDCS Members**

Sl. No.	Knowledge level on	High Level	Medium Level	Low Level	Mean	Standard Deviation
1	Housing	>7.19 (16)	7.19-3.49 (69)	<3.49 (15)	5.34	1.85
2	Feeding	>7.5 (19)	7.5- 3.02 (67)	<3.02 (14)	5.26	2.24
3	Breeding	>6.15 (9)	6.15-3.41 (72)	<3.41 (13)	4.78	1.37
4	Health care	>7.03 (15)	7.03-3.02 (73)	<3.02 (12)	5.04	1.99
5	Marketing	>7.56 (23)	7.56-3.54 (62)	<3.54 (15)	5.55	2.01

(The figures in parenthesis indicate per cartage)

When mean knowledge level is calculated among the activities of management practices, data revealed that highest mean marks (5.55 marks) was secured by WDCS members on marketing activity, followed by 5.34 marks on the housing, 5.26 marks on feeding, 5.04 marks on health care and 4.78 marks on breeding. The table also revealed that, on an average 68.60 per cent of the respondents had medium level knowledge, of all the above five activities, whereas 16.4 per cent respondents had high level knowledge and 13.80 per cent respondents had low level knowledge, respectively. It is inferred from this result that, the majority of WDCS members did not have good knowledge of different dairy management practices, which needs to be intervened through different training programs.

#### **Relationship between the Socioeconomic Profile WDCS Members and Their Knowledge of Dairy Management Practices**

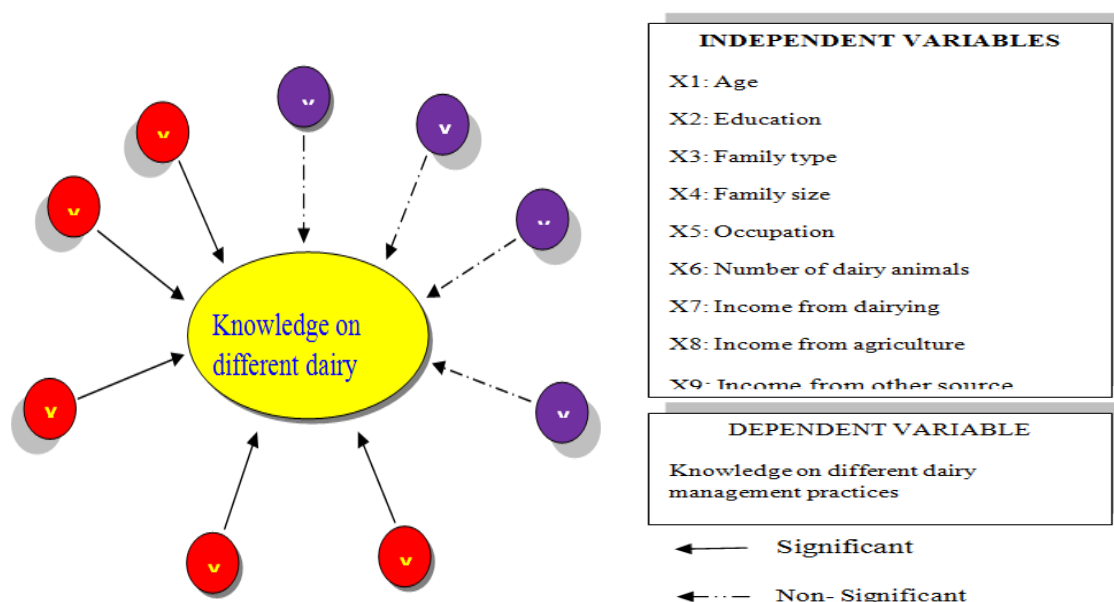
The knowledge of WDCS members is mostly influenced by their personal, socio-economical, communication and psychological characteristics. To understand the relationship between the profile of WDCS members and their knowledge of dairy management practices, the co-efficient of relationship  $R$  was worked out and the results were presented in the table below.

**Table 10: Relationship between the Profile of WDCS Members and Their Knowledge on Dairy Management Practices**

Sl.No.	Variable	Correlation Coefficient (r)
1	Age	0.0320
2	Qualification	-0.1025
3	Family type	0.1069
4	Family size	-0.0877
5	Occupation	0.6903**
6	Number of dairy animals	0.3196**
7	Income from dairying	0.3884**
8	Income from agriculture	0.3452**
9	Income from other source	0.4474**

Significant at the 1% level

The selected socioeconomic variable data were subjected to correlation with knowledge level, on dairy management practices with a view to identify the potential variables, which were having a positive and significant relationship, with knowledge level on dairy management. The results presented in the table revealed that, variables like age, family type, occupation, number of dairy animals, income from dairying, income from agriculture and other sources have positive correlation with the knowledge level of dairy farmers. However, one variable that is, education have negative correlation with knowledge level on dairy management practices. However, the variables like occupation, number of dairy animals, income from dairying, agriculture and other sources were significantly associated with the knowledge level on dairy management practices, among WDCS members at the 1 % level of significance.



**Figure 1: Empirical Model Showing Cause and Effect Relationship between Independent Variables and Knowledge of Different Dairy Management Practices**

## CONCLUSIONS

The findings of the study revealed that, there is lack of knowledge amongst women dairy farmers, about dairy management practices which poses a huge risk to the life of livestock. During the study, the researchers observed that, none of the WDCS was having kiosk, one WDCS had internet connectivity and there was no use of mobile for transfer of message, related to the dairy management practices. It showed that, the WDCSs were not up to date, to the development of ICT. Some steps should be taken to provide the ICT facilities in the WDCS, enabling the members for easy access to the information related to dairy management practices. Analysis of the social and personal characteristics of respondents has indicated lesser involvement of the younger age group in WDCS. Thus, there is an urgent need to motivate the youth and the government institutions, to come forward with policies and programs that will motivate the present youth, to view dairying as a tool of prosperity. There is a need to organize special programs to improve knowledge on dairy management practices, through mass media like TV, radio, FM radio, newspaper, Kiosk, notice boards of cooperative societies, posters, leaflets and other sources of information. Separate extension wing in the loan department of veterinary and Animal Husbandry should be established, to carry out research and extension activities, for dairy farmers.

The findings of this study would serve as a guideline for extension agencies, training institutions and concerned organization information about effective and realistic training programs, to impart knowledge amongst women dairy farmers, about dairy management practices.

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