

**UTILIZATION OF COMMUNICATION SOURCES  
BY DAIRY ENTREPRENEURS OF  
OLLUKKARA BLOCK IN THRISSUR DISTRICT**

**By  
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**THESIS**

**Submitted in partial fulfilment of the  
requirement for the degree**

**Master of Veterinary Science**

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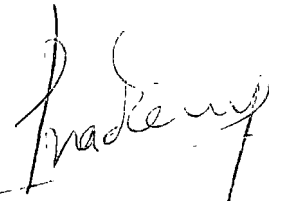
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**2000**

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I hereby declare that this thesis entitled **“UTILIZATION OF COMMUNICATION SOURCES BY DAIRY ENTREPRENEURS OF OLLUKKARA BLOCK IN THRISSUR DISTRICT”** is a bonafide record of research work done by me during the course of research and that the thesis has not previously formed the basis for the award to me of any degree, diploma, fellowship or other similar title, of any other University or Society.

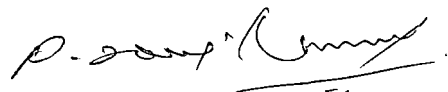
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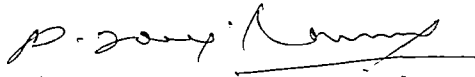


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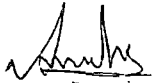
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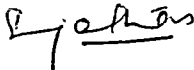
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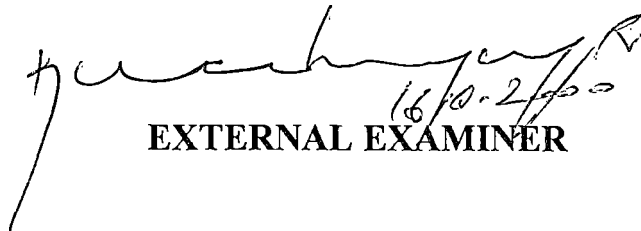
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**“Knowledge is life  
Ignorance is death”**

*Dedicated to that spirit of life*

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## *INTRODUCTION*

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## INTRODUCTION

There has been an unprecedented growth in milk production in Kerala ever since the early sixties, benefiting both producers and consumers. From 2.2 lakh metric tones of milk production in 1963-64 it rose to around 26-lakh metric tones in 1998-99. The strategies adopted by the state government viz., expansion of cross breeding facilities, strengthening of veterinary services, organized milk marketing services combined with the efforts of enterprising dairy farmers were responsible for this great leap in milk production. Milk production, nevertheless, has not caught up with the demand for milk as it has risen much faster than production. So the state is far from self-sufficient and is importing milk from neighbour states especially during lean season.

A further increase in milk production has serious constraints like high population density, reduced land availability increased labour charges, and more importantly acute fodder shortage and escalating cost of concentrate feed. But there is a way if there is a clear will for effectively and intelligently integrating scientific knowledge with the human behaviour of entrepreneurship. The example of countries like Israel producing an average of 6500 kg of milk from Israeli-Friesian cows in spite of all the unfavourable conditions of manpower, land, water and weather justifies such an assumption. In fact, entrepreneurial behaviour of people is equally important as technology itself and both are vital to economic development of a region, state or country. For this reason the dairy entrepreneurs who have taken dairying as a major vocation has a greater role to play as compared to part time dairy farmers. The present and future entrepreneurs can cash on the ever-increasing demand for milk in the state.

It is important that these dairy entrepreneurs are provided with a conducive atmosphere to grow in their vocation. There should be appropriate policies and programmes with the organizations and institutions concerned to enhance the human capital and productivity of dairy entrepreneurs in their

enterprise. Such organizations and institutions as communication sources play the key role, because they can influence and determine the communication behaviour of entrepreneurs for their own benefit. Entrepreneurs need right information at the right time from the right source. They can never conduct the business in a communication vacuum. Both personal or institutional and media or impersonal sources concerned with communicating dairy related information are vital in their system. Entrepreneurs may keep on interacting with one or the other source for the right information. Obviously, it is important to know how these sources are utilized by the dairy entrepreneurs, what all are their information needs etc. in order to assess the strengths, weaknesses and opportunities in the system. Therefore the present study was undertaken with the following objectives:

1. To study the pattern of utilization of different communication sources by dairy entrepreneurs and
2. To identify the information and skill needs of dairy entrepreneurs.

*REVIEW OF LITERATURE*

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## REVIEW OF LITERATURE

This chapter is a review of past studies. On reviewing the literature it became evident that studies related to the communication behaviour of dairy farmers was scarce. Moreover, literature directly related to the availability of communication sources, relationship between profile of dairy entrepreneurs and information and skill needs and certain aspects of communication behaviour were meagre.

The relevant and available literature reviewed is presented in this chapter under the following titles.

1. Availability, preference and utilization pattern of communication sources
2. Credibility of communication sources
3. Information and skill needs of dairy entrepreneurs
4. Relationship of profile with frequency of utilization of communication sources and information and skill needs of dairy entrepreneurs

### **2.1 Availability, preference and utilization pattern of communication sources**

Champawat and Intodia (1970) found that extension workers were the main sources of information used at all stages of adoption of weedicide practices.

Prashad and Sinha (1970) reported that relatives, family members and neighbours and village level workers were the most utilized sources of information by farmers, with some variation in their preference for these sources.

Rogers and Shoemaker (1971) suggested five stages on the innovation decision process viz., knowledge, persuasion, decision, implementation and confirmation. He reported that while in developed countries mass media channels

were important in creating awareness knowledge, in developing countries the role of mass media was partly replaced by cosmopolite interpersonal channels.

Singh (1972) found that farmers for the adoption of improved agricultural practices frequently contacted informal personal sources, namely, friends, relatives and neighbours.

Nanjaiyan (1973) found that among the information sources utilized by farmers radio was the first followed by neighbours and friends.

Bahadur and Rasheed (1974) identified neighbours and friends as the main sources of information for farmers about bank credit.

Pushkaran (1975) reported that majority of the farmers got the first information on poultry farming from mass media sources followed by government agencies and neighbourhood sources where as subject matter specialists were the most preferred source of information.

Viswanathan *et al.* (1975) emphasized the role of Village Level Workers as more important than progressive farmers in communicating innovation to the small farmers.

Ambastha and Singh (1977) found that professional meetings, farmers and immediate supervisors to be the most frequently used sources of information input by the innovation developing system comprising the Specialists, Assistant Specialists, Assistant Research Officers and Junior Research Assistants researching on summer paddy and wheat.

Kalamegam and Menon (1977) revealed that Village Level Worker, Deputy Agricultural Officer and campaign were the sources utilized by most of the farmers for the adoption of improved seeds in a progressive village.

Bhatnagar (1978) revealed that cosmopolite interpersonal channels of communication consisting of Village Level Workers and other block officials were utilized to a greater extent as compared to localite channels at awareness stage by farmers of progressive and less progressive areas in rural communities of Uttarpradesh.

Subhadra (1979) reported that at awareness stage of dairy innovations, the neighbourhood agencies were the most utilised information source followed by Government agencies and mass media. Among mass media sources, most important were radio and seminars.

Dey (1981) reported that radio followed by extension personnel and farm publications were mostly preferred by farmers of high-urbanized areas where as progressive farmers followed by radio and farm publications were the most preferred information source for farmers of low urbanized areas.

Dhande (1982) studied chilli growers and revealed that friends were referred to only at times and never the local leaders. Further the credibility and availability of information sources were significantly related to utilization of these sources.

Patil (1982) revealed that Agricultural Assistant was the most consulted source of information by tobacco growers and was followed by progressive farmers, friends, neighbours and radio.

Subbareddy and Channegowda (1982) reported that formal sources of information like route supervisor, veterinary dispensary, livestock inspector, village extension officer and fodder extension officer were consulted by most of the dairymen than informal sources of information like other farmers and village elders.

Talukdar and Pawar (1982) found that slightly more than one-third of the respondents heard the radio programmes regularly while ten per cent never heard the programmes among the radio owning farmers of Assam.

Baadgaonkar (1983) identified agricultural assistants as the most utilized information source by groundnut farmers.

Agarwal and Singh (1984) reported that low and high-income group mothers of both urban and rural areas mostly utilized localite sources of information on child immunisation practices.

Nataraju and Channegowda (1985) revealed that Veterinary Livestock Inspector followed by cattle rally were the major two way communication sources consulted by dairymen where as film show followed by radio were the major one way communication sources consulted.

Nanjappa and Ganapathy (1986) found that majority of the farmers regularly read the various agricultural items of newspapers.

Ingle (1987) revealed that majority of the farmers used radio and newspaper at awareness, interest and evaluation stage of adoption while a negligible per cent used them only at adoption stage.

Nataraju and Channegowda (1987) found that majority of dairy farmers had medium extent of use of extension methods.

Natkar and Jayaramiah (1988) reported that among the different information sources superior officers followed by package of practices booklets, monthly meetings, demonstrations and newspaper were mostly consulted by extension personnel of Training and Visit System.

Sasikumar (1990) revealed that personal localite channels were the most widely used communication media by prawn farmers at awareness and adoptions stages, followed by personal cosmopolite and mass media and among the personal localite channels, friends, relatives and neighbours were found to be the most important sources.

Somasundaram *et al.* (1990) observed that majority of farm women were aware of the various farm broadcast programmes and farm telecast programmes followed by farm pages of newspaper and magazine in that order.

Yadav *et al.* (1991) found that friends were the most important localite source and radio the most important cosmopolite source consulted by contact farmers of Training and Visit System.

Singh and Tyagi (1993) reported that radio, gossip group and newspaper in the descending order were the most frequently used channels of communication by farmers for getting information on scientific dairy farming practices.

Karippai *et al.* (1995) reported that friends and relatives were the most utilized sources of information by small farmers followed by radio, newspapers, extension personnel and agricultural assistants in that order.

Boniface (1996) reported that literacy centre followed by friends, radio and neighbours were the most available information sources where as literacy centre followed by radio, newspaper and television were the most utilized information sources by neo-literate farmers. It was also reported that the selected television programme, viz., 'Nattinpuram' was occasionally utilized by sixty per cent of farmers and within the farm page of dailies, articles were most preferred than question-answers, advertisements and box items.

Jha and Chauhan (1998) reported that personal localite channels, viz., family members, relatives, friends and neighbours and fellow progressive farmers

were the main sources being utilized by the dairy farmers than personal cosmopolite channels.

Puspha and Seetharaman (1998) reported that Rural Welfare Officer followed by Village Panchayat Presidents were the most utilized information sources by beneficiaries of TRYSEM at awareness stage.

Pradhan *et al.* (1998) reported that cocoon market followed by radio, progressive farmers and neighbours and friends as the four most consulted sources of information by sericulturists.

Babykumari *et al.* (1999) revealed that opinion leaders used Assistant Agricultural Officers as the main source of information.

## **2.2 Credibility of communication sources**

Hovland and Weiss (1951) explained the term credibility as the extent to which an information source is perceived as trustworthy and competent by the receivers of the message.

Kalamegam and Menon (1977) revealed that Village Level Workers followed by radio were the most credible sources for farmers of a progressive village where as neighbours, friends followed by relatives were the most credible sources for farmers of a less progressive village.

Chole and Rahudkar (1978) revealed that big farmers had accorded more credibility to personal formal sources where as personal informal sources were more credible to small farmers.

Viajayaraghavan and Subramanian (1981) reported that Deputy Agricultural Officer followed by Gram Sevak, radio, friends and neighbours, literature and commercial agencies were the most credible sources for garden land farmers where as Gram Sevak followed by friends and neighbours, Deputy

Agricultural Officer, radio, commercial agencies and literature were most credible sources for dry land farmers.

Dhande (1982) found that radio as the most credible information source to farmers.

Sangha and Gupta (1985) reported that for the rural television viewers of Amritsar television was the most credible source of information for agriculture followed by Agricultural University, radio, block extension staff and relatives, friends and neighbours.

Singh and Parshad (1990) found that demonstrations followed by extension personnel in the department of agriculture were the most credible sources of information for farmers about afforestation of salt affected soils. Very little role was played by localite sources.

Karippai *et al.* (1995) found that the most credible sources for small farmers were extension personnel followed by friends and relatives, radio, Agricultural Assistants and newspaper.

Boniface (1996) found literacy centre as the most credible source of information followed by newspaper, television, radio, friends, agricultural office, fertilizer dealer and pesticide dealer for neo-literate farmers.

Pradhan *et al.* (1998) reported that demonstrations, radio, progressive farmers, neighbours and friends were the most credible sources in the descending order as identified by sericulturists.

### **2.3 Information and skill needs of dairy entrepreneurs**

Dubey *et al.* (1977) revealed that dairy stockmen attached highest significance to animal health and disease control followed by breeding where as economics of milk production and marketing were the least preferred areas.

Kokate and Tyagi (1980) reported that both trained and untrained dairy farmers expressed maximum training needs in health care and minimum in fodder production.

Shurpali and Hirevenkanagoudar (1992) revealed that most important training needs of farmwomen in dairying were infertility and its prevention with reduction in intercalving period.

Alauddin (1998) reported that out of fourteen areas on farm management, women farm graduates assigned first and second rank to marketing and storage of agricultural products and soil and water conservation, which were followed by dry farming and mixed farming management.

#### **2.4 Relationship of profile with frequency of utilization of communication sources and with information and skill needs**

##### **1. Age**

Pushkaran (1975) found that irrespective of age, poultry farmers preferred to use similar sources of information.

Vijayaraghavan and Subramanian (1981) reported that age had shown significant but negative correlation with information input pattern of garden land farmers where as it showed nonsignificant relationship in the case of dryland farmers.

Nataraju and Channegowda (1987) revealed that age had significant association with the extension participation of different categories of dairymen.

Ingle (1987) revealed that age was negatively and significantly related with mass media exposure and utilization.



Sodhi and Sangha (1992) found that age was nonsignificantly correlated with the television viewing regularity of farmers.

Somasundaram and Arunachalam (1996) reported that young farmers were high in their communication behaviour.

Rao and Reddy (1999) noted that age was negatively and significantly correlated with the information preference.

## 2. Education

Pushkaran (1975) reported that with increase in the level of education poultry farmers sought more of mass media sources and specialists.

Reddy and Murthy (1981) reported that education was significantly associated with participation of farmers in media treatment.

Vijayaraghavan and Subramanian (1981) reported that education had significant and positive correlation with information input pattern of garden land farmers and nonsignificant relationship in the case of dry land farmers.

Dhande (1982) noted that education was positively and significantly related to source utilization score.

Nataraju and Channegowda (1987) found that literate farmers had higher extension participation than illiterate farmers.

Ingle (1987) revealed education to be positively and significantly related with mass media exposure and utilization.

Singh and Tyagi (1994) found that education is positively and significantly related with communication behaviour of farmers.

Somasundaram and Arunachalam (1996) found that educated farmers were higher in their communication behaviour.

Rao and Reddy (1999) revealed that education was positively and significantly correlated with the information preference of the respondents on mango production technology.

### 3. Experience in dairying

Rao and Reddy (1999) revealed that farming experience was negatively and significantly correlated with the information preference of farmers.

### 4. Income from core produce (milk)

Rao and Reddy (1999) revealed that annual income was positively and significantly correlated with the information preference of farmers.

### 5. Gross income from dairying

Singh and Tyagi (1994) revealed that income from dairying was positively and significantly related with communication behaviour of farmers.

### 6. Milch animals owned

Reddy and Murthy (1981) revealed that milch animal possession was significantly associated with participation of farmers in media treatment.

Nataraju and Channegowda (1987) reported that size of livestock possession was not significantly associated with the extension participation of respondents.

Singh and Tyagi (1994) reported that herd size was positively and significantly correlated with communication behaviour of farmers.

## 7. Land holding

Ingle (1987) reported that land holding was positively and significantly related with mass media exposure and utilization.

Narwal *et al.* (1991) revealed that land holding size was positively and significantly associated with the information input pattern of farmers.

Singh and Tyagi (1992) revealed that the communication behaviour of dairy farmers increased with increase in land holding size.

Sodhi and Sangha (1992) found that land holding was nonsignificantly correlated with the television viewing regularity of farmers.

Somaseundaram and Arunachalam (1996) reported that farmers possessing more farm area to be higher in their communication behaviour.

## 8. Risk preference

Pushkaran (1975) found that poultry farmers with high risk preference were more interested in authentic publications in poultry farming whereas those with medium risk preference depended on neighbours and friends.

Vijayaraghavan and Subramanian (1981) reported that risk preference had significant positive correlation with information input behaviour of farmers.

Singh and Tyagi (1994) found that risk preference is positively and significantly correlated with communication behaviour of farmers.

Rao and Reddy (1999) found that risk preference was positively and significantly correlated with the information preference of farmers.

#### 9. Innovation proneness

Vijayaraghavan and Subramanian (1981) found that innovation proneness had significant positive correlation with information input behaviour of farmers.

Rao and Reddy (1999) found that economic motivation was positively and significantly related with the information preference of farmers.

#### 10. Economic motivation

Vijayaraghavan and Subramanian (1981) reported that economic motivation had significant and positive correlation with information input behaviour of farmers.

#### 11. Marketing orientation

Rao and Reddy (1999) revealed that marketing behaviour of farmers was positively and significantly related with their information preference.

#### 12. Level of aspiration

Rao and Reddy (1999) revealed that aspiration of farmers was positively and significantly related with their information preference.

## METHODOLOGY

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## **METHODOLOGY**

This chapter deals with the research methods followed. They are described under the following headings.

- 3.1 Sampling design
- 3.2 Selection and measurement of variables
- 3.3 Data collection
- 3.4 Statistical analysis

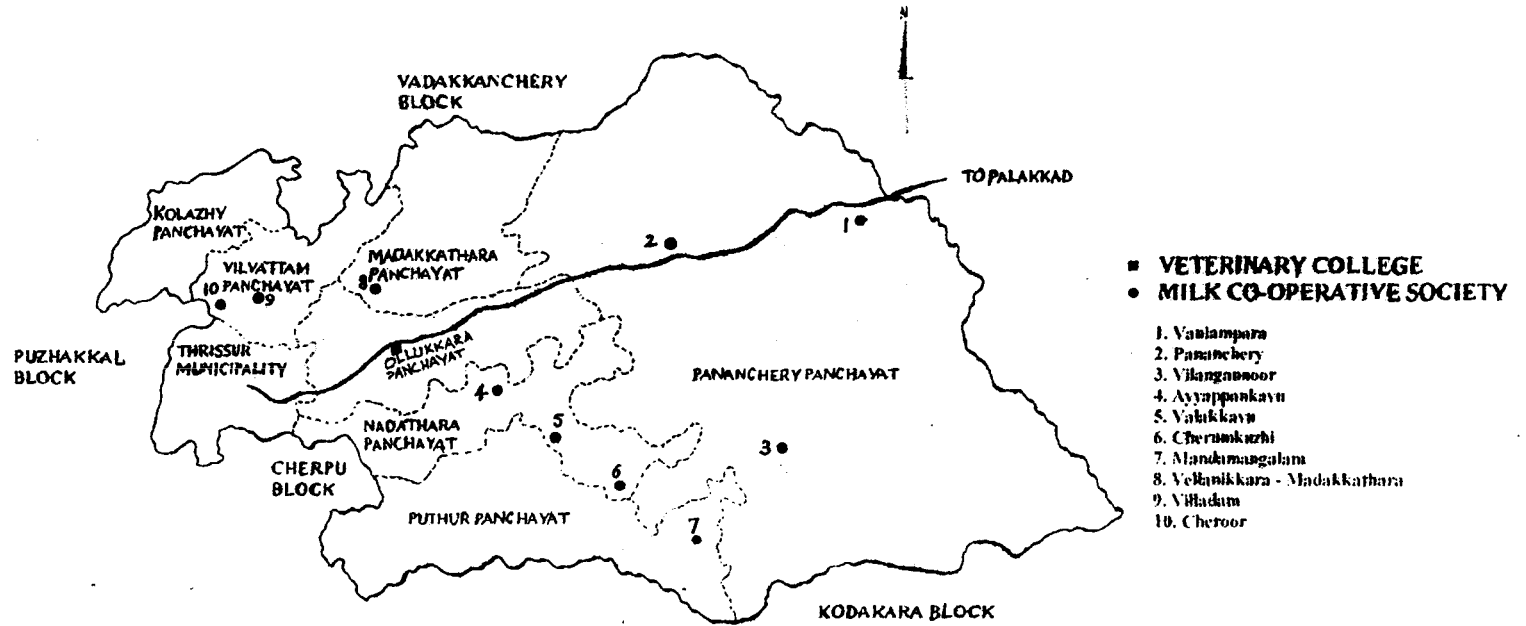
### **3.1 Sampling design**

The study was conducted in Ollukkara block of Thrissur district with 60 dairy entrepreneurs selected through multistage random sampling.

There were seventeen development blocks in Thrissur district. Among these Ollukkara block was selected purposively. There were 32 in milk co-operative societies in Ollukkara block and out of these, ten milk co-operative societies were selected at random. The milk co-operative societies thus selected were the following:

1. Vaniampara
2. Pananchery
3. Vilangannoor
4. Ayyappankavu
5. Valakkavu
6. Cherumkuzhi
7. Mandamangalam
8. Vellanikkara-Madakkathara
9. Villadom
10. Cheroor

## OLLUKKARA BLOCK - SELECTED MILK CO-OPERATIVE SOCIETIES



The map of study area with ten selected milk co-operative societies is provided (Fig. 1).

With the help of milk co-operative officials and key informants a list of dairy entrepreneurs for each society was prepared. Six dairy entrepreneurs were selected at random for each society from this list. Thus, in all 60 dairy entrepreneurs constituted the sample.

### **3.1.1 The concept of dairy entrepreneur**

Chambers 20<sup>th</sup> Century Dictionary (1990) defined an entrepreneur as one who undertakes an enterprise especially a commercial one, often at personal financial risk.

As per New Webster's Dictionary (1988) an entrepreneur is the person who organizes, manages and assumes the risks of a business.

For the purpose of the present study a dairy entrepreneur was operationally defined as a dairy farmer who undertook dairy enterprise especially a commercial one, often at personal financial risk.

Nevertheless, certain preconditions were stipulated while selecting the dairy entrepreneur in the present study such as

1. One who has been keeping at least three adult milch cows for more than two years.
2. Throughout the year milk is being produced and marketed,
3. Literate.

## **3.2 Selection and measurement of variables**

### **3.2.1 Selection of variables**

The comprehensive list of variables studied is presented in Table 1. The technique of measurement is also shown against each of them.



Table 1. The variables selected and the technique of measurement

Variables	Measurement
<b>I. Socio-personal variables</b>	
1. Age	Structured schedule
2. Education	-do-
3. Training	-do-
4. Experience in dairying	-do-
<b>II. Socio-economic variables</b>	
1. Land holding	Structured schedule
2. Milch animals owned	-do-
3. Source of capital	-do-
4. Income from core produce	-do-
5. Fixed investment	-do-
6. Gross income from dairying	-do-
<b>III. Socio-psychological variables</b>	
1. Risk preference	Scale developed by Supe (1969)
2. Innovation proneness	Scale developed by Moulik and Rao (1958)
3. Economic motivation	Scale developed by Supe (1969)
4. Market orientation	Scale developed by Samanta (1977)
5. Level of aspiration	Scale developed by Muthaya (1971)
<b>IV. Availability of communication sources</b>	
1. Personal/institutional sources	Structured schedule
2. Impersonal/media sources	-do-
<b>V. Preference for communication sources</b>	
1. Personal/institutional sources	Preference ranking
2. Impersonal/media sources	-do-
<b>VI. Utilization pattern of communication sources</b>	
1. Programmes utilized	Structured schedule
2. Preference for programmes	-do-
3. Frequency of utilization	-do-
<b>VII. Credibility of communication sources</b>	Standard paired comparison technique
<b>VIII. Information and skill needs</b>	Structured schedule

### 3.2.2 Measurement of variables

#### 3.2.2.1 Socio-personal variables

##### 1. Age

Age of the respondent is operationally defined as the number of years completed by the respondent at the time of interview.

The respondents were classified arbitrarily as follows.

- a) Young - < 35 years
- b) Middle - 35-45 years
- c) Old - > 45 years

##### 2. Education

This indicated the level of formal education of the respondent.

The categorisation of respondents was done as follows:

<u>Category</u>	<u>Score</u>
a) Primary school	1
b) Middle school	2
c) High school	3
d) College	4

##### 3. Training

It is defined as the involvement of a farmer in the learning situations related to dairying, organized by any of the state or central institution or agency.

Based on training the respondents were classified as those who obtained training and those who had not obtained training and scores of either 2 or 1 was respectively given.

<u>Category</u>	<u>Score</u>
1) Training obtained	2
2) Training not obtained	1

#### 4. Experience in dairying

It is operationalized as the number of years the respondent has been carrying out dairying.

### 3.2.2.2 Socio-economic variables

#### 1. Land holding

It referred to the area of cultivable land available to the respondent and the respondents were categorized as follows.

- |                          |                      |
|--------------------------|----------------------|
| a) Large farmer          | - Above 2 hectares   |
| b) Small farmers         | - 1-2 hectares       |
| c) Marginal farmer       | - Below 1 hectare    |
| d) Agricultural labourer | - 10 cents and below |

#### 2. Milch animals owned

It meant the number of milch animals kept by the respondent at the time of study.

#### 3. Source of capital

It meant the source of finance either to start or to further enlarge the enterprise.

A score of one was assigned to those who used own savings and a score of two to those who used other financial sources along with own savings.

#### 4. Income from core produce

It meant the annual income obtained from the sale of whole milk.

#### 5. Fixed investment

It is operationalised as the amount of money invested for purchasing animals, constructing cattle shed and for purchasing utensils and equipments for dairying.

## 6. Gross income from dairying

It referred to the annual income obtained by the respondent from the sale of milk, dung and calves.

### 3.2.2.3 Socio-psychological variables

#### 1. Risk preference

It is defined as the degree to which the respondent is oriented towards uncertainty and has the courage to face the problems in dairying.

Risk preference was measured using the scale developed by Supe (1969). The scale consisted of six statements of which two were negative. The respondents were asked to indicate their agreement or disagreement towards the statements on a three-point continuum ranging from agrees to disagree.

The responses thus obtained were scored as

<u>Response category</u>	<u>Score</u>
Agree	3
Undecided	2
Disagree	1

The scoring pattern was reversed for negative statements. The sum of scores obtained by an individual was taken as his score for risk preference.

#### 2. Innovation proneness

It is defined as the readiness to accept and orient towards the new scientific practices in dairying.

Innovation proneness was measured by using the self-rating scale developed by Moulik and Rao (1965). The scale consists of 3 sets of statements with weights 3, 2, 1 indicating high, medium and low degree of innovation proneness. After obtaining the most to least choices for each of 3 sets of statements, the

scoring was done by summing up the ratio of the weight of the 'most like' statements to the weight of the 'least like' statements.

### 3. Economic motivation

It is defined as the occupational success in terms of profit maximisation in dairying and the relative value placed by an entrepreneur on economic ends.

Economic motivation was measured using the scale developed by Supe (1969). The scale consisted of six statements of which one was negative. The respondents were asked to indicate their agreement or disagreement towards the statements on a three-point continuum ranging from agrees to disagree.

The responses thus obtained were scored as

<u>Response category</u>	<u>Score</u>
Agree	3
Undecided	2
Disagree	1

The scoring pattern was reversed for negative statements. The sum of scores obtained by an individual was taken as his score for economic motivation.

### 4. Marketing orientation

Marketing orientation was measured using the scale developed by Samantha (1977). It is defined as the degree to which a dairy farmer is oriented towards market information and manipulation in marketing strategies as to achieve maximum price for the produce.

The scale consisted of six statements of which three were negative and three were positive. In the case of positive statement, score of one was given for agreement and zero for disagreement. For a negative statement the scoring pattern

was reversed. The sum of scores obtained for all statements by an individual was taken as his score for marketing orientation.

#### 5. Level of aspiration

It is defined as the level of wishes and hopes possessed by a dairy farmer to attain higher standards of living.

Level of aspiration was measured in the present study by using the ladder technique developed by Muthaya (1971). In this scale step-10 indicated high aspiration and step-1 indicated low aspiration.

The respondents were asked to mention the position within the ladder they stood five years back or while starting the enterprise, the position now and after 5 years. The steps were given scores from 1 to 10. For each respondent two levels of aspiration were obtained, the first being the difference between the present and the past and the second the difference between the present and five years later.

#### **3.2.2.4 Availability, preference, pattern of utilization and credibility of communication sources**

Based on the review of literature and discussion with scientists and extension personnel, major communication sources relevant in the field of dairying were identified. They were

1. Newspaper
2. Periodicals (various fortnightly, monthly, by monthly, quarterly magazines)
3. Poster
4. Other publication (Leaflets, bulletins etc.)
5. Radio
6. Television
7. Milk co-operative society
8. Veterinary hospital

9. Veterinary college
10. Neighbours
11. Friends
12. Relatives
13. Other professionally qualified persons in animal husbandry (Retired veterinarians, private veterinary practitioners etc.)

#### 3.2.2.4.1 Availability of communication sources

It meant the extent of availability of various communication sources selected for the study such as personal/institutional and impersonal/media sources and as felt by the respondent themselves out of their own past experiences.

The scoring procedure followed was as given below:

<u>Availability</u>	<u>Score assigned</u>
Readily available	3
Available to some extent	2
Not available	1

A total score for each source, over all the respondents, was worked out and depending on this source-wise total score, the sources studied were ranked from one to thirteen.

Further, since the total score of a source can range from 60 to 180, three class intervals were fixed as follows:

<u>Score</u>	<u>Availability</u>
60-100	Low
101-140	Medium
141-180	High

#### 3.2.2.4.2 Preference for communication sources

This refers to the choice of communication sources selected for study such as personal/institutional and impersonal/media sources by the respondents.

Each respondent was asked to rank thirteen communication sources from one to thirteen by giving first rank to the most preferred communication source and last rank to the least preferred one.

The rank obtained for each source from each respondent was converted to scores based on the following method.

<u>Rank</u>	<u>Score</u>
I	13
II	12
III	11
IV	10
V	9
VI	8
VII	7
VIII	6
IX	5
X	4
XI	3
XII	2
XIII	1

A total score of each source, over all the respondents, was worked out and depending on this source-wise total score, the sources studied were ranked from one to thirteen.

Further, since the total score of a source can range from 60 to 780, three class intervals were fixed as follows:

<u>Score</u>	<u>Preference</u>
60-300	Low
301-540	Medium
541-780	High



### 3.2.2.4.3 Utilization pattern of communication sources

It meant the pattern of utilization of communication sources in terms of frequency of utilization of communication sources, programmes utilized, preference for programmes and frequency of utilization of programmes.

#### 3.2.2.4.3.1 Frequency of utilization of communication sources

This meant the period within which the respondent used to consult the communication source. The scoring procedure followed was as given below:

<u>Frequency of utilization</u>	<u>Score</u>
Every day	6
2-6 times a week	5
Once a week	4
Once a month	3
Once in 6 months	2
Never	1

A total score for each source, over all the respondents, was worked out and depending on this source-wise total score, the sources studied were ranked from one to thirteen.

Further, since the total score of a source can range from 60 to 360, three class intervals were fixed as follows:

<u>Score</u>	<u>Frequency of utilization</u>
60-160	Low
161-260	Medium
261-360	High

#### 3.2.2.4.3.2 Programmes utilized and frequency of utilization

Programmes utilized meant selected programmes or items of dailies, All India Radio, Doorsharshan and institutional programmes.

Frequency of utilization meant the extent of utilization of programmes or items by the respondent.

#### 1. Utilized items of dailies and frequency of utilization

The items selected were feature stories, question-answers and advertisements from farm page of dailies. Frequency of utilization of each item was recorded either as frequently or as occasionally. Later, the percentage of respondents in each category, item-wise was worked out.

#### 2. Radio programmes utilized and frequency of utilization

The programmes selected were farm news, Kerala Agricultural University news, farm and home programme, 'Thozhilalirangam', 'Veetammamarkkuvendi', 'Vanithavedi' and 'Yuvavani'. Frequency of utilization of each programme was recorded either as frequently or as occasionally. Later, the percentage of respondents in each category, programme wise was calculated.

#### 3. Television programme utilized and frequency of utilization

The programme selected was 'Nattinpuram'. Frequency of utilization of the programme was recorded either as frequently or as occasionally. Later, the percentage of respondents in each category, programme wise was worked out.

#### 4. Institutional programme availability and frequency of utilization

Institutional programmes selected were Vaccination camp, Infertility camp, Health care camp, Seminar, Symposium, Cattle show, Calf rally, Exhibition, Training programme, Farm clinic and Farm visit.

##### 1. Availability of institutional programmes

It meant the extent of availability of various programmes to the respondents.

The scoring procedure followed was as follows:

<u>Availability</u>	<u>Score</u>
Readily available	3
Available to some extent	2
Not available	1

A total score for each programme, over all the respondents, was worked out and since the total score of 9 programmes can range from 60 to 180, three class intervals were fixed as follows:

<u>Score</u>	<u>Availability</u>
60-100	Low
101-140	Medium
141-180	High

## 2. Frequency of utilization of institutional programmes

The scoring procedure followed was as follows:

<u>Frequency of utilization</u>	<u>Score</u>
Mostly	3
Occasionally	2
Never	1

Further, since the total score of a programme can range from 60 to 180, three class intervals were fixed as follows:

<u>Score</u>	<u>Frequency of utilization</u>
60-100	Low
101-140	Medium
141-180	High

### 3.2.2.4.3.3 Preference for programmes

It meant the choice of programmes or items of dailies, All India Radio, Doordarshan and various institutions by the respondents.

### 1. Preference for items in dailies

Each respondent was asked to rank the selected three items from one to three by giving first rank to the most preferred item and last rank to the least preferred one. The ranks were converted to scores based on the following method.

<u>Rank</u>	<u>Score</u>
I	3
II	2
III	1

A total score of each item, over all the respondents, was worked out and depending on this item-wise total score, the items studied were ranked from one to three.

### 2. Preference for programmes in radio

Each respondent was asked to rank the selected seven programmes from one to seven by giving first rank to the most preferred item and last rank to the least preferred one. The ranks were converted to scores on the following method.

<u>Rank</u>	<u>Score</u>
I	7
II	6
III	5
IV	4
V	3
VI	2
VII	1

A total score of each programme, over all the respondents, was worked out and depending on this programme-wise total score, the programmes studied were ranked from one to seven.

### 3. Preference for institutional programmes

Each respondent was asked to rank the selected eleven programmes from one to eleven by giving first rank to the most preferred item and last rank to the least preferred one. The ranks were converted to scores based on the following method.

<u>Rank</u>	<u>Score</u>
I	11
II	10
III	9
IV	8
V	7
VI	6
VII	5
VIII	4
IX	3
X	2
XI	1

A total score of each programme, over all the respondents, was worked out and depending on these programme-wise total score, the programmes studied were ranked from one to eleven.

#### 3.2.2.4.4 Credibility of communication sources

It meant the extent to which a communication source was preferred as trustworthy and important by receivers of the message.

Credibility was assessed using standard paired comparison techniques developed by Thurstone (1927). Maximum possible number of pairs with the communication sources selected was arrived at by using the formula suggested by Edwards (1957).

$$\text{Number of pairs} = \frac{n(n-1)}{2}$$

n = Total number of communication sources selected for the study

The respondents were asked to identify the source from each pair, which they judge as more credible than the other. Based on the judgement of respondents, the F, P and Z matrices were constructed as suggested by Edwards (1957) to arrive at the credibility scale value of each of the selected communication source. Scale value was taken as the basis for credibility ranking.

#### 3.2.2.5 Information and skill needs

It meant the need of information on improved practices realized by the respondents.

##### 3.2.2.5.1 Information need

Based on the review of literature and discussion with scientists and extension personnel, eighteen major information areas were identified for the study. They were,

1. Breed characteristics
2. Grass cultivation
3. Roughage feeding
4. Concentrate feeding
5. Care of newborn calf
6. Deworming
7. Vaccination
8. Housing
9. Calf management
10. Heat detection and artificial insemination details
11. Insurance

12. Details on credit facilities
13. Source of animals for purchase
14. Hygiene
15. Mixed farming
16. Milk processing
17. Milk products manufacture
18. Gobar gas production

The scoring procedure employed for information need was as follows:

<u>Need</u>	<u>Score</u>
Most needed	3
Somewhat needed	2
Not needed	1

A total score for each information, over all the respondents was worked out and depending on these information-wise total scores, the information aspects studied were ranked from one to eighteen.

Further, since the total score of an information aspect can range from 60 to 180, three class intervals were fixed as follows:

<u>Score</u>	<u>Information need</u>
60-100	Low
100-140	Medium
140-180	High

#### 3.2.2.5.2 Skill need

Based on the review of literature and discussion with scientists and extension personnel, major areas of skills selected were as given below:

1. Correct method of milking
2. Administration of medicines
3. Silage preparation

4. Urea treatment of straw
5. Milk products manufacture
6. First aid measures
7. Concentrate feed manufacture
8. Milking machine

The scoring procedure employed for skill need was as follows:

<u>Need</u>	<u>Score</u>
Most needed	3
Somewhat needed	2
Not needed	1

A total score for each skill, over all the respondents was worked out and depending on these skill-wise total scores, the skills studied were ranked from one to eight.

Further, since the total score of a skill can range from 60 to 180, three class intervals were fixed as follows:

<u>Score</u>	<u>Skill need</u>
60-100	Low
100-140	Medium
140-180	High

### **3.3 Data collection**

Data were collected through personal interview of respondents using a pre-tested structured schedule. Data collection was done from December 1999 to March 2000.

### **3.4 Statistical analysis**

The data were subjected to statistical analysis like mean, standard deviation, Delinious and Hodges cumulative root f method, correlation, multiple regression and standard paired comparison technique.



## RESULTS

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## RESULTS

The results of the study are presented in the following heads.

1. Profile of the dairy entrepreneurs.
2. Availability of communication sources.
3. Preference for communication sources.
4. Utilization pattern of communication sources.
5. The credibility of communication sources.
6. The information and skill needs.
7. Relationship of profile of dairy entrepreneurs with their frequency of utilization of communication sources, information need and skill need.
8. Relationship among availability, preference and frequency of utilization of communication sources

### 4.1 Profile of dairy entrepreneurs

#### 4.1.1 Socio-personal characteristics

##### 1. Age

The data regarding the age of dairy entrepreneurs is presented in Table

2.

Table 2. Distribution of respondents according to age

Age group	Frequency	Percentage
Young (<35 years)	15	25
Middle (35-45 years)	18	30
Old (>45 years)	27	45
Total	60	100

n=60

The analysis revealed that majority of the respondents (45%) was of old age, 30 per cent of middle age and 25 per cent of young age.

## 2. Education

The data regarding the education of dairy entrepreneurs is presented in Table 3.

Table 3. Distribution of respondents according to education

Category	Frequency	Percentage
Primary (Class I- IV)	9	15.0
Middle (Class V-VII)	16	26.7
High (Class VII-X)	27	45.0
College (Above class X)	8	13.3
Total	60	100

n=60

Majority of the dairy entrepreneurs (45%) has got highschool education, which is followed by middle school education (26.7%), 15% having primary education and 13.3 per cent having college education.

## 3. Training

The data regarding whether the dairy entrepreneurs obtained training or not is given in Table 4.

Table 4. Distribution of respondents based on training obtained

Category	Frequency	Percentage
Training obtained	11	18.33
Training not obtained	49	81.67
Total	60	100

n=60

Analysis of the data in Table 4 revealed that majority of dairy entrepreneurs (81.67%) has not got any training in dairying while the remaining 18.33 per cent has received training.

#### 4. Experience in dairying

The data regarding the experience of dairy entrepreneurs in dairying is given in Table 5.

Table 5. Distribution of respondents based on experience in dairying

Category	Frequency	Percentage
High (>31 years)	8	13.33
Middle (7 - 31 years)	46	76.67
Low (<7 years)	6	10.00
Total	60	100

Mean  $\bar{x}$  = 19.10 years    S.D. = 12.25 years

It is evident from the data that only 13.33 per cent dairy entrepreneurs were highly experienced in dairying. Majority (76.67%) had medium level of experience while remaining 10 per cent were less experienced.

#### 4.1.2 Socio-economic characteristics

##### 1. Land holding

Table 6. Distribution of respondents based on land holding

Category	Frequency	Percentage
Large farmer (Above 2 hectares)	8	13.33
Small farmer (1-2 hectare)	25	41.67
Marginal farmer (Below 1 hectare)	24	40.00
Agricultural labourers (10 cents and below)	3	5.00
Total	60	100

n=60

It is evident from the Table 6 that of the total respondents 41.67 per cent were small farmers, 40 per cent were marginal farmers, 13.33 per cent were large farmers and 5 per cent were agricultural labourers.

##### 2. Milch animals owned

Table 7. Distribution of respondents based on milch animals owned

Category	Frequency	Percentage
Large herd (>6 milch cattle)	6	10.00
Medium herd (4 - 5 milch cattle)	8	13.33
Small herd (3 milch cattle)	46	76.67
Total	60	100

n=60

It is evident from the Table 7 that 76.67 per cent of dairy entrepreneurs kept a small herd of three milch cattle. Whereas, 13.33 per cent kept a medium

sized herd of four to five milch cattle and 10 per cent kept a large herd of six or more than six milch cattle.

### 3. Source of capital

The data regarding the source of capital is given in Table 8.

Table 8. Distribution of respondents based on source of capital

Category	Frequency	Percentage
Savings alone	38	63.33
Savings + credit	22	36.67
Total	60	100

n=60

It is evident from the Table 8 that 63.33 per cent of the respondents depended only on their own savings for starting the dairy enterprise while 36.67 per cent depended on savings and additional sources such as credit from nationalized banks, co-operative societies, self-governing local bodies and private moneylenders.

### 4. Income from core produce

Table 9 revealed the distribution of respondents based on their income from core produce, milk.

Table 9. Distribution of respondents based on income from core produce (milk)

Category	Frequency	Percentage
High (>Rs.83868)	9	15.00
Medium (Rs. 31473-83868)	50	83.33
Low (<31473)	1	1.67
Total	60	100

n=60

Mean  $\bar{x} = 57671$

S.D. = 2677

From milk sales 15 percent of the dairy entrepreneurs obtained a higher income while 1.67 per cent obtained a low income. Majority (83.33%) obtained a medium level of income.

#### 5. Fixed investment

Table 10. Distribution of respondents based on fixed investment on dairy enterprise

Category	Frequency	Percentage
High (>Rs.85861)	10	16.67
Medium (Rs.41309-85861)	45	75.00
Low (<Rs.41309)	5	8.33
Total	60	100

n=60

Mean  $\bar{x} = 63585$

S.D. = 22276

Analysis of data in the Table 10 revealed that majority of the respondents (75%) invested a medium amount on dairy enterprise while 16.67 per cent invested a higher amount. Only 8.33 per cent invested a low amount in dairying.

#### 6. Gross income from dairying

Table 11. Distribution of respondents based on gross income from dairying

Category	Frequency	Percentage
High (>Rs.100972)	7	11.67
Medium (Rs.37851-100972)	53	88.33
Low (<Rs.37851)	-	-
Total	60	100

n=60

Mean  $\bar{x} = 69411$

S.D. = 31560

It is evident from the Table 11 that majority (88.33%) of the respondents received medium gross income from dairying, 11.67 per cent received high income while no one received a low income.

#### 4.1.3 Socio-psychological characteristics

##### 1. Risk preference

Table 12. Distribution of respondents based on risk preference

Category	Frequency	Percentage
High (15-18)	17	28.33
Medium (11-14)	29	48.33
Low (6-10)	14	23.33
Total	60	100

n=60

Table 12 revealed that 28.33 per cent of the respondents were in high risk preference category, 48.33 per cent in medium and 23.33 per cent in low risk preference category.

##### 2. Innovation proneness

Table 13. Distribution of respondents based on innovation proneness

Category	Frequency	Percentage
High (6.34-9)	19	31.67
Medium (3.67-6.33)	24	40
Low (0.99-3.66)	17	28.33
Total	60	100

n=60



Data in Table 13 revealed that forty per cent of the respondents were in medium innovation proneness category, 31.67 per cent in high and 28.33 per cent in low innovation proneness category.

### 3. Economic motivation

Table 14. Distribution of respondents based on economic motivation

Category	Frequency	Percentage
High (15-18)	17	28.33
Medium (11-14)	26	43.33
Low (6-10)	17	28.33
Total	60	100

Data in Table 14 revealed that 28.33 per cent of the respondents had high economic motivation. 43.33 per cent and 28.33 per cent had medium and low economic motivation respectively.

### 4. Marketing orientation

Table 15. Distribution of respondents based on marketing orientation

Category	Frequency	Percentage
High (5-6)	14	23.33
Medium (4)	22	36.67
Low (3 and below)	24	40
Total	60	100

n=60

The Table 15 revealed that forty per cent of the respondents were having low marketing orientation, 36.67 per cent and 23.33 per cent were having medium and low marketing orientation respectively.

## 5. Level of aspiration

### a) Level of aspiration-1

The score of level of aspiration-1 was found out by subtracting the position on the ladder that the respondent identified himself five years back from the present position. Based on the scores respondents were grouped into high, medium and low categories.

Table 16(a). Distribution of respondents based on level of aspiration-1

Category	Frequency	Percentage
High (3.007 and above)	7	11.67
Medium (1.055-3.006)	27	45
Low (1.054 and below)	26	43.33
Total	60	100

n=60

It is evident from the table 16(a) that 45 per cent of respondents were having medium level of aspiration, 43.33 per cent were in low level of aspiration and only 11.67 per cent were having high level of aspiration.

### b) Level of aspiration-II

The score for level of aspiration-II was found out by subtracting the position on the ladder that the respondent identified himself now from the position he was expecting to reach after 5 years. Based on the scores respondents were grouped into high, medium and low categories.

Table 16(b). Distribution of respondents based on level of aspiration-II

Category	Frequency	Percentage
High (3.02 and above)	7	11.67
Medium (1.418-3.01)	24	40
Low (1.417 and below)	29	48.33
Total	60	100

The results revealed that around fifty per cent of the farmers had low level of aspiration whereas 11.67 per cent had high level of aspiration and the remaining 40 per cent had medium level of aspiration.

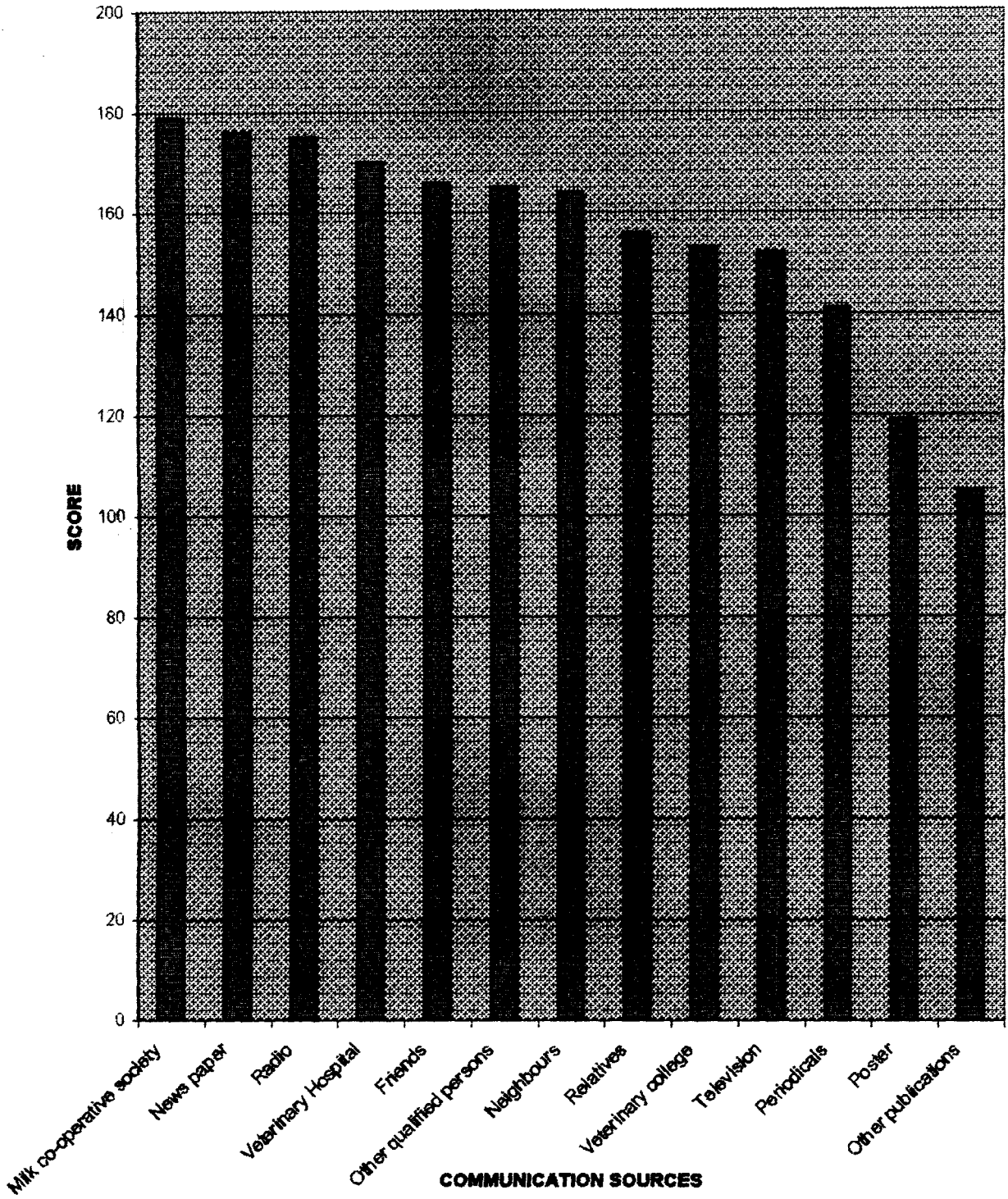
#### 4.2 Availability of communication sources

Availability of communication sources to dairy entrepreneurs is furnished in Table 17(a).

Table 17(a). Availability of communication sources

Sl.No.	Communication sources	Score	Rank
1	Milk Co-operative Society	179	I
2	Newspaper	176	II
3	Radio	175	III
4	Veterinary Hospital	170	IV
5	Friends	166	V
6	Other professionally qualified persons in Animal Husbandry	165	VI
7	Neighbours	164	VII
8	Relatives	156	VIII
9	Veterinary College	153	IX
10	Television	152	X
11	Periodicals	141	XI
12	Poster	119	XII
13	Other publications	105	XIII

Data in the Table 17(a) revealed that milk co-operative society is the most available communication source on dairying for respondents. This is

**Fig-2 AVAILABILITY OF COMMUNICATION SOURCES**

followed by mass media sources like newspaper and radio. Veterinary hospital was found to be the fourth mostly available source. Remaining ranks goes to friends, other qualified persons in Animal Husbandry, neighbours, relatives, veterinary college, television, periodicals, poster and other publications in the descending order (Fig.2).

The categorisation of communication sources based on availability is given in Table 17(b).

Table 17(b). Categorisation of communication sources based on availability

Availability	Communication sources
Low (60-100)	-
Medium (100-140)	Poster, other publications
High (140-180)	Milk co-operative society, Newspaper, Radio, Veterinary Hospital, Friends, other professionally qualified persons in animal husbandry, neighbours, relatives, veterinary college, television, periodicals

The table revealed that almost all the sources except poster and other publications were highly available to them. Poster and other publications were found to have medium availability. No communication source was found in low availability category.

### 4.3 Preference for communication sources

Preference of dairy entrepreneurs for different communication sources is furnished in Table 18(a).

Table 18(a). Preference for communication sources

Sl.No.	Communication sources	Score	Rank
1	Veterinary Hospital	639	I
2	Other professionally qualified persons in Animal Husbandry	599	II
3	Veterinary College	549	III
4	Newspaper	518	IV
5	Television	507	V
6	Milk Co-operative Society	469	VI
7	Radio	431	VII
8	Friends	391	VIII
9	Periodicals	360	IX
10	Neighbours	333	X
11	Other publications	251	XI
12	Relatives	231	XII
13	Poster	201	XIII

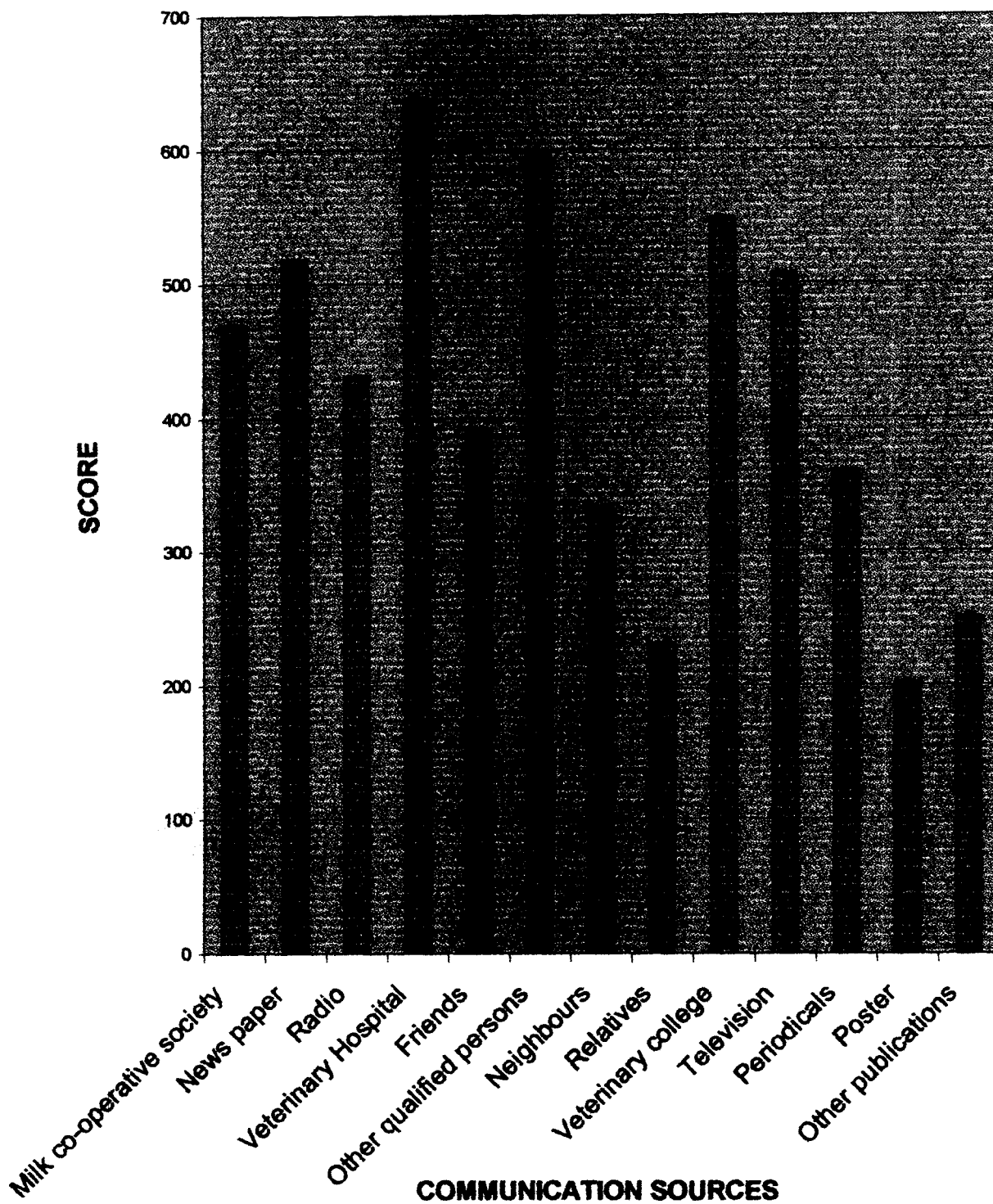
Data revealed that veterinary hospital was the most preferred source followed by other professionally qualified persons in animal husbandry. Veterinary college, newspaper, television, milks co-operative society, radio, friends, periodicals, neighbours, other publications, relatives and poster were the remaining sources in the descending order of preference (Fig.3).

The categorisation of communication sources based on preference is given in Table 18(b).

Table 18(b). Categorisation of communication sources based on preference

Preference	Communication sources
Low (60-300)	Poster, relatives, other publications
Medium (300-540)	Neighbours, periodicals, friends, radio, milk co-operative society, television, newspaper
High (540-780)	Veterinary college, other qualified persons in animal husbandry, veterinary hospital

The table revealed that veterinary hospital, other professionally qualified persons in animal husbandry and veterinary college had high preference. Poster, relatives and other publications had low preference. Sources like neighbours, periodicals, friends, radio, milk co-operative society, television and newspaper had medium preference.

**Fig-3 PREFERENCE FOR COMMUNICATION SOURCES**

#### 4.4 Utilization pattern of communication sources

##### 4.4.1 Frequency of utilization of communication sources

The ranking of communication sources based on the frequency of utilization is furnished in Table 19(a).

Table 19(a). Frequency of utilization of communication sources

Sl.No.	Communication sources	Score	Rank
1	Radio	256	I
2	Newspaper	254	II
3	Friends	195	III
4	Television	191	IV
5	Veterinary Hospital	186	V
6	Neighbours	175	VI
7	Relatives	174	VII
8	Milk Co-operative Society	163	VIII
9	Poster	156	IX
10	Periodicals	145	X
11	Other professionally qualified persons in Animal Husbandry	136	XI
12	Veterinary College	129	XII
13	Other publications	109	XIII

The Table 19(a) revealed that radio was the most frequently utilized communication source followed by newspaper, friends, television, veterinary hospital, neighbours, relatives, milk co-operative society, poster, periodicals, other professionally qualified persons in animal husbandry and other publications in that order (Fig.4).

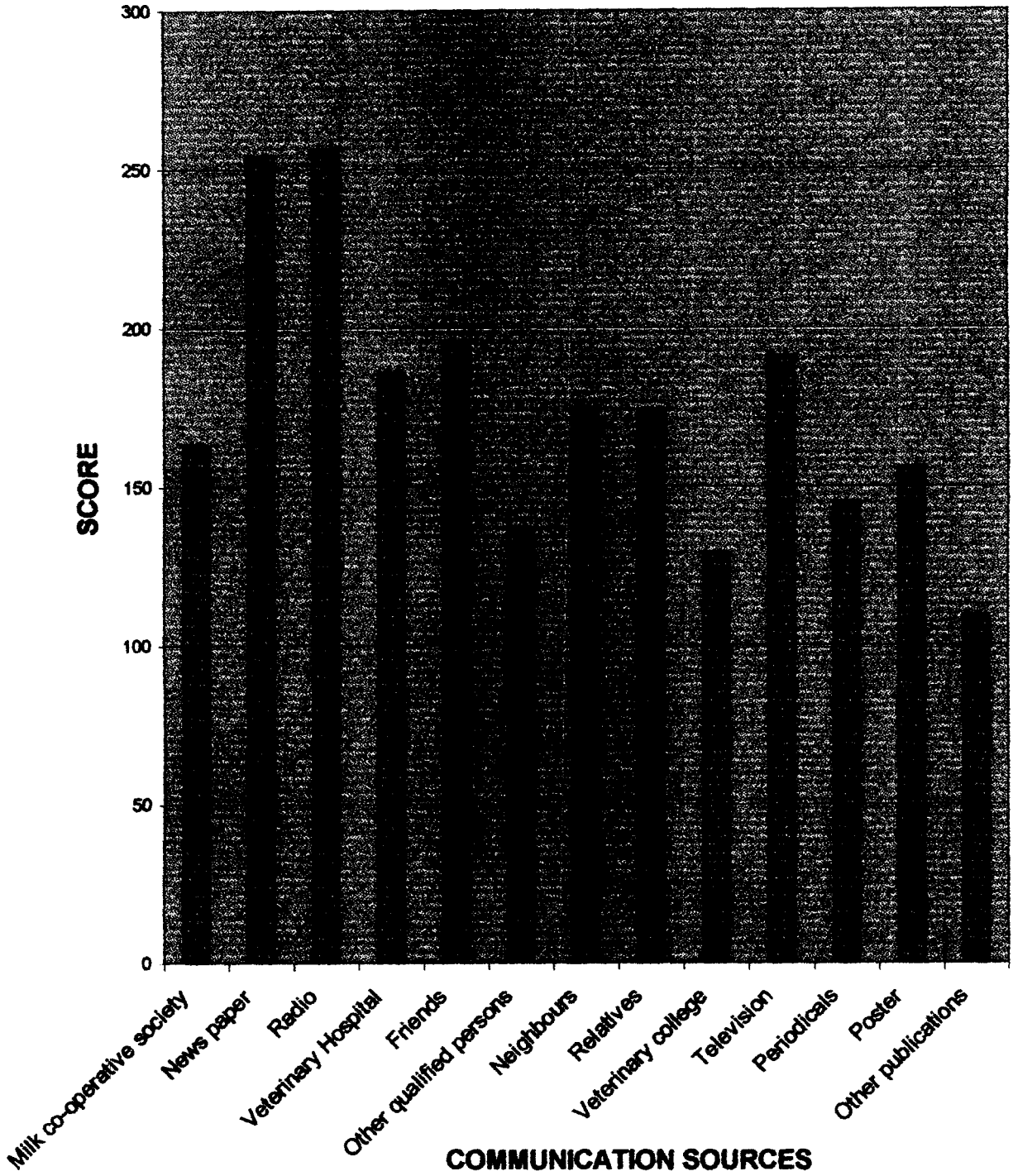
The categorisation of communication sources based on frequency of utilization is given in Table 19 (b) .

Table 19(b). Categorisation of communication sources based on frequency of utilization

Frequency of utilization	Communication sources
Low (60-160)	Other publications, veterinary college, other qualified persons in animal husbandry, periodicals, poster
Medium (160-260)	Milk co-operative society, relative, neighbours, veterinary hospital, television, friends, newspapers, radio
High (260-360)	-



**Fig-4 FREQUENCY OF UTILIZATION OF COMMUNICATION SOURCES**



The table revealed that none of the communication sources were in the highly utilized category. Radio, newspaper, friends, television, veterinary hospital, neighbours, relatives and milk co-operative society were utilized at medium level. Frequency of utilization was found to be low for poster, periodicals, other qualified persons in animal husbandry, veterinary college and other publications.

#### 4.4.2 Programmes utilized and frequency of utilization

##### 1. Frequency of utilization of items in dailies

Frequency of utilization of items in dailies is given in Table 20.

Table 20. Distribution of respondents based on the frequency of utilization of items in dailies

Sl. No.	Item	Frequently		Occasionally		Total	
		Frequency	Percent-age	Frequency	Percent-age	Frequency	Percent-Age
1	Feature story	36	60	24	40	60	100
2	Question-Answers	33	55	27	45	60	100
3	Advertisement	26	43	34	57	60	100

n=60

Data in the Table 20 revealed that feature story was utilized frequently by sixty per cent of the respondents and occasionally by the remaining forty per cent. Question-answer section was utilized frequently by fifty five per cent of respondents and occasionally by forty five per cent, advertisement was utilized frequently by forty three per cent of respondents and occasionally by the remaining fifty seven per cent.

##### 2. Frequency of utilization of radio programmes

Frequency of utilization of radio programmes is given in Table 21.

Table 21. Distribution of respondents based on frequency of utilization of radio programmes

n=60

S l. N o.	Programme	Frequently		Occasionally		Total	
		Frequency	Percent- age	Frequency	Percent- age	Frequency	Percent- age
1	Farm news	36	60	24	40	60	100
2	Kerala Agricultural University news	32	53	28	47	60	100
3	Farm and home	33	55	27	45	60	100
4	'Thozhilalirangam'	16	27	44	73	60	100
5	'Veettammamarkkuvendi'	33	55	27	45	60	100
6	'Vanithavedi'	18	30	42	70	60	100
7	'Yuvavani'	23	38	37	62	60	100

The table revealed that more than fifty per cent of the respondents utilized farm news, Kerala Agricultural University news, farm and home and 'Veettammamarkkuvendi' frequently while more than fifty per cent utilized 'Thozhilalirangam', 'Vanithavedi' and 'Yuvavani' occasionally.

### 3. Frequency of utilization of television programmes

Frequency of utilization of television programme ('Nattinpuram') is given in Table 22.

Table 22. Distribution of respondents based on frequency of utilization of television programme

n=60

Sl. No.	Programme	Frequently		Occasionally		Total	
		Frequency	Percent- age	Frequency	Percent- age	Frequency	Percent- age
1	'Nattinpuram'	23	38	37	62	60	100

The data in the table revealed that sixty two per cent of respondents utilized the programme occasionally, while thirty eight per cent utilized it frequently.

#### 4. Availability and utilization of institutional programmes

##### a) Availability of institutional programmes

The categorisation of institutional programmes based on availability is given in Table 23.

Table 23. Categorisation of institutional programmes based on availability

Availability	Institutional programmes
Low (60-100)	Symposium, training programme, farm clinic
Medium (100-140)	Farm visit, seminar, health care camp, infertility camp, exhibition, calf rally, cattle show
High (140-180)	Vaccination camp

The data revealed that vaccination camp was a highly available programme. Symposium, training and farm clinic were low in availability while farm visit, seminar, health care camp, infertility camp, exhibition, calf rally and cattle show were available to a medium level.

##### b) Frequency of utilization of institutional programmes

The categorisation of institutional programmes based on the frequency of utilization is given in Table 24.

Table 24. Categorisation of institutional programmes based on frequency of utilization

Frequency	Institutional programmes
Low (60-100)	Symposium, training programme, farm clinic
Medium (100-140)	Farm visit, infertility camp, health care camp, exhibition, calf rally, cattle show, seminar
High (140-180)	Vaccination camp

The table revealed that vaccination camp was in the highly utilized category whereas symposium, training and farm clinic were in low utilization category and farm visit, infertility camp, health care camp, exhibition, calf rally, cattle show and seminar were in medium category.

#### 4.4.3 Preference for programmes

##### 1. Preference for items in dailies

Preference of dairy entrepreneurs for different items is furnished in Table 25.

Table 25. Preference for items in dailies

Sl.No.	Items	Score	Rank
1	Feature story	152	I
2	Question-answer	143	II
3	Advertisement	65	III

The data revealed that feature story is the most preferred item followed by question-answer and advertisement.

##### 2. Preference for radio programmes

Preference of respondents for different radio programmes is furnished in Table 26.

Table 26. Preference for radio programmes

Sl.No.	Programmes	Score	Rank
1	Farm and Home	337	I
2	Farm news	311	II
3	'Veettammamarkkuvendi'	277	III
4	Kerala Agricultural University news	259	IV
5	'Yuvavani'	190	V
6	'Thozhilalirangam'	169	VI
7	'Vanithavedi'	136	VII

The data revealed that farm and home programme was the most preferred one which is followed by farm news, 'Veettammamarkkuvendi', 'Kerala Agricultural University news', 'Yuvavani', 'Thozhilalirangam' and 'Vanithavedi' in that order.

##### 3. Preference for institutional programmes

Preference of respondents for different institutional programmes is furnished in Table 27.

Table 27. Preference for institutional programmes

Sl.No.	Programmes	Score	Rank
1	Seminar	512	I
2	Farm visit	425	II
3	Vaccination camp	412	III
4	Farm clinic	395	IV
5	Training	380	V
6	Symposium	353	VI
7	Exhibition	335	VII
8	Health care camp	315	VIII
9	Cattle show	304	IX
10	Infertility camp	290	X
11	Calf rally	239	XI

The data revealed that seminar was the most preferred institutional programme by the respondents which is followed by farm visit, vaccination camp, farm clinic, training, symposium, exhibition, health care camp, cattle show, infertility camp and calf rally.

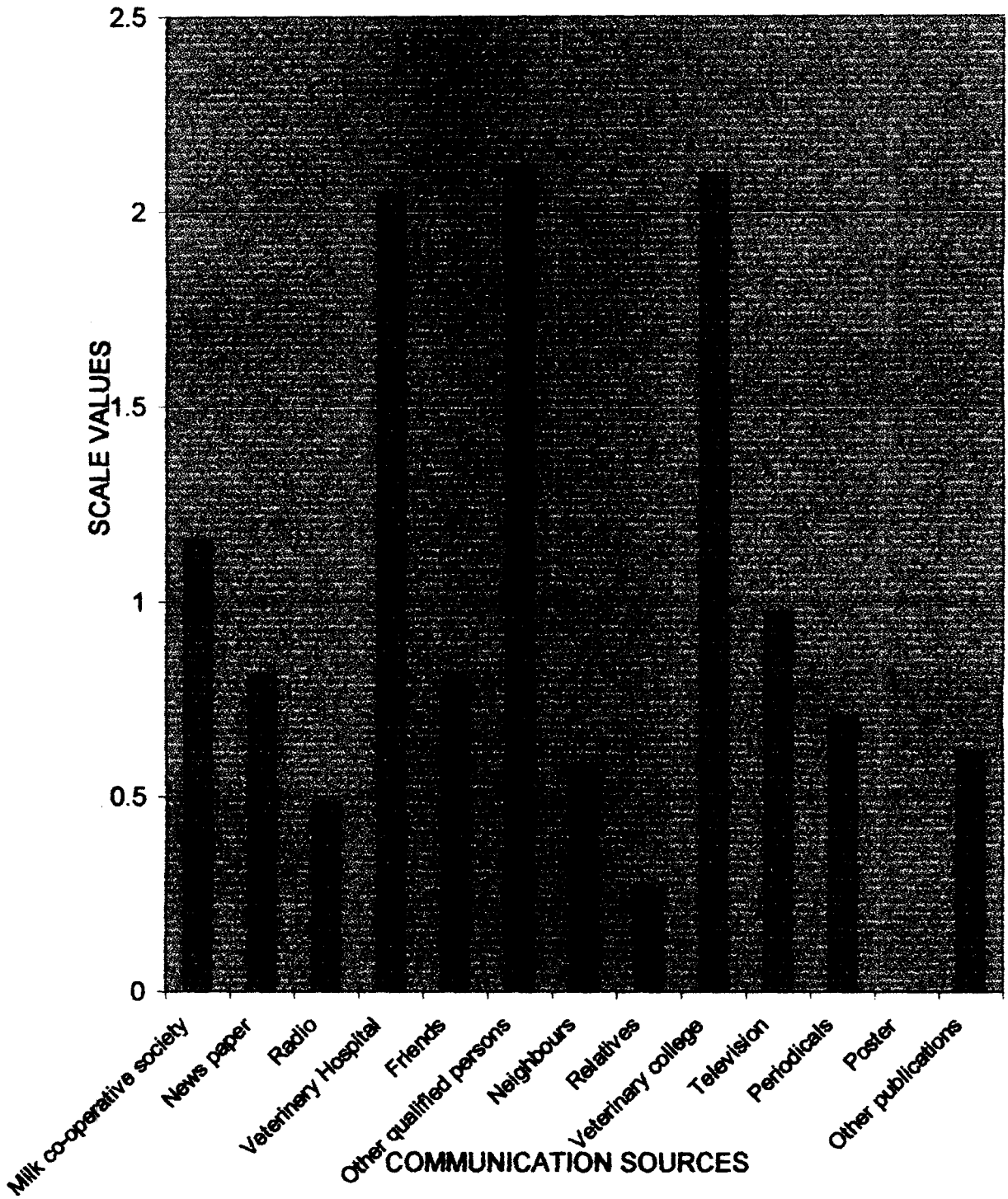
#### 4.5 Credibility of communication sources

Credibility of communication sources selected is given in Table 28.

Table 28. Credibility of communication sources as perceived by dairy entrepreneurs

Sl.No.	Communication sources	Credibility scale value	Rank
1	Other professionally qualified persons in animal husbandry	2.1152	I
2	Veterinary college	2.0952	II
3	Veterinary hospital	2.0407	III
4	Milk co-operative society	1.1548	IV
5	Television	0.9704	V
6	Newspaper	0.8108	VI
7	Friends	0.8037	VII
8	Periodicals	0.7013	VIII
9	Other publications	0.6128	IX
10	Neighbours	0.5784	X
11	Radio	0.4812	XI
12	Relatives	0.2664	XII
13	Poster	0.0000	XIII

Fig-5 CREDIBILITY OF COMMUNICATION SOURCES



It is evident from the Table 28 that other professionally qualified persons in animal husbandry were perceived as the most credible source which is followed by institutional sources like veterinary college, veterinary hospital and milk co-operative society. These were followed by television, newspaper, friends, periodicals, other publications, neighbours, radio, relatives and posters (Fig.5).

#### 4.6 Information and skill needs of dairy entrepreneurs

##### 4.6.1 Information need

Information need of dairy entrepreneurs on improved practices in dairying is furnished in Table 29(a).

Table 29(a). Information need of dairy entrepreneurs

Sl.No.	Information aspects in dairying	Total Score	Rank
1	Heat detection and artificial insemination details	138	I
2	Breed characteristics	135	II
3	Source of animals for purchase	127	III
4	Vaccination	124	IV
5	Hygiene	123	V
6	Gobar gas production	119	VI
7	Concentrate feeding	117	VII
8	Calf management	116	VIII
9	Mixed farming	115	IX
10	Details on credit facilities	107	X
11	Grass cultivation	106	XI
12	Insurance	105	XII
13	Deworming	104	XIII
14	Housing	104	XIV
15	Care of new born calf	100	XV
16	Roughage feeding	91	XVI
17	Milk products manufacture	82	XVII
18	Milk processing	77	XVIII

The data revealed that details on heat detection and artificial insemination were the most needed information on dairying which is followed by breed characteristics, source of animals for purchase, vaccination, hygiene, gobar gas production, concentrate feeding, calf management, mixed farming, details on credit facilities, grass cultivation and insurance. Housing, deworming, care of



newborn calf, roughage feeding, milk products manufacture and milk processing in that order.

Categorisation of information based on need is furnished in Table 29(b) .

Table 29(b). Categorisation of information needs

Need	Information
Low (60-100)	Milk processing, milk products manufacture, roughage feeding
Medium (100-140)	Care of new born calf, housing, deworming, insurance, grass cultivation, details on credit facilities, mixed farming, calf management, concentrate feeding, gobar gas production, hygiene, vaccination, source of animals, breed characteristics, details of artificial insemination and heat detection
High (140-180)	-

Data revealed that milk processing, milk product manufacture and roughage feeding were in low need category. Care of new born calf, housing, deworming, insurance, grass cultivation, details on credit facilities, mixed farming, calf management, concentrate feeding, gobar gas production, hygiene, vaccination, source of animals, breed characteristics, details of artificial insemination and heat detection were in the medium category. None was in the high need category.

#### 4.6.2 Skill need

Skill need of dairy entrepreneurs on improved practices in dairying is furnished in Table 30(a).

Table 30(a). Skill need of dairy entrepreneurs

Sl.No.	Skills need	Total score	Rank
1	First aid measures	167	I
2	Concentrate feed manufacture	106	II
3	Using milking machine	97	III
4	Urea treatment of straw	94	IV
5	Correct method of milking	93	V
6	Administration of medicines	83	VI
7	Silage preparation	83	VII
8	Milk products manufacture	78	VIII

Data revealed that skill on first aid measures were the most needed for dairy entrepreneurs which is followed by preparation concentrate feed, using of milking machine, urea treatment of straw, method of milking, administration of medicines, preparation of silage and making milk products.

Categorisation of skills based on need is furnished in Table 30(b).

Table 30(b). Categorisation of skill needs

Need	Skills
Low (60-100)	Milk products manufacture, silage preparation, administration of medicines, correct method of milking, urea treatment of straw, milking machine
Medium (100-140)	Concentrate feed manufacture
High (140-180)	First aid measures

Data revealed that first aid measure was the highly needed skill and preparation of concentrate feed was in medium category. The remaining aspects were in low need category. Making milk products, preparation of silage, administration of medicines, method of milking, urea treatment of straw, using of milking machine were in low need category.

#### 4.7 Correlation of profile of dairy entrepreneurs with their frequency of utilization of communication sources, information and skill need

##### 4.7.1 Correlation between profile of dairy entrepreneurs and their frequency of utilization of communication sources

###### 4.7.1.1 Simple correlation analysis

The correlation coefficients of profile of dairy entrepreneurs with frequency of utilization of communication sources are presented in Table 31.

Table 31. Correlation between profile of dairy entrepreneurs and frequency of utilization of communication sources

Variable No.	Profile characteristics	Correlation coefficient (r)
<u>Socio-personal variables</u>		
X <sub>1</sub>	Age	-0.183
X <sub>2</sub>	Education	0.149
X <sub>3</sub>	Training	0.147
X <sub>4</sub>	Experience in dairying	-0.097
<u>Socio-economic variables</u>		
X <sub>5</sub>	Land holding	0.122
X <sub>6</sub>	Milch animals owned	0.138
X <sub>7</sub>	Source of capital	-0.114
X <sub>8</sub>	Income from core produce	-0.091
X <sub>9</sub>	Fixed investment	0.313*
X <sub>10</sub>	Gross income from dairying	-0.041
<u>Socio-psychological variables</u>		
X <sub>11</sub>	Risk preference	-0.244
X <sub>12</sub>	Innovation proneness	0.116
X <sub>13</sub>	Economic motivation	-0.268*
X <sub>14</sub>	Marketing orientation	0.245
X <sub>15</sub>	Level of aspiration-I	0.191
X <sub>16</sub>	Level of aspiration-II	0.292*

\*Significant at 5% level

Among the four socio-personal variables selected viz., age, education, training and experience in dairying none was significantly correlated with the frequency of utilization of communication sources.

Socio-economic variables selected for the study were income from milk, gross income from dairying, fixed investment, milch animals owned, source of capital and land holding. Of these, fixed investment was significantly correlated with frequency of utilization of communication sources.

Among the socio-psychological variables economic motivation and level of aspiration II were significantly correlated with frequency of utilization of communication sources.

#### 4.7.1.2 Multiple regression analysis

Variance explained by the multiple linear regression was analysed using Analysis of Variance Technique. The results are presented in Table 32.

Table 32. Multiple regression of profile of dairy entrepreneurs on frequency of utilization of communication sources (ANOVA Table)

Source	Degrees of freedom	Sum of squares	Mean some of squares	F
Due to regression	16	1511.8512	94.4907	2.28
Error	43	1780.3320	41.40307	
Total	59	3292.1833		

\*Significant at 5% level

Coefficient of determination,  $R^2 = 0.459$

The regression analysis revealed that 45.9 per cent of the variation in the dependent variable was explained by 16 independent variables taken together ( $R^2 = 0.459$ ). The variation was found to be significant as explained by the F-value. The F ratio explained was significant at five per cent level of probability.

#### 4.7.2 Correlation between profile of dairy entrepreneurs and their information need

##### 4.7.2.1 Simple correlation analysis

The correlation coefficients of profile of dairy entrepreneurs with information need are presented in Table 33.

Table 33. Correlation coefficients between profile of dairy entrepreneurs and information need

Variable No.	Profile characteristics	Correlation coefficients (r)
X <sub>1</sub>	Age	-0.143
X <sub>2</sub>	Education	0.333*
X <sub>3</sub>	Training	0.032
X <sub>4</sub>	Experience in dairying	-0.109
X <sub>5</sub>	Land holding	0.337*
X <sub>6</sub>	Milch animals owned	0.235
X <sub>7</sub>	Source of capital	-0.075
X <sub>8</sub>	Income from core produce	0.191
X <sub>9</sub>	Fixed investment	0.374*
X <sub>10</sub>	Gross income from dairying	0.226
X <sub>11</sub>	Risk preference	0.170
X <sub>12</sub>	Innovation proneness	0.181
X <sub>13</sub>	Economic motivation	-0.182
X <sub>14</sub>	Marketing orientation	0.411*
X <sub>15</sub>	Level of aspiration-I	0.028
X <sub>16</sub>	Level of aspiration-II	0.051

\* Significant at 5% level

Among the 16 independent variables selected, only 4 characteristics viz., fixed investment, land holding, marketing orientation and education were found to have significant correlation with information need of dairy entrepreneurs.

#### 4.7.2.2 Multiple regression analysis

Variance explained by the multiple regression analysis was analysed using Analysis of Variance Technique. The results are presented in Table 34.

Table 34. Multiple regression of profile of dairy entrepreneurs on information need (ANOVA Table)

Source	Degrees of freedom	Sum of squares	Mean sum of squares	F
Due to regression	16	1025.3668	64.0850	2.73**
Error	43	1010.5664	23.5015	
Total	59	2035.9333		

\*Significant at 1% level

Coefficient of determination,  $R^2 = 0.504$

The regression analysis revealed that 50.4 per cent of the variation in the dependent variable was explained by the 16 independent variables taken together ( $R^2=0.504$ ). This variation was found to be significant as explained by F value. The F value was significant at one per cent level of probability.

#### 4.7.3 Correlation between profile of dairy entrepreneurs and their skill need

##### 4.7.3.1 Simple correlation analysis

The correlation coefficients of profile of dairy entrepreneurs with skill need are presented in Table 35.

Table 35. Correlation between profile of dairy entrepreneurs and skill need

Variable No.	Profile characteristics	Correlation coefficients (r)
X <sub>1</sub>	Age	0.073
X <sub>2</sub>	Education	0.134
X <sub>3</sub>	Training	0.120
X <sub>4</sub>	Experience in dairying	-0.059
X <sub>5</sub>	Land holding	0.227
X <sub>6</sub>	Milch animals owned	-0.090
X <sub>7</sub>	Source of capital	0.009
X <sub>8</sub>	Income from core produce	-0.174
X <sub>9</sub>	Fixed investment	0.059
X <sub>10</sub>	Gross income from dairying	-0.155
X <sub>11</sub>	Risk preference	0.172
X <sub>12</sub>	Innovation proneness	0.301*
X <sub>13</sub>	Economic motivation	-0.116
X <sub>14</sub>	Marketing orientation	0.311*
X <sub>15</sub>	Level of aspiration-I	-0.017
X <sub>16</sub>	Level of aspiration-II	0.006

\* Significant at 5% level

Among the 16 correlation coefficients computed between each of the profile characteristics of dairy entrepreneurs with their skill need only 2 characteristics viz., innovation proneness and marketing orientation were found to have significant correlation.

#### 4.7.3.2 Multiple regression analysis

Variance explained by the multiple regression analysis was analysed using Analysis of Variance Technique. The results are presented in Table 36.

Table 36. Multiple regression of profile of dairy entrepreneurs on skill need (ANOVA Table)

Source	Degrees of freedom	Sum of squares	Mean sum of squares	F
Due to regression	16	147.0151	9.1884	1.48
Error	43	266.3182	6.1934	
Total	59	413.3330		

Coefficient of determination,  $R^2 = 0.356$

The regression analysis revealed that 36.5 per cent of the variation in the dependent variable was explained by the 16 independent variables taken together ( $R^2=0.356$ ). This variation was nonsignificant as explained by F value.

#### 4.7.4 Correlation between profile of dairy entrepreneurs and their information and skill need combined

##### 4.7.4.1 Simple correlation analysis

The correlation coefficients of profile of dairy entrepreneurs with information and skill need combined are presented in Table 37.

Table 37. Correlation between profile of dairy entrepreneurs and information and skill needs combined

Variable No.	Profile characteristics	Correlation coefficients (r)
X <sub>1</sub>	Age	-0.060
X <sub>2</sub>	Education	0.289*
X <sub>3</sub>	Training	0.054
X <sub>4</sub>	Experience in dairying	-0.112
X <sub>5</sub>	Land holding	0.329*
X <sub>6</sub>	Milch animals owned	0.138
X <sub>7</sub>	Source of capital	-0.063
X <sub>8</sub>	Income from core produce	0.070
X <sub>9</sub>	Fixed investment	0.308*
X <sub>10</sub>	Gross income from dairying	0.104
X <sub>11</sub>	Risk preference	0.149
X <sub>12</sub>	Innovation proneness	0.279*
X <sub>13</sub>	Economic motivation	-0.197
X <sub>14</sub>	Marketing orientation	0.432*
X <sub>15</sub>	Level of aspiration-I	0.011
X <sub>16</sub>	Level of aspiration-II	0.034

\* Significant at 5% level

Among the 16 correlation coefficients computed between each of the profile characteristics of dairy entrepreneurs with their information plus skill needs combined only five characteristics viz., fixed investment, land holding, innovation proneness, marketing orientation and education were found to have significant correlation.

#### 4.7.4.2 Multiple regression analysis

Variance explained by the multiple regression analysis was analysed using Analysis of Variance Technique. The results are presented in Table 38.

Table 38. Multiple regression of profile of dairy entrepreneurs on information and skill needs combined (ANOVA Table)

Source	Degrees of freedom	Sum of squares	Mean sum of squares	F
Due to regression	16	1820.9490	113.8093	2.91**
Error	43	1680.0509	39.0709	
Total	59	3501.000		

\*\* Significant at 1% level

Coefficient of determination,  $R^2 = 0.520$



The regression analysis revealed that 52.0 per cent of the variation in the dependent variable was explained by 16 independent variables taken together ( $R^2 = 0.520$ ). This variation was significant as explained by F value at one per cent level of probability.

#### **4.8 Correlation among availability, preference and frequency of utilization of communication sources**

##### **4.8.1 Correlation between the availability and frequency of utilization of communication sources**

The correlation coefficient showing the relationship between availability and frequency of utilization of communication sources are given in Table 39.

The data revealed positive correlation between availability and frequency of utilization of all communication sources except newspaper, milk co-operative society and other professionally qualified persons in animal husbandry.

##### **4.8.2 Correlation between the availability and preference for communication sources**

The correlation coefficient showing the relationship between availability and the preference for communication sources are given in Table 40.

Data revealed positive correlation between availability and preference of all communication sources except newspaper, poster, other publications, milk co-operative society, veterinary college, neighbours, friends and relatives.

##### **4.8.3 Correlation between the preference and frequency of utilization of communication sources**

The correlation coefficient showing the relationship between preference and the frequency of utilization of communication sources are given in Table 41.

The data revealed positive correlation between the preference and frequency of utilization of all communication information sources except poster, other publications, neighbours and relatives.

Table 39. Correlation between availability and frequency of utilization of communication sources

	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	X <sub>8</sub>	X <sub>9</sub>	X <sub>10</sub>	X <sub>11</sub>	X <sub>12</sub>	X <sub>13</sub>
X <sub>1</sub>	0.135												
X <sub>2</sub>		0.302*											
X <sub>3</sub>			0.659**										
X <sub>4</sub>				0.644**									
X <sub>5</sub>					0.266*								
X <sub>6</sub>						0.405**							
X <sub>7</sub>							0.065						
X <sub>8</sub>								0.574**					
X <sub>9</sub>									0.379**				
X <sub>10</sub>										0.435**			
X <sub>11</sub>											0.468**		
X <sub>12</sub>												0.507**	
X <sub>13</sub>													0.245

- X<sub>1</sub> - Newspaper
- X<sub>2</sub> - Periodicals
- X<sub>3</sub> - Poster
- X<sub>4</sub> - Other publications
- X<sub>5</sub> - Radio
- X<sub>5</sub> - Television
- X<sub>7</sub> - Milk co-operative society

- X<sub>8</sub> - Veterinary Hospital
- X<sub>9</sub> - Veterinary College
- X<sub>10</sub> - Neighbours
- X<sub>11</sub> - Friends
- X<sub>12</sub> - Relatives
- X<sub>13</sub> - Other qualified persons

\* Significant at 5% level

\*\* Significant at 1% level

Table 40. Correlation between availability and preference of communication sources

	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	X <sub>8</sub>	X <sub>9</sub>	X <sub>10</sub>	X <sub>11</sub>	X <sub>12</sub>	X <sub>13</sub>
X <sub>1</sub>	0.179												
X <sub>2</sub>		0.431**											
X <sub>3</sub>			0.199										
X <sub>4</sub>				0.058									
X <sub>5</sub>					0.396**								
X <sub>6</sub>						0.354**							
X <sub>7</sub>							0.074						
X <sub>8</sub>								0.448**					
X <sub>9</sub>									0.249				
X <sub>10</sub>										0.049			
X <sub>11</sub>											0.205		
X <sub>12</sub>												0.136	
X <sub>13</sub>													0.295*

- X<sub>1</sub> - Newspaper
- X<sub>2</sub> - Periodicals
- X<sub>3</sub> - Poster
- X<sub>4</sub> - Other publications
- X<sub>5</sub> - Radio
- X<sub>5</sub> - Television
- X<sub>7</sub> - Milk co-operative society

- X<sub>8</sub> - Veterinary Hospital
- X<sub>9</sub> - Veterinary College
- X<sub>10</sub> - Neighbours
- X<sub>11</sub> - Friends
- X<sub>12</sub> - Relatives
- X<sub>13</sub> - Other qualified persons

\* Significant at 5% level  
 \*\* Significant at 1% level

Table 41. Correlation between preference and frequency of utilization of communication sources

	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	X <sub>8</sub>	X <sub>9</sub>	X <sub>10</sub>	X <sub>11</sub>	X <sub>12</sub>	X <sub>13</sub>
X <sub>1</sub>	0.299*												
X <sub>2</sub>		0.374**											
X <sub>3</sub>			0.198										
X <sub>4</sub>				0.191									
X <sub>5</sub>					0.490**								
X <sub>6</sub>						0.320**							
X <sub>7</sub>							0.394**						
X <sub>8</sub>								0.562**					
X <sub>9</sub>									0.390**				
X <sub>10</sub>										0.245			
X <sub>11</sub>											0.269*		
X <sub>12</sub>												0.166	
X <sub>13</sub>													0.310*

- X<sub>1</sub> - Newspaper
- X<sub>2</sub> - Periodicals
- X<sub>3</sub> - Poster
- X<sub>4</sub> - Other publications
- X<sub>5</sub> - Radio
- X<sub>5</sub> - Television
- X<sub>7</sub> - Milk co-operative society

- X<sub>8</sub> - Veterinary Hospital
- X<sub>9</sub> - Veterinary College
- X<sub>10</sub> - Neighbours
- X<sub>11</sub> - Friends
- X<sub>12</sub> - Relatives
- X<sub>13</sub> - Other qualified persons

\* Significant at 5% level  
 \*\* Significant at 1% level

## *DISCUSSION*

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## **DISCUSSION**

The findings of the present investigation are discussed in the following sequence.

1. Availability of communication sources
2. Preference for communication sources
3. Utilization pattern of communication sources
4. The credibility of communication sources
5. The information and skill needs
6. Correlation and multiple regression analysis of profile of dairy entrepreneurs with frequency of utilization of communication sources and with information and skill needs
7. Correlation among availability, preference and frequency of utilization of communication sources

### **5.1 Availability of communication sources**

The extent of availability of most of the communication sources studied and as perceived by the dairy entrepreneurs out of their past experiences was on high. Availability of communication sources is in other words the access to information support as and when needed. So much so, the above findings indicated prevalence of a favourable situation for appropriate exploitation by the organizations concerned with linking up these dairy entrepreneurs into their communication network.

Further, the results of the ranking of communication sources on the basis of their availability was a fair indication that milk co-operatives, newspapers and radio were perceived comparatively more available than other sources as they were respectively in the first three positions. This result agreed with the findings of Boniface (1996) that radio was a highly utilized information source by neo-literate agriculturists. This is again an indication of a prevailing favourable situation to

further enhance the utility of these media sources by way of effective policies and programmes. Nevertheless, periodicals, poster and other publications were found to be comparatively less available since these were ranked as the last three categories. This warranted the need for making these potential communication sources more entrepreneur friendly and more utilitarian. These otherwise potential communication sources were relegated to the background as compared to others, may be for reasons such as irrelevant message contained or even their inadequate publication. Extension agencies publishing these items should critically look into it.

## **5.2 Preference for communication sources**

It was noteworthy that, veterinary hospital, other professionally qualified persons and veterinary college were the first three most preferred sources of communication, evidently because of the expertise and credibility attributed to. This finding agreed with that of Pushkaran (1975) who reported that poultry farmers consulted more of technical experts. Entrepreneur's preference for communication sources is reasonable and therefore these sources need to be more interactive through suitable extension programmes so that the present and future entrepreneurs are made participants of the development programmes. Other publications were among the comparatively least preferred communication sources possibly because of their scarce availability as indicated earlier.

## **5.3 Utilization pattern of communication sources**

### **5.3.1 Frequency of utilization of communication sources**

Utilization pattern of communication sources revealed radio, newspaper and friends to be the first three most utilized communication sources in that order. Nanjaiyan (1973), Dey (1981), Dhande (1982), Ingle (1987), Boniface (1996) and Pradhan *et al.* (1998) also reported radio to be the highly utilized medium by different categories of farmers. Pushkaran (1975) and Ingle (1987) too reported that radio and newspaper were the highly utilized information sources by farmers.

Some of the comparatively lesser-utilized institutional sources were veterinary hospital, milk co-operative societies and veterinary college inspite of their significance as contact centers for valid and reliable information. Though veterinary hospital and veterinary college were among the most preferred sources of information, these were seen comparatively less utilized. It amply showed the dearth of appropriate extension programmes with these organizations. It is high time that the roles and functional of these organizations be re-defined to address to the needs of the livestock farmers in a better way.

### **5.3.2 Utilization of newspaper items, programmes in radio, television and institutions**

The frequency of utilization of none of the communication source was high, but was either low or medium. This showed that entrepreneurs information gathering or exposure to information was at low ebb. Though the above trend was one general for communication sources yet certain programmes or items were seen frequently utilized. For instance, more than half of the respondents were frequently reading feature stories and question-answer columns of farm pages in dailies. Feature stories are informative and interesting to read as most often they tell the success story of farmers and question-answer column provides ready and pertinent answers to issues and problems faced by fellow farmers. Boniface (1996) also found that farmers better preferred feature stories than other items of the farm page. Among the radio programmes, farm news, Kerala Agricultural University news, farm and home programme were seen frequently read/heard by majority of entrepreneurs. All the above radio programmes are popular among farmers since they have been giving regular and relevant information for many years.

Only a minority of entrepreneurs was seen frequently viewing 'Nattinpuram' programme in television probably because dairy related programmes were too meager in television.



The prevailing situation demanded enough number of training programmes, symposium and farm clinic as the low availability of these programmes had resulted in their low utilization.

### **5.3.3 Preference for items in dailies and programmes of radio and institutions**

Feature stories in farm pages of newspaper, no doubt is informative and interesting to read as they usually present the experiences of other farmers. This might be the reason why feature stories were the most preferred items in the farm pages. Boniface (1996) reported that feature stories were the most preferred items by neo-literate agriculturists. Next to feature stories entrepreneurs preferred question answer session, might because it presented solutions to problems usually faced by similar farmers. Among radio programmes related to farming, farm and home programme followed by farm news were the most preferred programmes, possibly because of their relevance to farming problems and regularity in broadcasting. Findings therefore were suggestive of the need for further emphasizing the items in newspapers viz., feature stories and question-answer session, farm and home programme and farm news in radio. More of such items/programmes targeting the dairy entrepreneurs may be incorporated, appropriately exploiting this favourable situation.

The finding that seminars, farm visits and vaccination camps were the first three most preferred institutional programmes is a guidepost that these programmes need to be organized periodically by the agencies concerned.

### **5.4 The credibility of communication sources**

Entrepreneurs ranking of communication sources gave a clear picture of which they considered relatively more trustworthy and important regarding dairy husbandry information and services. The first three most important and trustworthy sources mentioned were other professionally qualified persons, veterinary college

and veterinary hospital. This indicated that dairy entrepreneurs saw importance in technically competent personal. The results that technical experts are highly credible to farmers agreed with the findings of Chole and Rahudkar (1975), Kalamegam and Menon (1977), Vijayaraghavan and Subramanian (1981). Other professionally qualified persons included retired veterinary personnel who were rendering service to dairy farmers in the study area. Such persons are mostly those retired from the college of veterinary and animal sciences which is located in the study area. At the same time, some other important media sources such as radio, poster and other publications were seen comparatively less credible probably because these were impersonal media. However, measures to make them more credible should be taken up.

### **5.5 The information and skill needs**

A cursory look into the high, medium and low level requirement of information on various dairying practices revealed that none of them was highly needed, instead the need for most of the information were medium it needs special mention here that information about milk processing, making milk products and feeding roughage were only lowly needed. Since these dairy entrepreneurs effort is to produce and market whole milk, they ordinarily do not require information on milk processing and making milk products. But considering long-term sustainability of enterprise, they need to learn these aspects as only through diversification and enlargement of the enterprise that they can survive in the future.

Further, ranking of information need indicated that the first three most important needs to be information on heat detection and artificial insemination, breed characteristics and source of animals for purchase. The present field situation justifies such a requirement for information. Infertility is a nagging problem with crossbred cows and good animals are not sufficiently available for purchase. This result was in agreement with the findings of Shurpali and Hirevenkanagoudar (1992) and was comparable to that of Dubey *et al.* (1977).

The need for skills revealed that skill in first aid measures was highly required while that for preparing concentrate feed was medium and the one for making milk products, preparing silage, administration of medicines, method of milking, urea treatment of straw and using milking machine were low. Farmers usually come across some health problems in their herd that can be cured through effective first aid measures. Lack of proper knowledge will result substantial expenditure as in the later stages expensive treatment will be required. This was possibly the reason why the entrepreneurs were particular about acquiring the skill in first aid practices. Again, during farmers are really concerned about the poor quality and escalating cost of concentrates/compound feed available in the market. This is in consonance with the findings of Dubey *et al.* (1977) and Kokate and Tyagi (1980). If they knew how to prepare a feed mixture at home judiciously mixing locally available feed resources, cost could be reduced as well as quality could be assured. Extension agencies responsible, therefore should try to impart skills through demonstrations organized, if possible at their door or neighbourhood. Further, ranking of the skill needs revealed that the need for skills in first aid measures, preparing concentrate feed and using of milking machine were the first three priorities. Whereas, making milk products, preparing silage, administering medicines were the last three choices. In spite of the significance of skills such as making milk products, preparing silage, administration of medicines, method of milking, urea treatment of straw and using milking machine which are important in economic milk production, why the need for skills in these aspects were not much emphasized requires a further indepth probe.

## **5.6 Correlation and multiple regression analyses of profile of dairy entrepreneurs with frequency of utilization of communication sources and with information and skill needs**

### **1. Age**

Age was found to have a negative and nonsignificant correlation with the frequency of utilization of communication sources, which indicated that age had no influence on the frequency of utilization of communication sources. This

finding is in consonance with that of Pushkaran (1975) and Sodhi and Sangha (1992). However, a negative and significant correlation between age and communication source utilization was reported by Vijayaraghavan and Subramanian (1981), Ingle (1987) and Somasundaram and Arunachalam (1996).

Age was negatively and nonsignificantly correlated with information need and pooled information and skill needs of dairy entrepreneurs whereas, a positive nonsignificant correlation was noticed between age and skill need. This showed that dairy entrepreneurs had sought information and skill irrespective of their age. Rao and Reddy (1999) noted a negative and significant relationship between age and information preference among tribal mango cultivators.

## 2. Education

Education had positive and nonsignificant correlation with frequency of utilization of communication sources. This revealed that entrepreneurs do not see lack of education as a limitation for utilizing communication sources. However, a positive and significant correlation between these two variables was reported by Reddy and Murthy (1981), Vijayaraghavan and Subramanian (1981), Dhande (1982), Nataraju and Channegowda (1987), Ingle (1987), Singh and Tyagi (1994) and Somasundaram and Arunachalam (1996).

Education had a positive and significant correlation with the information need and pooled information and skill needs. Education had no correlation with skill need of the farmer. This indicated that with increase in educational status the farmers realized the importance of detailed information on each aspect of dairying. This is in agreement with the findings of Rao and Reddy (1999). But the skill needs of the entrepreneurs were irrespective of their educational status.

## 3. Training

A nonsignificant and positive correlation was noted between training and frequency of utilization of communication sources and between training and

information need, as well as skill need, and when information and skill needs were pooled. Majority of the farmers had not undergone any training programme. Among the remaining, a maximum number of farmers had undergone it long back. This could be the reason why training participation of the entrepreneurs was not seen correlated with frequency of utilization of communication sources, information need, skill need and when information and skill needs were pooled.

#### 4. Experience in dairying

Experience in dairying was negatively and nonsignificantly correlated with frequency of utilization of communication sources. Which revealed that farmers had consulted communication sources irrespective of their experience.

Experience in dairying was negatively and nonsignificantly correlated with information need, skill need and pooled information and skill needs. This did not clearly prove that experienced farmers were in less need of information. The probable reason could be that dairy entrepreneurs were interested to know more information irrespective of their experience. Rao and Reddy (1999) obtained a negative and significant relationship between experience and information preference of tribal mango cultivators.

#### 5. Land holding

Land holding was positively and nonsignificantly correlated with frequency of utilization of communication sources. This showed that land holding was not a limiting factor as far as frequency of utilization of communication sources were concerned. This agreed with the findings of Sodhi and Sangha (1992) but disagreed with Ingle (1987), Narwal *et al.* (1991), Singh and Tyagi (1992) and Somasundaram and Arunachalam (1992).

Information need of dairy entrepreneurs was positively and significantly correlated with land holding. The skill need was positively and nonsignificantly correlated with land holding while the pooled information and skill needs had positive and significant correlation with land holding. This indicated that larger the land holding, more the information need of dairy entrepreneurs.

#### 6. Milch animals owned

Number of milch animals owned was positively and nonsignificantly correlated with frequency of utilization of communication sources, which indicated that dairy entrepreneurs utilized communication sources irrespective of the number of milch cattle they possessed. This agreed with the findings of Nataraju and Chennegowda (1987). But this disagreed with the findings of Reddy and Murthy (1981) and Singh and Tyagi (1994).

Number of milch animals owned was positively and nonsignificantly correlated with information need and pooled information and skill need of dairy entrepreneurs. However, a negative nonsignificant correlation was noticed between the number of milch animals owned and skill need. This indicated that the information seeking behaviour is irrespective of the number of milch animals possessed.

#### 7. Source of capital

Source of capital was nonsignificantly correlated with frequency of utilization of communication sources, information need, skill need and when information and skill needs were pooled. This indicated that source of capital was not a deciding factor determining frequency of utilization of communication sources and information and skill needs of dairy entrepreneurs.

#### 8. Income from core produce (milk)

Income from milk had no correlation with frequency of utilization of communication sources, information need, skill need and pooled information and

skill needs. This indicated that annual income from milk was not a major factor deciding communication source utilization and information and skill needs of dairy entrepreneurs.

#### 9. Fixed investment

Fixed investment was found to possess a positive and significant correlation with frequency of utilization of communication sources, information need and pooled information and skill needs. This revealed that entrepreneurs who invested more capital were high in frequency of utilization of communication sources and had high information needs. Skill need was nonsignificantly related to fixed investment. This indicated that skill need of dairy entrepreneurs was irrespective of their fixed investment.

#### 10. Gross income from dairying

The gross income from dairying was negatively and nonsignificantly correlated with frequency of utilization of communication sources, which indicated that dairy entrepreneurs consulted communication sources irrespective of their gross income from dairying. This disagreed with the findings of Singh and Tyagi (1994).

Gross income was nonsignificantly correlated with information need, skill need and pooled information and skill needs. This revealed that information and skill needs of dairy entrepreneurs were irrespective of gross income from dairying.

#### 11. Risk preference

Frequency of utilization of communication sources was negatively and nonsignificantly correlated with risk preference. This revealed that risk preference had not influenced frequency of utilization of communication sources. This was in

disagreement with the findings of Vijayaraghavan and Subramanian (1981) and Singh and Tyagi (1994).

Risk preference was nonsignificantly correlated with information need, skill need and pooled information and skill needs. This indicated that risk preference of dairy entrepreneurs had not influenced their information and skill needs. The results disagreed with the findings of Rao and Reddy (1999).

#### 12. Innovation proneness

Innovation proneness had nonsignificant and positive correlation with frequency of utilization of communication sources. This indicated that frequency of utilization of communication sources is irrespective of the innovation proneness of dairy entrepreneurs. This disagreed with the findings of Vijayaraghavan and Subramanian (1981).

Innovation proneness had nonsignificant and positive correlation with information need. But it was found that skill need and pooled information and skill needs were positively and significantly correlated with innovation proneness. This indicated that dairy entrepreneurs with more innovation proneness had felt the need to learn more skills on dairying.

#### 13. Economic motivation

Economic motivation had significant and negative correlation with frequency of utilization of communication sources. To explain this phenomenon a more indepth study with large samples size is needed. The results disagreed with the findings of Vijayaraghavan and Subramanian (1981).

Information need, skill need and pooled information and skill needs were negatively and nonsignificantly correlated with economic motivation of dairy entrepreneurs. This indicated that the information and skill needs of dairy entrepreneurs were irrespective of their economic motivation.



#### 14. Marketing orientation

Marketing orientation was positively and nonsignificantly correlated with frequency of utilization of communication source. This showed that dairy entrepreneurs consulted communication sources irrespective of their marketing orientation.

Marketing orientation had positive and significant correlation with information need, skill need and pooled information and skill needs of dairy entrepreneurs. This revealed that the information and skill needs of dairy entrepreneurs increased with their marketing orientation. This agreed with the findings of Rao and Reddy (1999).

#### 15, 16. Level of aspiration I to II

Level of aspiration I was positively and nonsignificantly correlated with frequency of utilization of communication sources which revealed that frequency of utilization of communication sources was not influenced by level of aspiration I. Level of aspiration II was positively and significantly correlated with frequency of utilization of communication sources. This indicated that those who wished betterment in life through dairying had more contact with various media.

Level of aspiration I was nonsignificantly correlated with information need, skill need and pooled information and skill needs of dairy entrepreneurs. Level of aspiration II was also nonsignificantly correlated with information need, skill need and when information and skill needs were pooled. This showed that level of aspiration had no influence on information and skill needs of dairy entrepreneurs. This disagreed with the findings of Rao and Reddy (1999).

All the 16 variables taken together explained the variation in the frequency of utilization of communication sources to the extent of 45.90 per cent. The computed 'F' value of 2.28 was also significant at 0.05 level of probability

indicating that all the variables taken together explained considerable variation in the frequency of utilization of communication sources by dairy entrepreneurs.

Regarding information need, 50.4 per cent of variation was explained by the independent variables. The computed 'F' value 2.73 was significant at 0.01 level of probability. This showed that all the 16 variables together had considerably influenced the information need of dairy entrepreneurs. Nevertheless, the variation due to all the 16 independent variables was nonsignificant in the case of skill need. Regarding pooled information and skill needs of dairy entrepreneurs, 52.0 per cent of variation was explained by the independent variables. The 'F' value 2.91 was significant at 0.01 level of probability. Therefore, the variables together had explained a significant amount of variation in the pooled information and skill needs of dairy entrepreneurs.

#### **5.7 Correlation among availability, preference and frequency of utilization of communication sources**

The availability and frequency of utilization of most of the communication sources were positively and significantly correlated explaining that availability of the media definitely determined their frequency of utilization. Nevertheless, newspaper, other professionally qualified persons and milk co-operative societies were a few exceptions to this as the availability of these communication sources and frequency of utilization were positively and nonsignificantly correlated. May be a study on a larger sample will prove this relation to be significant. Availability and preference of communication sources were positively and significantly correlated regarding periodicals, radio, television, veterinary hospital and other professionally qualified persons explaining that availability influenced the preference of communication sources in all the above cases. Hence, it is important that entrepreneurs should feel that there is access to information sources as and when needed apart from the physical presence of the sources in the system.

Preference for communication sources had a positive and significant effect on utilization of communication sources but this effect was nonsignificant for poster, other publications, neighbours and relatives. All these sources were attributed lesser credibility by the dairy entrepreneurs and obviously this may be the reason for such a nonsignificant relationship. Moreover, poster and other publications were found to comparatively less available in the area studied.

The above findings in general indicated that availability and preference of communication sources influenced their frequency of utilization.

## *SUMMARY*

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## SUMMARY

The development of dairy sector in a state with serious resource constraints depends on how best the merit of scientific research is being applied. The task of applying research findings amidst resource constraints requires concerted effort of motivated and dedicated people. In the field of dairying, dairy entrepreneurs, who have taken dairying for commercial milk production, can definitely bring substantial change. But, certainly they need to be encouraged by providing a conducive atmosphere to grow in their vocation. For this, among other things they need right information at the right time from the right source. Communication sources therefore, play a crucial role in their success. It is now high time to know what are all the communication sources available in the system, how they are utilized, what is the credibility of the communication sources and what are the information and skill needs of dairy entrepreneurs because, on the basis of this knowledge, communication policies are to be formulated for their benefit. In view of the above facts a study was undertaken with the following objectives:

1. To study the pattern of utilization of different communication sources by dairy entrepreneurs.
2. To identify the information and skill needs of dairy entrepreneurs.

The study was conducted among 60 dairy entrepreneurs, selected through multistage random sampling, from Ollukkara block of Thrissur district. The data were collected by personally interviewing the respondents using a structured schedule.

By applying suitable measuring tools, availability, preference, utilization pattern, credibility of communication sources, information and skill needs of dairy entrepreneurs apart from their socio-personal, socio-economic and socio-psychological characteristics were studied.

Simple arithmetics such as mean, standard deviation, percentage, Delinious and Hodges cumulative root f method, and statistical methods such as correlation and multiple regression tests were employed to analyse the data.

Entrepreneurs studied belonged to all age groups. Those who had studied up to high school were more. Though majority had more than seven years of experience in dairying, most of them did not receive any training on dairying. For a majority land holding was less than 2 hectares while the number of milch cows kept was three. Majority depended on their savings as source of capital. Gross income from sales proceeds of core produce, whole milk, was on an average Rs.57671 and from dairying overall was on an average Rs.69411. Mean fixed investment in the enterprise was Rs.63585. While considering income from milk and overall income from dairying it was seen that majority of the entrepreneurs derived only medium level of income. Similarly fixed investment was also at a medium level.

Socio-psychological variables studied were risk preference, innovation proneness, economic motivation, marketing orientation and level of aspiration. More percentage of farmers belonged to medium category of risk preference, innovation proneness and economic motivation while for marketing orientation, more were in low orientation category. Majority of dairy entrepreneurs had medium and low level of aspiration respectively for level of aspiration I and II.

Among the different communication sources, milk co-operative society was the most available to dairy entrepreneurs followed by newspaper, radio, veterinary hospital and friends in the descending order. While, periodicals, poster and other publications were less available.

Dairy entrepreneurs mostly preferred communication sources that have technical experts such as veterinary hospital, other professionally qualified persons in animal husbandry and veterinary college. These were followed by newspaper,

television and milk co-operative society. Relatives and poster were the least preferred sources.

Utilization pattern of communication sources indicated that radio was the most frequently utilized source which was followed by newspaper, friends, television. Other qualified persons in animal husbandry, veterinary college and other publications were the less utilized communication sources.

In the farm page of dailies, feature stories and question-answer sessions were read frequently by more than half of the respondents while, advertisement was read frequently by less than half of them. Feature stories were the most preferred items, which were followed by question-answer and advertisement.

Among the seven radio programmes dealing with information on dairying, farm news, Kerala Agricultural University news, farm and home programme and 'Veettammamarkkuvendi' were heard frequently by more than half of the respondents. Farm and home programme was the most preferred programme, which was followed by farm news and 'Veettammamarkkuvendi'.

The television programme, 'Nattinpuram' was utilized frequently by only less than half of the dairy entrepreneurs.

Measurement of availability of various institutional programmes indicated that vaccination camp was the most available source, which was followed by cattle show, calf rally and exhibition. Training programmes and symposia were least available. Vaccination camp was the most frequently utilized one followed by seminar, cattle show and calf rally. Training programme and symposium were the least utilized programmes. Seminar was the most preferred one out of these programmes which was followed by farm visit and vaccination camp.

Of the various communication sources, dairy entrepreneurs identified other professionally qualified persons in animal husbandry as the most credible

source. Next to it were veterinary college, veterinary hospital and milk co-operative society. Relatives and poster were the least credible sources to them.

Dairy entrepreneurs felt details on heat detection and artificial insemination to be the most needed information. Next to it, information was needed about breed characteristics, source of animals for purchase, vaccination, hygiene, gobar gas production in that order.

Among various skills on dairying, first aid measures were the most needed one. This was followed by concentrate feed manufacture and using milking machine.

The nature of correlation of frequency of utilization of communication sources, and information and skill needs with the 16 studied independent variables, which explained the profile of dairy entrepreneurs, was found out.

Frequency of utilization of communication sources by the dairy entrepreneurs was found to be irrespective of their age, education, training obtained, experience in dairying, land holding, number of milch animals owned, source of capital, gross income from dairying, risk preference, innovation proneness and marketing orientation as these were seen not correlated with frequency of utilization of communication sources. Nevertheless, fixed investment, economic motivation and level of aspiration of dairy entrepreneurs were positively and significantly correlated with frequency of utilization of communication sources, and hence the former factors determined the latter.

The independent variables, age, training obtained, experience in dairying, number of milch animals owned, source of capital, income from milk, gross income from dairying, risk preference, innovation proneness, economic motivation and level of aspiration had no influence on the information need of dairy entrepreneurs, since these were not seen correlated with information need of



dairy entrepreneurs. But education status, land holding, fixed investment and marketing orientation were found to have a positive and significant correlation with the information need.

It was found that dairy entrepreneurs skill need was not correlated with their age, education, training obtained, experience in dairying, land holding, number of milch animals owned, source of capital, income from milk, fixed investment, gross income from dairying, risk preference, economic motivation and level of aspiration. Innovation proneness and marketing orientation of dairy entrepreneurs had positive and significant correlation with skill need.

It was found that the combined information and skill needs of dairy entrepreneurs was not correlated with their age, training obtained, experience in dairying, number of milch animals owned, source of capital, income from milk, gross income from dairying, risk preference, economic motivation and level of aspiration. However, it was seen correlated with educational status, land holding, fixed investment, innovation proneness and marketing orientation.

All the 16 independent variables taken together explained considerable variation in the frequency of utilization of communication sources, information need and pooled information and skill needs of dairy entrepreneurs where as, the variables explained a nonsignificant variation in the skill need of dairy entrepreneurs.

It was found that availability had a positive influence on the frequency of utilization of most of the communication sources except newspaper, milk co-operative society and other professionally qualified persons whereas, only in the case of periodicals, radio, television, veterinary hospital and other professionally qualified person, availability influenced the preference for communication sources. Further, preference had influenced the utilization of most of the communication sources except poster, other publications, neighbours and relatives.

## Suggestions

1. Since the entrepreneurs felt that milk co-operatives, newspaper and radio as the most available sources for information support, these sources should be more exploited to transfer information.
2. Poster, periodicals and other publications that were found to be least available, should be published more on relevant and timely information and circulated among entrepreneurs.
3. The fact that among the most preferred communication sources, those with technical experts such as veterinary hospital and veterinary college were cited, which necessitated more of participatory extension programmes with these organizations to the benefit of entrepreneurs.
4. Feature stories and question-answer sessions in the farm pages of dailies, farm news, Kerala Agricultural University news and farm and home programmes of radio should be more emphasized with relevant and timely information meant for dairy entrepreneurs as these were seen most frequently read/heard by them.
5. The 'Nattinpuram' programme of television should be made more attractive to dairy entrepreneurs by including more of programmes relevant to their problems and needs.
6. Since seminars, farm visits and vaccination camps were the most preferred institutional programmes, they should be organized periodically. Since training, symposia and farm clinics were less available and less utilized, they should be organized periodically.
7. Credibility of communication sources such as radio, poster and other publications should be enhanced by giving right information at the right time.
8. The dairy entrepreneurs need to be informed and convinced about the relevance of diversifying dairy enterprise by making and marketing milk products, considering the long-term sustainability of the enterprise.

9. The dairy entrepreneurs need to be trained in first aid veterinary practices, preparing concentrate feed and using of milking machine as the need for skills on these were much emphasized by them. Similarly, they need to be sufficiently informed and convinced about the significance of making milk products and preparing silage, which are very important to economic milk production and which were seen as not important by the entrepreneurs. Demonstrations conducted at their place or neighbourhood will help in this.

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## *APPENDICES*

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APPENDIX -1

Credibility of communication sources as perceived by dairy entrepreneurs

F matrix

Communication Sources	Radio	Television	Newspaper	Periodicals	Veterinary hospital	Veterinary college	Milk co-operative society	Friends	Relatives	Other professionally qualified persons in animal husbandry	Neighbours	Poster	Other publications
	1	2	3	4	5	6	7	8	9	10	11	12	13
Radio (1)	30	47	43	40	59	56	32	38	27	56	30	16	36
Television (2)	13	30	19	18	58	55	38	26	19	57	22	9	20
Newspaper (3)	17	41	30	26	57	55	40	27	17	58	21	10	24
Periodicals (4)	20	42	34	30	57	56	53	27	18	58	22	7	25
Veterinary hospital (5)	1	2	3	3	30	40	11	4	2	35	2	1	4
Veterinary college (6)	4	5	5	4	20	30	12	7	5	24	4	1	5
Milk co-operative society (7)	28	22	20	7	49	48	30	24	17	53	18	7	18
Friends (8)	22	34	33	33	56	53	36	30	7	60	23	19	28
Relatives (9)	33	41	43	42	58	55	43	53	30	60	46	25	35
Other professionally qualified persons in animal husbandry (10)	4	3	2	2	25	36	7	0	0	30	0	2	2
Neighbours (11)	30	38	39	38	58	56	42	37	14	60	30	21	27
Poster (12)	44	51	50	53	59	59	53	41	35	58	39	30	47
Other publications (13)	24	40	36	35	56	55	42	32	25	58	33	13	30

## P matrix

Communication sources	Radio	Television	Newspaper	Periodicals	Veterinary hospital	Veterinary college	Milk co-operative society	Friends	Relatives	Other professionally qualified persons in animal husbandry	Neighbours	Poster	Other publications
	1	2	3	4	5	6	7	8	9	10	11	12	13
Radio (1)	0.500	0.783	0.717	0.667	0.983	0.933	0.533	0.633	0.450	0.933	0.500	0.267	0.600
Television (2)	0.217	0.500	0.317	0.300	0.967	0.917	0.633	0.433	0.317	0.95	0.367	0.150	0.333
Newspaper (3)	0.283	0.683	0.500	0.433	0.950	0.917	0.667	0.450	0.283	0.967	0.35	0.167	0.400
Periodicals (4)	0.333	0.700	0.567	0.500	0.950	0.933	0.883	0.450	0.300	0.967	0.367	0.117	0.417
Veterinary hospital (5)	0.017	0.033	0.050	0.050	0.500	0.667	0.183	0.067	0.033	0.583	0.033	0.017	0.067
Veterinary college (6)	0.067	0.083	0.083	0.067	0.333	0.500	0.200	0.117	0.083	0.400	0.067	0.017	0.083
Milk co-operative society (7)	0.467	0.367	0.333	0.117	0.817	0.800	0.500	0.400	0.283	0.883	0.300	0.117	0.300
Friends (8)	0.367	0.567	0.550	0.550	0.933	0.883	0.600	0.500	0.117	1.000	0.383	0.317	0.467
Relatives (9)	0.550	0.683	0.717	0.700	0.967	0.917	0.717	0.883	0.500	1.000	0.767	0.417	0.583
Other professionally qualified persons in animal husbandry (10)	0.067	0.050	0.033	0.033	0.417	0.600	0.167	0	0	0.500	0	0.033	0.033
Neighbours (11)	0.500	0.633	0.650	0.633	0.967	0.933	0.700	0.617	0.233	1.000	0.500	0.35	0.450
Poster (12)	0.733	0.850	0.833	0.883	0.983	0.983	0.883	0.683	0.583	0.967	0.650	0.500	0.783
Other publications (13)	0.400	0.667	0.600	0.583	0.933	0.917	0.700	0.533	0.417	0.967	0.550	0.217	0.500
Sums	4.501	6.449	5.950	5.516	10.700	10.900	7.366	5.783	3.583	11.117	4.834	2.686	5.016

## Corrected P matrix

Communication sources	Poster	Relatives	Radio	Neighbours	Other publications	Periodicals	Friends	Newspaper	Television	Milk co-operative society	Veterinary hospital	Veterinary college	Other professionally qualified persons in animal husbandry
	12	9	1	11	13	4	8	3	2	7	5	6	10
Poster (12)	0.500	0.583	0.733	0.650	0.783	0.883	0.683	0.833	0.850	0.883	0.983	0.983	0.967
Relatives (9)	0.417	0.500	0.550	0.767	0.583	0.700	0.883	0.717	0.683	0.717	0.967	0.917	1.000
Radio (1)	0.267	0.450	0.500	0.500	0.600	0.667	0.633	0.717	0.783	0.533	0.983	0.933	0.933
Neighbours (11)	0.350	0.233	0.500	0.500	0.450	0.633	0.617	0.650	0.633	0.700	0.967	0.933	1.000
Other publications (13)	0.217	0.417	0.400	0.550	0.500	0.583	0.533	0.600	0.667	0.700	0.933	0.917	0.967
Periodicals (4)	0.117	0.300	0.333	0.367	0.417	0.500	0.450	0.507	0.700	0.883	0.950	0.933	0.967
Friends (8)	0.317	0.117	0.367	0.383	0.467	0.550	0.500	0.550	0.567	0.600	0.933	0.883	1.000
Newspaper (3)	0.167	0.283	0.283	0.350	0.400	0.433	0.450	0.500	0.683	0.667	0.950	0.917	0.967
Television (2)	0.150	0.317	0.217	0.367	0.333	0.300	0.433	0.317	0.500	0.633	0.967	0.917	0.950
Milk co-operative society (7)	0.117	0.283	0.467	0.300	0.300	0.117	0.400	0.333	0.367	0.500	0.817	0.800	0.883
Veterinary hospital (5)	0.017	0.033	0.017	0.033	0.067	0.050	0.067	0.050	0.033	0.183	0.500	0.667	0.583
Veterinary college (6)	0.117	0.083	0.067	0.067	0.083	0.067	0.117	0.083	0.083	0.200	0.333	0.500	0.400
Other professionally qualified persons in animal husbandry (10)	0.033	0	0.067	0	0.033	0.033	0	0.033	0.05	0.117	0.417	0.600	0.500
Sums	2.686	3.582	4.501	4.834	5.016	5.513	5.783	5.950	6.499	7.316	10.700	10.933	11.117

The Z matrix corresponding to the P matrix (Using complete data)

Communication sources	Poster	Relatives	Radio	Neighbours	Other publications	Periodicals	Friends	Newspaper	Television	Milk co-operative society	Veterinary hospital	Veterinary college	Other professionally qualified persons in animal husbandry
	12	9	1	11	13	4	8	3	2	7	5	6	10
Poster (12)	0.000	0.210	0.622	0.385	0.782	1.190	0.476	0.966	1.036	1.190	2.120	2.120	1.383
Relatives (9)	-0.210	0.000	0.126	0.729	0.270	0.524	1.190	0.574	0.476	0.574	1.838	1.385	3.090
Radio (1)	-0.622	-0.126	0.000	0.000	0.253	0.432	0.340	0.574	0.782	0.083	2.120	1.499	1.499
Neighbours (11)	-0.385	-0.729	0.000	0.000	-0.126	0.340	0.298	0.385	0.340	0.524	1.838	1.499	3.090
Other publications (13)	-0.782	-0.210	-0.253	0.126	0.000	0.210	0.083	0.253	0.432	0.524	1.499	1.385	1.838
Periodicals (4)	-1.190	-0.524	-0.432	-0.340	-0.210	0.000	-0.126	0.169	0.524	1.190	1.645	1.499	1.838
Friends (8)	-0.476	-1.190	-0.340	-0.298	-0.083	0.126	0.000	0.126	0.169	0.253	1.499	1.190	3.090
Newspaper (3)	-0.966	-0.574	-0.574	-0.385	-0.253	-0.169	-0.126	0.000	0.476	0.432	1.645	1.385	1.838
Television (2)	-1.036	-0.476	-0.782	-0.340	-0.432	-0.524	-0.169	-0.476	0.000	0.340	1.838	1.385	1.645
Milk co-operative society (7)	-1.190	-0.574	-0.083	-0.524	-0.524	-1.190	-0.253	-0.432	-0.340	0.000	0.904	0.842	1.190
Veterinary hospital (5)	-2.120	-1.838	-2.120	-1.838	-1.499	-1.645	-1.499	-1.645	-1.838	-0.904	0.000	0.432	0.210
Veterinary college (6)	-2.120	-1.385	-1.499	-1.499	-1.385	-1.499	-1.190	-1.385	-1.385	-0.842	-0.432	0.000	-0.253
Other professionally qualified persons in animal husbandry (10)	-1.838	-3.09	-1.499	-3.090	-1.838	-1.838	-3.090	-1.838	-1.645	-1.190	-0.210	0.253	0.000
Sums	-12.935	-10.690	-6.834	-7.074	-5.105	-4.043	-4.006	-2.729	-0.973	2.174	16.304	14.874	20.913
Means	-0.995	-0.822	-0.526	-0.544	-0.393	-0.311	-0.308	-0.210	-0.075	0.167	1.254	1.144	1.609
Means + 0.995	0.000	0.173	0.469	0.451	0.602	0.684	0.687	0.785	0.920	1.162	2.249	2.139	2.604

Z matrix using incomplete data (Eliminating Z values corresponding to P values >0.98 of <0.02)

	9-12	1-9	11-1	13-11	4-13	8-4	3-8	2-3	7-2	5-7	6-5	10-6
	0.210	0.412	-0.237	0.392	0.408	-0.714	0.490	0.070	0.154	-	-	-
	0.210	0.126	0.603	-0.519	0.314	0.666	-0.616	-0.098	0.098	1.264	-0.453	-
	0.496	0.126	0.000	0.253	0.179	-0.092	0.234	0.208	-0.699	-	-	0.000
	0.344	0.729	0.000	-0.126	0.466	-0.042	0.087	-0.045	0.184	1.314	-0.339	-
	0.572	-0.043	0.379	-0.126	0.210	-0.127	0.170	0.179	0.092	0.975	-0.114	0.453
	0.666	0.092	0.092	0.130	0.210	-0.126	0.295	0.355	0.666	0.455	-0.146	0.339
	-0.714	0.850	0.042	0.215	0.209	-0.126	0.126	0.043	0.084	1.246	-0.309	-
	0.392	0.000	0.189	0.132	0.084	0.043	0.126	0.476	-0.044	1.213	-0.26	0.453
	0.560	-0.306	0.442	-0.092	-0.092	0.355	-0.307	0.476	0.340	1.498	-0.453	0.260
	0.616	0.491	-0.441	0.000	-0.666	0.937	-0.179	0.092	0.340	0.904	-0.062	0.348
	-	-	-	0.339	-0.146	0.146	-0.146	-0.193	0.934	0.904	0.432	-0.222
	-	0.491	0.000	0.114	-0.114	0.309	-0.195	0.000	0.543	0.410	0.432	-0.253
	-	-	-	-	0.000	-	-	0.193	0.455	0.980	0.403	-0.253
Sum	2.664	2.363	1.069	0.717	1.062	1.229	0.085	1.756	3.147	11.168	-0.809	1.125
n	10	11	11	12	30	12	12	13	13	11	11	9
Mean	0.2664	0.2148	0.0972	0.5975	0.0817	0.1024	0.0071	0.1351	0.2421	1.0152	-0.0735	0.125

Scale values	S12	S9	S1	S11	S13	S4	S8	S3	S2	S7	S5	S6	S10
	0.000	0.2664	0.4812	0.5784	0.6128	0.7013	0.8037	0.8108	0.9704	1.1548	2.0407	2.0952	2.1152



**APPENDIX-II**  
**KERALA AGRICULTURAL UNIVERSITY**  
**COLLEGE OF VETERINARY AND ANIMAL SCIENCES, MANNUTHY**  
**DEPARTMENT OF EXTENSION**

**INTERVIEW SCHEDULE**

**“UTILIZATION OF COMMUNICATION SOURCES BY DAIRY ENTREPRENEURS OF  
 OLLUKKARA BLOCK IN THRISSUR DISTRICT”**

Serial Number: \_\_\_\_\_ Name of milk co-operative society: \_\_\_\_\_

1. Name and address of the dairy entrepreneur \_\_\_\_\_ :

2. Age: \_\_\_\_\_ Male/Female : \_\_\_\_\_

3. Ward Number : \_\_\_\_\_ Village: \_\_\_\_\_ Panchayat: \_\_\_\_\_

4. Family details

Serial Number	Name	Relation to head of the family	Age	Educational status

5. Have you received any training in dairying : Yes/No

6. Experience in dairying in years \_\_\_\_\_ :

7. Land holding (in acres)

Paddy	Coconut	Others	Total

8. Milch animals owned \_\_\_\_\_ :  
 calves \_\_\_\_\_ :

9. Income from core product (milk) :  
in rupees
10. Gross income from dairying (in rupees)
- Milk :  
Dung :  
Sale of calves and profit while :  
Replacing animals
- Total :
11. Source of capital : Savings/Bank loan/Co-operative society/Local  
self-governing bodies/Money lenders
12. Fixed investment (in rupees)
- Cattle shed :  
Dairy equipments :  
Animals :  
Others :  
Total :

13. RISK ORIENTATION

Given are a set of statements, you may kindly go through the statements and express your opinion in any of the response category given along with.

Serial No.	Statements	Agree	Undecided	Disagree
1	A dairy farmer should rather take more chance in making a big profit than to be content with a smaller but less risky profit			
2	A dairy farmer who is willing to take greater risk than the average farmer, usually do better financially			
3	It is good for a dairy farmer to take risk when he knows his chance of success is fairly high			
4	Trying an entirely new method in animal husbandry by a dairy farmer involve risk, but, it is worth it			
5	A dairy farmer should rear one or two animals to avoid greater risks involved in dealing large number of animals			
6	It is better for a dairy farmer not to try new dairying methods unless most others have used them			

#### 14. INNOVATION PRONENESS

Three sets of statements are given below. Each of the sets contains three statements. You may kindly go through the statements and indicate the most likely and the least likely statement from each set.

Sl. No.	Statements	Most likely statement	Least likely statement
1a	I try to keep myself up to date with information on new farm practices but that does not mean that I try out all new methods on my farm		
b	They talk of many new farm practices these days, but who knows whether they are better than the old ones		
c	I feel restless till I try out a new farm practice that I have heard about		
2a	From time to time I have heard of several new farm practices and I have tried out most of them in the last few years		
b	Usually I want to see the result my neighbours obtained before I try out new farm practices		
c	Somehow I believe that the traditional ways of farming are the best		
3a	I am cautious about trying a new farm practice		
b	After all our forefathers were wise in their farming practices and I don't see any reason for changing those old methods		
c	Quiet often new farm practices are not successful, however, if they are promising. I would surely like to adopt them		

#### 15. ECONOMIC MOTIVATION

Given are a set of statements, you may kindly go through the statements and express your opinion in any of the response category given along with

Sl. No.	Statements	Agree	Undecided	Disagree
1	A livestock owner should work towards more milk yield and more profit			
2	A most successful livestock owner is the one who makes most profit			
3	A livestock owner should try any new scientific practices in animal husbandry which may earn him more profit			

Contd.

Serial Number	Statements	Agree	Undecided	Disagree
4	A livestock owner should rear cross-bred cows to produce more quantity of milk to increase monetary profits in comparison to rearing of local cows			
5	It is difficult for the livestock owners children to make a good start unless provided them with economic assistance			
6	A livestock owner must earn his living, but the most important thing in life cannot be defined in economic terms			

### 16. MARKETING ORIENTATION

Kindly indicate your opinion with each of the statement given below

Serial Number	Statements	Agree	Disagree
1	Market news is not so useful to a farmer		
2	A farmer can obtain good price by grading his produce		
3	Cold storage facilities can help a farmer to get better price for his produce		
4	One should sell his produce to the nearest market irrespective of the price		
5	One should purchase inputs from the shops where his relatives purchase		
6	One should grow those crops which have more market demand		

### 17. LEVEL OF ASPIRATION

Imagine the picture of a ladder with ten steps. The top of the ladder represents the best possible life for you, the bottom represents the worst possible life. Status of life increases from bottom to top. After reading the following questions carefully, please select a number from the ladder and write it in the space provided.

a. Where on the ladder you stood at five years back – Step No.....

b. Where do you think you are now – Step No.....

c. Where do you expect to be after five years – Step No.....

### 18. INFORMATION NEED OF DAIRY FARMING PRACTICES

Please indicate the information need on various aspects of dairying by giving a '√' mark against the suitable column

Serial Number	Aspects of dairy farming	Most needed	Somewhat needed	Not needed
1	Breed particulars			
2	Fodder cultivation			
3	Feed requirement			
4	Fodder requirement			
5	Concentrate requirement			
6	Care of new born calf			
7	Deworming			
8	Vaccination			
9	Construction of cattle shed			
10	Feeding and management of calves			
11	Heat detection and breeding			
12	Insurance			
13	Source of financing			
14	Hygienic aspects			
15	Mixed farming			
16	Milk processing			
17	Milk products manufacture			
18	Gobar gas production			



## 21. PREFERENCE FOR COMMUNICATION SOURCES

Please give rank to the below given communication sources by giving first rank to the most preferred and 13<sup>th</sup> rank to the least preferred communication source

Communication source	Rank
1. Newspaper	
2. Periodicals	
3. Poster	
4. Other publications	
5. Radio	
6. Television	
7. Milk co-operative society	
8. Veterinary hospital	
9. Veterinary College	
10. Neighbours	
11. Relatives	
12. Friends	
13. Other professionally qualified persons in animal husbandry	

Please indicate the preference (ranking) and utilization pattern (by giving '√' mark) of various programmes in newspaper, radio and television

### NEWSPAPER

Items	Preference rank	Utilization pattern	
		Frequently	Occasionally
1. Feature			
2. Question- answer			
3. Advertisement			

### RADIO

Items	Preference rank	Utilization pattern	
		Frequently	Occasionally
1. Farm news			
2. Kerala Agricultural University News			
3. Farm and Home			
4. 'Thozhilalirangam'			
5. 'Veettammamarkkuvendi'			
6. 'Vanithavedi'			
7. 'Yuvavani'			

## TELEVISION

Channels	Availability		Preference Rank	Utilization pattern	
	Available	Not available		Frequently	Occasionally
1. Doordarshan 2. Asianet					

Programmes utilized	Preference rank	Utilization pattern	
		Frequently	Occasionally
1. 'Nattinpuram'			

## INSTITUTIONAL PROGRAMMES

Please indicate the availability and utilization pattern (through '√' mark) and preference (ranking) of the below given institutional programmes.

Programmes	Availability			Preferences Rank	Utilization pattern		
	Readily available	Somewhat available	Not available		Frequently	Occasionally	Never
1. Vaccination camps							
2. Infertility camps							
3. Health care camps							
4. Seminars							
5. Symposium							
6. Cattle show							
7. Calf rally							
8. Animal husbandry exhibition							
9. Training programmes							
10. Farm clinic							
11. Farm visit							



## 22. CREDIBILITY OF COMMUNICATION SOURCES

Kindly mention which among the following pairs of communication sources is preferred by you as most credible by indicating a '√' mark to the most credible communication source.

- |                |  |
|----------------|--|
| 1. Radio       | - Television   |
| 2. Radio       | - Newspaper  |
| 3. Radio       | - Periodicals  |
| 4. Radio       | - Veterinary hospital  |
| 5. Radio       | - Veterinary college   |
| 6. Radio       | - Milk co-operative society                                  |
| 7. Radio       | - Friends  |
| 8. Radio       | - Relatives  |
| 9. Radio       | - Other professionally qualified persons in animal husbandry |
| 10. Radio      | - Neighbours   |
| 11. Radio      | - Poster   |
| 12. Radio      | - Other publications   |
| 13. Television | - Newspaper  |
| 14. Television | - Periodicals  |
| 15. Television | - Poster   |
| 16. Television | - Other publications   |
| 17. Television | - Milk co-operative society                                  |
| 18. Television | - Veterinary hospital  |
| 19. Television | - Veterinary college   |
| 20. Television | - Neighbours   |
| 21. Television | - Relatives  |
| 22. Television | - Friends  |
| 23. Television | - Other professionally qualified persons in animal husbandry |
| 24. Newspaper  | - Periodicals  |
| 25. Newspaper  | - Poster   |
| 26. Newspaper  | - Other publications   |

- |                        |   |
|------------------------|---|
| 27. Newspaper          | - Milk co-operative society                                   |
| 28. Newspaper          | - Veterinary hospital   |
| 29. Newspaper          | - veterinary college  |
| 30. Newspaper          | - Neighbours  |
| 31. Newspaper          | - Relatives   |
| 32. Newspaper          | - Friends   |
| 33. Newspaper          | - Other professionally qualified persons in animal husbandry. |
| 34. Periodicals        | - Poster  |
| 35. Periodicals        | - Other publications  |
| 36. Periodicals        | - Milk co-operative society                                   |
| 37. Periodicals        | - Veterinary hospital   |
| 38. Periodicals        | - Veterinary college  |
| 39. Periodicals        | - Neighbours  |
| 40. Periodicals        | - Relatives   |
| 41. Periodicals        | - Friends   |
| 42. Periodicals        | - Other professionally qualified persons in animal husbandry. |
| 43. Poster             | - Other publications  |
| 44. Poster             | - Milk co-operative society                                   |
| 45. Poster             | - Veterinary hospital   |
| 46. Poster             | - Veterinary college  |
| 47. Poster             | - Neighbours  |
| 48. Poster             | - Relatives   |
| 49. Poster             | - Friends   |
| 50. Poster             | - Other professionally qualified persons in animal husbandry. |
| 51. Other publications | - Milk co-operative society                                   |
| 52. Other publications | - Veterinary hospital   |
| 53. Other publications | - Veterinary college  |
| 54. Other publications | - Neighbours  |
| 55. Other publications | - Relatives   |
| 56. Other publications | - Friends   |

- |                               |   |
|-------------------------------|---|
| 57. Other publications        | - Other professionally qualified persons in animal husbandry. |
| 58. Milk co-operative society | - Veterinary hospital   |
| 59. Milk co-operative society | - Veterinary college  |
| 60. Milk co-operative society | - Neighbours  |
| 61. Milk co-operative society | - Relatives   |
| 62. Milk co-operative society | - Friends   |
| 63. Milk co-operative society | - Other professionally qualified persons in animal husbandry. |
| 64. Veterinary hospital       | - Veterinary college  |
| 65. Veterinary hospital       | - Neighbours  |
| 66. Veterinary hospital       | - Relatives   |
| 67. Veterinary hospital       | - Friends   |
| 68. Veterinary hospital       | - Other professionally qualified persons in animal husbandry. |
| 69. Veterinary college        | - Neighbours  |
| 70. Veterinary college        | - Relatives   |
| 71. Veterinary college        | - Friends   |
| 72. Veterinary college        | - Other professionally qualified persons in animal husbandry. |
| 73. Neighbours                | - Relatives   |
| 74. Neighbours                | - Friends   |
| 75. Neighbours                | - Other professionally qualified persons in animal husbandry. |
| 76. Relatives                 | - Friends   |
| 77. Relatives                 | - Other professionally qualified persons in animal husbandry. |
| 78. Friends                   | - Other professionally qualified persons in animal husbandry. |

**UTILIZATION OF COMMUNICATION SOURCES  
BY DAIRY ENTREPRENEURS OF  
OLLUKKARA BLOCK IN THRISSUR DISTRICT**

**By  
PRADEEP. C. A.**

**ABSTRACT OF A THESIS**

**Submitted in partial fulfilment of the  
requirement for the degree**

**Master of Veterinary Science**

**Faculty of Veterinary and Animal Sciences  
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## ABSTRACT

The utilization of communication sources and the information and skill needs of 60 dairy entrepreneurs in Ollukkara block of Thrissur district were studied. A multistage random sampling procedure was adopted to select the respondents. The socio-personal, socio-economic and socio-psychological characteristics of the respondents were studied along with availability, preference, utilization pattern, credibility of communication sources and information and skill needs of farmers by using a structured schedule. Suitable statistical tools were used for analysing the data collected.

Dairy entrepreneurs were seen utilizing information source in their system, both institutional and media. Of the various sources, the most accessible to them comparatively were milk co-operatives, radio and newspaper. Though veterinary hospital, veterinary college and other professionally qualified persons were the comparatively most preferred for information regarding dairying, yet these sources were not seen utilized adequately. Instead, the sources comparatively utilized were radio, newspaper and friends. The reasons for this strange finding are to be understood. Feature stories and question-answer items in the farm pages of dailies, farm news, Kerala Agricultural University news and farm and home programme of radio were seen frequently read or heard. Hence, the utility of these items/programmes such as training, symposium and farm clinics were found to be less available and evidently less utilized. These programmes need to be adequately organized in order to address to the needs of dairy entrepreneurs. It was in general observed that availability or access and preference for communication sources influenced their frequency of utilization.

The first three most important and trustworthy communication sources mentioned were other professionally qualified persons, veterinary college and veterinary hospital, those most preferred for information, even as the same were

comparatively less utilized by the entrepreneurs. This situation obviously demanded for a more entrepreneur friendly approach adopted by these sources.

Of the information needs, the most needed ones were heat detection and artificial insemination followed by breed characteristics and source of good dairy animals for purchase. Hence information on these felt needs are to be imparted through appropriate extension methods preferably through the most utilized media sources such as radio and newspaper but regularly and repeatedly. Skills were most needed about first aid measures, preparing concentrate feed and handling milking machine. Demonstrations can help in this regard. Similarly, proper understanding of the importance of skills such as making milk products, preparing silage and urea treatment of straw which are very relevant to economic dairying is to be developed through suitable extension methods.

Although all the independent variables studied had together explained considerable and significant variation in the frequency of utilization of communication sources, yet fixed investment, economic motivation and levels of aspiration were found to be the strong determinants of the frequency of utilization of communication sources. While considering information and skill needs together, the strong determinants were educational status, land holding, fixed investment, innovation proneness and marketing orientation.