

**ATTITUDE AND USE OF FARM JOURNALS BY  
THE SUBSCRIBER FARMERS AND THEIR  
PROFILE - A CRITICAL ANALYSIS**

**K. V. NATIKAR**

**DEPARTMENT OF AGRICULTURAL EXTENSION EDUCATION**

COLLEGE OF AGRICULTURE, DHARWAD  
UNIVERSITY OF AGRICULTURAL SCIENCES,  
DHARWAD - 580 005

**SEPTEMBER, 2001**

**ATTITUDE AND USE OF FARM JOURNALS BY  
THE SUBSCRIBER FARMERS AND THEIR  
PROFILE - A CRITICAL ANALYSIS**

*Thesis submitted to the  
University of Agricultural Sciences, Dharwad  
in partial fulfilment of the requirements for the*

*Degree of*

**DOCTOR OF PHILOSOPHY**

*in*

**AGRICULTURAL EXTENSION EDUCATION**

*By*

**K. V. NATIKAR**

**DEPARTMENT OF AGRICULTURAL EXTENSION EDUCATION**

COLLEGE OF AGRICULTURE, DHARWAD  
UNIVERSITY OF AGRICULTURAL SCIENCES,  
DHARWAD - 580 005

SEPTEMBER, 2001

U. A. S.  
University Library  
DHARWAD.


Acc. No. *JH* 6737

**DEPARTMENT OF AGRICULTURAL EXTENSION EDUCATION**  
COLLEGE OF AGRICULTURE, DHARWAD  
UNIVERSITY OF AGRICULTURAL SCIENCES, DHARWAD


**CERTIFICATE**

*This is to certify that the thesis entitled "ATTITUDE AND USE OF FARM JOURNALS BY THE SUBSCRIBER FARMERS AND THEIR PROFILE - A CRITICAL ANALYSIS" submitted by Mr. K. V. NATIKAR, for the degree of DOCTOR OF PHILOSOPHY in AGRICULTURAL EXTENSION EDUCATION to the University of Agricultural Sciences, Dharwad, is a record of research work carried out by him during the period of his study in this university, under my guidance and supervision and the thesis has not previously formed the basis for the award of any degree, diploma, associateship, fellowship or other similar titles.*

DHARWAD  
SEPTEMBER, 2001

  
(M. R. ANSARI)  
MAJOR ADVISOR

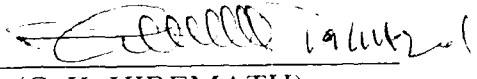
Approved by :

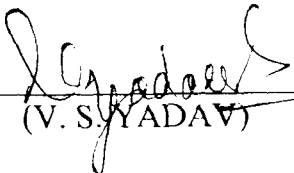
Chairman :   
(M. R. ANSARI)

Members :

1.   
(S. A. PATIL)

2.   
(B. SUNDARASWAMY)

3.   
(G. K. HIREMATH)

4.   
(V. S. YADAV)

## ACKNOWLEDGEMENT

*I wish to record my profound sense of gratitude to **Dr. M. R. ANSARI**, Professor of Agricultural Extension Education, University of Agricultural Sciences, Dharwad and Chairman of my Advisory Committee for his untiring and valuable guidance, constructive and critical reviews and constant encouragement during the course of the study. I had a great pleasure and precious opportunity to be associated with him and I find no words to express my heartfelt respects to all his kindness.*

*I am highly indebted to **Dr. B. Sundaraswamy**, Professor and Head, Department of Agricultural Extension Education, University of Agricultural Sciences, Dharwad and member of Advisory Committee for his valuable and continuous guidance through out the research period, hence, I take this opportunity to express my heartfelt respects.*

*Further, it gives me a great pleasure to express my heartfelt thanks to **Dr. S. A. Patil**, Vice-chancellor, University of Agricultural Sciences, Dharwad and Advisory Committee member for his continued support and guidance to complete this research study. I also express my gratitude to **Dr. G. K. Hiremath**, Professor and Head, Department of Agricultural Economics, and **Dr. V. S. Yadav**, Associate Professor, Department of Psychology, University of Agricultural Sciences, Dharwad who were the members of my Advisory Committee for their valuable guidance and suggestions during the course of this investigation.*

*I wish to acknowledge my thanks to all the staff member and post graduate students of my department for their encouragement and continued support during the course of study.*

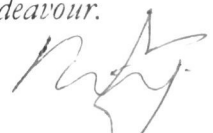
*Further, I wish to thank all the respondent farmers for having sent the filled in questionnaire in time so as to enable me to complete my Ph.D. degree programme.*

*My special thanks are also to Sri M.K. Nimbale, Dr. S. Shashikumar, G.N. Maraddi, Miss. N. Rajeshwari and Jitendra Hilli, F.M., Durgannavar, M. G. Mankanapur and K. P. Tuke for their help and co-operation in prosecuting my research study.*

*I thank my wife, sons for their love and encouragement during my study.*

*I thank for Anup Computers, for neat typing and at last but not the least I wish to thank all those who have directly or indirectly helped me in this endeavour.*

DHARWAD  
SEPTEMBER, 2001

  
(**K. V. Natikar**)

# CONTENTS

<b>Chapter No.</b>	<b>Title</b>	<b>Page No.</b>
I	INTRODUCTION	1-11
II	REVIEW OF LITERATURE	12-86
III	MATERIAL AND METHODS	87-118
IV	RESULTS	119-176
V	DISCUSSION	177-240
VI	SUMMARY	241-258
VII	REFERENCES	259-292
	APPENDICES	293-310

## LIST OF TABLES

Table No.	Title	Page No.
1	Attitude of subscriber farmers towards use of farm magazines	120
1a	Attitude of subscriber farmers towards different farm magazines	121
2	Personal, economical, psychological and social profile of subscriber farmers (respondents)	124
3	Extension contact	127
4	Extension participation	130
5	Mass Media participation	131
6	Participation in formal organisation	133
7	Correlation analysis of independent variables over dependent variables attitude	135
8	Multiple regression analysis of independent variable with dependent variable attitude	137
9	Path coefficients showing direct, indirect and substantial effect of independent variables on dependent variable attitude of farmers towards farm magazine	138
10	Usefulness of farm magazines as perceived by subscriber farmers	142
11	Content analysis of farm magazines	149
12	Sources of articles for different farm magazines	151
13	Articles selected to find out readability/grade level in different subject matter areas written by different authors in different farm magazines	154
14	Overall readability value/grade level of different farm magazines	158
15	Average readability value/grade level of the articles written by different authors irrespective of subject matter areas and farm magazines	159

Contd.....

<b>Table No.</b>	<b>Title</b>	<b>Page No.</b>
16	Average readability value/grade level of the articles written by different authors in different farm magazines irrespective of the subject matter areas	160
17	Average readability value/grade level of the articles written by different authors on different subject matter areas published in farm magazines	163
18	Extent of reading of farm magazines by the subscriber farmers	166
19	Duration of reading of farm magazines by subscriber farmers	168
20	Subject matter areas preferred by the subscriber farmers for reading	171
21	Suggestions offered by the subscriber farmers for improving the quality and effectiveness of farm magazines	175

## LIST OF FIGURES

Figure No.	Title	Between pages
1	Conceptual model of the study	86-87
2	Attitude of subscriber farmers towards farm magazines	121-122
3	Correlation between characteristics of subscriber farmers and their attitude towards farm magazines	135-136
4	Path diagram showing direct and indirect effects of personal, economic, psychological and sociological variables in 'attitude' of farmers towards farm magazines	138-139
5	Usefulness of message published in the farm magazines in major subject matter areas (irrespective of farm magazine)	144-145
6	Extent of usefulness of farm magazine	145-146
7	Content analysis of farm magazines (overall number of articles published in the areas considered irrespective of farm magazine)	149-150
8	Sources of articles to farm magazine	151-152
9	Overall readability value/grade level of farm magazines	158-159
10	Average readability value/grade level of articles written by different authors	159-160
11	Average readability value/grade level of articles written by different authors in different farm magazines	160-161
12	Extent of reading of farm magazines by the subscriber farmers	166-167
13	Duration of reading of farm magazine by subscriber farmers	168-169
14	Preference of subject matter areas published in the farm magazines by the subscriber farmers	172-173
15	Empirical model of the study	240-241

## LIST OF APPENDICES

<b>Appendix No.</b>	<b>Title</b>	<b>Page No.</b>
I	Facts and figures related to print media	293
II	List of farm magazines	294
III	Statements on attitude	295
IV	Questionnaire	301

# *Introduction*

---

## **I. INTRODUCTION**

Agricultural development process mainly involves generating knowledge, its transfer and utilization by the farmers. There are three systems involved in agricultural development process namely (i) Research system - which generate knowledge (ii) Extension system - which disseminate the knowledge to the farmers (iii) client system - is the ultimate users. So constant flow of information from research system to extension system and thereon to the farmers is necessary for rapid agricultural development. In the whole process of transfer of technology "Effective Communication" has an important role.

Today, there is a greater need for communication of information as the present day "knowledge explosion" in the world has necessitated a "communication explosion" in its wake, because "never in the annals of human history was there a need for so many people to know so much and so quickly as it is today". At the same time, the key role of communication in any form is to plant new ideas in the minds of human beings. Because, of all the influences to which man is a subject, the influence of ideas is probably the most important. Preparing and distributing the message to the millions of Indian villagers in the ways that, it is received, understood, accepted and applied is therefore the greatest opportunity and paramount challenge to all extension workers. Hence, the responsibility on extension workers is much, as they have to act as teachers to farmers in dissemination of new ideas by using various channels of communication. Extension workers should have thorough knowledge about different

extension teaching methods like individual, group and mass contact methods and their selection, combination and utilization in communication of farm information.

Amongst the various communication media, the mass communication media like newspaper, television, radio etc. play an important role in creating awareness and also up keeping the knowledge level of the audience/readers, as they diffuse the message to larger sector within the shorter period. During the process of use of mass media, the use of printed materials or publications (like newspapers, farm magazines, books, booklets, circular letters, leaflets, folders etc.) emerged as an important method of communication. It is traditionally associated with the culture and carry higher prestige for people than do other media. Aiyer (1958) opined that, if printed materials published regularly or in appropriate season can serve a very useful purpose since, they are likely to be read and retained and much talked of in the village. Print media have been accepted as an important means of communication by specialists in the field of agriculture and rural development. These methods provide excellent opportunity for communicators to convey precise and timely information to larger audience who are scattered over larger geographical area. UNESCO (1982) in its reports says that "It is often said that we are entering the 'electronic age' but there is for instance, no sign of the demise of the print media. Newspapers, journals, magazines, books etc. will continue for decades to be the major source of information and knowledge. Efforts to be made to ensure their continuity,

to increase their quantity and to improve their quality". Thus, the use of print media as compared to other media is more advantageous in agricultural field because reliable and scientific information in simple language on a specific topic and generally illustrated with pictures can reach a large number of farmers quickly and simultaneously (Oliver, 1990). Further, the reader can go through the printed material at their own place and can preserve it for future use. Moreover, print medium of communication is found to be one of the most credible sources of information and hence, these printed media have acquired greater significance in the context of increased literacy level over last few decades. There has been substantial increase in the literacy rate from 46 per cent in 1981 to 52.21 per cent in 1991. The present literacy level in Karnataka is 56.04 per cent (Ref.: India 2000, however the data as per the census conducted during the year 2001 are not available). This clearly indicates that printed materials can be better utilised for onward transmission of farm information.

As a result of increase in literacy rate, the changing agricultural scenario and fast changing farm technologies which need to be disseminated at a faster rate for rapid agricultural development calls for publication of farm magazines/agricultural journals. Thus, the farm/agricultural journalism is concerned with: (i) carrying out agricultural information to the farming community and (ii) to get genuine problems of farmers as feed back to researchers. However, modern journalism has several means of mass communication like newspapers, periodicals, radio, television, films and advertising.

In 1998, total number of newspapers, periodicals published were 43,828 as compared to 41,705 in 1997. There were 4890 dailies, 331 tri/biweeklies, 15,645 weeklies, 5913 fortnighties, 12065 monthlies, 3,127 quartilies, 1,474 bimonthlies/half yearlies and 383 annuals (Appendix I).

### **Role and growth of agricultural journalism**

The different kinds of important print materials and literature useful in educating farmers and in conveying them new ideas, skills and practices are (i) Newspapers (ii) Technical periodicals (iii) Farm magazines (iv) Books (v) Leaflets, folders, pamphlets, bulletins (vi) Circular letters (vii) Hand bills (viii) Wall newspapers (ix) Monographs (x) Reports (xi) Manuals.

Hali (1980) while discussing the effectiveness of farm journals says that "It is often our experience to see that during 'Krishimela' and similar meetings of farmers even the illiterate farmers collect the publications and other literatures and if they find the subject is interesting, they would get them read either by their literate children, by the school teacher, postman or other village functionaries. Thus, the logic behind bringing out agricultural publication is self evident.

The first farm magazine in Agriculture was published in Paris in the year 1763 called 'Agriculture De France' followed by 'Census Agriculture' by United States in Washington in 1840. The journal on poultry called 'poultry world' was published in London. By the middle of 19<sup>th</sup> century, there were many farm journals from various countries on agriculture, poultry, dairy and allied subjects.

The first periodical on agriculture in India was published in Hindi during the year 1914 called 'Krishi Sudhar' from Agra. Later government departments started publishing farm magazines in 1931. Bihar government published 'Goan' journal in 1938. After independence, the Indian Council of Agricultural Research (ICAR) started "Kheti" in 1948. West Bengal 'Basundhara' and Krishik Jagat' (1946) a weekly called 'Sewagram' (1953), Maharashtra - 'Shetkari' started publishing farm magazines.

Today there are 561 farm magazines in India. Maximum farm magazines are in English followed by Hindi, Bengali and Marathi. States publishing more than 5 farm magazines are Gujarat, Tamil Nadu, Karnataka, Andhra Pradesh, Kerala and Punjab.

'Kurukshetra' and 'Yojana' magazines are being published by Government of India on rural aspects.

The state Agricultural Universities are also publishing the farm magazines of their own.

Indian Council of Agricultural Research (ICAR) Publishes the following farm magazines: Kheti, Indian Farming, Indian Horticulture, Indian Journal of Animal Sciences, Indian Journal of Agricultural Sciences.

Similarly, Ministry of Agriculture, Government of India, Publishes farm magazines like Intensive Agriculture and Unnat Krishi.

Apart from this, some private organisations like Food Corporation of India, National Seed Corporation, Family Planning Association of India, Bharatiya Agro-Industries Federation (BAIF), Syndicate Agriculture and Rural Development Foundation also publishes farm magazines.

### **The advantages of farm magazines score over its limitations**

#### **Advantages**

- 1) Farm publications reach large number of people quickly and simultaneously.
- 2) Farm publications have considerable influence in increasing knowledge of farmers.
- 3) High degree of belief is attached by farmers to printed matters.
- 4) Farm publications can be read at leisure time and preserved for future reference.
- 5) Farm publications play an important role in formation and changing attitudes.
- 6) Farm publications have influence at all stages of adoption and influence the behaviour at relatively cheaper cost.
- 7) Illiterates can also use these publications by taking the help of their educated counterparts or by secondary readership.
- 8) Give scope for advertisements and also entertainment.

**Limitations**

- 1) Illiterates cannot directly use farm publications
- 2) Information prepared for general distribution may not suit to a local condition.
- 3) Requires frequent revision and constant touch with latest developments.
- 4) Most of the newspapers are giving over emphasis for political events.
- 5) Lack of sources of news for agriculture information and no exclusive new agencies for agriculture.

**Statement of problem**

Recognising the importance of farm publications, the government is spending lot of money for printing of extension literature as well as for publishing farm magazines/journals. In Karnataka, at present more than 20 farm magazines/journals are being published by the government and other organisations. However, there is no match between production and their circulation among the members. Out of 20 farm magazines, 3 magazines reached average circulation of upto 10,000 copies and six magazines have an average circulation between 2000-5000 copies and remaining have less than 2000 copies. This is really very astonishing thing because, all these magazines are subsidized and are more useful to farmers, extension functionaries and researchers. However, very less

efforts have been made to find out the reasons for low circulation. Of all the things, 'content/subject matter' being covered and 'readability' of the magazine plays an important role in their wide circulation or gaining popularity among the readers. At the same time, the success of the farm magazines goes with the taste, satisfaction, perception and attitude of readers towards farm magazines. If the reader develops favourable attitude, automatically it creates interest and motivates the individual to search for new information. And also it is better to consider the socio-economic profile of the readers as well as the extent of usefulness of information. Further, very few studies have been conducted to measure readability dimension namely Siddaramaiah *et al.* (1977), Kaur (1978), Rajan (1982), Oliver (1985), Nanjappa (1993). This dimension plays an important role in the reading habit of the readers. If the writing is readable means, it should be easy to read and understand, then only readers take interest in gaining additional knowledge otherwise no. Therefore by considering all the above dimensions and to know the overall opinion/attitude of the subscriber farmers towards the use of farm magazine, it was felt necessary to design a comprehensive study on the use of farm magazines on the above lines by selecting the popular Kannada farm magazines like Krishiloka, Karnataka Vyvasaya Patrike, Sirisambruddhi and Krishi Munnade published in Karnataka state with the following specific objectives:

- 1) To develop a scale to measure the attitude of subscriber farmers towards farm magazines

- 2) To study the socio-economic profile of subscriber farmers
- 3) To ascertain the relationship between personal, economic, psychological and social characteristics of subscriber-farmers with their attitude
- 4) To study the extent of usefulness of message of farm magazines by the subscriber farmers
- 5) To analyse the contents of farm magazines
- 6) To analyse the sources of articles for publication in farm magazines
- 7) To determine the readability of farm magazines

### **Scope of the study**

The increasing rate of literacy in the country offers new promises and prospects for utilising print media as a medium of mass education. Farm magazines are one of the important print media methods which are being used for communicating improved farm technology.

It is better to consider personal, psychological and socio-economic characteristics of readers which would have influence on the use of farm magazines. At the same time, much importance is to be given for contents/subject matter to be printed in the magazine. Readability of farm magazines has equally significant influence on the readers which needs to be considered carefully. Over and above, the use of farm magazines mainly depends on perception and attitude of farmers.

Therefore, such of the above factors need to be taken into consideration while publishing the farm magazines. Now-a-days large number of farm magazines are being published by the governmental and private agencies with heavy investments. In this context, knowledge about extent of use of message, content, readability, influence of attitude, personal, psychological, socio-economic characteristics and reading habits will be of greater use to the extension workers as well as to administrators, policy makers and publishers in planning the communication strategies. Keeping this in view, a study was undertaken by considering the importance of farm magazines.

### **Limitations of the study**

It is a student's investigation and hence there are limitations of time, resources and selection of few farm magazines like Krishiloka, Karnataka Vyvasaya patrike, Srisambruddhi and Krishi Munnade. The locale of the study comprises of North Karnataka districts. The sample was selected by random sampling procedure looking to the availability of subscriber farmers in those districts. However, more care has been taken to avoid biased information. Further, the findings may be applicable to similar readers with same socio-economic background and agro-ecological situations.

Further, a scale has been developed and standardised to measure the attitude of farmers towards the use of farm magazines. The attitude scale was developed by including the attitudinal statements derived from

out of the different subject matter areas being published in the selected popular farm magazines of North Karnataka. So the scale may give similar findings with same socio-economic and agro-ecological situations.

The formula used to measure the readability of the farm magazines was developed in Kannada language by Nanjappa (1993), where in the author has considered word complexity and average sentence length in developing the readability formula. But, there may be other factors which may contribute to readability. However, the readability formula is first of its kind recently developed in Kannada language is being used to measure the readability of the farm magazines. So this has a limitation to the study.

# *Review of Literature*

---

## **II. REVIEW OF LITERATURE**

Review of literature is an important factor in conducting any type of research. It gives idea about the work done in the past, also helps to identify the area for future research and further provides basis for interpretation to discuss research findings. Fle shman (1967) opined that "better ways are needed to generalize research findings from laboratory studies to operational settings, from one experimental study to another and one operational setting to another". Therefore, an exhaustive review of literature having direct or indirect bearing on the present study was made. The review of literature is grouped under the following heads.

- 2.1 Studies on importance of print media communication and its related aspects
- 2.2 Attitude and preference of farmers towards agricultural information published in farm magazines, newspapers and other print media
- 2.3 Personal, economic, psychological and social characteristics of farmers
- 2.4 Relationship between personal, economic, psychological and social characteristics of farmers and attitude towards use of farm magazines
- 2.5 Effectiveness and extent of usefulness of message published in farm magazines, newspapers and other print media

- 2.6 Content analysis of message published in farm magazines, newspapers and other print media
- 2.7 Sources of articles to farm magazines
- 2.8 Readability and readership behaviour in respect of farm magazines, newspaper and other print media
- 2.9 Conceptual frame work for the study
- 2.10 Hypotheses set for the study

## **2.1 STUDIES ON IMPORTANCE OF PRINT MEDIA COMMUNICATION AND ITS RELATED ASPECTS**

Perumal (1970) reported that farmers became aware of the availability of certified seeds and advantages of hybrid maize cultivation through print media in Coimbatore district of Tamil Nadu state.

Oliver (1971) conducted a study in Tanjavur district of Tamil Nadu on impact of agricultural news through the Tamil newspaper 'Dinamani' and observed that agricultural news articles influenced the farmers at early stages of adoption namely, "awareness" and "interest" to a great extent.

The studies conducted by Yadav (1971), Zalaki (1973), Siddarmaiah (1976a) concluded that farmers adopted farm practices after reading the information published in farm magazines and newspapers.

Annamalai and Menon (1975) reported that information materials like booklets, circular letters and folders were more effective in increasing the knowledge level of farmers in Tamil Nadu.

Nataraju and Perumal (1995) stated that the farm magazines play an important role in increasing knowledge and adoption level of farmers of Karnataka state.

Nanjappa (1996) reported that Kannada publications had more circulation among the readers in Karnataka.

The above research studies on print media revealed the importance and extent of use of messages published to create awareness about new farming technologies and to enhance the knowledge of farming community. It may also be concluded that the print media has influence on adoption process specially at awareness and interest stages.

## **2.2 ATTITUDE AND PREFERENCE OF FARMERS TOWARDS AGRICULTURAL INFORMATION PUBLISHED IN FARM MAGAZINES, NEWSPAPERS AND OTHER PRINT MEDIA**

Rajaguru and Satapathy (1971) pointed out that field agents, neighbours and literature published on agriculture were found to be most effective sources in bringing change in attitude of farmers on high yielding varieties of crops in Puri district of Orissa.

Joseph (1973) observed that question and answer column published in Kannada dailies had favourable attitude of farmers and they expressed their dissatisfaction when it was discontinued for some period.

Oliver *et al.* (1974) studied about the suitability of news articles to reader farmers of Tanjavur district in Tamil Nadu and reported that

almost all farmers (94.6%) developed favourable attitude about the coverage of subject matter.

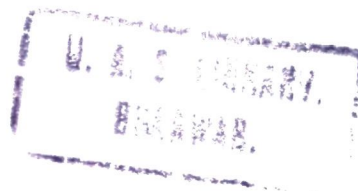
Kayal (1975) found out that farmers of West Bengal had favourable attitude towards the information published in farm magazines on crop production, vegetables and fruit cultivation followed by other areas like animal husbandry and dairy.

Munegouda (1978) pointed out that the combination of radio and newspapers was found to influence the attitude of farmers of Karnataka.

Singh (1978) found out that readers of 'Krishi Yuvak' magazine published at R.B.S.College, Bichpuri, Agra expressed greatest preference for crop cultivation, vegetable cultivation, plant protection and weather forecast. The reading preference on maintenance of agricultural implements, land reforms and rural development programmes was medium. The farmers showed only slight indication for information on poultry keeping.

Krishna Kumar (1982) in his study on effectiveness of farm magazine of Tamil Nadu reported that farmer readers had favourable attitude and preferred articles in farm magazine on crops which were cultivated on their farms. Farmer's experience was the most preferred mode of presentation of message, followed by popular articles, interview with farmers and question-answer type. Readers also preferred action photographs, tabular statements, 30-35 page per issue, 2 page articles, double column arrangement, 10 point letter size, use of local language and creative suspense type of captions.

TH-6737



Nanjappa (1982) conducted a study on content analysis of selected Kannada dailies in Karnataka and observed that majority of farmers preferred information on cultivation of vegetable crops "success stories" as mode of presentation in dailies and suggested to publish agricultural information in particular page in the newspaper so that it would be easy to pick up, to read and also suggested more space be given for success story category of agricultural information.

Rajan (1982) reported that farmers of Kerala preferred more articles on crop production, followed by dairy, poultry, piggery, fishery, plant protection, manures and fertilizers, soil and water management aspects in the farm magazine.

Venkataiah and Reddy (1983) reported that majority of the neo literates were preferred to read literature pertaining to agriculture followed by moral stories, animal husbandry and general reading.

Singh (1984) conducted a study on 'Amar Ujala' and 'Nav Bharat times' Hindi daily newspapers in Agra. He observed that rural adults wanted information on loans and credit facilities for improvement of agriculture, supply of essential commodities, irrigation and electricity problems.

Nagaraj (1986) stated that majority of subscriber farmers (80.8%) had favourable attitude towards 'Krishiloka' farm magazine.

Sawant *et al.* (1989) stated that the farmers of Maharashtra who read 'Shri Sugi' farm magazine had favourable attitude and preferred that

the information should reach them well ahead of the season, also preferred information on different firms, availability of agricultural inputs, cultivation aspects of horticultural and vegetables crops. They also opined that 'farmers' queries' and answers' and photographs be included to increase the usage of farm magazine.

Saha and Trikha (1989) reported that readers of the 'Indian Farmers Digest' preferred more information on availability of inputs, latest technological developments and question-answer type of message presentation. Interms of content, readers expressed preference for crop production, horticulture and animal husbandry. Articles written by scientists and extension workers were preferred by the readers. Farmer - readers preferred good quality cover page with colour photographs.

Tirupataiah (1989) reported that 'Annadata' farm magazine readers of Andhra Pradesh preferred more articles on crop production followed by vegetable and fruit production. Articles written by agricultural scientists were preferred more, followed by extension workers and others.

Krishna Kumar (1990) in his study on comparative media analysis conducted at Tamil Nadu reported that majority of the farmer readers preferred popular articles, question-answer type, success stories, interview, discussion, type of presentation of message as useful and favourable attitude towards print media.

Kalantri *et al.* (1991) conducted a study in Maharashtra and reported that attitude of farmers towards newspaper as a source of

agriculture information was more favourable (35.68%), favourable (51.04%), less favourable (13.28%) and unfavourable (0.00%) to none.

Nataraju and Perumal (1996) in his study conducted on effectiveness of farm magazines revealed that majority of farmer readers had positive attitude towards farm magazines and print media and rated the farm magazines as important sources to be preserved for future use.

Vijayaraghvan *et al.* (1997) conducted a study in Tamil Nadu and reported that majority of the farmer readers preferred farm information collected from farm magazines and dailies to be discussed with their friends followed by neighbours.

Nanjappa *et al.* (1998) conducted a study on utility of agriculture information by the newspaper reader farmers in Karnataka State indicated that majority of farmers preferred the articles presented in the form of success stories followed by suggestion to farmers, question-answer type and feature articles.

Barman and Gogoi's (2000) study on correlates of farmers reading behaviour of Assamese daily. 'Dinik Janmbhumi' indicated that readers had favourable attitude and preferred to read agriculture articles regularly and complete articles as they found them as good source of information.

The above studies revealed that farmers are having favourable attitude towards the message published in the farm magazines. Most of

the farmer readers preferred a good cover page, format with attractive photographs and also preferred more information on crop cultivation followed by horticulture, market trend and availability of inputs. A majority of readers expressed that articles on farmers' experience, success stories, popular articles, question and answer type of information.

### **2.3 PERSONAL, ECONOMIC, PSYCHOLOGICAL AND SOCIAL CHARACTERISTICS OF FARMERS**

#### **Age**

Veerabhadraiah and Sethu rao (1970) observed that over 77 per cent of subscriber farmers of newspaper were in the young age and middle age group.

Oliver *et al.* (1975a) indicated that farmers reading agriculture articles were of old age group followed by young and middle age.

Siddaramaiah *et al.* (1976a) observed that most of the newspaper subscribers belonged to young age.

Siddaramaiah *et al.* (1976b) found out the farmers who possessed agriculture folders were young to middle aged group.

Jayaram (1980) found out that majority of the farm magazine reader farmers were young in age.

William (1981) analysed that younger age individuals were less likely to read the news paper than the older age .

Animuthu (1982) stated that majority of the news paper subscriber farmers belonged old age group.

Nanjappa (1982) ascertained that majority of the farmer readers of Kannada dailies were young in age.

Nijalingappa (1983) stated that majority of farmer readers of 'Reshmekrishi' farm magazine belonged to young and middle age group.

Sharma (1983) found out that farm magazine readers belonged medium to old age category.

Thirupathiah (1983) reported that majority of 'Annadata' farm magazine readers belonged to middle aged group.

Saha and Trika (1989) indicated that majority of the subscriber farmers of Indian Farmers Digest farm magazine belonged to middle age group.

Krishna kumar (1990) reported that Farm Page reader farmers belonged to old age group.

Muthazagan (1990) stated that majority of farmer readers of Tamil Nadu farm publications belonged to young age.

Nataraju and Perumal (1996) conducted a study on effective ness of farm magazine and revealed that farmer readers of farm magazine belonged to middle and old age category.

Barman and Gogoi (2000) conducted a study on correlates of farmers reading habit in respect of Assamese daily 'Dinik Janmbhumi' and concluded that majority of the farmers belonged to middle age followed by old age group.

From the above studies it can be concluded that, majority of farmer readers of farm publications were of middle age group ranging from 30-50 years. However few studies also revealed that young aged farmers do also read the farm publications.

### **Education**

Khandekar (1975) stated that farm magazine reader farmers had medium education.

Oliver *et al.* (1975a) found out that farmers reading agriculture articles had different levels of education.

Siddaramaiah *et al.* (1976a) observed that most of the news paper subscribers belonged to college level education.

Siddaramaiah *et al.* (1976b) found out that majority of farmers who possessed farm folders were educated upto primary school.

Jayaram (1980) indicated that majority of the farm magazine reader farmers had education upto college level.

William (1981) analysed that less educated individuals were less likely to be non-readers of news papers than the more educated.

Animuthu (1982) revealed that majority of the news paper subscriber farmers had secondary level education.

Nanjappa (1982) indicated that majority of the farmer readers of kannada dailies had higher educational level.

Nijalingappa (1983) in his study indicated that the farmer readers of 'Reshme Krishi' farm magazine had medium level education.

Sharma (1983) stated, farm magazine readers had education between primary to middle school level.

Thirupathaiah (1983) reported that majority of Annadata' farm magazine farmer readers had education upto primary level.

Saha and Trika (1989) foundout that majority of the subscriber farmers of 'Indian Farmers Digest' farm magazine had education up to graduation level.

Krishna Kumar (1990) reported that farm page farmer readers had education up to secondary and college level education.

Patil and Namasivam (1990) revealed that majority of news paper readers were educated upto primary school

Muthazhagan (1990) observed that the farmer readers of Tamil farm publications had low to medium level of education.

Nataraju and Perumal (1996) reported that farmer readers of farm magazine had education upto primary school.

Barman and Gogoi (2000) study on correlates of farmers reading habit in respect of Assamese daily 'Dinik Janmbhumi' indicated that majority of the farmers had education upto graduate level followed by higher secondary and middle school.

From the above studies it can be concluded that farmers who read farm publications had medium level education that is from middle school to high school and some were educated upto graduate level. However majority of studies revealed that, farmer readers had education in variably and belonged to varying levels of education.

### **Farming Experience**

Muthazhagan (1990) conducted a study in Tamil Nadu and indicated that the farmers who read farm publication belonged to more farming experience category.

Krishnakumar (1990) concluded that Farm Page reader farmers had more than 10 years of farming experience.

Sakhakar *et al.* (1992) found that about 50 per cent of the respondents were cultivating soybean from four to six years. About one fourth (22.67%) of the total respondents had less than three years farming experience and remaining 29.33 per cent farmers were cultivating soybean from more than seven years.

Sakharkar (1995) in a study on soybean reported that majority of the respondents (67.00%) were cultivating soybean from the last five to

eight years. Fifteen per cent had four years and 18 per cent of the respondents had more than eight years of experience in cultivation of soybean.

Nataraju and Perumal (1996) indicated that majority of farmer readers of farm magazine had more than 10 years of farming experience.

Yaligar (1997) reported that, majority of the respondents (74.31%) were cultivating soybean from the last three years whereas 15.69 per cent and three to five years farming experience and nine per cent and more than five years of experience in cultivation of soybean.

Sawant (1999) conducted a study on effectiveness of different mode of presentation of information on mushroom cultivation in Maharashtra on farmers and reported that 78 per cent of the respondents had medium (3-15 years) farming experience while 16 per cent of them had high farming experience with more than 15 years.

Above review of literature revealed that the farmers who read farm publication had more than 10 years farming experience and belonged to more farming experience category.

### **Landholding**

Khandekar (1975) stated that farm magazine reader farmers had medium size of land holding.

Olivar *et al.* (1975b) in his study conducted on farmer readers of 'Dinamani' daily newspaper in 'Tanjavur' district of Tamil Nadu indicated that they belonged to large farm size group.

Siddaramaiah *et al.* (1976b) stated that the farmers who possessed farm folders had small land holding and were subscriber of daily newspaper.

Nijalingappa (1983) indicated that farmer readers of Reshme Krishi farm magazine belonged to medium to big land holding group.

Sharma (1983) found out that farm magazine readers owned small size of farms.

Thirupathaiah (1983) reported that majority of 'Annadata' farm magazine farmer readers had small size landholding.

Saha and Trika (1989) indicated that most of subscriber farmers of 'Indian Farmers' Digest farm magazine had medium size of land holding.

Muthazhagan (1990) stated that the farmers of Tamil Nadu who read farm literature belonged to big land holding category.

Krishna Kumar (1990) stated that most of the Farm Page reader farmers had big size land holding.

Patalia (1991) in his study reported that 50.0 per cent of the respondents had small land holding upto 2 hectares and 47.50 per cent of the respondents had medium land holding ranging from 2.1 to 6 hectares, only 2.50 per cent respondents had land holding above 6.1 hectares.

Tawade (1991) observed that 68.15 per cent the respondents had 4 to 11 hectares of land, 20.0 per cent the respondents had up to 2 hectares while, very few (11.85 per cent) of the respondents possessed 12 hectares and above.

Jayale (1992) observed that majority of the respondents 63.33 per cent had medium land holding upto 6 hectare and 23.33 per cent of the respondents had small land holding upto 2 hectares. Only 13.34 per cent of the respondents had land holding above 6.1 hectare.

Raghuprasad (1992) in his study on sericulturists reported that large majority (86.00%) of the respondents were big landholders followed by small landholders (10.67%) and few (3.33%) were marginal landholders.

Naik (1993) in his study conducted in Dharwad district of Karnataka found that 40 per cent of the respondents had big landholdings, 30 per cent had small landholdings and 26 per cent had marginal landholdings.

Srinivasareddy (1995) in his study on mango growers reported that 41 per cent of the respondents had less than 12 acres of land and 36 per cent of the respondents possessed 12 to 32 acres of land whereas 23.0 per cent of the respondents had more than 32 acres of land.

Hanuma naikar (1995) in his study found that 70 per cent of the sunflower growers in Dharwad district belonged to big landholdings (above 7.4 acres) category, while 30.00 per cent belonged to the small landholding (upto 7.4 acres) category.

Saravanakumar (1996) in his study observed that majority of mango growers (64.18%) had 10.30 acres of landholdings, while 21.66 per cent and 14.66 per cent had small and big landholdings respectively.

Nataraju and Perumal (1996) found out that majority of farmer readers of farm magazine owned big size farms.

Barman and Gogoi (2000) in a study on correlates of farmers reading habit in respect of assamese daily 'Dinik Janmbhumi' revealed that majority of the farmers belonged to big size land holding followed by small size land holding group.

Above reviews indicated that majority of farmers who read farm publication had high land holdings and few studies indicated that they belonged to medium to large size landholdings.

### **Annual income**

Oliver *et al.* (1975b) stated that farmer readers of 'Dinamani' daily in Tanjavur district of Tamil Nadu belonged to high income group.

Malagi (1985) reported that 41.4 and 12 per cent of the adopters and non-adopters of soybean growers in Kalaghatagi taluka of Dharwad district belonged to high income group 29.3 and 36.0 per cent to medium income, while 29.3 and 36.0 per cent medium income, while 29.3 and 52.00 per cent to low income groups respectively.

Kadam (1991) conducted a study in Maharashtra state reported that annual income of about three fourth of the total contact farmers was below 11,500/- rupees, per annum.

Balamatti (1993) in his study found that majority of the paddy growers had a medium income level.

Hanumanaikar (1995) found that 73 per cent of the sunflower growers in Dharwad district had income above Rs.11,500 per annum.

Sakharkar (1995) in his study conducted in Maharashtra found that the annual income of 33.33 per cent of the soybean growers was less than 11,000 28.67 per cent had income between 11,001 and Rs.22,000 whereas 20.33 per cent belonged to the income group ranging from Rs.22,001 to Rs.33,000.

Nataraju and Perumal (1996) in his study on effectiveness of farm magazines revealed that farmer readers belonged to medium income level group.

Chandran (1997) conducted a study on tapioca growers in Ernakulam district of Kerala and concluded that forty per cent of the respondents belonged to low income category between 38,525 to Rs.77,389, while the remaining 31.67 per cent belonged to high income category of above Rs.77,389 per year.

Sawant (1999) conducted a study on effectiveness of different modes of presentation of information on mushroom cultivation on farmers in Maharashtra and found out that 67 per cent of the respondents had medium income whereas 27 per cent had high income.

From the above studies conducted, it can be concluded that farmer readers of farm publications belonged medium to high income level group.

## **Material Possession**

Sontakki (1989) conducted a study in Belgaum district of Karnataka and reported that mould board plough, hand operated sprayer and electric motor pumpset were possessed by 40 and 50 per cent, while tractor was possessed by only few (11%) farmers of Belgaum district.

Meti (1990) observed that 46.00 per cent of the farmers of Dharwad district in Karnataka state possessed sprayer and less than 10 per cent of respondents possessed tractor.

Menon (1991) conducted a study in Nilgiris district of Tamil Nadu found out that about 28 per cent of the respondents possessed simple agricultural implements like plough, spade, pick axe, sickle and radio was possessed by 35 per cent.

Sankanagoudar (1991) conducted a study on Lambani women in Dharwad district of Karnataka and found out that considerable per cent of women (44.55%) possessed radio and 34 per cent had common agricultural implements. A few of them (14.5%) possessed by cycles.

Indravati *et al.* (1992) conducted a study in Hissar district revealed that more than half of the respondents (52%) had few agricultural implements.

Hosamani (1993) conducted a study in Bailhongal taluka of Belgaum district revealed that five per cent of families had tractor followed by power sprayer (4%), pumpset (3%) truck and tempo (1.5%).

Naik (1993) reported that 37 per cent of the farmers of Dharwad district possessed sprayers. Tractor and power tillers were possessed by 8 and 6 per cent of the farmers.

Channal (1995) in a study on shareholders and non-shareholders of co-operative sugar factory in Karnataka reported that more than 70 per cent of shareholders possessed agricultural implements like iron plough, wooden plough, harrow, hoe, seed drill, axe and bullock cart. In case of farm powers cent per cent of the shareholders had pumpset and 11 per cent had possessed tractor. In case of non-shareholders, 92 per cent possessed wooden plough, 98 per cent bullocks and 100 per cent possessed tractor.

Hanumanaikar (1995) conducted a study on sunflower growers in Ranebennur taluk of Dharwad district and reported that 81 per cent of respondents possessed carts, followed by pumpsets (60.00%), iron plough (47.00%), sprayers (45.00%). Seed drill and tractor was owned by 17 and 7 per cent respectively.

Sai Krishna (1998) in his study on migrant farmers of Andhra Pradesh in Raichur district observed that farmers possessed agricultural materials like sprayer (90%) and only 11.33 per cent possessed tractor and non-agricultural materials like radio and television (81.33% and 64%) respectively. More than one fourth of the total respondents possessed motor cycle and 1.33 per cent possessed car.

Maraddi (1999) in a study on cotton growers reported that 64 per cent of the respondents possessed few agricultural implements and 34 per

cent possessed average number of implements and only 2 per cent possessed high number of materials. In case of farm power 39 per cent of cotton growing were in low, 2.3 per cent in medium and 38 per cent in high category respectively.

The above studies revealed that majority of the farmers possessed the agricultural implements like wooden plough, iron plough, harrows, hoes, seed drill, bullock cart, sprayers, pumpsets, tractors and some had radio, television and motor cycles.

### **Economic motivation**

Veerasamy and Tejbahadur (1979) in their study in South Arcot district of Tamil Nadu revealed that 71.25 per cent of the small farmers had medium level of economic motivation while 17.0 per cent and 11.75 per cent of small farmers had low and high levels of economic motivation respectively.

Animuthu (1982) found out that majority of news paper reader farmers belonged to medium economic motivation category.

Malagi (1985) found that majority (53.3%) of the soybean growers of Kalaghatgi taluk in Dharwad district had high economic motivation, 24 per cent and 22.7 per cent had low and medium level of economic motivation respectively, whereas 50.7 per cent, 30.7 per cent and 12 per cent of the non-adopters of soybean had low, medium and high level of economic motivation respectively.

Ramesh babu (1989) in a study on grape growers in Bangalore and Kolar districts of Karnataka state observed that 38.33 per cent of the respondents had high economic motivation whereas 61.67 per cent of the respondents had low level of economic motivation.

Kirshnakumar (1990) reported that Farm Page reader farmers belonged to medium economic motivation category.

Sheela (1991) in her study on dairy practicing women of Bidar district in Karnataka reported that majority (67.0%) of the respondents had medium level of economic motivation. Only 18.0 and 15.0 per cent of the respondents had low and high level of economic motivation.

Srinivasreddy (1995) conducted a study in Kolar district of Karnataka state and reported that 40.0 per cent of the mango growers had high level of economic motivation followed by medium (34.0%) and low (26.0%) economic motivation respectively.

Sakharkar (1995) found that 76.33 per cent, 14 per cent 9.67 per cent of the soybean farmers of Nagpur district belonged to medium, low and high level of economic motivation, respectively.

Nataraju and Perumal (1996) conducted a study on effectiveness of farm magazine and observed that majority of farmer readers of farm magazine belonged to medium economic motivation level.

Saravanakumar (1996) found out that majority of the respondents (60.83%) had medium economic motivation. While 16.67 per cent and

22.50 per cent of the farmers belonged to low and high level of economic motivation respectively.

Chandran (1997) in her study on tapioca growers in Erukulam district of Kerala state revealed 26.67 per cent each of the respondents belonged to low and medium level of economic motivation and remaining 46.66 per cent of the respondents belonged to high economic motivation group.

Sawant (1999) in his study conducted on farmers with respect to effect of different modes of presentation of information of mushroom cultivation in Maharashtra state reported that 78 per cent of the respondents were belonged to medium economic motivation category.

Barman and Gogoi (2000) in a study on correlates of farmers reading habit in respect of Assamee daily news paper 'Dinik Janmbhumi' revealed that majority belonged to medium economic motivation category followed by high economic motivation category.

The above studies revealed that the farmers who were in the habit of reading farm literature belonged to medium economic motivation category.

### **Risk orientation**

Veerasamy and Tejbahadur (1979) in their study reported that 60.0 per cent of the farmers had medium risk preference and only 20.0 per cent each had high and low risk preference respectively.

Sumati (1987) in a study in Chickmagalur district of Karnataka observed that 43.58 per cent of the coffee growers had high level of risk orientation and 56.42 per cent of them had low level of risk orientation.

Ajay Kumar (1989) in his study on grape growers reported that 32.0 per cent and 33.0 per cent of the respondents had high and low level of risk orientation respectively. Only 35 per cent of them had medium level of risk orientation.

Ramesh Babu (1989) in his study on grape growers reported that 43.33 per cent of the respondents had high level of risk orientation and only 56.67 per cent of them had low level of risk orientation.

Raghu Prasad (1992) conducted study in Chitradurga district of Karnataka state and reported that 68.67 per cent of the sericulturists were in the medium category of risk orientation followed by low (18.67%) and high (12.66%) category respectively.

Srinivasreddy (1995) in his study on mango growers observed that 43.00 per cent of the respondents were in high risk orientation category followed by low (31.0%) and medium (26.0%) category respectively.

Saravanakumar (1996) observed that majority of the mango growers (70.83%) belonged to medium level of risk orientation followed by low (15.0%) and high (19.17%) level of risk orientation respectively.

Nataraju and Perumal (1996) observed that majority of farmer readers of farm magazine belonged to medium risk orientation category.

Sawant (1999) observed that majority of (75%) of the respondents had medium risk bearing capacity while 17 per cent had high risk bearing capacity.

From the above studies it can be concluded that majority of the farmers had medium to high risk bearing capacity.

### **Innovativeness**

Ramlinge gowda (1978) in his study 'A critical analysis of the adoption behaviour of varalaxmi cotton cultivars in Malaprabha Command Area' of Karnataka state reported that 54 per cent of respondents had medium level of innovative proneness followed by high level of innovative proneness (34.00%) and 12.04 per cent low level innovative proneness.

Rannorey (1979) in his study on critical analysis of agro-economic and socio-psychological characteristics in relation to adoption behaviour of credit borrower farmers of Malaprabha Command Area in Karnataka State reported that majority (52.50%) of the respondents were in high innovative proneness group and 47.5 per cent of the respondent were in low innovative proneness group.

Pamadi (1980) who conducted a study on adoption behaviour, consultancy pattern of groundnut growers in Dharwad district, reported that majority (70%) of the farmers had high innovative proneness and 30 per cent had low innovative proneness.

Farooque (1990) in his study on the adoption behaviour of farmers of drought prone area of Aurangabad district of Maharashtra state reported that majority of (71.92%) the farmers had high innovative proneness, whereas, 53.66 per cent of medium adopters and 51.92 per cent of high adopters had low innovative proneness.

Nataraju and Perumal (1996) revealed that majority of farmer readers of farm magazine belonged to medium level of innovativeness category.

Sawant (1999) conducted a study on effectiveness of different modes of presentation of information on mushroom cultivation on farmers of Maharashtra and reported that 72 per cent of the respondents belonged to medium innovativeness category.

Barman and Gogoi (2000) conducted a study on correlates of farmers reading habit in respect of Assamese daily 'Dinik janmbhumi' and pointed out that majority belonged medium category followed by high innovativeness category.

From the above, it can be concluded that majority of the farmers belonged to medium to high innovativeness category.

### **Extension contact**

Animuthu (1982) found out that subscriber farmers of news paper belonged to medium extension contact group.

Singh *et al.* (1988) indicated that the farmers of the non-progressive villages in Karnnool district of Haryana state had low extension contact when compared to the farmers of progressive villages.

Kher (1991) observed that fifty per cent of farmers were having high extension contact with extension functionaries.

Sheela (1991) in her study in Bidar district of Karnataka found that 77 per cent of the dairy practicing women had no contact with extension agency and 23 per cent had contact with the extension personnel.

Solanki and Kadam (1993) conducted a study on information seeking behaviour of farmers in Maharashtra and stated that majority of the farmers contacted the sources for want of agriculture information in order of priority were 'agricultural assistant' (AA's), ' agricultural extension officers' (AEO's), 'progressive/local farmers', 'newspapers/ farm magazines', 'neighbours/friends/relatives, meetings and demonstrations.

Naik (1994) conducted a study in Dharwad district of Karnataka and reported that majority (97.00%) of the respondents had high level of contact with extension agencies.

Hanumanaikar (1995) conducted a study in Ranebennur of Dharwad district and reported that 56 per cent of the sunflower growers contacted agricultural assistants occasionally, followed by 25 per cent who contacted once in 15 days and 28 per cent never contacted the Agriculture Assistant's (AA's).

Sakharkar (1995) reported that one-third of the soybean growers of Nagpur district in Maharashtra contacted village extension workers and gramsevak once in a week.

Patil (1995) observed in his study that Agricultural Assistant's (53.75%), extension guides (13.75%) and Assistant agricultural officers (6.25%) were contacted once in fifteen days by the commercial crop growers of sunflower. Whereas forty-five per cent of the seed producers had contacted Agricultural Assistants once in fifteen days and 93.73 per cent of them had contacted private company personnel twice a week.

Malagi (1995) reported that forty, thirty three and twenty seven per cent of soybean growers in Kalaghatagi taluk of Dharwad district belonged to high medium and low extension contact groups, respectively.

Saravanakumar (1996) reported that majority of (51.67%) of the mango growers never contacted Assistant Agricultural officers, whereas 42.50 per cent of them had regular contact with village administrators and 50.83 per cent of them contacted Agricultural Officers occasionally.

Wakle *et al.* (1998) in a study on utilization of different sources by the farmers in Maharashtra for seeking farm information indicated that most of the farmers approached gram sevaks, friends, relatives and village extension workers, demonstrations, radio, television, newspapers, leaflets, folders, farm magazines for getting agricultural information.

Thakur (1999) conducted a study on attributes of farmers in Chindwra district of Madhya Pradesh and revealed that farmers

contacted friends and relatives, discussion, meetings, television, extension personnel, radio and demonstrations in order of priority.

Sawant (1999) conducted a study on effectiveness of different modes of presentation of information on mushroom cultivation on farmers through television in Maharashtra and found that 35 per cent of the respondents belonged to medium extension contact category while 30 per cent belonged to high category of extension contact.

Sharma *et al.* (2000) conducted a study on utility of farm information by the tribals in Surguja district of Madhya Pradesh and revealed that farmers contacted the sources for want of farm information in order of priority were rural agricultural extension officers (RAEO's), friends / neighbours/ progressive farmers, radio, television, agriculture scientists, seeds/ fertilizer agencies and cooperative society.

The above studies revealed that farmers who read farm publications had extension contact with agriculture assistants, agriculture extension officers, progressive farmers, friends, relatives, neighbours. demonstrations, meetings radio, newspaper, television for acquisition of agriculture information.

### **Extension participation**

Animuthu (1982) found out that majority of the newspaper subscriber farmers belonged to medium level of extension participation.

Muthazagan (1990) in his study conducted at Tamil Nadu on farmer readers of farm publications indicated that majority belonged low extension participation category.

Yognanda (1992) in his study observed that majority of the big coconut growers (78.33%) did not participate in educational tour. Whereas, 61.0 per cent of the small coconut growers did not participate in meetings, educational tour and farmers training programmes.

Srinivas reddy (1995) in his study reported that more than fifty per cent of the mango growers had low extension participation, followed by high (30.0%) and medium (17.0%) level of extension participation.

Hanumanaikar (1995) in a study on sunflower growers of Ranebennur taluk in Dharwad district observed that 47.50 per cent of the respondents participated in extension activities. In which 56.84 per cent attended exhibitions 25.26 per cent Krishimela, 14.73 per cent training 13.68 per cent in discussion meetings and 11.57 per cent attended field trips.

Sakharkar (1995) reported that one third (35.67%) of the total respondents participated in one or more extension activities, whereas two third (64.33%) of the total respondents did not participate in any extension activities. Further, among those who participated in extension activities, majority of them attended demonstrations (87.85%) followed by meetings (57.94%), Krishimela (24.30%) exhibition (15.89%), field days (4.67%), training programme (1.87%).

Nataraju and Perumal (1996) revealed that majority of farmer readers of farm magazine belonged to medium extension participation group.

Sravanakumar (1996) observed that majority of the respondents never participated in various extension activities namely demonstrations (83.34%), training programmes (70.83%) and discussion meeting (67.50%). 68.33 per cent and 54.167 per cent of the mango growers participated occasionally in field days and conducted tour respectively.

Yaligar (1997) reported that 34.42 per cent of soybean growers had participated in one or more extension activities. Further among the participated respondents, 35.29 per cent had attended demonstrations followed by training programme (24.49%) Krishimela (23.24%) and meetings (15.68).

From the above studies it can be concluded that majority of the farmer readers of farm publications participated in extension activities organised and some studies revealed that they belonged to medium extension participation category.

### **Mass media participation**

Khandekar (1975) indicated that farmer readers of farm magazine belonged to medium mass media participation category.

Siddaramaiah *et al.* (1976b) found out that most of the news paper subscribers belonged to medium level of mass media participation category.

Nanjappa (1982) reported that majority of the farmer readers of kannada dailies had more mass media participation.

Animuthu (1982) indicated that majority of the newspaper subscribers belonged to medium level of mass media participation group.

Nijalingappa (1983) found out that farmer readers of Reshme Krishi 'farm magazine belonged to low level of mass media participation category.

Thirupathaiah (1983) reported that majority of 'Annadata' farm magazine farmer readers had high mass media exposure.

Muthazhagan (1990) stated that majority of farmer readers of farm literature in Tamil Nadu belonged to medium level of mass media participation.

Krishnakumar (1990) stated that Farm Page reader farmers had medium level of mass media participation.

Premeelamma (1990) found that 65 per cent of the rural women had low mass media use whereas 35 per cent had high mass media use.

Vinayakareddy (1991) concluded that majority (64%) of the registered cotton seed growers had low mass media use.

Shetty (1991) in his study reported that 11 and 9 per cent of male youth listen radio regularly to general and agricultural programmes and 26 per cent read newspapers regularly.

Sangha and Kalra (1993) conducted a study on utilization of mass media sources for agriculture information by the farmers of Ludhiana

district revealed that radio, television, newspapers and farm magazines were the important mass media sources for farm information.

Dharmadhikari *et al.* (1994) conducted a study on televiewing behaviour of TV. Owning farmers in Akola district of Maharashtra and indicated that farmers viewed agriculture programmes for want of information regularly telecasted through a programme entitled Amachi mati Amachi Manse' followed by hearing news on current events.

Srinivasareddy (1995) stated that majority (53%) of the mango growers had low mass media participation followed by 36 per cent had high and 11 per cent had medium level of mass media use.

Hanumanaikar (1995) conducted a study in Ranebennur taluk of Dharwad district of Karnataka reported that 86.9 per cent of sunflower growers possessed radio and most of them listen to it occasionally. Almost all the subscribers of newspaper read the newspaper regularly (72.22%).

Patil (1995) noticed that 47.50 per cent, 20.00 per cent 18.75 per cent of commercial growers of sunflower were daily users of radio, television and newspapers respectively. On the contrary 43.75 per cent, 25 per cent and 23.75 per cent of seed producers regularly use radio, newspapers and TV respectively.

Channal (1995) reported that, 41 per cent of shareholders in Belgaum district read newspapers regularly followed by extension literature (12.00%), listening to radio (9.00%) and view television (3.00%)

whereas, in case of non-shareholders 26 per cent read newspapers, 3 per cent extension literature, 37 per cent extension literature, 37 per cent listen to radio and only 2 per cent view television.

Sawant (1999) observed that 64 per cent of the respondents belonged to medium mass media participation category.

Maraddi (1999) in a study on cotton growers of Dharwad district reported that 49 per cent of the respondents had low mass media exposure whereas 42 per cent and 9 per cent had medium and high mass media exposure respectively.

From the above review of literature, it can be concluded that majority the farmers who read farm publications either possessed or regularly read newspapers/farm magazine, belonged to medium level mass media participation category.

### **Participation in formal organisation**

Jayaram (1980) found out that majority of farm magazine farmer readers belonged to low organisation participation category.

Animuthu (1982) indicated that majority of the News paper subscriber farmers belonged to medium level of social participation category.

Nijalingappa (1983) stated that farmer readers of 'Reshme Krishi' farm magazine in Karnataka belonged to low level of social participation.

Sharma (1983) stated that farm magazine readers belonged medium social participation category.

Gupta and Sangha (1980) in their study in Punjab state reported that 88.0 per cent of the farmers had low level of social participation in social organisations whereas, 40 and 80 per cent of the farmers had medium and high level of social participation.

Lokhande (1990) observed that 45.00 per cent of the grape growers were having medium level of social participation, followed by high (35.0%) and low (20.0%) led by social participation.

Muthazhagan (1990) in his study on farmer readers of farm publications in Tamil Nadu reported that majority belonged to low level of social participation category.

Patil and Namasivam (1990) indicated that majority of news paper readers belonged to low to medium levels of social participation.

Krishnakumar (1990) reported that farm page reader farmers belonged to medium level of social participation.

Sheela (1991) in her study observed that 90.50 per cent of the respondents were members of either any one of the organization and among them 3.91 per cent were office bearers.

Tawade (1991) observed that majority of the respondents (70.0%) were having medium level of social participation followed by low (16.25%) and high (13.75%) level of social participation.

Raghuprasad (1992) in his study reported that 9.0 per cent of the respondents participated regularly in activities of mandal panchayats, 14.0 per cent of the respondents participated regularly in co-operative societies. Only one per cent of the respondents participated in educational institutions.

Srinivasareddy (1995) in his study reported that more than half number of the mango growers (57.0%) had medium level of socio-participation followed by low (33.0%) and high (100%) level of social participation.

Saravankumar (1996) in his study revealed that 79.17 per cent and 78.33 per cent of the mango growers were members of co-operative milk society and district co-operative bank. While, only 9.17 per cent of the mango growers were members of youth club and farmers discussion group.

Nataraju and Perumal (1996) indicated that majority of farm magazine reader farmers had medium social participation level.

The above studies conducted on social participation revealed that majority farmer readers of farm publications belonged to medium level social participation category.

## 2.4 RELATIONSHIP BETWEEN PERSONAL, ECONOMIC PSYCHOLOGICAL AND SOCIOLOGICAL CHARACTERISTICS OF FARMERS WITH DEPENDENT VARIABLE ATTITUDE/ READING BEHAVIOUR

Variable	Author/year	Respondents	Dependent variable	Relationship
<b>Age</b>	Zalaki (1973)	Farmer readers	Reading behaviour of farm magazine	Non-significant
	Oliver <i>et al.</i> (1975b)	Farmer readers	Attitude towards agril. Articles published in newspaper	Non-significant
	Animuthu (1982)	Farmer readers	Opinion towards farm information published in newspapers	Non-significant
	Rajan (1982)	Farmer readers	Reading behaviour of agril. articles published in newspaper	Non-significant
	Nijalingappa (1983)	Farmer readers	Reading behaviour of farm magazines	Non-significant
	Sharma (1983)	Farmer readers	Reading behaviour of farm magazines	Non-significant
	Nagaraj (1986)	Farmer readers	Attitude towards farm magazines	Non-significant
	Karande and Riswadkar (1987)	Farmer readers	Attitude towards farm publications	Non-significant
	Karippai (1988)	Farmer readers	Reading behaviour of agril. articles published in newspaper	Non-significant
	Prasad <i>et al.</i> (1989)	Farmer readers	Reading behaviour of farm magazine	Non-Significant
	Kalantri <i>et al.</i> (1991)	Farmer readers	Attitude towards agril. articles published in newspaper	Significant
	Dhanunjaya (1995)	Farmer readers	Perception towards farm magazine	Non-significant
Nataraju and Perumal (1996)	Farmer readers	Attitude and effectiveness towards farm magazine and print media	Significant	

Variable	Author/year	Respondents	Dependent variable	Relationship
<b>Education</b>	Barman and Gogoi (2000)	Farmer readers	Reading behaviour of agril. articles published in news paper	Non-significant
	Zalaki (1973)	Farmer readers	Reading behaviour of farm magazines	Significant
	Oliver <i>et al.</i> (1975b)	Farmer readers	Attitude towards agril. articles published in news papers	Non-significant
	Sohal <i>et al.</i> (1977)	Farmer readers	Reading behaviour and usefulness of farm magazine	Non-significant
	William (1981)	Farmer readers	Reading behaviour farm publications	Significant
	Animuthu (1982)	Farmer readers	Opinion towards farm information published in newspapers	Significant
	Rajan (1982)	Farmer readers	Reading behaviour of agril. articles published in newspaper	Non-significant
	Sharma (1983)	Farmer readers	Reading behaviour of farm magazines	Non-significant
	Thirupathaiah (1983)	Farmer readers	Opinion towards farm information published in farm magazine	Significant
	Sawant <i>et al.</i> (1984)	Farmer readers	Reading behaviour of agril. articles published in farm magazine	Significant
	Nagaraj (1986)	Farmer readers	Attitude towards farm magazine	Significant
	Karande and Riswadkar (1987)	Farmer readers	Attitude towards farm publications	Significant
	Patil and Namasivam (1990)	Farmer readers	Reading behaviour of agril. articles published in newspaper	Significant
	Kalantri <i>et al.</i> (1991)	Farmer readers	Attitude towards agril. articles published in newspapers	Significant
Dhanunjaya (1995)	Farmer readers	Perception towards farm magazines	Significant	

Variable	Author/year	Respondents	Dependent variable	Relationship
<b>Farming experience</b>	Nataraju and Perumal (1996)	Farmer readers	Attitude and effectiveness towards farm magazine and print media	Significant
	Barman and Gogoi (200)	Farmer readers	Reading behaviour of agril. articles published in newspaper	Significant
	Oliver (1975b)	Farmer readers	Attitude towards agril. articles published in newspaper	Non-significant
	Philip (1983)	Farmers	Attitude towards farm implements and machinery	Significant
	Karande and Riswadkar (1987)	Farmer readers	Attitude towards farm publications	Significant
	Perumal <i>et al.</i> (1988)	Fish farmers	Attitude towards fish farmers development agency (FFDA)	Non-significant
	Jayasubramanian <i>et al.</i> (1988)	Farmers	Attitude towards distance education	Non-significant
	Ingle and Virkhare (1988)	Farmer readers	Perception towards farm magazine	Significant
	Sontakki (1989)	Farmers	Attitude towards farm implements	Negatively significant
	Naik (1994)	Farmers	Attitude towards seed supplying agency	Non-significant
<b>Land holding</b>	Arularaj and Ulagalandan (1995)	Farmers	Perception towards planting of sugarcane	Significant
	Nataraju and Perumal (1996)	Farmer readers	Attitude and effectiveness towards farm magazines and print media	Significant
	Singh and Singh (1970)	Farmers	Attitude towards cultivation of dwarf wheat variety	Significant
	Pimprikar <i>et al.</i> (1975)	Farmers	Attitude towards poultry farming	Significant
	Oliver <i>et al.</i> (1975b)	Farmer readers	Attitude towards agril. articles published in newspaper	Non-significant

Variable	Author/year	Respondents	Dependent variable	Relationship
	Sohal <i>et al.</i> (1977)	Farmer readers	Reading behaviour and usefulness of a farm magazines	Non-significant
	Singh and Singh (1978)	Farmers	Attitude towards farm implements	Non-significant
	Tripathi (1978)	Farmers	Attitude towards improved agricultural practices	Significant
	Mani and Knight (1981)	Farmers	Attitude towards regulated market	Significant
	Pathak (1981)	Farmers	Attitude towards improved jute cultivation practices	Significant
	Rajan (1982)	Farmer readers	Reading behaviour of agril. articles published in newspaper	Non-significant
	Sharma (1983)	Farmer readers	Reading behaviour of farm magazines	Non-significant
	Reddy (1983)	Farmers	Attitude towards Bhagyalakshmi biogas plant	Non-significant
	Singh (1983)	Farmers	Attitude towards farm mechanisation	Significant
	Malagi (1985)	Farmers	Attitude towards soybean cultivation	Non-significant
	Nagaraj (1986)	Farmer readers	Attitude towards farm magazine	Non-significant
	Patil (1988)	Farmers	Attitude towards improved sunflower cultivation practices	Non-significant
	Meti (1990)	Farmers	Attitude towards improved farm implements	Non-significant
	Nimbalkar and Pawar (1990)	Televiwer farmers	Perception towards farm programmes	Non-significant
	Ratnakar and Reddy (1991)	Tribal farmers	Perception towards ITDA (Integrated Tribal Development Agency) programme	Significant
	Dinkle <i>et al.</i> (1992)	Farmer readers	Perception towards agril. information published 'Lokmat' farm magazine	Significant

Variable	Author/year	Respondents	Dependent variable	Relationship
<b>Annual income</b>	Patel and Patel (1993)	Farmer readers	Attitude towards lab to land programme	Non-significant
	Naik (1994)	Farmers	Attitude towards seed supplying agency	Significant
	Dhanunjaya (1995)	Farmers	Perception towards farm magazine	Non-significant
	Nimbal (1995)	Farmers	Attitude towards biogas plant	Significant
	Sureshkumar (1997)	Farmers	Attitude towards privatization of agriculture	Non-significant
	Oliver <i>et al.</i> (1975b)	Farmer readers	Attitude towards agril. articles published in newspaper	Non-significant
	Pathak (1981)	Farmers	Attitude towards improved jute cultivation practices	Significant
	Viju and Pillai (1981)	Kannikars (tribal community in TN)	Attitude towards farming	Significant
	Rajan (1982)	Farmer readers	Reading behaviour of agril. articles published in newspapers	Non-significant
	Patil (1984)	Farm women	Attitude towards balanced diet	Significant
	Malagi (1985)	Farmers	Attitude towards soybean cultivation	Significant
	Nagaraj (1986)	Farmer readers	Attitude towards farm magazine	Significant
	Patil (1988)	Farmers	Attitude towards sunflower cultivation practices	Significant
	Ingale and Virkhare (1988)	Farmer readers	Perception towards farm magazine	Non-significant
	Nimbalkar and Pawar (1990)	Televiwer farmers	Perception towards farm programmes	Significant
Dinkle <i>et al.</i> (1992)	Farmer readers	Perception towards agril. information published in 'Lok mat' farm magazine	Non-significant	

Variable	Author/year	Respondents	Dependent variable	Relationship
<b>Material possession</b>	Dhanunjaya (1995)	Farmer readers	Perception towards farm magazine	Non-significant
	Nimbal (1995)	Farmers	Attitude towards biogas plant	Significant
	Meti (1998)	Farmers	Attitude towards improved agril. technologies	Significant
	Satapathy (1973)	Farmers	Attitude towards farm implements	Significant
	Ashok Reddy (1983)	Farmers	Attitude towards Bhagyalakshmi biogas plant	Non-significant
	Singh (1983)	Farmers	Attitude towards farm mechanization	Significant
	Reddy (1983)	Farmers	Attitude towards biogas plant	Non-significant
	Digraskar and Wangikar (1991)	Farmers	Attitude towards biogas plant	Non-significant
	Nagpal and Yadav (1991)	Farmers	Attitude towards biogas plant	Significant
<b>Economic motivation</b>	Nimbal (1995)	Farmers	Attitude towards biogas plant	Significant
	Philip (1983)	Farmers	Attitude towards farm implements	Non-significant
	Perumal <i>et al.</i> (1988)	Fish farmers	Attitude towards FFDA programme	Significant
	Krishna Kumar (1990)	Farmer readers	Attitude towards print media	Significant
	Nagpal and Yadav (1991)	Farm women	Attitude towards biogas plant	Significant
	Ratnakar and Reddy (1991)	Tribal farmers	Perception about ITDA (Integrated Tribal Development Agency)	Significant

Variable	Author/year	Respondents	Dependent variable	Relationship
<b>Risk orientation</b>	Nataraju and Muthaiah (1995)	Farmers	Attitude towards social forestry	Significant
	Hazarika <i>et al.</i> (1996)	Farmers	Attitude towards farm broadcast through radio	Significant
	Sureshkumar (1997)	Farmers	Attitude towards privatization of agriculture	Significant
	Philip <i>et al.</i> (1998)	Farmers	Attitude towards mass media	Significant
	Meti (1998)	Farmers	Attitude towards farm implements	Significant
	Jayasubramanian <i>et al.</i> (1998)	Farmers	Attitude towards distance education	Non-significant
	Barman and Gogoi (2000)	Farmer readers	Reading behaviour of newspapers	Significant
	Prasad and Sundaraswamy (2000)	Farmers	Attitude towards dry land agriculture	Significant
	Philip (1983)	Farmers	Attitude towards farm implements	Significant
	Sinha <i>et al.</i> (1988)	Farmers	Attitude towards wheat result demonstration	Significant
	Viju and Pillai (1988)	Farmers	Attitude towards farming	Significant
	Prasad <i>et al.</i> (1989)	Tribal farmers	Attitude towards mass media exposure (like radio, newspaper and films)	Significant
	Shivaprasad (1990)	Farmers	Attitude towards watershed development programme	Significant
	Raghupathy and Nagireddy (1991)	Farmers	Attitude towards farm programmes telecasted	Non-significant
	Siddaramaiah and Reddy (1993)	Farmers	Attitude towards watershed management practices	Non-significant
Nataraju and Perumal (1996)	Farmer readers	Attitude and effectiveness towards farm magazines and print media	Significant	

Variable	Author/year	Respondents	Dependent variable	Relationship
<b>Innovativeness</b>	Hazarika <i>et al.</i> (1996)	Farmers	Attitude towards farm broadcast through radio	Significant
	Perumal <i>et al.</i> (1988)	Fish farmers	Attitude towards FFDA programme	Non-significant
	Raghupathi and Nagireddy (1991)	Televiwer farmers	Attitude towards farm programmes telecasted	Significant
	Tawde <i>et al.</i> (1991)	Tribal farmers	Attitude towards agril. technology utilization	Significant
	Sureshkumar (1997)	Farmers	Attitude towards privatization of agriculture	Significant
	Naghabhusahanam and Nanjaian (1998)	Farm women	Attitude towards institutional training programme	Significant
<b>Extension contact</b>	Barman and Gogoi (2000)	Farmer readers	Reading behaviour of agril. articles published in newspaper	Significant
	Channegowda (1977)	Farmers	Attitude towards farm leaflets	Significant
	Reddy and Reddy (1977)	Farmers	Attitude towards crop loan system	Non-significant
	Ravichandran and John Knight (1980)	Farmers	Attitude towards extension agency	Significant
	Singh (1983)	Farmers	Attitude towards farm mechanization	Significant
	Sinha <i>et al.</i> (1984)	Farmers	Attitude towards soil conservation programmes	Significant
	Karande and Riswadkar (1987)	Farmer readers	Attitude towards farm publications	Significant
	Perumal <i>et al.</i> (1988)	Fish farmers	Attitude towards FFDA programme	Significant
	Meti (1990)	Farmers	Attitude towards improved farm implements	Negatively significant
	Ratnakar and Reddy (1991)	Tribal farmers	Perception towards ITDA programme	Significant

Variable	Author/year	Respondents	Dependent variable	Relationship
<b>Extension participation</b>	Patil (1988)	Farmers	Attitude of farmers towards sunflower cultivation	Significant
	Meti (1990)	Farmers	Attitude of farmers towards farm implements	Non-significant
	Sontakki (1989)	Farmers	Attitude of farmers towards farm implements	Significant
	Narwal and Dixit (1991)	Farmers	Attitude towards feeding practices in buffaloes	Significant
	Meti (1998)	Farmers	Attitude of small and marginal farmers towards improved agril. technologies	Non-significant
	Prasad and Sundaraswamy (2000)	Farmers	Attitude towards dry land technologies	Significant
<b>Mass media participation</b>	Sharma and Kishore (1970)	Farmers	Attitude towards farm radio programmes	Significant
	Lokande (1973)	Farmers	Attitude towards credit behaviour and acceptance of agril. message through mass media	Significant
	Satapathy (1973)	Farmers	Attitude towards improved farm implements	Significant
	Khandekar and Mathur (1975)	Farmer readers	Perception towards farm magazine	Significant
	Animuthu (1982)	Farmer readers	Opinion towards farm information published in newspapers	Non-significant
	Rajan (1982)	Farmer readers	Reading behaviour of agril. articles published in newspapers	Significant
	Nijalingappa (1983)	Farmer readers	Reading behaviour of farm magazines	Significant
	Sharma (1983)	Farmer readers	Reading behaviour of farm magazines	Non-significant
	Philip (1983)	Farmers	Attitude towards farm implements	Significant

Variable	Author/year	Respondents	Dependent variable	Relationship
<b>Participation in formal organisation</b>	Thrupathaiah (1983)	Farmer readers	Opinion towards farm information published in farm magazine	Significant
	Venkatesh Sharma (1983)	Farmer readers	Reading behaviour of farm magazine	Non-significant
	Perumal <i>et al.</i> (1988)	Fish farmers	Attitude towards FFDA programme	Significant
	Karippai (1988)	Farmer readers	Reading behaviour of agril. articles published in newspaper	Significant
	Manchandran (1988)	Farmer readers	Attitude towards print media	Significant
	Sontakki (1989)	Farmers	Attitude towards farm implements	Significant
	Meti (1990)	Farmers	Attitude towards farm implements	Negatively significant
	Krishna Kumar (1990)	Farm readers	Attitude towards print media	Significant
	Nagapal and Yadav (1991)	Farm women	Attitude towards biogas plant	Significant
	Dhanunjaya (1995)	Farmer readers	Perception towards farm magazines	Non-significant
	Nimbal (1995)	Farmers	Attitude towards biogas plant and effectiveness	Significant
	Nataraju and Perumal (1996)	Farmer readers	Attitude and effectiveness towards farm magazine and print media	Significant
	Ravichandran and John Knight (1980)	Farmers	Attitude towards sugarcane cultivation	Significant
	Animuthu (1982)	Farmer readers	Opinion towards farm information published in newspapers	Non-significant
	Ashok reddy (1983)	Farmers	Attitude towards Bhagyyalakshmi biogas plant	Significant
	Sigh (1983)	Farmers	Attitude towards farm mechanisation	Significant
Venkatesh Sharma (1983)	Farmer readers	Reading behaviour of farm magazine	Non-significant	

Variable	Author/year	Respondents	Dependent variable	Relationship
	Sharma (1983)	Farmer readers	Reading behaviour of farm magazines	Non-significant
	Karippai (1988)	Farmer readers	Reading behaviour of agril. articles published in newspaper	Non-significant
	Manoharan (1988)	Farmer readers	Attitude towards print media	Significant
	Ingale and Virkhare (1988)	Farmer readers	Perception towards farm magazine	Significant
	Patil and Namasivam (1990)	Farmer readers	Reading behaviour of agril. articles published in newspapers	Significant
	Krishnakumar (1990)	Farmer readers	Attitude towards print media	Significant
	Nagpal and Yadav (1991)	Farm women	Attitude towards biogas plant	Non-significant
	Dinkle <i>et al.</i> (1992)	Farm readers	Perception towards agril. information published in 'Lok mat' farm magazine	Non-significant
	Dhanunjaya (1995)	Farmer readers	Perception towards farm magazine	Non-significant
	Nataraju and Perumal (1996)	Farmer readers	Attitude and effectiveness towards farm magazine and print media	Significant

## **2.5 EFFECTIVENESS AND EXTENT OF USEFULNESS OF MESSAGE PUBLISHED IN FARM MAGAZINES, NEWSPAPERS AND OTHER PRINT MEDIAS**

Brown (1970) stated that information disseminated through printed media must have situational relevance to increase the use and to bring agricultural development.

Veerabhadraiah and Sethurao (1970) in their study on mass media utility by farmers of Karnataka reported that majority of the farmers read and use the information regularly.

Hasker (1971) stated that Japanese farmers considered information published in farm magazines was most useful and top source of farming information.

Oliver (1971) observed that the timeliness, coverage of subject matter, practicability, readability, accuracy and terminology of the agricultural news articles published in 'Dinamani' daily were found to be highly useful to the farmers.

Patel and Patel (1972) concluded that effectiveness of 'Khedut patrike' farm magazine in Gujarati language revealed that the cover page should be attractive with combination of two or more colours along with some action pictures. For second, third and fourth page, suggested that printing of slogans, key points and messages and 18 point letter size increase the usage.

Annamalai and Radhakrishna Menon (1975) found out that circular letters, folders and booklets were effective in communicating information published there in and the booklet was superior to circular letters and folders as expressed by the farmers of Tamil Nadu.

Khandekar (1975) stated that effectiveness of farm magazine Unnat Krishi is dependent on cover page, content and format components of the magazines.

Oliver *et al.* (1975a) concluded that majority of the farmers read the agriculture articles published in newspapers as they found useful sources

of information and contacted extension personnel together additional information and to clarify doubts after reading the agriculture articles in newspapers.

Siddaramaiah *et al.* (1976b) conducted a study on use of farm folders by the farmers of Karnataka and listed the suggestions offered by the farmer readers to improve the quality and effectiveness. Such as size of the letter should be bold, information on economics of cultivation practices, use of good background colour, indicate sources of agricultural inputs, prices of inputs, use of more colourful figures, sketches, suitable subtitles and presentation of information in sequence.

The National Commission on Farm Journalism (1977) reported that multiplicity of sizes of farm periodicals, poor quality of cover page, text printing, small letter size and inadequate use of photographs and illustrations affect the utility and effectiveness of farm periodicals. The convention also indicated that the size of the letters should be 12 point bold.

Kaur (1978) indicated that effective use of farm magazine is dependent on cover page, illustration, feature stories and format aspects of the farm magazine to develop textual and format criteria for Hindi farm magazine.

Kaur and Mathur (1979) indicated that the success of farm magazine not only depends on attractive cover page but also the contents, timely supply of information which is of local relevance with small sentences and less complex words.

Robert (1980) observed that head lines or **under** lined words or phrases were useful to draw the attention of readers, length of typed line or one or two column format was not important. Cartoon drawing or little pictures were least important.

Jayaram (1980) stated that majority of the 'Krishi vignana' farm magazine readers in Karnataka communicated the information to others after reading. Magazines also used by neighbours, friends, relatives and other family members in addition to the subscriber farmers. Here number of farmers preserved the copies of farm magazine for future use as they felt as most useful sources of informations. More than 50 per cent of the farmers consulted or used the farm magazines, and suggested to increase the number of articles on improved cultivation practices, hints to farmers question-answer type, articles on dairy, poultry and forth coming research findings.

Nanjappa (1982) revealed that most of the farmer readers of Kannada dailies in Karnataka opined agricultural information published as timely, easy to read, sufficient in number and accurate and useful.

Rajendran (1982) conducted a study on print media utilization by Tamil Nadu farmers revealed that most of the farmers readers utilized the information on latest recommendation and package of practices, information on new varieties as they found useful.

Balasubramanian (1983) reported that majority of the farmer readers in Tamil Nadu expressed that the cover page of the 'Velerum

Velannmai' farm magazine was appealing, attractive and preferred experience sharing type of articles. More than one illustration per article in multi colour were liked most followed by line drawings and cartoons. The farmers further opined that articles published were of useful conveyed latest technologies and easy to understand.

Nijalingappa (1983) stated that 'Reshme Krishi' Kannada farm magazine reader farmers expressed that the cover page should be attractive and farmers preserve the copies for future use as they found them as most useful sources of farm information.

Sharma (1983) pointed out that majority of the readers felt the information given in the farm magazine as highly descriptive, practicable, useful and easily understandable and adequately covered.

Chapelle (1987) pointed out that most of the farmers in Western France regularly read 'Quest--France' farm magazine because it carries information expected by the farmers, meets the needs and found them as most useful.

Manoharan (1988) pointed out the effectiveness of print media namely farm magazine, newspaper and folders in transfer of farm technologies interms of knowledge gained, knowledge retention and symbolic adoption among farmers of Tamil Nadu.

Animuthu (1989) indicated that farmers perceived agricultural news followed by news on marketing of agricultural products and weather forecast as the most useful news in selected Tamil dailies.

Saha and Trikha (1989) reported that, the readers of 'Indian Farmers Digest' suggested to publish the articles in simple language with short paragraphs, agricultural advertisements, attractive cover page, timely publication, representation of articles written by farmers and extension workers and success stories and farmers' sharing experience type of articles to improve the effectiveness of farm publications.

Krishnakumar (1990) conducted a study on comparative media analysis in Tamil Nadu reported that the message to be included with illustrations/photo's **graphs**, bold captions, less column length, published in boxes will enhance the effectiveness.

Oliver (1990) stated that use of print media as compared to other media is more advantageous in agricultural field because reliable and scientific information illustrated with pictures can reach larger number of farmers quickly and simultaneously in Tamil Nadu state.

Muthazhagan (1990) reported that most of the farmer readers of 'Valaram Velanmai' and 'Seithi madal' farm periodicals published in Tamil Nadu preferred the farm periodicals with art quality paper, thick cover page, colour photographs and straight messages on inner side of the cover page, one to two page articles, two figures per article and 14 point letter size. Readers suggested to include question and answer type of subjects like food and nutrition, health and sanitation.

Ramadasmurthy *et al.* (1990) analysed, the 'Nutritional News' magazine and reported that most of the readers perceived the information content as adequate, useful, clear and understandable.

Patel *et al.* (1995) pointed out that the farmers preferred the information for usage in field operation in order of priority were; land preparation, selection of improved variety, seed rate, timing of agricultural operations, proper use of fertilizer and manure, plant protection measures, weed control and post-harvest technology.

Nataraju and Perumal (1996) reported that majority of the farmers expressed that the farm journals ~~were~~ **moderately** effective in increasing knowledge level of farmers of Karnataka state.

Nanjappa *et al.* (1998) conducted a study on utility of agriculture information by the newspaper readers in Karnataka and revealed that majority of the readers opined as useful, accurate, clear and of practical utility.

Syed Sadaquat *et al.* (1998) conducted a study in Karnataka indicated that majority of the farmers utilised the agriculture information published in daily newspapers and farm magazines to 'greater extent' and found them as 'useful' and very meagre per cent did not use it.

Tawde *et al.* (1998) in a study on information seeking behaviour of farmers in Maharashtra indicated that majority of the farmers perceived the mass media such as books, farm magazines, newspapers, farm leaflets **as** 'moderately effective' medium for agriculture information transmission followed by television as 'high effective medium'

The above studies revealed that the message/information published in the farm publications helped farmers to bring improvement in their

cultivation practices and the information was of practical help. Further, they opined that the information/contents as useful, clear and understandable on attractive cover page with photos increased the effective usage of the farm magazines. Majority of the readers expressed that the articles in simple local language, with short sentences, short paras with clarity of message increased effectiveness. Most of the users of farm publication preserved for future use and considered as most useful source of farm information.

## **2.6 CONTENT ANALYSIS OF MESSAGE PUBLISHED IN FARM MAGAZINES, NEWSPAPERS AND OTHER PRINTED MEDIA**

### **2.6.1 Print media**

Oliver *et al.* (1974) conducted a study on agricultural articles published in 'Dinamani' daily in Tanjavur district and stated that farmer readers expressed that the articles contained local language, practical message. Further, suggested importance be given to other crops like groundnut, cotton and pulses in addition to paddy crop.

Gajapathi (1975) pointed out that the space coverage for agricultural news was 2.84 per cent in "Dinamani" and 1.98 per cent in "Maki Murasu" the two Tamil daily newspapers.

Vilamilam (1975) analysed two leading newspapers and found out that 'Malayalam Manorama' - a Malayalam daily accorded fifth place for agricultural development and food production news, whereas, "The Times of India" - a English daily accorded sixth place for agricultural development.

Singh and Kumar (1977) studied the space provided for agricultural information in the selected issues of 'The Indian Nation' and 'The Arya Vasta' daily newspapers. The authors categorised agricultural content as 'news items', 'editorials', 'feature article', 'letters to the editors' and advertisements. The space provided to different categories was as follows by the two papers.

Sl. No.	Items	Column/cm
1.	News items	20,874
2.	Advertisements	4,198
3.	Feature article	2,968
4.	Editorials	767
5.	Letters to the editor	762

Further, the authors observed that only 1.77 per cent of the total space was allotted for publication of agricultural information excluding advertisements in "Arya Vastha" - a Hindi daily.

Minocha (1979) reported that the national dailies like "Indian Express", 'Hindustan Times' and 'The Times of India' followed a general trend of giving more coverage to agricultural news with not adequate coverage to agricultural content.

Animuthu (1982) conducted content analysis of two Tamil dailies and found that "Dinamani" and "Dinamalar" allotted 4.47 per cent and 3.45 per cent of the total space respectively for the agricultural news.

Siddaramaiah *et al.* (1983) observed that three major areas of agricultural extension research have been covered in Indian Journal of

Extension Education *viz.*, adoption and diffusion (19.71%), extension methods (16.49%) and communication (13.48%). The areas of least important were social change (2.2%) training of farmers (3.01%), leadership and group dynamics (3.2%), youth development (3.2%).

Kubde and Sinha (1986) found out that political events occupied highest position in urban category, crime coverage occupied highest in rural category, sports news occupied next position in urban category. In urban category the major areas of news coverage were economical and human interest whereas in rural group it was agricultural development.

Nanjappa and Ganapathy (1987) analysed the contents covered in leading Kannada dailies *viz.*, *Samyukta Karnataka*, *Prajavani* and *Kannada Prabha* and reported that 5.04 per cent, 4.13 per cent and 2.79 per cent of the total space was under agricultural information. The authors concluded that space provided to politic and sports was more compared to agricultural information.

Sawant and Shendre (1987a) reported that the Marathi newspaper "Sakal" given less space for agricultural information (1.84%) and agricultural advertisement (2.32%) compared to non-agricultural information (36.68%) and advertisements (57.16%).

Swant and Shendre (1987b) analysed Marathi newspaper 'Sakal' and observed that information coverage on crop cultivation, dairy, animal husbandry was less, compared to information on climate, damage to crops due to natural hazards, agricultural situation and farm operation in 'Sakal' daily newspaper.

Alsi *et al.* (1989) observed Marathi dailies of Nagpur on an average allotted 4.41 per cent space of the total space for agricultural information and 2.32 per cent for agricultural advertisements.

Hasan and Roy (1989) revealed that the Hindi daily "Amar Ujala" devoted 21.30 per cent of total space for rural information, of which maximum number of articles were on social information and agriculture. The sub-category of 'Agricultural time' articles on agronomy were more followed by horticulture, plant protection, animal husbandry, soil science, agricultural economics, plant breeding and agricultural extension in the order of priority.

Khera and Dhillon (1989) pointed out that three Punjabi dailies *viz.*, Ajit, Jagbani and Punjabi tribune devoted more space for crop husbandry as compared to animal husbandry aspects.

Patil and Rajendran (1990) studied two english newspapers 'The Hindu' and 'Economic Times' on coverage of agricultural information and three magazines *viz.*, 'Khadi Gramodyog', 'Economical and Political weekly' and 'India Today' and observed that the magazine 'Economic and political weekly' and the 'Economic Times' gave maximum coverage to rural development items. The percentage of space occupied by rural development out of the total space was highest in 'Khadi Gramodyog' (64.35%) and lowest with 'Economic and Political Weekly' (49.05%). The subject of agriculture was covered maximum followed by social welfare, institutional development and least covered was rural marketing subject.

Kadam and Karande (1991) observed that the articles were published under the following headlines, research articles, research notes, special articles, review of articles while analysing the Maharashtra Journal of Extension Education. The authors further observed that articles published in the areas of adoption, communication, impact studies, teaching methods and aids, development programmes, trainings etc.

It can be concluded from the reviews that the coverage of information on rural development and agriculture particularly in the newspapers and weekly is quite less when compared to other news areas.

### **2.6.2 Content analysis of farm magazines**

Fett (1972) in his content analysis of agricultural news in Brazilian papers observed that articles with situational reference attracted large preparation of audience attention. Further, the news did not include the information on marketing aspects.

The similar findings were reported by Brawn and Kearn (1967), Grunig (1968) and Guerrero (1968)

Kayal (1975) analysed the content of Bengali farm magazine 'Krishi Pragati' and reported that the magazine had covered the articles mainly on crop production, vegetables, fruit cultivation and very few articles on fisheries, poultry, dairy.

Mathur and Bhilegaonkar (1976) in their study of content style and writers of 'Kheti' - a Hindi farm magazine published by ICAR found out

that crop production was the major area wherein maximum number of articles published.

The National Workshop of Farm Journalists on Methods and Technology on Farm Journalism and Communication of Agricultural Technology (1976) studied several farm magazines published by various organisations and observed that content of farm magazines were not need based.

Sohal *et al.* (1977) pointed out that most of the farmers perceived the contents of 'Dairy Samachar' magazine as need based, adequate and useful.

Jayaram (1980) mentioned that more number of farmers felt that local language was easy to read and understand but they felt pictorial support as inadequate.

Duffy and Kabance (1982) pointed out that complete message was an important dimension for the usability of a text.

Krishna Kumar (1982) studied Tamil farm magazines *viz.*, 'Er Ulavan' and 'Salem Velanmai Malar' and observed that 'Er Ulavan' covered wide variety of topics on agriculture as well as non-agriculture in equal proportion 'Salem Velanmai Malar' allotted 66.10 per cent and 'Er Ulavan' allotted 43.43 per cent of the total space for agriculture articles.

Nandi (1982) pointed out that agricultural articles occupied major space in farm magazines followed by articles on animal husbandry, home

science and agricultural engineering. Preference was given for major field crops compared to vegetables and fruits etc.

Similar results were reported by Sharma (1983) and Thakur (1984) as quoted by Kumar and Singh (1988).

Thirupataiah (1983) made content analysis of Telugu farm magazine 'Annatdata' and revealed that more than 50 per cent of the articles were on crop production. The percentage of space allotted to crop production was steadily increased whereas for animal husbandry and dairy was declined. Authors also found out that majority of the readers perceived the content as accurate, partly need based and applicable and words used were familiar to the readers.

Kulkarni and Sirsat (1985) reported that farmers expressed satisfaction about usefulness of farm journals despite the difficult text and varying contents.

Parkinson *et al.* (1985) found out the relevance of message was an important pre-requisite for a story to get news value.

Sinha (1986) revealed that agricultural news/articles given in the newspapers/magazines were of very little interest or relevance to the rural people because their exposure to outside world was limited. Their universe was limited to a few villages or the problems they knew about.

Yuehui (1987) analysed China's 'rural newspapers' and magazines in rural development and found out that a monthly magazine 'Rural

Youth' contained information on rural policy, self education, appeals from villages, love and marriage. Other publications like 'Rural Family', Zhifue Bao, 'Human Science Journal' published mini stories, short poems looking to the needs of rural people.

Saha and Trikha (1989) analysed the 'Indian Farmers' Digest' - english monthly farm magazine and revealed that agricultural articles occupied major share interms of number and space allotment, followed by articles on agricultural engineering, animal science, home science etc.

Muthazhagan (1990) had made content analysis of 'Valarum Velanmai' and 'Seithi mandal' publications of Tamil Nadu Agricultural University, Coimbatore and observed less balance coverage of information and messages on farming and allied activities. 'Velarum Velarimai' magazine had more number of articles on agriculture, horticulture and general articles when compared to articles on animal husbandry, agricultural engineering, sericulture, fisheries, forestry, home science and social science aspects. In 'Seithi Madal' agriculture related items were given more importance.

Nataraju and Perumal (1995) conducted a study on comparative content analysis of farm magazines revealed that the magazine published the farm information in area of agriculture, horticulture, veterinary and animal husbandry. Fishery, sericulture, forestry, home science, social science in order of priority.

Mishra and Verma (1998) conducted a study on content analysis of daily newspaper and reported that more space provided for agriculture

information in Times of India, followed by 'Stateman', 'National Herald', Indian express and 'Punjab Kesari' provided minimum space for agricultural information.

Sawant and Shinde (1999) conducted a study on coverage of information on watershed development in Marathi papers and revealed that 'Loka Satta' daily devoted nearly 50 per cent of the space on watershed development information followed by information on government policies, information on technical articles. Further the study revealed that illustration was very poor.

Chandrashekar *et al.* (2000) ascertained the contents of daily newspapers in Kerala state and reported that about 4 per cent of the total space was covered by agriculture information in 'Malayala Manorama' newspaper, followed by 'Indian Express' (1.33%). Further, it revealed that during the *kharif* season more than 50 per cent on agricultural news, followed by feature articles, success stories, question answer type in 'Karsha Karngam' a special page on every wednesday started in Malayala Manorama duty. The Indian Express daily published information on agricultural news, followed by market news, weather news in the field of agriculture.

Abdullah *et al.* (2000) studied the content analysis of Syrian Farm magazine 'Ndal Al Fallahia' and indicated that less than fifty per cent of the space occupied by the agriculture information, followed by advertisements on agriculture information.

The above studies revealed that the articles published in the farm magazine occupied by agriculture, horticulture, veterinary and animal husbandry, agricultural engineering in order of priority. Less articles published in areas of home science, fishery, forestry, and social science aspects.

## **2.7 SOURCES OF ARTICLES AND MODES OF PRESENTATION OF ARTICLES IN AGRICULTURAL PUBLICATIONS**

Oliver (1971) revealed that farmers are conscious about cost and conversed after seeing the results of other farmers, so such 'farmer's experience' as a source for writing the articles in farm magazines should be used.

Joseph (1975) reported that question and answer type of articles published in Kannada dailies were most liked by the farmers and they expressed their dissatisfaction when it was discontinued for some period.

Siddaramaiah *et al.* (1976a) concluded that the farmers of Karnataka who read newspapers preferred information in bold letters, more information on price fluctuations, market rate and in simple local language. Further, they preferred more and more success stories, farmer's experiences and information on field verification trials be published.

Ganapathy *et al.* (1977) observed that the sources of information for agriculture news published in regional dailies were, Governors and Ministers (15.62%), Central Government Officials (4.08%), Individuals (3.70%), State Government Officials (3.48%), Farmers Associations

(3.48%), State Agricultural Department Officials (1.89%), Institutions (0.30%) and MP's and MLA's (0.20%). Further, they reported that the press correspondents (57.57%) were the important source for majority of the agricultural news published in Tamil dailies i.e., 'Malai Murasu' and 'Dinamani'.

Sohal *et al.* (1977) reported that "Dairy Samachar" farm magazine readers in Maharashtra desired more information on animal husbandry aspects, milk products, sources of getting seeds and improved breeds of animals, experiences of farmers about dairying and cultivation aspects of field crops including fodder crops be published.

Mathur *et al.* (1978) observed that the Government sponsored periodicals published by professional associations and teaching cum research organisations included technical and research based articles whereas periodicals published by individual publishers and cooperative organisations mainly included success stories and news items as the core content. They found that periodicals carrying research based articles meant for research institutions and agricultural scientists had low circulation and very few periodicals had low high circulation i.e., above 5000. The technical periodicals mainly fall in the circulation category of 1000 and less copies. The other types of modes of presentation of articles included success stories, new items, poems, skits etc., were found in all the circulation categories. They also pointed out that farm periodicals depended on teaching and research organisations and public institution officers for want of information.

Somasundaram and Singh (1978) stated that print material was the most useful channel for giving information by the extension workers.

Kaur and Mathur (1979) observed that the mode of presentation of articles by writing 'Success stories' describing the cases of local farmer as far as possible. They suggested to give information by facts and figures with appropriate subheadings and underlining the important points which help in retention of information by farmers.

Krishnakumar (1982) reported that the most commonly used modes of presentation of information in two Tamil farm magazines *viz.*, 'Er. Ullavan' and 'Salem Velanmai Malar' were popular articles and scientific articles. In both the magazines the modes like "farmer's experience" and 'dialogue' were most preferred by the majority of the farmer readers. Further, he reported that farmers and extension workers were given less representation in 'Er. Ullavan' while in 'Salem Velanmai Malar' extension workers were given prime importance.

Braradwaj and Hansha (1983) reported that printed materials followed by group discussion was found to be most active mode for communication to the members of leading charachamandal of Punjab state.

Muthazhagan (1990) stated that the most commonly used modes of presentation of articles in farm magazine *viz.*, 'Velarum velanmai' was popular articles, followed by new items, success stories, poems, interview and dialogue. Whereas news item was extensively used in 'Seithi Madal' magazine to write the articles. He also observed that more number of

articles were contributed by university scientists, followed by extension workers and farmers.

Nataraju and Perumal (1995) reported that agriculture university scientists, editor/reporters, extension personnel, farmers, voluntary organisations, input agencies, commercial banks were the important sources of articles for farm magazines. They also analysed the modes of presentation of articles in the farm magazines in order of priority were; popular articles, news items, farmers' experience, question-answer, scientific article, dialogue, feature article, poems, interview.

From the above review of literature it could be observed that in farm magazines the commonly used modes of writing the articles were research articles, popular articles, success stories, news stories, question-answer, poem, interview and dialogue.

The publisher of farm magazine more depended on university scientists and extension workers as major sources/contributor for articles. Few articles were contributed by personnel from input agencies, editors, farmers and rural development officers of bank.

## **2.8 READABILITY AND READERSHIP BEHAVIOUR IN RESPECT OF FARM MAGAZINES, NEWSPAPER AND OTHER PRINT MEDIA**

Readability is the basic factor to be considered while writing the information for print media as it motivates the reader to read the material, in order to judge the practical utility of the published material, there should be a system of continuous evaluation to test the readability of the material.

According to Flesh (1948) readable means as “ease or interestness to read”.

Hanson and Denig (1956) stated that readability would mean reaching the widest possible audience.

Amycowing (1961) stated that the readable material would tell them in concrete words, would relate to their interests and needs, realistic and relevant.

The term ‘readability’ should

- i) indicate legibility either hand writing or typography
- ii) indicate ease in reading due to either the interest value or mode of presentation of writing
- iii) indicate ease in understanding or comprehension due to style of writing (Klare, 1963).

Honnart (1970) observed that 57 per cent of Belgian farmers read regularly the agricultural news published in the newspaper while 18 per cent read less regularly and other never read it.

Veerabhadraiah and Sethurao (1970) have found out that 57 per cent of farmers read the farm information regularly and majority use to have discussion with Extension workers on the message published.

Kishore (1970) revealed that translation of scientific words in the local language would help one to remember the names for a longer span.

Ganapathy (1971) advocated the use of the words of generally spoken in that area where the publication is meant for and would help the reader to understand very much.

Patel and Patel (1972) found out that there was no real difference in the number of words read per minute by different categories of farmers. They asked the writers to avoid the use of even common English words in writing articles for farmers.

Kwolek (1973) based on his readability survey, concluded that a Fog Index of 11 would likely be ignored unless the readers have special interest, motivation or education.

Zalaki (1973) revealed that majority of the farmers had spent about two and half hours per week in reading agricultural publications and preserved the copies for future use. Further, the readers suggested that agricultural publications should be published in simple language.

Oliver *et al.* (1974) studied the suitability of agriculture articles published in 'Dinamani' Daily in Tanjavur district of Tamil Nadu and stated that majority of (92%) the reader farmers expressed that these articles are 'easy' to read.

Crump (1974) visualised that readability as transforming of information into words and sentences that the average reader would understand and enjoy. Further, he indicated that 17 words per sentence for readability and the information be easy to read with short sentences and familiar words.

Somasundaram and Jagannathan (1974) revealed that personal words and personal sentences used adequately add 'human interest' in readability of news letter. To increase the 'Reading ease' they suggested use of short sentences with not more than 12 familiar words.

Oliver *et al.* (1975a) reported that majority of the farmers read agricultural articles in newspaper and contacted the extension personnel to gather additional information and to clarify their doubts after reading the agricultural articles in newspaper.

Kayal (1975) found out that the articles in 'Krishi Pragati' were of standard quality for 41.67 per cent of the readers and of easier quality for the rest interms of readability.

Siddaramaiah *et al.* (1976) reported that reading habit of subscribers of newspaper is better (79.17%) than the non-subscribes (54.10%).

Siddarmaiah *et al.* (1976 b) concluded that a combination of bold letter (14 pt) and simple sentences (9 words per sentence) increases the readability of the content of farm information folder.

Sohal *et al.* (1977) reported that most of the dairy farmers found 'Dairy Samachar' magazine as 'most easy' in reading and understanding.

Sreedhar (1977) find out the readability of extension literatures by using ten leaflets and two news letters and reported that about 40 per cent of farmers felt 'easy' in reading the information material and 35 per

cent reported more of technical terms used in the material and news letters evaluated as 'not interesting' to read.

Kaur (1978) concluded that small sentences, low percentage of compound words, high percentage of personal words and personal sentences, understanding important points made reading easier. He suggested to use more than 17 words per sentence and not more than 9 per cent compound words per sentence.

Ahuja (1979) stated that readability usually describe the stylistic factors in writing which would make it easier to read.

Wahiley and William (1980) stated that the effectiveness of reading of printed material depends on variety of factors including (i) readability (ii) comprehension (iii) Amount and type of information presented.

Rajan (1982) used the number of syllables per 100 words and percentage of personal words and sentences for developing a readability formula in Malayalam language. He found that the farm news articles published in 'Malayalam Manorama' daily were low in readability.

Nijalingappa (1983) reported that only ten per cent of the farmers read all the issues of farm magazines (Reshme Krishi) completely.

Thirupathaiah (1983) revealed that majority of the readers read the farm magazine issues partly and preferred to read cover page along with headline and titles as soon as they receive the copy.

Thirupathaiah (1983) concluded that readability level of 'Annadata' farm magazine as 'standard'.

Sawant *et al.* (1984) reported that a single illustrated text had more readability than a fully illustrated or complex text.

Sawant and Waghmare (1985) reported that majority (93.10%) of the literate farmers read newspaper followed by personal letter (86%) farm publications (76%), religions books (76.5%) and recreational books (58%).

Oliver (1985) inferred that the main factor for motivating readers to read is readability of the reading material.

Ruiz and Cisneros (1987) ascertained the readability of an extension leaflet as judged by Mexican farmers and they found out that the understandability of the leaflet was judged as 'low average' by majority of the farmers.

Kumar and Singh (1988) stated that the text of farm journals as too technical and beyond the comprehension of the average farmers, especially neo literates.

Muthazhagan (1990) found out the readability level of two Tamil farm magazines by using readability index developed by Oliver (1985) and compared with readers judgement. He reported that, the readability level of articles published in farm periodicals as "easy to very easy" and respondents also expressed the same opinion.

Keeney (1990) reported that more than 86 per cent of the newspaper readers discussed the matter with others, nearly 77 per cent convey from one to ten other people about the information read in the newspaper.

Krishnakumar (1990) revealed that majority of the farmers discussed the messages read in the Farm Page with friends, relatives, extension workers, scientists, family members. They reported that either they noted down useful points during reading or preserved paper clippings for future use and they shared these materials with others also. Some readers corresponded with the writers of the articles for clarification and detailed information.

Muthazhagan (1990) stated that most of the readers notes while reading 'Valaram Velanmai' and Seithi Modal' farm magazines and almost all the readers shared the gained knowledge with others, peers, friends and colleagues.

Nanjappa and Siddaramariah (1993) developed and standardised the Readability formula by considering the average sentence length and word complexity per **100** words for Kannada language which could be employed at different levels of standards.

Nataraju and Perumal (1996) reported that majority of farmer readers of farm magazine were regular readers and rated them as an important sources of farm information.

Nanjappa *et al.* (1998) in a study on utility of agriculture information by the newspaper reader farmers in Karnataka indicated that majority of the farmers opined the information published in Kannada dailies was 'easy' and 'readable' and none has opined as 'very difficult'.

Barman and Gogoi (2000) studied correlates of farmers reading habit of Assamese daily 'Dinik Janmbhumi' indicated that they preferred to read regularly and complete articles, followed by selected articles for half an hour to one hour and prefer to discuss with others.

Majority of the above studies conducted on readability aspect revealed that the farmers were in the habit of reading farm publications regularly. The farm magazines in simple, local language and small sentences were read by the farmers. Majority opined that the message was readable and preserved for future use as they found them as an important sources of farm information.

## **2.9 CONCEPTUAL FRAME WORK FOR THE STUDY**

Communication plays an important role in diffusion of farm information. So effective communication depends upon the extent of use of different mass media, extension teaching methods etc. In this process, print medium has a vital role. Print media like leaflets, folders, news Papers, books, booklets, farm magazines have scope for their judicious use in transforming the technical know how to the farmers in time in order to increase their knowledge horizon as well as farm out put.

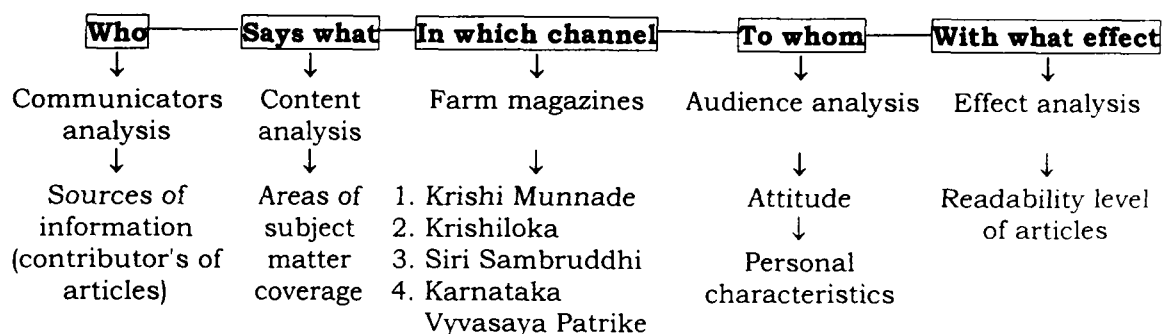
Further, the attitude and socio-economic characteristics may have influence on use of farm magazines. At the same time, the readability plays an important role in understanding and using the farm information by the reader-farmers. Very few studies have been conducted on readability to know as to which standard of education they are suitable. Therefore, the present study was undertaken by considering the following special features. In this context, specially if we supply the information through farm magazines with well illustrated pictures from time to time, it will be of more useful for the farming community.

Now a days government is spending huge amount on publication of farm magazines. However, the success and utilization of farm magazines mainly depends upon message and contents in different subject matter areas of agriculture and allied fields that are published. Till today very less efforts have been made to understand how they do justice to 'content' and 'treatment'.

A number of models of communication were developed by the authors. Here the Lasswell (1960) model of communication can be effectively employed in transfer of technology which includes the following elements:

1. Who, 2. Says what, 3. In which channel, 4. To whom, 5. With what effect.

It can be diagrammatically illustrated in the form of model clearly representing the elements as



Keeping this model as a basis, the conceptual model has been developed which can analyse who are the sources or contributors of articles to farm magazines, can ascertain important subject matter areas preferred by readers, various farm magazines can be used as channels for transfer of information to the farming community considering their attitude and personal, socio-economic and psychological characteristics. Further, the readability level of articles can be well ascertained to enhance the effective use of farm journals.

Hence, considering the above features, the study was undertaken, which would help the planners, administrators and the publishers to bring suitable modifications in farm magazines as they are being the cheap source of communication to farming community.

On the basis of this theoretical background, a conceptual model was developed considering the assumed relationship between the dependent variable i.e., attitude and independent variables.

According to the conceptual model formulated (Fig. 1) the dependent variable 'attitude' will be influenced by the independent variables. Hence it is possible to identify which of the independent

variables significantly influencing the dependent variable and accordingly helps to manipulate them in order to arrive at a correct attitude.

## **2.10 HYPOTHESES SET FOR THE STUDY**

In the light of the postulated conceptual framework and based on the objectives as well as the assumptions the following hypotheses were formulated.

H<sub>1</sub> : Majority of the subscriber farmers possess favourable attitude towards farm magazines.

H<sub>2</sub> : There exists relationship between personal, socio-economic and psychological characteristics of subscriber farmers and their attitude towards farm magazines.

H<sub>3</sub> : The extent of usefulness of farm magazines selected differ from each other.

H<sub>4</sub> : The contents published in farm magazines differ from magazine to magazine.

H<sub>5</sub> : Sources of articles differ from magazine to magazine.

H<sub>6</sub> : The readability level of each farm magazine differ from other.

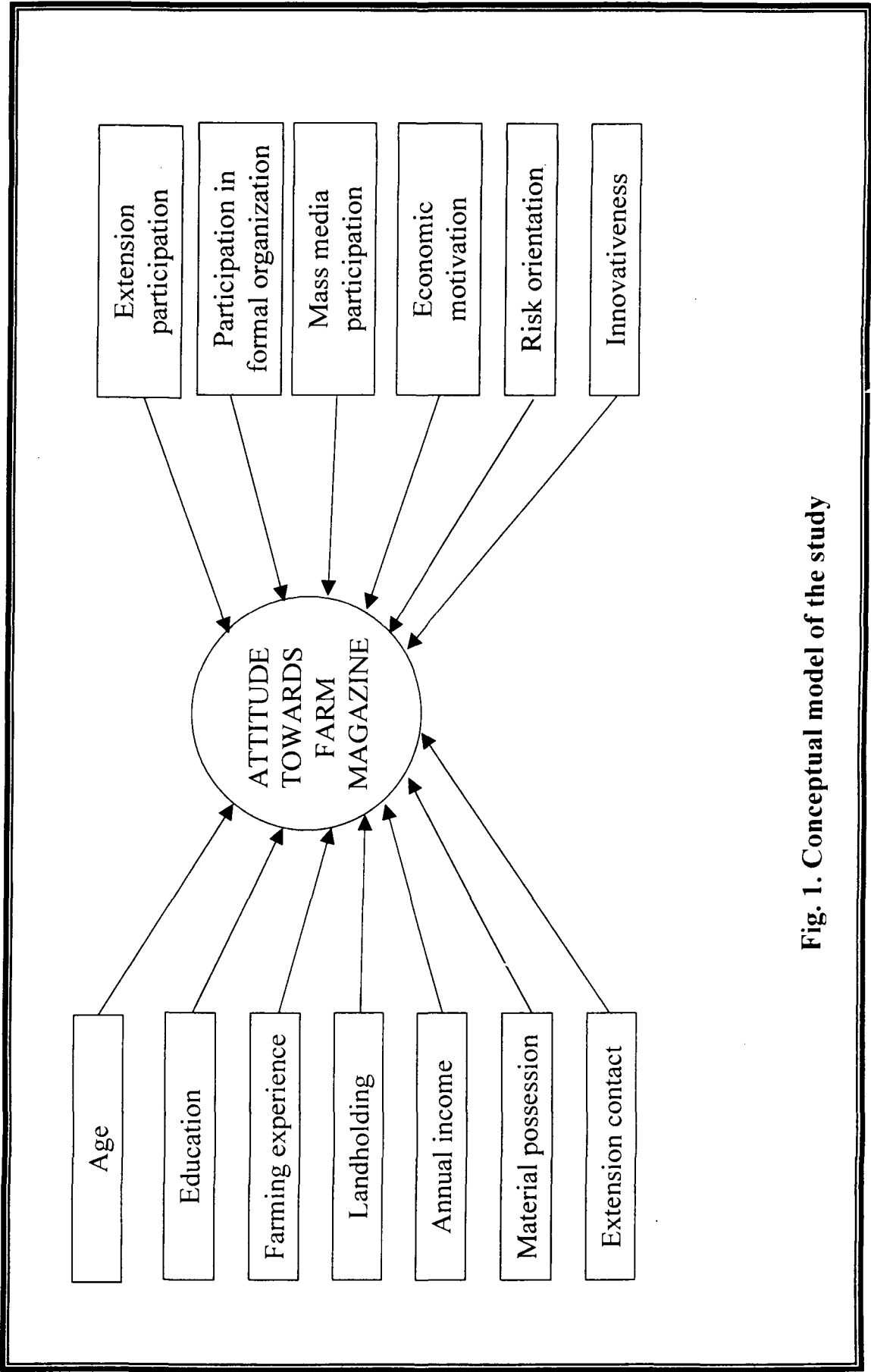


Fig. 1. Conceptual model of the study

# *Material and Methods*

---

### **III. MATERIAL AND METHODS**

This chapter deals with the description of different research methods and techniques used in the present investigation under the following heads.

3.1 Research design

3.2 Locale of the study

3.3 Selection of farm magazine

3.4 Selection of respondents

3.5 Selection of variables

3.6 Operationalisation and measurement of dependent variables

3.7 Methods of data collection

3.8 Statistical tools used

#### **3.1 RESEARCH DESIGN**

The research design adopted for study was ex-post-facto technique, since it is the systematic empirical inquiry in which the researcher does not have control over independent variables as their manifestation has already occurred or as they are inherent and not manipulateable. Thus, inferences about relation among variables were made without direct intervention from concomitant variation of independent and dependent variables according to Kerlinger (1973).

### **3.2 LOCALE OF THE STUDY**

The study was undertaken in North Karnatak comprising of Dharwad, Belgaum, Bijapur, Bagalkot, Bidar, Gulbarga, Bellary, Raichur, North Canara, Koppal, Gadag, Haveri districts, looking to convenience of the researcher and also based on availability of sample -subscriber farmers.

### **3.3 SELECTION OF FARM MAGAZINES**

In Karnataka, nearly 20 farm magazines (Appendix II) being published by the Government organisations, Agricultural Universities, private organisations are in circulation. Among these farm magazines Krishi loka, Karnataka Vyvasaya Patrike, Krishi Munnade and siri sambruddhi were selected for the study based on the criteria of circulation and popularity of the magazines as well as the availability of list of subscriber farmers for each farm magazine.

#### **Krishi loka (Krishi-Agriculture, Loka-World)**

This monthly farm magazine published in Kannada language by the private organization called Syndicate Agriculture and Rural Development, Foundation, Hiriyadka, Manipal, Karanataka. It was started in the year 1967 and has a circulation of 10,000 copies spread over entire Karnataka State. This magazine publishes information on agriculture, horticulture, animal husbandry, agriculture engineering, forestry, home science etc., in the form of popular articles, farmer's experience etc.

**Karnataka Vyvasaya Patrike - (Vyvasaya - Agriculture, Patrike - Magazine)**

This monthly farm magazine published in Kannada by the farmer's organisation called Karnataka Pradesh Krishik Samaj, Bangalore, Karnataka. This magazine was started in the year 1956 and has a circulation of more than 10,000 copies spread over entire Karnataka state. It publishes information on agriculture and allied fields.

**Krishi Munnade (Krishi-Agriculture, Munnade-Progress)**

This quarterly farm magazine published by the University of Agricultural Sciences, Dharwad in Kannada language. It was started in the year 1987 and has a circulation of 500 copies. This magazine also publishes information on agriculture and related subjects in the form of popular articles written by the agricultural and home science scientists on latest farm technologies.

**Siri Sambruddhi (Siri-Sampattu, Sambruddhi-Development)**

This is another monthly farm magazine published in Kannada by the private organisation called Bharatiya Agro Industries Federation (BAIF) Tipatur, Karnataka. It was started in the year 1997 and has a circulation of more than 10,000 copies over entire Karnataka State. It also publishes information related to agriculture, horticulture, animal husbandry, fisheries, home science, forestry etc. in the form of popular articles, question-answer, farmers-experience etc.

### **3.4 SELECTION OF RESPONDENTS**

A list of subscriber farmers for each of the four selected farm magazines i.e., Krishi loka (125), Karnataka Vyvasaya Patrike (113), Krishi munnade (284), Siri Sambruddhi (193) but native / residents of 12 districts of north Karnataka mentioned elsewhere in this chapter was obtained from the publishers. Totally 300 questionnaire were mailed to 75 randomly selected subscriber farmers for each of the farm magazine but only 190 subscriber farmers returned the completely filled in questionnaires. Among these questionnaires, keeping in view of the principles statistical research and to satisfy the appropriate number of sample size for the study, it was decided to select 40 subscriber farmers from each of the farm magazine thereby constituting a total sample size of 160 subscriber farmers.

### **3.5 SELECTION OF VARIABLES FOR THE STUDY**

#### **Independent variables**

Based on the review of past studies related to agricultural journalism and the suggestion offered by the social scientists, the following independent variables were selected for the study; age, education, farming experience, land holding, annual income, material possession, extension contact, extension participation, social participation, mass media participation, economic motivation, risk orientation, innovativeness. The independent variables and their empirical measurement is given below.

Variables	Empirical measurements
<b>Dependent variable</b>	
Attitude	- Scale developed for the study
<b>Independent variables</b>	
1. Age	- Chronological age of respondents in completed years
2. Farming experience	- Procedure followed by Rajulushanty (1991), Padmaiah (1995) and Hanchinal (1999)
3. Education	- Procedure followed by Jetley (1977), Patil (1994) and Hanchinal (1999)
4. Landholding	- Land owned in standard acres was considered. The procedure as followed by Padmaiah (1995) and Hanchinal (1999)
5. Annual income	- Total income in Rupees and procedure followed by Hanchinal (1999)
6. Material possession	- Procedure developed by Sontakki (1989) and as followed by Patil (1990)
7. Extension contact	- Procedure followed by Sakharkar (1995) and Hanchinal (1999)
8. Extension participation	- Scale developed by Siddaramaiah and Jalihal and as followed by Patil (1990) and Hanchinal (1999)
9. Participation in formal organisation	- Procedure developed by Trivedi (1963) and as followed by Angadi (1990)
10. Mass media participation	- Procedure followed by Patil (1990)
11. Economic motivation	- Scale developed by Supe (1969) and as followed by Padmaiah (1995)
12. Risk orientation	- Scale developed by Supe (1969) and as followed by Padmaiah (1995)
13. Innovativeness	- Scale developed by Supe (1969) and as followed by Padmaiah (1995)
<b>Other related components</b>	
1. Extent of reading of information	- Frequency and percentage
2. Duration of reading	- Frequency and percentage
3. Extent of usefulness of information	- Frequency and percentage, procedure as followed by Sridhar (1977)

4. Preference of subscribers towards information published in farm magazine	- Frequency and percentage and procedure followed by Nataraju (1995)
5. Content analysis of farm magazine	- Frequency and percentage, procedure as followed by Nataraju (1995)
6. Sources of articles	- Procedure followed by Nataraju (1995)
7. Readability of farm magazine	- Readability scale developed by Nanjappa and Siddaramaiah (1995)
8. Suggestions offered to improve the quality of farm magazine	- Frequency, percentages and ranking

### Variables

The dependent variable considered for the study was “Attitude” of subscriber farmers towards farm magazines.

## 3.6 OPERATIONALISATION AND MEASUREMENT OF DEPENDENT VARIABLE

### 3.6.1 Dependent variable

**Attitude:** According to Thurstone (1946) attitude is “the degree of positive or negative effect associated with some psychological object like symbol, phrase, slogan, person, institution *and* idea towards which people can differ in varying degrees”.

From the point of social psychology, attitude involves some evaluative component i.e., affect is “for or against”, preparedness to “accept or reject”. The techniques to measure attitude require an individual to respond in a positive or negative manner to a social subject. In the present study the attitude of subscriber farmers towards farm magazine consisted of a mix of positive and negative statements and the respondents were asked to indicate their opinion on a five point

continuum namely; strongly agree, agree, undecided, disagree and strongly disagree. The total attitude score for each subscriber farmer was calculated and was used to find out its relationship with other variables as mentioned elsewhere in this chapter.

### **3.6.2 Construction and standardisation of attitude scale**

Based on the exhaustive review of literature and discussion with the social scientists it was decided to follow the “Technique of summated Rating” procedure as suggested by Likert (1932) to construct an “Attitude scale” required for the study. Accordingly after rigorous exercise, consultation with senior experienced extension scientists and psychologists and review of literature, 64 statements (Appendix III) closely related to the attitude of subscriber farmers towards the farm magazine were formulated. The attitude statements were so formulated keeping in mind the various subject matter areas that are being published in farm magazines. Later on a list of statements was mailed to experts/judges in the discipline all over the country as mentioned elsewhere in this chapter. During the course of this process, the statements were subjected to relevancy test, item analysis as described below to select and include the statements in the “attitude scale”.

### **3.6.3 Relevancy test**

The selected statements / items were formulated in such a way to obtain varying degree of attitude towards farm magazine. These items were then subjected to scrutiny by an expert panel of judges to determine

the relevancy and subsequent screening of items for their inclusion in the final scale. A questionnaire consisting of all the items/statements was mailed to 125 judges comprising of senior members of extension faculties of state Agricultural Universities like University Agricultural Sciences, Dharwad and Bangalore, IARI, New Delhi, Maharashtra Agricultural University (Rahuri, Akola, Dapoli, Parabhani), TNAU, Coimbatore, Kerala Agricultural University (Trichur, Trivendram), APAU, NIRD/MANAGE, Hyderabad, ICAR complex, Ela farm, Goa, PAU Ludhiana, Gujarat Agricultural University, Banaskantha, Rajasthan Agricultural University, Bikanar, Udipur, Haryana Agricultural University, Hissar. While mailing the questionnaire suitable instructions were given to the judges to evaluate each item for their relevancy to measure the attitude towards farm magazine and to indicate their response on a four point continuum viz., more relevant, relevant, less relevant, not relevant with the score of 4, 3, 2 and 1 for positive statements and 1, 2, 3 and 4 scores for negative statements, respectively. The judges were also requested to make necessary modifications, addition or deletion of items if they so desire. Out of 125 judges, only 60 judges could give responses in time which was considered for further processing.

### **Selection of items**

The responses of the judges were tabulated and data were analysed to workout “relevancy percentage”, “relevancy weightage” and “Mean relevancy score” for all the items as follows.

**i) Relevancy Percentage (RP)**

It is the summation of the scores of most 'relevant' and 'relevant' later which is converted into percentage.

$$RP = \frac{\text{Sum of scores of MR + R}}{\text{Number of judges responded (i.e. 60)}} \times 100$$

If RP more than 75 per cent, the statement is relevant.

**ii) Relevancy Weightage (RW)**

It is the ratio of actual score obtained to the maximum possible score obtainable by each judge.

$$RW = \frac{\text{Actual score obtained for each item}}{\text{Maximum possible score obtainable by each judge (i.e. } 60 \times 4 = 240)}$$

If RW score is more than 0.75, the statement is qualified.

**iii) Mean Relevancy Score (MRS)**

It is the ratio of actual score obtained for each item to the number of judges responded.

$$MRS = \frac{\text{Actual score obtained for each item}}{\text{Number of judges responded (60)}}$$

If MRS is more than 3, that statement is considered as qualified.

Taking into consideration the overall values of the items having relevancy percentage >75, relevancy weightage >0.75 and mean relevancy score >3.0, a total of 41 statements out of 64 were qualified for subjecting to "Item analysis".

### 3.6.4 Item Analysis

Item analysis was carried out in order to know subscriber farmers degree of favourableness towards each statement included in the attitude scale. For this purpose, the items qualified in the first stage of relevancy test were selected and a schedule consisting of 41 statements was prepared and used to interview personally 40 subscriber farmers from the non-sample area. Response for each item/statement was recorded on a five point continuum *viz.*, 'strongly agree', 'agree', 'undecided', 'disagree' and 'strongly disagree', with a scoring pattern of 5, 4, 3, 2 and 1 respectively for positive items and 1, 2, 3, 4 and 5 respectively for negative items. Total attitude score for each respondent / subscriber farmer was obtained by summing up the scores of all the items.

In the process of item analysis, the subscriber farmers were arranged in ascending order based on the total attitude score. Twenty five per cent of the subjects with highest total scores and twenty five per cent with lowest scores were selected. These two groups were considered as the criterion groups, in terms of which item analysis was conducted. The critical ratio was worked out by using the following formula.

$$t = \frac{\bar{X}_H - \bar{X}_L}{\sqrt{\frac{\left[ \frac{(\sum X^2_H) - (\sum X_H)^2}{n} \right] \cdot \left[ \frac{(\sum X^2_L) - (\sum X_L)^2}{n} \right]}{n(n-1)}}$$

Where,

$\sum X^2_H$  = Sum of the squares of the individual scores in the high group

$\sum X^2_L$  = Sum of the squares of the individual scores in the low group

$\bar{X}_H$  = The mean score for a given item for the high group

$\bar{X}_L$  = The mean score for a given item for the low group

n = Number of respondents

The 't' value is a measure of the extent to which a given item differentiates the high group from low group. The items with table 't' value 2.26 (at 0.05 per cent level of probability) and above were selected as final statements. Finally 26 statements/items were retained in the scale which were significant to both group of farmers. The scale having 26 items/statements forms the 'attitude scale' is used to measure the attitude of subscriber farmers towards the farm magazines.

### 3.6.5 Standardization of the scale

The scale which is constructed was hither to standardized by establishing its reliability and validity.

#### Details of construction and standardization of attitude scale

Total items/statements included	Items retained after relevancy test	Items retained after item analysis
64	41	26

Significant at 0.05 level of probability

### 3.6.6 Reliability of the scale

A scale is said to be reliable when it produces high degree of consistency when administered to the same respondents at different point of time. In other words, reliability of the scale refers to the consistency of scores obtained by the same individuals on different occasions or with different sets of equivalent forms (Anastasi, 1961).

In the present study 'split-half method' was employed to test the reliability of the scale. This method is used with instrument that has many items and where pairs of items can be considered equivalent. Equivalence indicate the internal consistency of measuring device. The scale developed for the study was administered to 40 respondents in non-sample area. Further, the scale was divided into two halves based on odd and even numbers. Thus two sets of scores obtained for the sale. The scores of odd and even numbered items of the same 40 respondents were correlated by using 'Karl Pearsons Product Moment Correlation Coefficient (r) formula' to obtain 'r' value.

$$r = \frac{\Sigma XY - \frac{(\Sigma X)(\Sigma Y)}{n}}{\sqrt{\left[ \left( \Sigma X^2 - \frac{(\Sigma X)^2}{n} \right) \left( \Sigma Y^2 - \frac{(\Sigma Y)^2}{n} \right) \right]}}$$

Where,

- r = Pearsons product moment correlation coefficient
- $\Sigma X$  = Sum 'x' values
- $\Sigma Y$  = Sum 'y' values
- $\Sigma X^2$  = Sum of squares of 'x' values
- $\Sigma Y^2$  = Sum of squares of 'y' values
- n = Number of pairs of observations

Coefficient of correlation between two sets of scores was calculated and found to be significant ( $r = 0.731$ ). The reliability coefficient thus obtained indicated the internal consistency of the attitude scale constructed for the study was quite high.

### **3.6.7 Validity of the scale**

Validity refers to the ability of the scale or instrument to measure what it is supposed to measure, according to Mulay and Sabarthanam (1980).

In the present study, content validity has been justified by seeking the opinion of experts in the concerned field.

### **3.6.8. Method of scoring**

The final attitude scale was having 26 items/statements out of which 18 were positive statements and 8 were negative statements. These statements were arranged by pooling all those in order to avoid biased responses. Against each statement, there were five columns representing a five point continuum of agreement and disagreement to the statement as followed by Likert (1932) in his 'Summated Rating Technique' of attitude measurement. The five points on the continuum were 'strongly agree', 'agree', 'undecided', 'disagree' and 'strongly disagree' with weightage of 5, 4, 3, 2 and 1 for positive statements and 1, 2, 3, 4 and 5 weightage for negative statements, respectively.

The attitude scale (along with the main schedule/questionnaire) was mailed to the subscriber farmers with a request to respond to each of the 26 statements/items of their agreement or disagreement by recording their response by putting tick mark (✓) in the proper column representing the five categories. The total attitude score for each subscriber farmer was

calculated by summing up scores of all the items/statements. Thus the maximum and minimum scores obtainable by the subscriber farmer were 130 and 26. High score of the subscriber farmer indicates high favourable attitude towards the farm magazine. Based on the scores obtained by the subscriber farmer, they were categorised into 3 groups by using Mean ( $\bar{X}$ ) and standard deviation (SD) as a measure of check.

Category	Score
Less favourable	( $\leq$ Mean - 1 S.D.)
Favourable	(Between mean $\pm$ 1 S.D)
Highly favourable	( $\geq$ Mean + 1 S.D.)

### Operationalisation of Independent Variables

**1. Age :** was operationalized by considering the number of completed years of a subscriber farmer at the time of investigation. The chronological age was taken as measure of age of subscriber farmers. The subscriber farmers were further categorised into three groups based on the procedure followed by Having Rust (1965) and as followed by Padmaiah (1995).

Category	Age (in years)
Young	Up to 30 years
Middle	31 - 55 years
Old	Above 55 years

**2. Education :** It was quantified by considering the extent of formal schooling completed by the subscriber farmer and were grouped into six categories by following the procedure as adopted by Jetley (1977), Patil (1994) and Hanchinal (1999) was used to measure this variable as indicated below.

Category	Educational level
Primary school	1 – 4 standard
Middle school	5 – 7 standard
High school	8 – 10 standard
Intermediate	10 + 2 standard
Graduate	10 + 2 + 3 years

**3. Farming Experience :** It refers to total number of years of experience in farming by the subscriber farmer. The experience of the subscriber farmer in completed years at the time of investigation was considered for analysis and were categorised in to three groups as per the procedure followed by Rajulu Shanthy (1991), Padmaiah (1995) and Hanchinal (1999) with slight modifications.

Category	Years of farming experience
Low	Upto 10 years
Medium	10 – 20 years
High	> 20 years

**4. Land holding :** The land holding was operationalized by considering the size of the land owned and cultivated by him. The number of standard acres of land owned and cultivated by each subscriber farmer was considered in determination of their size of land holding. The wet and garden lands holdings were converted into common denominator of standard acre. The conversion of different kinds of land holding into standard acres was done with the help of Karnataka Land Reforms Act 38 of 1966 (part – B) 99, 195-96 under section 2(a) 32. As per the act, one acre of irrigated or garden land was equated to 3 acres of dry land. Depending upon the nature of land, the size of the land

holding was determined for each of the subscriber farmer and were grouped into 5 categories by using the criteria adopted by Ministry of Rural Development, Government of India vide circular No. 280-12/16/19 – RD-III, (Vol.II) dated 15<sup>th</sup> November 1991 (Anonymous, 1992) and as followed by Padmaiah (1995) and Hanchinal (1999).

Category	Age (in years)
Marginal farmers	Up to 2.50 acres
Small farmers	2.51 to 5.00 acres
Semi-medium farmers	5.01 to 10.00 acres
Medium farmers	10.01 to 25.00 acres
Big farmers	Above 25.00 acres

**5. Annual Income :** It was operationalized by considering the total income earned by the subscriber farmer both from agriculture and allied enterprises in one year as expressed by the subscriber farmers in rupees. A score of one was given for each thousand rupees. However, the subscriber farmers were grouped into 4 categories as per the norms suggested by Ministry of Rural Development, Government of India (Anonymous, 1992) and as followed by Hanchinal (1999) was used with slight modifications.

Category	Annual income (in Rs.)
Low income group	Up to 17000
Semi-medium income group	17001 – 34000
Medium income group	34001 – 51000
High income group	> 51000

**6. Material Possession :** This was quantified by following the procedure developed by Sontakki (1989) and as followed by Patil (1990) with slight modifications.

		Items included	No	Score
<b>1)</b>		<b>Farm power</b>		
	a)	Tractor	1	15
	b)	Power tiller	1	8
	c)	Oil engine	1	8
	d)	Electric motor/pump set	1	8
<b>2)</b>		<b>Agril. implements</b>		
	a)	Wooden plough (local)	1	1
	b)	Iron plough (local)	1	2
	c)	Harrow (local) , upto	2	1
	d)	Harrow (Improved)	1	1
	e)	Hoe (local) , upto	4	1
	f)	Hoe (improved)	1	1
	g)	Roller	1	1
	h)	Spade , upto	4	1
	i)	Axe , upto	4	1
	j)	Bullock cart	1	3
	k)	Seed drill	1	1
	l)	Seed cum fertilizer drill	1	3
<b>3)</b>		<b>Levelling and other improved implements</b>		
	a)	Bund former	1	3
	b)	Bund scraper	1	3
	c)	Duster	1	3
	d)	Power sprayer	1	6
	e)	Hand operated sprayer	1	3
	f)	M.B. Plough	1	4
<b>4)</b>		<b>Bullocks</b>		
	a)	Upto	2	1
	b)	Upto	4	2
	c)	Upto	6	3
	d)	Upto	8	4

Based on the total score, the subscriber farmers were grouped into three categories by using mean and standard deviation as a measure of check.

Category	Score
Low	( $\leq$ Mean - 1 S.D)
Medium	(Between Mean $\pm$ 1 S.D)
High	( $\geq$ Mean + 1 S.D)

**7. Economic Motivation :** It refers to the values or attitude for which the subscriber farmer attached greater importance to profit maximisation. This was quantified by using the scale developed by Supe (1969) and as followed by Padmaiah (1995). The scale consists of Six statements, of which first five statements were positive and the last one was negative. The responses were recorded on five point continuum namely; strongly agree, agree, undecided, disagree and strongly disagree with scores of 5, 4, 3, 2, 1 for positive statements and 1, 2, 3, 4, 5 for negative statements, respectively. Maximum and minimum scores obtainable by the individual on this scale were 30 and 6. Higher score indicates the respondent subscriber farmer is highly motivated towards profit maximisation.

Based on the scores, the subscriber farmers were grouped into three categories by using mean and standard deviation as measure of check.

Category	Score
Low	( $\leq$ Mean - 1 S.D)
Medium	(Between Mean $\pm$ 1 S.D)
High	( $\geq$ Mean + 1 S.D)

**8. Risk Orientation :** Risk orientation refers to the degree to which a respondents/subscriber farmers is oriented towards risk and uncertainty and has the courage to solve/overcome the problem in farming. It was quantified by using the risk orientation scale developed by Supe (1969) and as followed by Padmaiah (1995). The scale consists of six statements, of which first one was positive and remaining were negative statements. The responses were recorded on five point continuum ranging from strongly agree, agree, undecided, disagree and strongly disagree. The scoring procedure was as follows.

Responses	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Scores for Positive items	7	5	4	3	1
Scores for Negative items	1	3	4	5	7

The maximum and minimum score obtainable by subscriber farmer on the scale was 42 and 7. The maximum score indicates high risk orientation.

Based on the scores, the subscriber farmers were grouped into three categories by using mean and standard deviation as measure of check.

Category	Score
Low	( $\leq$ Mean - 1 S.D)
Medium	(Between Mean $\pm$ 1 S.D)
High	( $\geq$ Mean + 1 S.D)

**9. Innovativeness :** Innovativeness is the degree to which an individual is relatively early in the state of readiness in accepting the new ideas/practice when compared to other members of the social system. This variable was quantified by using the scale developed by Feaster (1968) and as followed by Padmaiah (1995). The scale consists of 12 statements, of which first eight (1-8) statements were positive and subsequent (9-12) were negative statements. The response of the subscriber farmer was recorded on a 3 point continuum namely; agree, undecided and disagree. The score 4,3,2 was assigned to positive statements and the reverse score of 2, 3 and 4 was assigned to negative statements.

The maximum and minimum score obtainable by an individual on the scale was 48 and 24. The maximum score reveals high degree of innovative ness. Further, the subscriber farmers were grouped into 3 categories by using Mean and Standard deviation as measure of check.

Category	Score
Low	( $\leq$ Mean - 1 S.D)
Medium	(Between Mean $\pm$ 1 S.D)
High	( $\geq$ Mean + 1 S.D)

**10. Extension contact :** The frequency of contact of a subscriber farmer with extension agency during the previous year was taken into consideration. The variable was quantified by following the procedure as followed by Sakharkar (1995) and Hanchinal (1999).

	Frequency of contact	Score
a)	Never	0
b)	Whenever problem arises	1
c)	Once in a month	2
d)	Once in 15 days	3
d)	Once in a week	4
f)	Twice and above in a week	5

The score for an individual respondent subscriber farmer was the summation of scores for all the extension personnel contacted by him. The higher the score, higher is the contact with extension personnel. Further, frequencies and percentages used to present the data.

**11. Extension participation :** It refers to the degree to which a subscriber farmer participated in various extension activities with a view to obtain new information knowledge and skills related to agriculture. This was quantified by using the extension participation scale developed by Siddaramaiah and Jalihal (1983) and as followed by Patil (1990) and Hanchinal (1999).

Sl. No.	Items	Score
a.	Conducted demonstrations on my farm	9.50
b.	Had discussion with AA/AAO	6.84
c.	Participated in extension meetings	6.60
d.	Participated in field day on farmer's field	6.63
e.	Seen demonstrations on my neighbours field and had discussion with them	6.16
f.	Participated in Krishimela	4.84
g.	Seen exhibition on Agriculture	2.79
h.	Read extension publications	1.89

The total scale value for each subscriber farmer was the sum of score for all the items for which the subscriber farmers has given the response of 'Yes'. Further, frequencies and percentages were used to present the data.

**12. Mass Media Participation :** It refers to the exposure of the subscriber farmer to different mass media and their participation in related activities such as listening to radio, viewing television and reading news paper and farm magazines.

Detailed information about mass media exposure was obtained in respect of

- a) Owning/Not owning Radio/Television
- b) Subscription to News Paper/Farm magazine
- c) Listening to Radio and Viewing Television
- d) Reading habit of News Paper/Farm Magazine.

This variable was quantified by using the procedure as followed by Patil (1990) with slight modifications.

	Items	Score
a)	Owning Radio/Television	1
b)	Not owning Radio/Television	0
c)	Subscription to News Paper/Farm magazine	1
d)	No subscription the News Paper/ Farm magazine	0
e)	Listening habit to Radio and Viewing habit to Television programmes	
	i) Regular	2
	ii) Occasional	1
	iii) Never	0
f)	Reading habit of News Paper/Farm magazine	
	i) Regular	2
	ii) Occasional	1
	iii) Never	0

The scores obtained by the subscriber farmer on each item were summed up to obtain the total score. Higher the score greater the exposure to mass media by the subscriber farmers. Frequencies and percentages were used to analyse the data.

**13. Participation in formal organisation :** It is nothing but the association or sharing of an individual with any formal organisation as a member or as its office bearer. The variable was operationalized by adopting the procedure as followed by Desai (1975) and Angadi (1990). The following items and scoring pattern was used to quantify this variable.

		Score
<b>(i)</b>	<b>Member</b>	
a)	Non-member	0
b)	Member in any one of the organisation	1
c)	Member in more than one organisation	2
<b>(ii)</b>	<b>Office bearer</b>	
a)	Position held by the respondent in any one of the organisation	3
b)	Position held by the respondent in more than one organisation	4
c)	Distinctive features (MLA/MP)	5
<b>(iii)</b>	<b>Attendance/extent of participation</b>	
a)	Never (Do not attend any meeting)	0
b)	Occasionally (attend some of the meetings)	1
c)	Regularly (attend meeting whenever called)	2

The total score for each subscriber farmer was the summation of scores for all the items. The higher the score, higher the social participation. Further frequencies and percentages were used in analysis of the data.

## **OTHER RELATED COMPONENTS**

- 1) Extent of Reading :** Refers to whether the individuals read complete or incomplete the selected/required article/information. This was analysed by using frequencies and percentages.
- 2) Duration of Reading :** This was quantified by considering how much time an individual will devote for reading each of the farm magazine and was quantified by using frequencies and percentages.
- 3) Preference of subscribers towards information published in farm magazines :** This was quantified by asking the subscriber farmers to indicate their order of preference to the different subject matter areas being published in the farm magazine. The frequencies and percentages were used to analyse the data.
- 4) Extent of usefulness of information :** The extent of information published in the farm magazine was operationalized by asking the subscriber farmers to indicate which subject matter is useful to what extent on a five point continuum namely; very useful, useful, somewhat useful, very little useful and not useful with scoring pattern of 5, 4, 3, 2 and 1 respectively. Further frequencies and percentages were also used to analyse the data.
- 5) Content Analysis of farm Magazine :** Content analysis refers to the different subject matter areas that are being published in the farm magazines.

Berelson (1952) defined content analysis as “a research technique for objective, systematic quantitative, description of the manifest content of communication”.

In the present study, this was quantified by considering the different subject matter areas that are published in the farm magazines namely; Krishilok, Krishi Munnade, Karnataka Vyvasaya Patrike and Siri Sambrudhi. The procedure adopted by Nataraju (1995) was used by considering the number of articles published on different subject matter areas. Then frequencies, percentages were used to analyse the data.

**6. Sources of articles for farm Magazines :** This was operationalized by following the procedure as adopted by Nataraju (1995) by considering the sources or authors for these farm magazines. Frequency and percentages were used for analysis of data.

**7. Readability of farm Magazines :** Readability is an important factor that motivates the reader to read printed material. According to UNESCO, a piece of written material is said to be readable, if it could be read and understood by the readers for whom it was intended.

The formula developed by Nanjappa and Siddaramaiah (1996) was used to find out the readability of the Kannada farm magazine as mentioned below.

$$GL = -7.4232 + 0.6509 \times ASL + 0.0177 \times W.C$$

Where,

GL = Estimated grade level of sample passage

ASL = Average sentence length in words

WC = Word complexity per 100 words in Mathre's

To find out the readability of each farm magazine. Average Grade level of all the selected sample passages on different subject matter areas was considered. 50% of the articles on different subject areas were selected and the main central concern of the article was considered as the criteria to select a sample passage with minimum of 100 words to measure the readability or Grade level of the article.

**a) Average sentence length in words :** This was measured by counting the number of words as well as number of sentences in a sample passage and by computing these values in the following formula.

$$\text{Average sentences length in words (ASL)} = \frac{\text{Number of words in a passage}}{\text{Number of sentences in that passage}}$$

**b) Word complexity per 100 words :** The word complexity was measured in terms of mathre's per 100 words. 'Mathre' refers to time taken to pronounce a letter in Kannada language and will take either one mathre time (referred as 'laghu' letters) or two mathre time (referred as 'guru' letters) depending upon the type of letter. The total number of 'mathre's' in the sample passage were counted and the word complexity was calculated using the following formula,

$$\text{Word complexity per 100 words} = \frac{\text{Total number of 'mathre's' in a passage}}{\text{Number of words in that passage}} \times 100$$

**Readability formula :** The readability formula developed by Nanjappa and Siddaramaiah (1993) was based on using the regression analysis, where in the two readability variables viz., average sentence length and

word complexity were considered as independent variables and the grade level of the sample passage as dependent variable.

The estimated regression equation used was

$$Y = a + b_1x_1 + b_2x_2$$

Where,

Y = Grade level of sample passage

$x_1$  = Average sentence length in words

$x_2$  = Word complexity per 100 words

a = Constant

$b_1$  and  $b_2$  = are the estimated regression coefficients corresponding to  $x_1$  and  $x_2$  respectively.

### **Suggestions offered by the subscriber farmers to improve the quality of farm magazine**

This was quantified by listing the number of possible suggestions after careful consideration and exhaustive exercise of going through various Kannada farm magazines. The list of suggestions were included in the questionnaire and the subscriber farmer were asked to indicate their opinion as 'Yes' or 'No'. Further, frequency and percentages were used to quantify this component.

### **3.7 PROCEDURE EMPLOYED IN DATA COLLECTION**

A questionnaire was developed in local Kannada language keeping in view of the objectives defined for the present study. The questionnaire was developed in consultation with the Extension experts and also based

on the review of literature. The questionnaire consist of IV parts. Part – I includes questions on general back ground information and also on personal, psychological and socio-economic characteristics of the subscriber farmer. Part –II includes “Attitude Scale” developed for the purpose of study including 26 statements in order to measure the attitude of subscriber farmers towards the farm magazine. Part-III includes questions to know the extent of awareness of subscriber farmers towards the existence of different farm magazines, the frequency of reading habit, duration of reading, usefulness of information published in the farm magazines and preference of subscriber farmers to different subject matter areas being published in the farm magazines. Lastly Part-IV includes list of suggestions to improve the quality and effectiveness of the farm magazine.

Further, while developing questionnaire sufficient care has been taken to avoid ambiguous questions to obtain clear, complete and comprehensive information from the subscriber farmers. The questionnaire was pre-tested involving a sample of 40 respondents in non-sample area to know whether the contents, forms of questions/items were valid, reliable and easily understandable by the respondents. The instrument/questionnaire was finalised after making necessary modifications, deletions and additions based on pre-testing. The final questionnaire used for the study is given in the Appendix IV.

#### **Administration of the questionnaire**

As mentioned elsewhere in the methodology a total of 4 farm magazines were selected for the study namely (i) Krishi loka – Published

by syndicate Agriculture and Rural development Foundation, Hiriyaadka, Manipal, (ii) Krishi Munnade – Published by the University of Agricultural Sciences, Dharwad (iii) Karnataka Vyavasaya patrike – Published by the Karnataka Pradesh Krishik Samaj, Bangalore, (iv) Siri Sambruddhi Published by the Bharatiya Agro Industries Federation (BAIF) Tipatur. Then the list of the subscriber farmer for each of the selected farm magazine was obtained from the publishers for the purpose of the study. The final questionnaire was mailed to selected subscriber farmer with a request to fill up the questionnaire carefully and return the same to the researcher in a self addressed stamped envelop dispatched along with the questionnaire. The subscriber farmers were requested to give their unbiased, frank opinion and suggestions if any to improve the effectiveness and quality of the farm magazines. Totally 300 questionnaires were mailed to 75 randomly selected subscriber farmers for each of the farm magazine. Out of 300 only 190 subscriber farmers returned the completely filled in questionnaires. Among these, 40 subscriber farmers questionnaires were randomly selected from each of the farm magazine to constitute a total sample of 160.

### **3.8 STATISTICAL TOOLS USED IN THE STUDY**

The data thus collected from the subscriber farmers were scored and analysed using the suitable statistical methods like frequency, percentages, mean, standard deviation, 't' test, correlation analysis, multiple regression analysis, path analysis.

## Frequencies and percentages

Frequencies and percentages were used to interpret the data pertaining to awareness in respect of farm magazines, extent and duration of reading and wherever required.

## Mean and Standard Deviation

### Mean

This technique was used for categorising the subscriber farmers into groups based on their scores using a formula as follows.

$$\text{Mean } (\bar{X}) = \frac{\text{The sum of all the items}}{\text{Total number of items}}$$

The arithmetic mean is the quotient that results when the sum of all the items in the series is divided by the number of items (n).

### Standard Deviation

It is defined as the square-root of the arithmetic mean of the sum of the squares of deviation taken from the arithmetic mean. The formula was as follows.

$$SD = \sqrt{\left[ \frac{1(\Sigma X^2) - (\Sigma X)^2}{n} \right]}$$

Where,

SD = Standard deviation

$\Sigma X^2$  = The sum of squared deviations from the mean

$(\Sigma X)^2$  = The sum of deviations from the mean

n = Number of items

This was employed to find out whether there was significant difference in the mean scores of respondents.

The formula used was as follows.

$$t = \frac{(\bar{X} - \bar{Y})}{\sqrt{\frac{\left[ \Sigma X^2 - \frac{(\Sigma X)^2}{n} \right] + \left[ \Sigma Y^2 - \frac{(\Sigma Y)^2}{n} \right] + \left[ \frac{1}{n_1} + \frac{1}{n_2} \right]}{(n_1 + n_2 - 2) \text{ d.f.}}}$$

- $\bar{X}$  = Mean of 'x' series
- $\bar{Y}$  = Mean of 'y' series
- $\bar{X} - \bar{Y}$  = Difference between two means
- $\Sigma X^2$  = Sum of squares of 'x' series
- $\Sigma Y^2$  = Sum of squares of 'y' series
- $\Sigma X$  = Sum of scores of 'x' series
- $\Sigma Y$  = Sum of scores of 'y' series
- $n_1$  = Total number of observations in 'x' series
- $n_2$  = Total number of observations in 'y' series
- d.f. = Degrees of freedom

**Zero order correlation coefficient (r)**

This was used to find out the significant relationship if any between dependent and independent variables. The formula used was as follows.

$$r = \frac{n\Sigma xy - (\Sigma x)(\Sigma y)}{\sqrt{\left[ (n\Sigma X^2) - (\Sigma X)^2 \right] \left[ (n\Sigma Y^2) - (\Sigma Y)^2 \right]}}$$

Where,

$r$	=	Zero order correlation coefficient
$\Sigma x$	=	Sum of 'x' values
$\Sigma y$	=	Sum of 'y' values
$\Sigma x^2$	=	Sum of squares of 'x' values
$\Sigma y^2$	=	Sum of squares of 'y' values
$\Sigma xy$	=	Sum of products of x and y values
$n$	=	Number of pairs of observations

### **Multiple linear regression analysis**

This was used to study the combined influence of all the independent variables in explaining the variation on the dependent variable and to identify the variables which contributed significantly towards the variation in the dependent variable.

### **Path analysis**

Path analysis developed by Wright (1921) and followed by Li (1955) was used to find out the direct and indirect effects of a set of independent variables on dependent variable. The path coefficients were computed by matrix method.

# *Results*

---

## **IV. RESULTS**

The results of the research study are presented under the following major heads in accordance with the objectives of the study.

4.1 Attitude of subscriber farmer towards the farm magazines

4.2 Personal, economic, psychological and social profile of subscriber farmers

4.3 Relationship between personal, economical, psychological and social characteristics of subscriber farmers and their attitude towards farm magazines

4.4 Extent of usefulness of message published in the farm magazines as expressed by the subscriber farmers

4.5 Content analysis of the farm magazines

4.6 Sources of articles to farm magazines

4.7 Readability of farm magazines

4.8 Other related aspects of readership behaviour in terms of extent of reading, duration of reading and preference to subject matter areas published in the farm magazines as expressed by the subscriber farmers

4.9 Suggestions offered by the subscriber farmers to improve the quality and effectiveness of farm magazines

### **4.1 ATTITUDE OF SUBSCRIBER FARMERS TOWARDS FARM MAGAZINE**

It can be seen from the Table 1 and Fig. 2 that majority of the subscriber farmers (66.25%) belonged to 'Favourable' attitude followed by

Table 1. Attitude of subscriber farmers towards use of farm magazines

n=160

Category	Range score	Number	Percentage	Mean attitude score
Less favourable ( $\leq$ Mean-1 S.D.)	$\leq 93.00$	32	20.00	87.188
Favourable (Mean $\pm$ 1 S.D.)	93.01-114.90	106	66.25	105.811
Highly favourable ( $\geq$ Mean+1 S.D.)	$\geq 114.91$	22	13.75	119.409

Table 1a. Attitude of subscriber farmers towards different farm magazines

Category/magazine	Range score	Frequency	Percentage	Mean attitude score
<b>Krishi loka (n1=40)</b>				
Less favourable ( $\leq$ Mean-1 S.D.)	$\leq 90.92$	6	15.00	84.83
Favourable (Mean $\pm$ 1 S.D.)	90.93-113.18	28	70.00	102.14
Highly favourable ( $\geq$ Mean+1 S.D.)	$\geq 113.19$	6	15.00	118.83
<b>Karnataka Vyvasaya Patrike (n2=40)</b>				
Less favourable ( $\leq$ Mean-1 S.D.)	$\leq 96.33$	6	15.00	86.83
Favourable (Mean $\pm$ 1 S.D.)	96.34-117.67	30	75.00	108.93
Highly favourable ( $\geq$ Mean+1 S.D.)	$\geq 117.68$	4	10.00	122.75
<b>Krishi Munnade (n3=40)</b>				
Less favourable ( $\leq$ Mean-1 S.D.)	$\leq 90.55$	6	15.00	81.67
Favourable (Mean $\pm$ 1 S.D.)	90.56-113.85	30	75.00	104.17
Highly favourable ( $\geq$ Mean+1 S.D.)	$\geq 113.86$	4	10.00	118.25
<b>Siri Sambruddhi (n4=40)</b>				
Less favourable ( $\leq$ Mean-1 S.D.)	$\leq 94.63$	9	22.50	90.33
Favourable (Mean $\pm$ 1 S.D.)	94.64-114.51	25	62.50	106.36
Highly favourable ( $\geq$ Mean+1 S.D.)	$\geq 114.52$	6	15.00	118.50

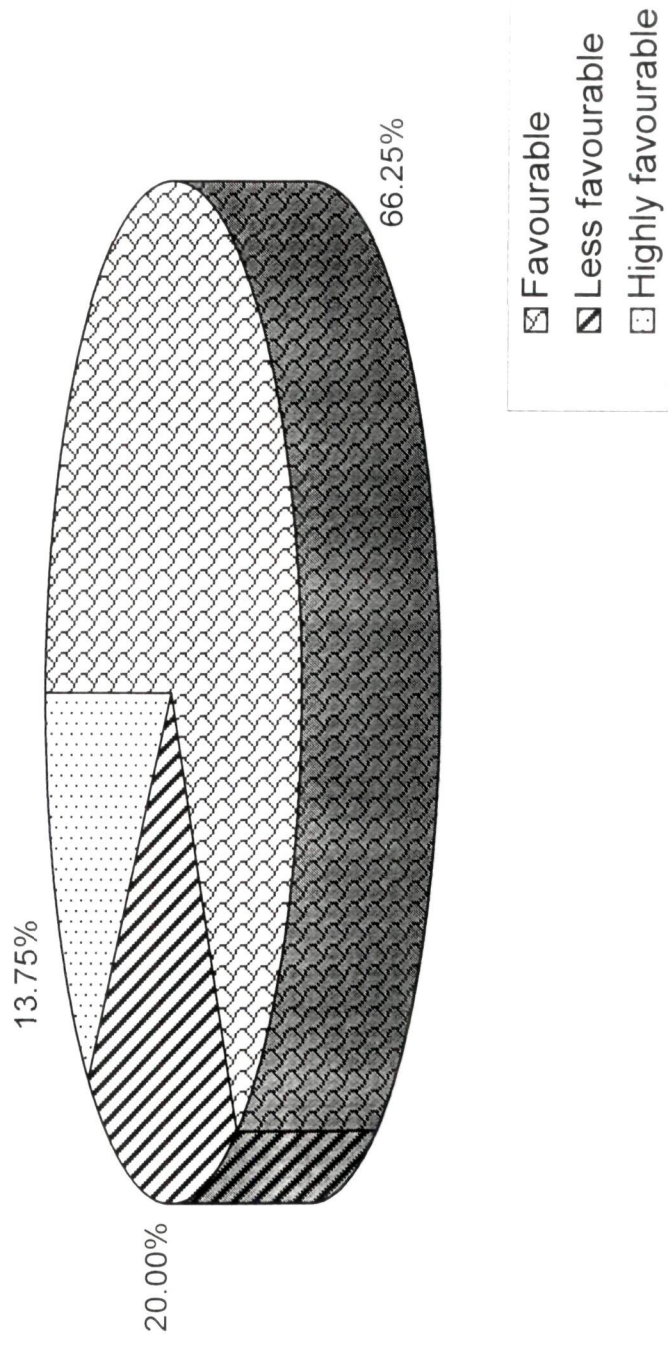


Fig. 2. Attitude of subscriber farmers towards farm magazines

'less favourable' (20.0%) and 'Highly favourable (13.75) attitude towards farm magazines.

The data in table 1.a indicates the attitude of subscriber farmers towards each of the farm magazine. The data reveals that 70 per cent of the subscribers exhibited 'favourable' attitude while 5 per cent expressed 'highly favourable' and 'less favourable' attitude respectively towards Krishi loka farm magazine.

In case of Karnataka Vyvasaya patrike 75 per cent belonged to 'favourable' attitude category whereas 10 per cent 'highly favourable' and 15 per cent 'less favourable' attitude category towards the farm magazine. The same trend of results also observed with in respect of Krishi munnade farm magazine.

The data also indicates that majority of (62.50%) the subscriber farmers belonged to 'favourable' attitude category while 15 per cent and 22.50 per cent belonged to 'highly favourable' and 'less favourable' attitude category respectively towards Siri Sambruddhi farm magazine.

#### **4.2 PERSONAL, ECONOMIC, SOCIAL AND PSYCHOLOGICAL PROFILE OF SUBSCRIBER FARMERS**

##### **Personal characteristics**

**1. Age :** It can be seen from the Table 2 that majority of (77%) of subscriber farmers belonged to middle age group followed by old (13%) and young (10%) age groups.

- 2. Education :** The data in the Table 2 reveals that 39 and 25 per cent of subscriber farmers had education up to high school and middle school respectively. It is interesting to note that 14 per cent each of the subscriber farmers studied up to primary and pre-university (PUC) level.
- 3. Farming experience :** Table 2 presents that 48 per cent of the subscriber farmers had 10-20 years of farming experience and 45 per cent had more than 20 years of farming experience, while a small per cent (7%) of the subscriber farmers had less than 10 years of farming experience.

### **Economic characteristics**

- 1. Land holding :** Majority of (63%) of the subscriber farmers had 'big size' farms of more than 25 acres followed by 'medium' (21%) and semi-medium (11%) farm size. Very less percentage of subscriber farmers were small (44%) and marginal (0.6%) farmers as evident from the data in Table 3.
- 2. Annual Income :** It can be seen from Table 2 that, 47 per cent of the subscriber farmers belonged to 'high income' group of more than Rs. 51000 whereas 23 per cent and 20 per cent of the subscriber farmers with income between Rs. 34001-51000 and Rs. 17001-34000 belonged to 'medium' and 'semi-medium' income group respectively. The remaining 10 per cent subscriber farmers were grouped under 'low income' group up to Rs. 17000 per annum.

Table 2. Personal, economical, psychological and social profile of subscriber farmers (respondents)

n=160

	Attributes	Categories	Frequency	Percentage
	<b>Personal</b>			
1.	Age	Young (upto 30 years)	16	10.00
		Middle (31-55 years)	123	77.00
		Old (>55 years)	21	13.00
2.	Education	Primary school (1-4 <sup>th</sup> std.)	18	11.00
		Middle school (5 <sup>th</sup> -7 <sup>th</sup> std)	40	25.00
		High school (8 <sup>th</sup> -10 std)	62	39.00
		Pre-university college (10+2 years)	17	11.00
		Graduation & above	23	14.00
3.	Farming experience	Upto 10 years	12	7.00
		10-20 years	76	48.00
		Mote than 20 years	72	45.00
	<b>Economical</b>			
1.	Land holding	Marginal farmer (upto 2.5 std acres)	1	0.60
		Small farmer (2.51-5 std acres)	7	4.40
		Semi-medium farmer (5.01-10.0 std acre)	18	11.00
		Medium farmer (10.01-25.0 std acres)	34	21.00
		Big farmer (>25.0 std acres)	100	63.00

Table 2. Cond.....

	Attributes	Categories	Frequency	Percentage
2.	Annual income	Low income (upto Rs. 17,000)	16	10.00
		Semi-medium income (Rs. 17,001-34,000)	32	20.00
		Medium income (Rs. 34,001-51,000)	37	23.00
		High income (Rs. >51,000)	75	47.00
3.	Material possession	Low ( $\leq$ mean - 1 SD)	22	13.75
		Medium (mean $\pm$ 1 SD)	110	68.75
		High ( $\geq$ mean + 1 SD)	28	17.50
<b>Psychological</b>				
1.	Economic motivation	Low ( $\leq$ mean - 1 SD)	26	16.25
		Medium (mean $\pm$ 1 SD)	104	65.00
		High ( $\geq$ mean + 1 SD)	30	18.75
2.	Risk orientation	Low ( $\leq$ mean - 1 SD)	25	15.63
		Medium (mean $\pm$ 1 SD)	27	16.87
		High ( $\geq$ mean + 1 SD)	108	67.50
3.	Innovativeness	Low ( $\leq$ mean - 1 SD)	25	15.63
		Medium (mean $\pm$ 1 SD)	118	73.75
		High ( $\geq$ mean + 1 SD)	17	10.62

**3. Material possession :** The data in Table 2 reveals that majority of (68.75%) the subscriber farmers grouped under 'medium level' material possession. Further 17.5 per cent and 10 per cent of the subscriber farmers belonged to 'high' and 'low' material possession groups respectively.

### **Psychological characteristics**

**1. Economic motivation :** The data in Table 2 reveals that majority of (65%) the subscriber farmers belonged to 'medium economic motivation' category followed by high (18.75%) and low (16.25%) economic motivation category respectively.

**2. Risk orientation :** It can be seen from the Table 2 that 67.5 per cent of the subscriber farmers fall under 'high risk orientation' category, while almost equal percentage belonged to 'medium' (16.87%) and 'low' (15.63%) level categories of risk orientation.

**3. Innovativeness :** The data in Table 2 indicates that majority of (73.75%) the subscriber farmers belonged to 'medium innovativeness' category, whereas 15.63 per cent and 10.62 per cent fall under low and high level of innovativeness categories respectively.

### **Social characteristics**

**1. Extension contact :** The data in Table 3 indicates that nearly 34 per cent of the subscriber farmers (33.75%) contact 'Agriculture Assistant' once in 15 days followed by 21.87 per cent contact 'whenever problem

Table 3. Extension contact

n=160

Extension personal	>two times in a week		Once in a week		Once in 15 days		Once in a month		When ever problem arises		Never	
	F	P	F	P	F	P	F	P	F	P	F	P
1. Agricultural Assistant's (AA's)	8	5.0	32	20.0	54	33.75	22	13.75	35	21.88	9	5.62
2. Assistant Agricultural Officers (AAO's)	1	0.63	10	6.25	23	14.38	22	13.75	39	24.37	65	40.62
3. Agricultural Officers (AO's)	-	-	2	1.25	11	6.88	13	8.12	40	25.0	94	58.75
4. Assistant Directors of Agriculture (ADA's)	2	1.25	1	0.63	5	3.12	16	10.0	27	16.88	109	68.12
5. Extension Guides	-	-	2	1.25	8	5.0	10	6.25	40	25.0	100	62.50
6. University Scientists	-	-	-	-	1	0.63	2	1.25	76	47.5	81	50.62
7. Rural Development Officers (RDO's)	-	-	1	0.63	4	2.5	8	5.0	90	56.25	57	35.62
8. Assistant Agricultural Officers (Farm women)	-	-	2	1.25	4	2.5	7	4.37	35	21.88	112	70.0
9. Horticulture Officers	1	0.63	5	3.12	16	10.0	19	11.88	45	28.12	74	46.25
10. Forest Officers	-	-	-	-	1	0.63	3	1.87	22	13.75	134	83.75
11. Sericulture Officers	1	0.63	-	-	-	-	1	0.63	15	9.37	143	89.37
12. Veterinary and Animal Husbandry Officers	1	0.63	3	1.87	8	5.0	11	6.88	54	33.75	83	51.87

F = Frequency, P = Percentage

arises', 20 per cent contact 'once in a week', 13.75 per cent contact 'once in a month' and 5 per cent of the subscriber farmers opined that they contact Agriculture Assistants 'two times in a week' and 5 per cent 'never' contact Agriculture Assistants. With respect to the contact with Assistant Agriculture officer (AAO's) 40.62 per cent of the subscriber farmers 'never' contact these extension personnel and further 24.37 per cent contact 'whenever problem arises', 14.38 per cent contact 'once in a month', 6.25 per cent contact 'once in a week' and 0.63 per cent contact 'twice in a week'.

The data in the table also reveals that 58.75 and 68.12 per cent of the subscriber farmers 'never' contact Agriculture officers (AO's) and Assistant Directors of Agriculture (ADA's) followed by 25, 16.88, 8.12 and 10 per cent contact AO's and ADA's 'whenever problem arises' and 'once in a month' respectively. Further, the data indicates that 56.25 of subscriber farmers contact Rural Development officers (RDO'S) of Bank 'whenever problem arises' and 35.62 per cent 'never' contact R.D.O's followed by 'once in a month' and 'once in 15 days ' by 8.5 and 2.5 per cent of the subscriber farmers respectively.

A majority of the subscriber farmers 'never' contact the extension personnel of various developmental departments such as sericulture officers (89.37%), forest officials (83.75%), assistant agriculture officer (farm women 70%) followed by assistant director's of agriculture (68.12%), extension guides of agriculture university (62.5%), agriculture officers (58.75%), scientists of agriculture university (50.62%) and officials of veterinary and animal husbandry department (51.87%).

56.25 per cent of subscriber farmers contact Rural Development officers of Bank followed of Scientists of Agriculture University (47.5%) and officials of veterinary and animal husbandry (33.75%) 'whenever problem arises'.

Very less percentage of subscriber farmers contact other extension personnel of different development departments 'once in a month' followed by 'once in 15 days', 'once in a week' and 'more than two times in a week'.

**2. Extension participation :** The data in Table 4 presents that 100 per cent of the subscriber farmers read 'extension literature' /publications. Majority of (66.25%) the subscriber farmers participate in 'Field days', followed by 'Krishimela' (65%), 'Exhibition on Agriculture (62.5%), 'Discussion with extension workers (62.5%)', 'Demonstrations' conducted an own farm (58.75%), visit to 'Demonstration plot of neighbour' (40%) and participate in 'Extension meetings' (36.87%) wherever organised.

**3. Mass media participation :** It can be seen from the Table 5 that varying percentage of the subscriber farmers possess various types of mass media like Radio (96.88%), Television (66.88%), Newspaper (57.88%) and Farm magazines (100%) respectively. The detail analysis of the data reveals that majority of the subscriber farmers (82.58%) regularly listen 'Krishiranga' programme broad casted through radio (70.32% and 56.77%) regularly listen the 'Hints to farmers' programme and 'Rural development' programmes respectively. While 16.77, 18.71 and 21.94 per cent occasionally listen to the above programmes. Whereas very less

Table 4. Extension participation

n=160

Items	Frequency	Percentage*
1. Conducted demonstrations on my farm	94	58.75
2. Discussion with extension workers	100	62.50
3. Participation in extension meetings	57	36.87
4. Participation in field days	106	66.25
5. Visit to demonstration plot of neighbour and had discussion with them	64	40.00
6. Participation in Krishimela	104	65.00
7. Visit to exhibition on agriculture	100	62.50
8. Read extension publications/literature	160	100.00

\* Multiple responses

Table 5. Mass Media participation

n=160

Mass media / programmes	Possession/owing subscriber		Not owning /non-subscriber		Listening/viewing/reading habit					
	Frequency	Percentage	Frequency	Percentage	Regular		Occasional		Never	
					Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
<b>1. Radio</b>	155	96.88	5	3.13	128	82.58	26	16.77	1	0.65
a. Krishi ranga programme										
b. Hints to farmers					109	70.32	29	18.71	17	10.97
c. Rural development programmes					88	56.77	34	21.94	33	21.29
<b>2. Television</b>	107	66.88	53	33.12	96	89.72	8	7.48	3	2.80
a. Krishi sampad programme										
b. Gram mangal programme					78	72.90	14	13.08	15	14.02
c. Rural development programme					72	62.29	18	16.82	17	15.89
<b>3 Newspapers</b>	83	51.88	77	48.12	82	98.80	1	1.20	-	-
<b>4. Farm magazine</b>	160	100.00	-	-	16	10.00	144	90.00	-	-

percentage of 21.29, 10.97 and 0.65 per cent subscriber farmers respectively 'never' listen to above mentioned radio programmes.

Among the television viewers 89.72, 72.90 and 62.29 per cent of the subscriber farmers watch the 'Krishisampad', 'Gram mangal' and Rural development programmes over Television respectively. While 7.48, 13.08 and 16.82 per cent occasionally watch 'Krishisampad', 'Gram mangal' and Rural development' programmes respectively. Whereas less percentage of subscriber farmers 15.89 and 14.02 per cent never view 'Rural development', 'Gram mangal' programmes respectively and negligible per cent (2.5%) watch 'Krishisampad' programmes.

It is interesting to note from the table that varying percentage of the subscriber farmers either read regularly or occasionally the news paper and farm magazines. Regarding subscription to news paper and farm magazines, 51.88 per cent subscribers of newspaper and almost equal per cent (48.12%) does not subscribe to newspapers, whereas 100 per cent of subscriber farmers subscribe to the farm magazines. In respect to the reading habit, 98.80 per cent of news paper subscribers and 10.00 per cent of farm magazine subscribers are 'regular' readers whereas 1.20 and 90.00 per cent are 'occasional' readers of news paper and farm magazine respectively.

**4. Participation in formal organisation :** The data presented in Table 6 depicts that 35.63 pr cent of the subscriber farmers were 'members' of co-operative society followed by Raith Sangh (31.25%), village panchayat

Table 6. Participation in formal organisation

n=160

Formal organisation	Member		Office bearer		Participation in activities					
	Frequency	Percentage	Frequency	Percentage	Regular		Occasional		Never	
					Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Village panchayat	46	28.75	17	36.96	42	91.30	4	8.69	-	-
Cooperative society	57	35.63	15	26.32	46	80.70	11	19.30	-	-
Youth club	39	24.36	8	14.04	29	74.36	10	25.64	-	-
Raita sangh	50	31.25	7	14.00	33	66.00	17	34.00	-	-
Taluk panchayat	9	5.63	4	44.44	8	88.89	1	11.11	-	-
Zilla parishad	2	1.25	1	50.00	2	100.00	-	-	-	-

(28.75%) youth club (24.36%). Whereas 5.63 and 1.25 per cent were 'members' of Taluka panchayat and Zilla panchayat respectively. On the other hand 50, 44.44 and 36.92 per cent of subscriber farmers were office bearers' of zilla panchayat, taluka panchayat and village panchayat' respectively.

It can be seen from the table that cent per cent of the subscriber farmers participate regularly in zilla panchayat activities/programmes whereas 91.30, 88.89, 80.70, 74.36 and 66 per cent regularly farmers participate in programmes of village panchayat, taluka panchayat, co-operative society, youth club and Raitasangha respectively. Nearly 34 per cent and 25.64 per cent of the subscriber farmers occasionally participate in Raitasangha and Youth club activities respectively. Further, it is interesting to observe that all the subscriber farmers participate in the programmes of some or the other organisations.

#### **4.3 RELATIONSHIP BETWEEN PERSONAL, ECONOMICAL, PSYCHOLOGICAL AND SOCIAL CHARACTERISTICS OF SUBSCRIBER FARMERS AND THEIR ATTITUDE TOWARDS FARM MAGAZINES**

##### **4.3.1 Correlation analysis**

The zero order correlation was calculated to find out the relationship between personal, socio-psychological variables and attitude of farmers towards use of farm magazines. The results depicted in Table 7 reveals that, out of 13 independent variables studied education, mass media participation, economic motivation, risk orientation, innovative ness has positive and significant association with dependent variable

Table 7. Correlation analysis of independent variables over dependent variables attitude

Sl. No.	Variable	Correlation coefficient 'r' values
X <sub>1</sub>	Age	-0.2254*
X <sub>2</sub>	Education	0.2984**
X <sub>3</sub>	Farming experience	0.1856*
X <sub>4</sub>	Landholding	-0.1627
X <sub>5</sub>	Annual income	-0.0610
X <sub>6</sub>	Material possession	-0.0166
X <sub>7</sub>	Extension contact	-0.0466
X <sub>8</sub>	Extension participation	0.2124*
X <sub>9</sub>	Participation in formal organisation	0.2080*
X <sub>10</sub>	Mass media participation	0.2655**
X <sub>11</sub>	Economic motivation	0.4082**
X <sub>12</sub>	Risk orientation	0.5509**
X <sub>13</sub>	Innovativeness	0.6465**

\* Significant at 5% level

\*\* Significant at 1% level

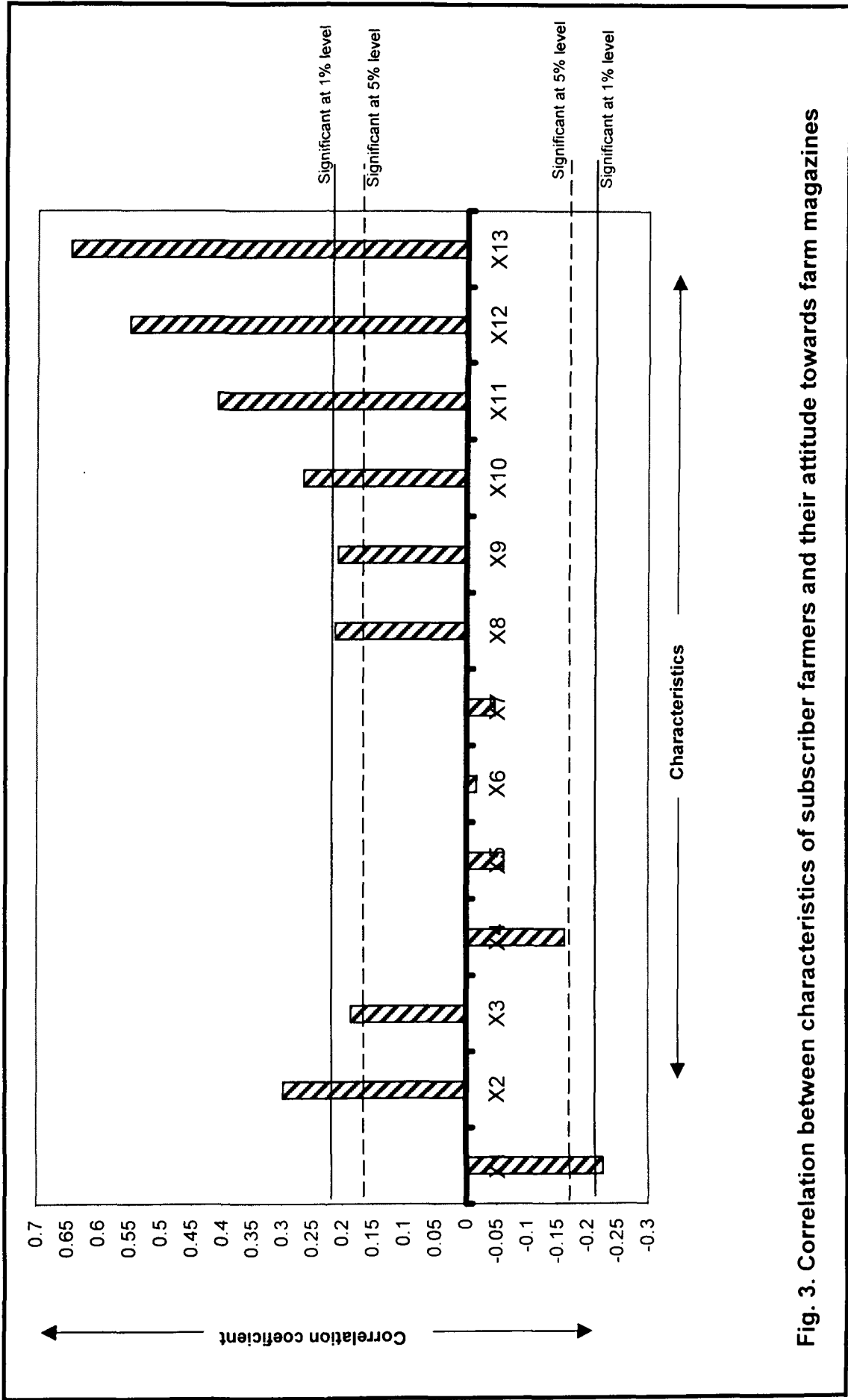


Fig. 3. Correlation between characteristics of subscriber farmers and their attitude towards farm magazines

'Attitude' at 5 per cent level of probability and the variables like farming experience, extension participation, participation in formal organisations exhibited positively significant relationship with attitude of subscriber farmers towards the use of farm magazines at 1 per cent level of probability. However Age has negatively significant association with attitude. The variables like land holding, income, material possession, extension contact has no relationship with attitude (Fig. 3).

#### **4.3.2 Multiple regression analysis**

Multiple regression analysis was used to determine the extent of contribution of independent variables to the dependent variable. The results presented in Table 8 reveals that the independent variables mass media participation, economic motivation, risk orientation and innovative ness exerted positive and significant relationship on dependent variable 'attitude' at 1 per cent level towards the use of farm magazines. While other independent variables such as age, education, farming experience, land holding, annual income, material possession, extension contact, extension participation and participation in formal organisations exhibited non significant association with dependent variable attitude of subscriber farmers towards the use of farm magazines.

#### **4.3.3 Path coefficients was applied to detect the direct, indirect and substantial indirect effects of independent variables on dependent variable 'attitude' towards use of farm magazines**

**Direct effect** : It can be seen from the table 9 and Fig. 4 that the independent variable innovative ness (0.4490) has caused highest positive direct effect on attitude subscriber farmers towards use of farm

Table 8. Multiple regression analysis of independent variable with dependent variable attitude

Code No.	Independent variables	Regression coefficient	Standard error	't' values
X <sub>1</sub>	Age	-0.155867	0.116421	-1.339 <sup>NS</sup>
X <sub>2</sub>	Education	0.974472	0.638754	1.526 <sup>NS</sup>
X <sub>3</sub>	Farming experience	0.128587	0.131644	0.977 <sup>NS</sup>
X <sub>4</sub>	Landholding	-0.056500	0.029590	-1.909 <sup>NS</sup>
X <sub>5</sub>	Income	-1.35747	1.80494	-0.752 <sup>NS</sup>
X <sub>6</sub>	Material possession	0.081330	0.046891	1.734 <sup>NS</sup>
X <sub>7</sub>	Extension contact	-0.122525	0.136520	-0.897 <sup>NS</sup>
X <sub>8</sub>	Extension participation	0.007299	0.059243	0.123 <sup>NS</sup>
X <sub>9</sub>	Participation in formal organisation	-0.003772	0.132080	-0.029 <sup>NS</sup>
X <sub>10</sub>	Mass media participation	0.570301	0.174024	3.277 <sup>**</sup>
X <sub>11</sub>	Economic motivation	0.531664	0.184036	2.889 <sup>**</sup>
X <sub>12</sub>	Risk orientation	0.327153	0.115293	2.837 <sup>**</sup>
X <sub>13</sub>	Innovativeness	0.997437	0.145742	6.844 <sup>**</sup>

$R^2 = 0.59709$

F value = 16.64323

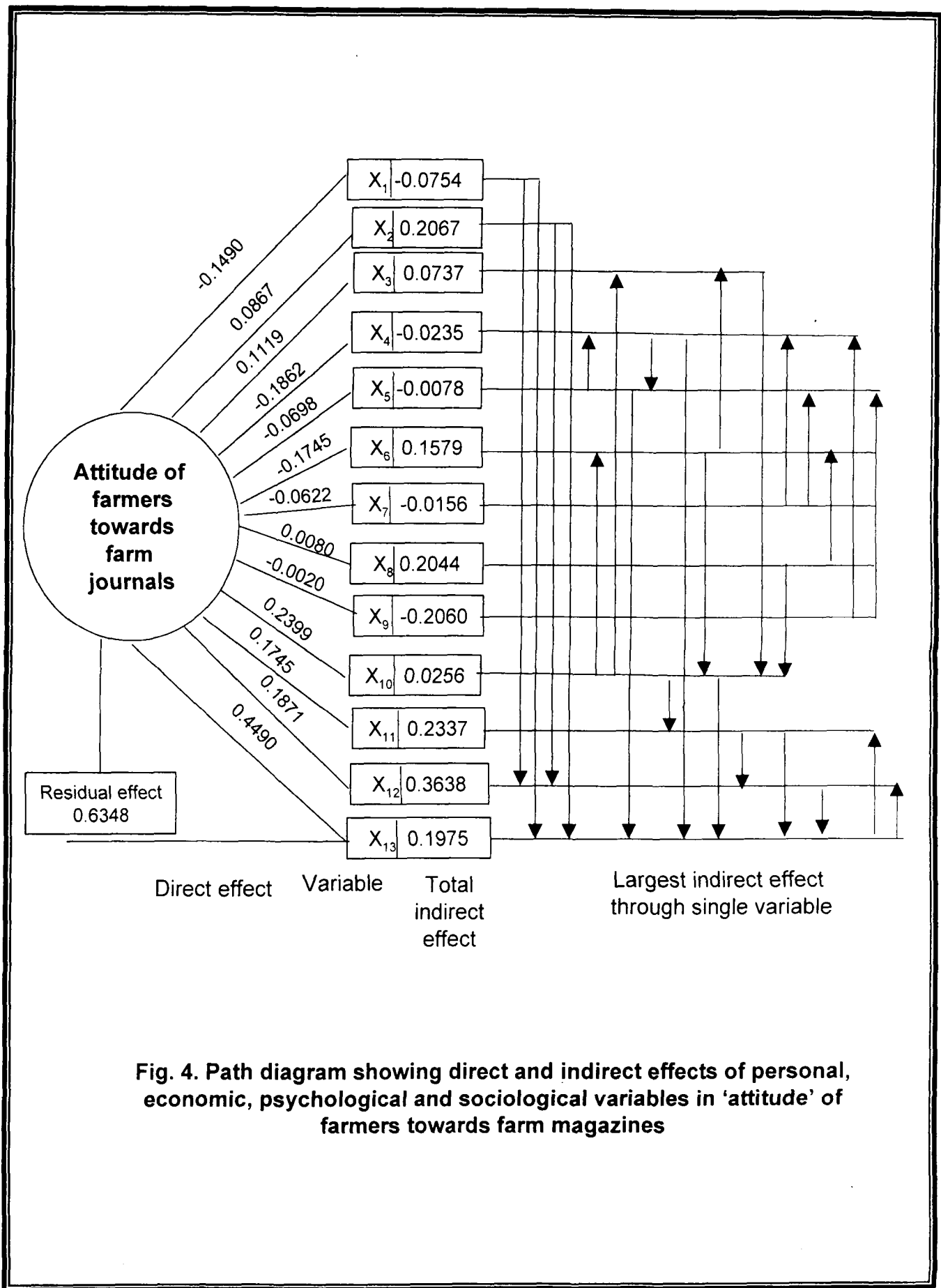
Constant = 35.641055

D.F. = 146

\*\* Significant at 1% level

Table 9. Path coefficients showing direct, indirect and substantial effect of independent variables on dependent variable attitude of farmers towards farm magazine

Code No.	Independent variables	Direct effect	Total indirect effect	Substantial effect through	
				1	2
X <sub>1</sub>	Age	-0.1490	-0.0754	-0.0936(x <sub>13</sub> )	-0.0501(x <sub>12</sub> )
X <sub>2</sub>	Education	0.0867	0.2067	0.0903(x <sub>13</sub> )	0.0457(x <sub>12</sub> )
X <sub>3</sub>	Farming experience	0.1119	0.0737	0.0114(x <sub>10</sub> )	0.0079(x <sub>6</sub> )
X <sub>4</sub>	Landholding	-0.1862	-0.0235	-0.0838(x <sub>13</sub> )	-0.0524(x <sub>5</sub> )
X <sub>5</sub>	Income	-0.0698	-0.0078	-0.1400(x <sub>4</sub> )	-0.0577(x <sub>13</sub> )
X <sub>6</sub>	Material possession	-0.1745	0.1579	0.1099(x <sub>10</sub> )	0.0051(x <sub>3</sub> )
X <sub>7</sub>	Extension contact	-0.0622	-0.0156	0.0678(x <sub>4</sub> )	0.0316(x <sub>5</sub> )
X <sub>8</sub>	Extension participation	0.0080	0.2044	0.1155(x <sub>10</sub> )	0.0620(x <sub>6</sub> )
X <sub>9</sub>	Participation in formal organisation	-0.0020	0.2060	-0.0632(x <sub>4</sub> )	-0.0257(x <sub>5</sub> )
X <sub>10</sub>	Mass media participation	0.2399	0.0256	0.0799(x <sub>6</sub> )	0.0269(x <sub>11</sub> )
X <sub>11</sub>	Economic motivation	0.1745	0.2337	0.1587(x <sub>13</sub> )	0.0528(x <sub>2</sub> )
X <sub>12</sub>	Risk orientation	0.1871	0.3638	0.2259(x <sub>13</sub> )	0.0492(x <sub>12</sub> )
X <sub>13</sub>	Innovativeness	0.4490	0.1975	0.0942(x <sub>12</sub> )	0.0617(x <sub>11</sub> )



**Fig. 4. Path diagram showing direct and indirect effects of personal, economic, psychological and sociological variables in 'attitude' of farmers towards farm magazines**

magazines, followed by mass media participation (0.2399), risk orientation (0.1871), economic motivation (0.1745), farming experience (0.1119) education (0.0867) and extension participation (0.0080), on the other hand the variables such as land holding (-0.1862), material possession (-0.1745), age (-0.1490), has highest negative direct effect on attitude of the subscriber farmers followed by annual income (-0.0698), extension contact (-0.0622), participation in formal organisations (-0.0020).

**Indirect effect:** The data presented in table indicates that the independent variables such as risk orientation (0.3638), economic motivation (0.2337) exhibited highest positive indirect effect on attitude of subscriber farmers towards the use of farm magazines, followed by education (0.2067), participation in formal organisations (0.2060), extension participation (0.2044) innovation ness (0.1975). The other variables such as material possession (0.1579), farming experience (0.737), mass media participation (0.0256) has less total indirect effect on attitude towards use of farm magazines. Whereas age (-0.0754), land holding (-0.0235) has highest negative total indirect effect over attitude of the subscriber farmers, while extension contact (-0.0156), annual income (-0.0078) had less indirect effect over attitude of subscriber farmers towards use of farm magazines.

### **Substantial indirect effects**

Out of 26 substantial effects that were possible by considering first two substantial indirect effects of highest order in respect of 13

independent variables on dependent variable 'attitude'. It can be observed that out of these effects, 7 variables like age (x1) education (x2), annual income (x5), land holding (x4), mass media participation (x10), economic motivation (x11) risk orientation passed through innovative ness (x13) and has exerted indirect influence over attitude of subscriber farmers. towards use of farm magazines. Three variables viz., age (x1), education (x2), economic motivation (x11) pass through risk orientation (x12) had exhibited substantial indirect effect over attitude. While three other independent variables such as farming experience (x3), material possession (x6), and extension participation pass through mass media participation (x10) and exerted substantial indirect effect over attitude of subscriber farmer. while the other variables like mass media participation (x10), extension participation through material possession (x6) had substantial indirect effect over attitude.

#### **4.4 EXTENT OF USEFULNESS OF MESSAGE PUBLISHED IN THE FARM MAGAZINES AS EXPRESSED BY THE SUBSCRIBER FARMERS**

In order to know the overall useful ness of message published in selected farm magazines, the subscriber farmers were asked to indicate their opinion regarding subject matter areas on a 5 point continuum as very useful, useful, some what useful, little useful and not useful. The selected farm magazines such as Krishi loka, Karnataka Vyvasaya Patrike, Krishi munnade, Siri Sambruddhi and the overall opinion of the subscriber farmers regarding the subject matter published in the farm

magazine presented in the Table 10 and Fig. 5 reveals that 53.12 per cent of subscriber farmers opined that the articles on agriculture / crop production were of 'very useful', while 43.75 per cent expressed as 'useful' and 2.5 per cent and 0.62 per cent as 'some what useful' and 'little useful' respectively. It is interesting to note that none of the subscriber farmers said that the articles on agriculture /crop production are 'not useful'. Fifty per cent of the subscriber farmers opined that the articles on horticulture subjects as 'useful' followed by 'very useful' (30%), 'some what useful' (15%) and very less percentage (1.87 per cent and 3.72 per cent) the subscriber farmer judge these articles as 'little useful' and not useful' respectively.

It is evident from the table that subscriber farmers expressed the articles related to veterinary and animal husbandry as 'useful' (46.87%), 'very useful' (22.50%) 'some what useful' (21.87%), 'not useful' (5.62%) and 'little useful' (3.12%). Whereas the subscriber farmers expressed that the sericulture articles as 'useful' (35%), followed by 'some what useful' (27.5%) and 'not useful' (21.25%). Very few percentage of farmer readers expressed as 'useful' (13.75%) and 'little useful' (2.5%).

Further, it can be seen from the table that the subscriber farmers feel that the articles as 'some what useful' in the areas of food and nutrition (33.75%), home management (31.87%) and as 'little useful' in the areas of fishery (33.25%), agricultural engineering (34.37%) and 'some what useful' for forestry (32.5%) articles. the very less percentage of subscriber farmer expressed the articles in the above areas as 'useful' and 'very useful'.

Table 10. Usefulness of farm magazines as perceived by subscriber farmers

Sl. No.	Subject matter areas	Krishi loka (n1=40)										Kar. Vy. Patrike (n2=40)									
		Very useful		Useful		Some what useful		Little useful		Not useful		Very useful		Useful		Some what useful		Little useful		Not useful	
		F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P
1.	Agriculture	15	37.5	24	60.0	1	2.5	-	-	-	-	31	77.5	7	20.0	1	2.5	-	-	-	-
2.	Horticulture	11	27.5	21	52.5	6	15.0	1	2.5	1	2.5	17	42.5	14	35.0	6	15.0	2	5.0	1	2.5
3.	Veterinary and animal husbandry	8	20.0	17	42.5	13	32.5	2	5.0	-	-	10	25.0	14	35.0	12	30.0	1	2.5	3	7.5
4.	Sericulture	5	12.5	16	40.0	9	22.5	2	5.0	8	20.0	6	15.0	10	25.0	17	42.5	1	2.5	6	15.0
5.	Home science																				
	a) Food and nutrition	1	2.5	4	10.0	13	32.5	12	30.0	10	25.0	2	5.0	5	12.5	17	42.5	10	25.0	6	15.0
	b) Home management	5	12.5	14	35.0	11	27.5	10	25.0	-	-	3	7.5	1	2.5	15	37.5	10	25.0	11	27.5
	c) Farm resource management	1	2.5	5	12.5	13	32.5	11	27.5	10	25.0	2	5.0	1	2.5	15	37.5	9	22.5	13	32.5
6.	Fishery	1	2.5	5	12.5	4	10.0	15	37.5	15	37.5	1	2.5	3	7.5	11	27.5	16	40.0	9	22.5
7.	Agricultural engineering	1	2.5	5	12.5	5	12.5	15	37.5	14	35.0	1	2.5	3	7.5	13	32.5	15	37.5	8	20.0
8.	Forestry	-	-	5	12.5	7	17.5	15	37.5	13	32.5	2	5.0	2	5.0	15	37.5	15	37.5	6	15.0
9.	Others																				
	a) Advertisements	-	-	3	7.5	10	25.0	9	22.5	18	45.0	-	-	1	2.5	6	15.0	14	35.0	19	47.5
	b) Folk songs/stories	-	-	3	7.5	10	25.0	9	22.5	18	45.0	-	-	1	2.5	6	15.0	14	35.0	19	47.5
	c) R.D. articles	-	-	4	10.0	10	25.0	12	30.0	14	35.0	-	-	12	30.0	15	37.5	6	15.0	7	17.5
	d) Environment articles	-	-	4	10.0	10	25.0	13	32.5	13	32.5	-	-	11	27.5	16	40.0	7	17.5	6	15.0
	Total	48		130		122		126		134		75		86		165		120		114	
	Total score	240		520		366		252		134		375		344		495		240		114	
										1512										1568	

Score: Very useful-5, useful-4, some what useful-3, little useful-2, not useful-1

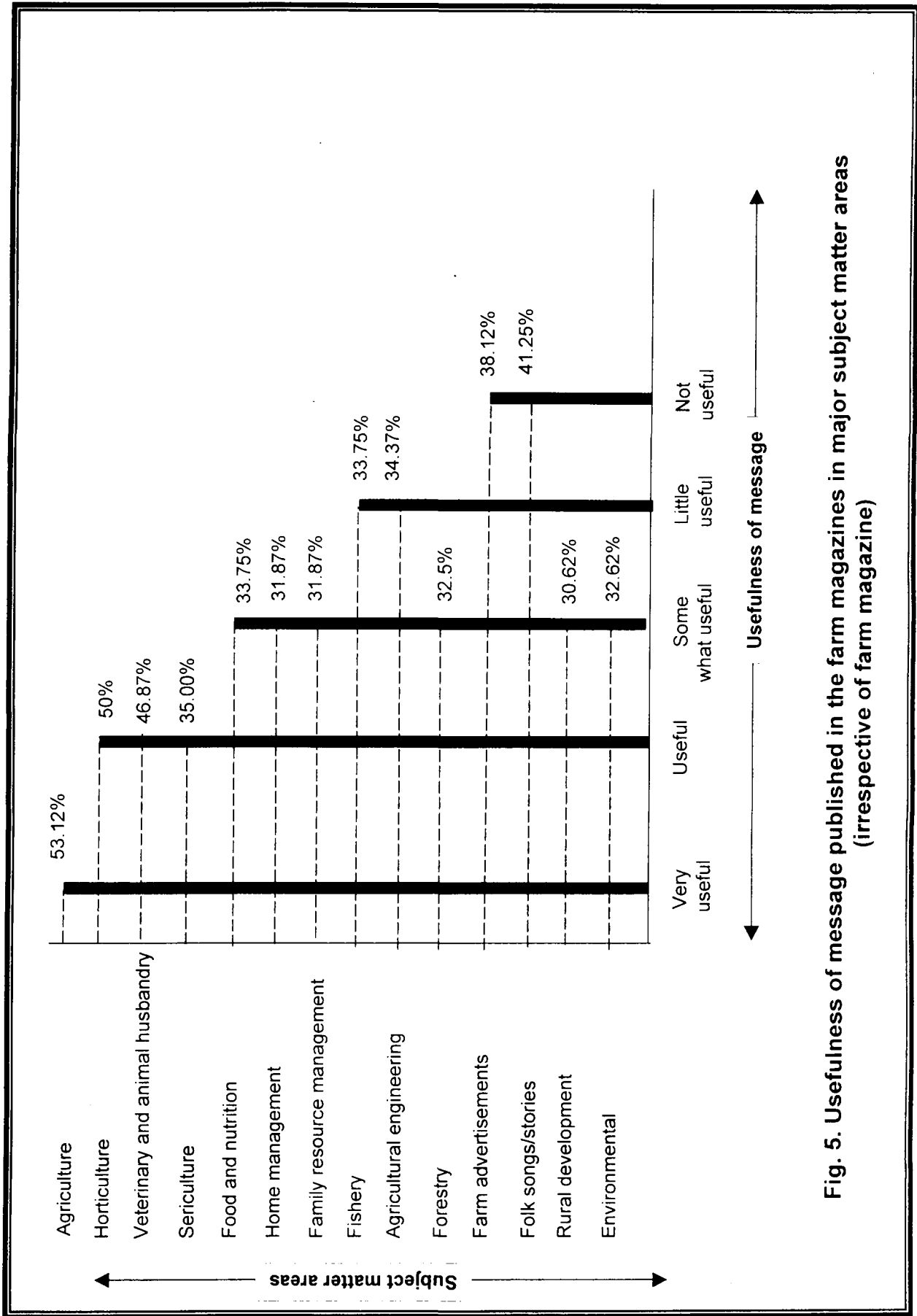
Table 10. Contd.....

Sl. No.	Subject matter areas	Krishi munnade (n3=40)												Siri sambruddhi (n4=40)											
		Very useful		Useful		Some what useful		Little useful		Not useful		Very useful		Useful		Some what useful		Little useful		Not useful					
		F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P				
1.	Agriculture	23	57.5	14	35.0	2	5.0	1	2.5	-	-	16	40.0	24	60.0	-	-	-	-	-	-				
2.	Horticulture	13	32.5	18	45.0	6	15.0	-	-	3	7.5	7	17.5	27	67.5	6	15.0	-	-	-	-				
3.	Veterinary and animal husbandry	9	22.5	19	47.5	4	10.0	2	5.0	6	15.0	9	22.5	25	62.5	6	15.0	-	-	-	-				
4.	Sericulture	6	15.0	11	27.5	7	17.5	1	2.5	15	37.5	5	12.5	19	47.5	11	27.5	-	-	5	12.5				
5.	Home science																								
	a) Food and nutrition	6	15.0	10	25.0	13	32.5	5	12.5	6	15.0	-	-	3	7.5	11	27.5	25	62.6	1	2.5				
	b) Home management	3	7.5	9	22.5	13	32.5	6	15.0	9	22.5	-	-	3	7.5	12	30.0	24	60.0	1	2.5				
	c) Farm resource management	3	7.5	8	20.0	13	32.5	7	17.5	9	22.5	-	-	2	5.0	10	25.0	24	60.0	4	10.0				
6.	Fishery	1	2.5	6	15.0	10	25.0	8	20.0	15	37.5	1	2.5	4	10.0	9	22.5	15	37.5	11	27.5				
7.	Agricultural engineering	3	7.5	8	20.0	10	25.0	10	25.0	9	22.5	1	2.5	5	12.5	12	30.0	15	39.5	7	17.5				
8.	Forestry	2	5.0	7	17.5	16	40.0	8	20.0	7	17.5	1	2.5	6	15.0	14	35.0	13	32.5	6	15.0				
9.	Others																								
	a) Advertisements	2	5.0	5	12.5	8	20.0	14	35.0	11	27.5	-	-	-	-	15	37.5	12	30.0	13	32.5				
	b) Folk songs/stories	2	5.0	3	7.5	9	22.5	12	30.0	14	35.0	-	-	-	-	8	20.0	17	42.5	15	37.5				
	c) R.D. articles	7	17.5	12	30.0	10	25.0	7	17.5	4	10.0	-	-	8	20.0	14	35.0	13	32.5	5	12.5				
	d) Environment articles	6	15.0	13	32.5	10	25.0	6	15.0	5	12.5	-	-	9	22.5	13	32.5	13	32.5	5	12.5				
	Total	86		143		131		87		113		40		138		141		171		73					
	Total score	430		572		393		174		113		200		552		423		342		73					
										1682										1590					

Score: Very useful-5, useful-4, some what useful-3, little useful-2, not useful-1

Table 10. Contd.....

Sl. No.	Subject matter areas	Overall (n=160)											
		Very useful		Useful		Some what useful		Little useful		Not useful			
		F	P	F	P	F	P	F	P	F	P		
1.	Agriculture	85	53.12	70	43.75	4	2.5	1	0.62	-	-		
2.	Horticulture	48	30.0	80	50.0	24	15.0	3	1.87	5	3.12		
3.	Veterinary and animal husbandry	36	22.5	75	46.87	35	21.87	5	3.12	9	5.62		
4.	Sericulture	22	13.75	56	35.0	44	27.5	4	2.5	34	21.25		
5.	Home science												
	a) Food and nutrition	9	5.62	22	13.75	54	33.75	52	32.5	23	14.37		
	b) Home management	11	6.87	27	16.87	51	31.87	50	31.25	21	13.12		
	c) Farm resource management	6	3.75	16	10.0	57	31.87	51	31.87	36	22.5		
6.	Fishery	4	2.5	18	11.25	34	21.25	54	33.75	50	31.25		
7.	Agricultural engineering	6	3.75	21	13.12	40	25.0	55	34.37	38	23.75		
8.	Forestry	5	3.12	20	12.5	52	32.5	51	31.27	32	20.0		
9.	Others												
	a) Advertisements	2	1.25	9	5.62	39	24.37	49	30.62	61	38.12		
	b) Folk songs/stories	2	1.25	7	4.37	33	20.62	52	32.5	66	41.25		
	c) R.D. articles	7	4.37	36	22.5	49	30.62	38	23.8	30	18.75		
	d) Environment articles	6	3.75	37	23.12	49	30.62	39	24.4	29	18.12		



**Fig. 5. Usefulness of message published in the farm magazines in major subject matter areas (irrespective of farm magazine)**

The subscriber farmers rated the articles as 'not useful' in the areas of advertisement (38.12%), folk songs/stories (41.25%). The articles on rural development and environmental aspects were judged as 'some what useful' by 30.62 per cent of subscriber farmers. Very few percentage feel that the articles in the areas of advertisements, folk songs/stories, rural development, environmental articles as 'useful; and 'very useful'.

In order to know the extent of usefulness of each farm magazine selected, the subscriber farmers were asked to rate the articles as very useful, useful, some what useful, little useful and not useful on different subject matter areas with a scoring pattern of 5, 4, 3, 2, 1. Then the total score for each of the magazine was obtained by multiplying with the total number of articles irrespective of subject matter areas with the above scoring pattern. Thus, the total score was obtained to compare and to know the extent of usefulness or differentiate each magazine. It can be observed from the table that out of the four farm magazines, the 'Krishi Munnade' had highest score (1682) followed by 'Siri Sambruddhi' (1590), 'Karnataka Vyvasaya Patrike' (1568) and 'Krishi loka' (1512). Therefore, it can be inferred that 'Krishi Munnade' farm magazine was found to be most useful when compared to other farm magazines (Fig. 6).

An depth analysis of each selected farm magazine for usefulness of messages reveals that, in respect of 'Krishi loka' farm magazine, the subscriber farmers feel that the articles published in the areas of agriculture/crop production (60%), horticulture (52.5%), veterinary and animal husbandry (42.5%), sericulture (40%) as 'useful' followed by 'very

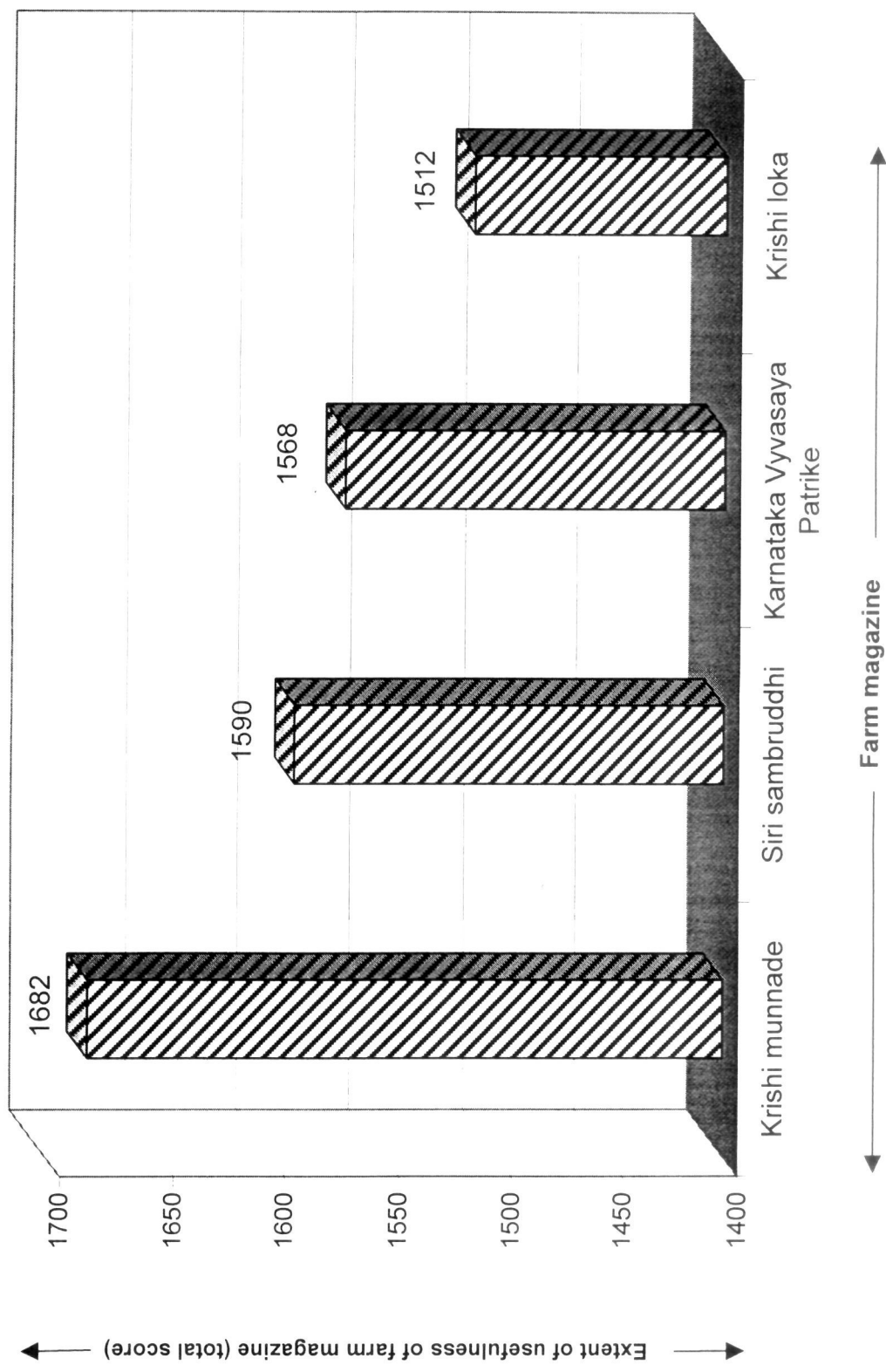


Fig. 6. Extent of usefulness of farm magazine

useful' in respect of agriculture/crop production (37.5%), horticulture (27.5%), veterinary and animal husbandry (20%) and sericulture (12.5%). Very less percentage of subscriber farmers expressed that the articles in the above areas as 'little useful' and 'not useful'. Whereas the subscriber feel that the articles published in the areas such as home management (35%) as 'useful' whereas in the areas of food and nutrition (32.5%), family resource management (32.5%) as 'some what useful' and as 'little useful' by 37.5 per cent of the subscriber farmers in the areas of fishery, agricultural engineering and forestry. The results reveal that the subscriber farmer opined that the articles published in the areas of advertisements (25%), folk songs/stories (22.5%), rural development (25%), environmental articles (25%) as 'some what useful' and considerable percentage of the subscriber farmers expressed as 'not useful' for the articles published in the areas like advertisements (45%), folk songs/stories (45%), rural development articles (35%) and environmental articles (32.5%).

In respect of 'Karnataka Vyvasaya Patrike' farm magazine the subscriber farmer expressed that the articles published in the areas of agriculture/crop production (77.5%), horticulture (42.5%) as 'very useful' followed by 'useful' for veterinary and animal husbandry (35%) articles and 'some what useful' for sericulture articles (42.5%). Further, considerable percentage of the subscriber farmer judged the articles published in the areas of food and nutrition (42.5%), home management (37.5%), family resource management (37.5%) as 'some what useful'.

Whereas the articles published in the areas like fishery (40%), agricultural engineering (37.5%) and forestry (37.5%) as 'little useful', while very less percentage of the subscriber farmer rated these articles as 'very useful' and 'useful' in the above subject matter areas, 47.5 per cent of the subscriber farmers considered the articles published in the areas of advertisements and folk songs/stories as 'not useful' and 'little useful' by 35 per cent of the subscriber farmers. The articles published in the areas of rural development and environmental aspects were judged as 'some what useful' by 37.5 per cent and 40 per cent of the subscriber farmers. Whereas none of the subscriber farmers opined as 'very useful' for the articles published in the above mentioned areas.

The articles published in 'Krishi Munnade' farm magazine were considered as 'very useful' in the areas of agriculture/crop production (57.5%) and 'useful' in the areas like horticulture (45%), veterinary and animal husbandry (47.5%) and sericulture articles as 'not useful' by 37.5 per cent of the subscriber farmers. Varying percentage of the subscriber farmer rated the articles as 'some what useful' in the areas of food and nutrition (32.5%), home management (32.5%), family resource management (32.5%), agricultural engineering (25%), forestry (20%) except for the articles on 'fishery' rated as 'not useful' by 37.5 per cent of the subscriber farmers.

Further the subscriber farmer judged the articles as 'little useful' published in the areas of advertisements (35%), folk songs/stories (30%) and as 'useful' to the articles on rural development (30%) and environmental aspects (32.5%).

In respect of 'Siri Sambruddhi' farm magazine, majority of the subscriber farmers opined as 'useful' for the articles published in the areas of agriculture/crop production (60%), horticulture (67.5%), veterinary and animal husbandry (62.5%), sericulture (47.5%) and as 'little useful' in the areas like food and nutrition (62.5%), home management (60%), family resource management (60%), fishery (37.5%), agricultural engineering (37.5%) and forestry (32.5%). However very meagre percentage of the subscriber farmers feel the articles on the above areas as 'very useful' and 'useful'. Further, the articles were judged as 'not useful' in the areas like folk songs/stories (37.5%), rural development (37.5%), environmental articles (37.5%) except for articles on advertisements which rated as 'little useful' by 42.5 per cent of subscriber farmers.

#### **4.5 CONTENT ANALYSIS OF THE FARM MAGAZINE**

The total number of issues of four selected farm magazines published during the previous year i.e. 1999-2000 were considered for content analysis to ascertain in which of the subject matter areas the articles have been published. It can be seen from the table 11 and Fig. 7, that a total of 348 articles published were analysed for content. The overall results reveals that the contents of the articles published belonged to agriculture/crop production subjects (38.5%) followed by horticulture (27.87%), veterinary and animal husbandry (10.06%), food and nutrition (6.61%), agricultural engineering (6.03%). Very less number of articles were published in the subject matter areas in the order of farm forestry, sericulture, fishery, home management and family resource management.

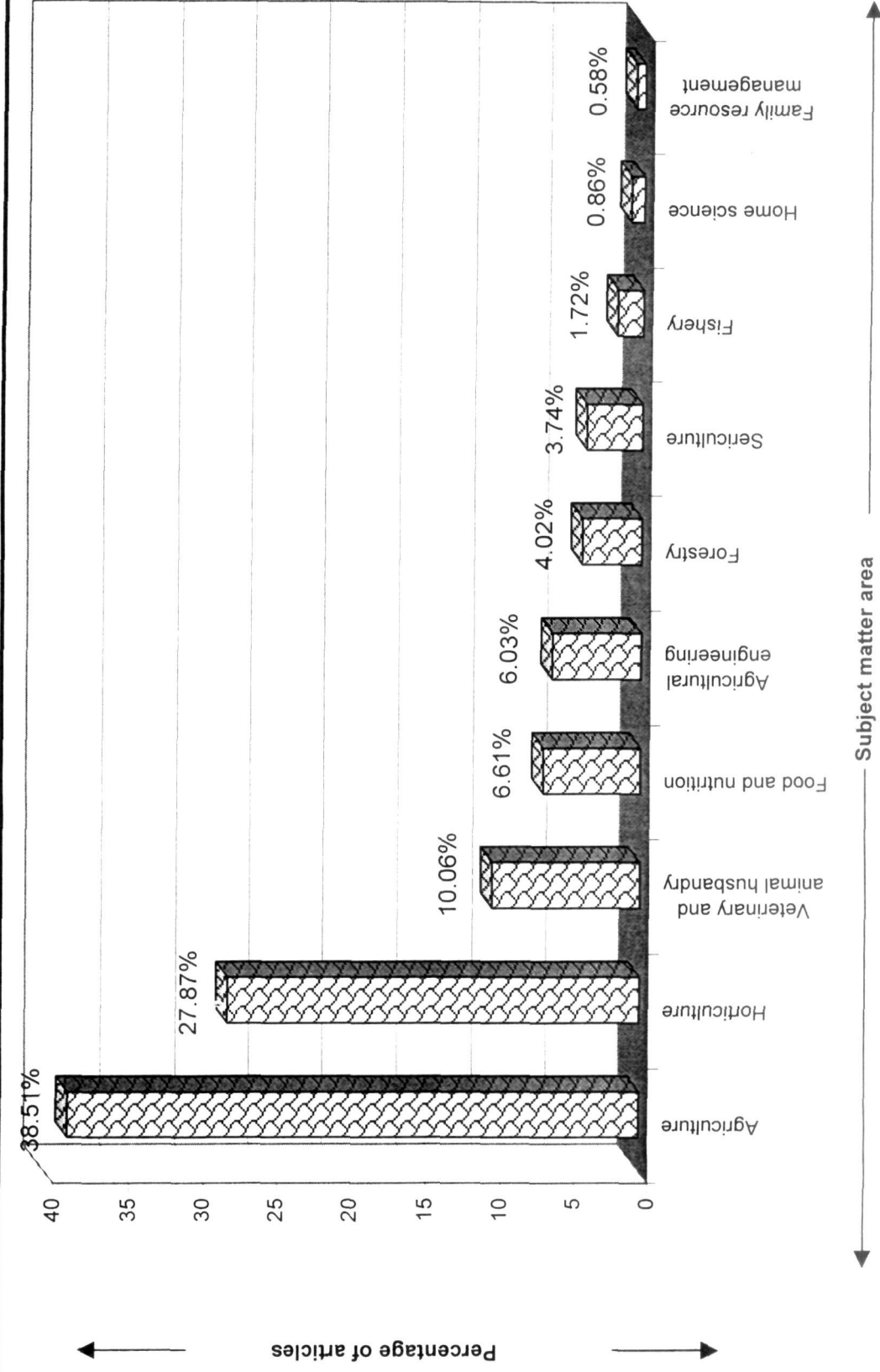


Fig. 7. Content analysis of farm magazines (overall number of articles published in the areas considered irrespective of farm magazine)

Content analysis of each magazine reveals that in 'Krishi loka' the articles on horticulture crops (33.33%), agriculture/crop production (31.98%), veterinary and animal husbandry (15.05%) followed by food and nutrition (7.53%), agricultural engineering (5.38%), farm forestry (4.30%), fishery (2.15%) and sericulture (1.08%) were published. In respect of content analysis of 'Karnataka Vyvasaya Patrike' farm magazine, the results reveals that more number of articles in the subject matter areas of agriculture/crop production (37.80%), horticulture (36.58%) were published and the same trend was followed in respect of other areas. The content analysis of 'Krishi Munnade' and 'Siri Sambruddhi' farm magazines indicates, almost the same trend as it was found in 'Krishi loka' and 'Karnataka Vyvasaya Patrike'. In all the selected farm magazines, the articles in the area of agriculture/crop production, horticulture, veterinary and animal husbandry, food and nutrition, agricultural engineering were more.

The farm magazine 'Krishi loka', 'Siri Sambruddhi' gave importance to publish more number of articles on agriculture, horticulture, veterinary and animal husbandry, food and nutrition, agricultural engineering, while other two farm magazines *viz.*, 'Krishi Munnade' and 'Karnataka Vyvasaya Patrike' published comparatively less number of articles on the above areas.

#### **4.6 SOURCES OF ARTICLES TO FARM MAGAZINES**

This was carried out to ascertain source/author of articles to these selected farm magazines *viz.*, Krishi loka, Karnataka Vyvasaya Patrike,

Table 12. Sources of articles for different farm magazines

Subject matter areas	Krishi loka		Kar. VY. Patrike		Krishi munnade		Siri Samruddhi		Over all total number of articles in different magazines (348)	
	No. of articles	P	No. of articles	P	No. of articles	P	No. of articles	P	No. of articles	P
1. Agricultural university scientists/ ICAR scientists	47	50.54	25	30.49	50	98.04	36	29.51	158	45.40
2. Editor / reporters	12	12.90	22	26.83	-	-	12	9.84	46	13.22
3. Extension personnel	17	18.28	16	19.51	-	-	27	22.13	60	17.24
4. Farmers	7	7.53	18	21.95	-	-	30	24.59	55	15.80
5. Voluntary organisations	1	1.08	-	-	1	1.96	13	10.65	15	4.31
6. Input agencies	3	3.22	1	1.22	-	-	4	3.28	8	2.31
7. Commercial bank	6	6.45	-	-	-	-	-	-	6	1.72

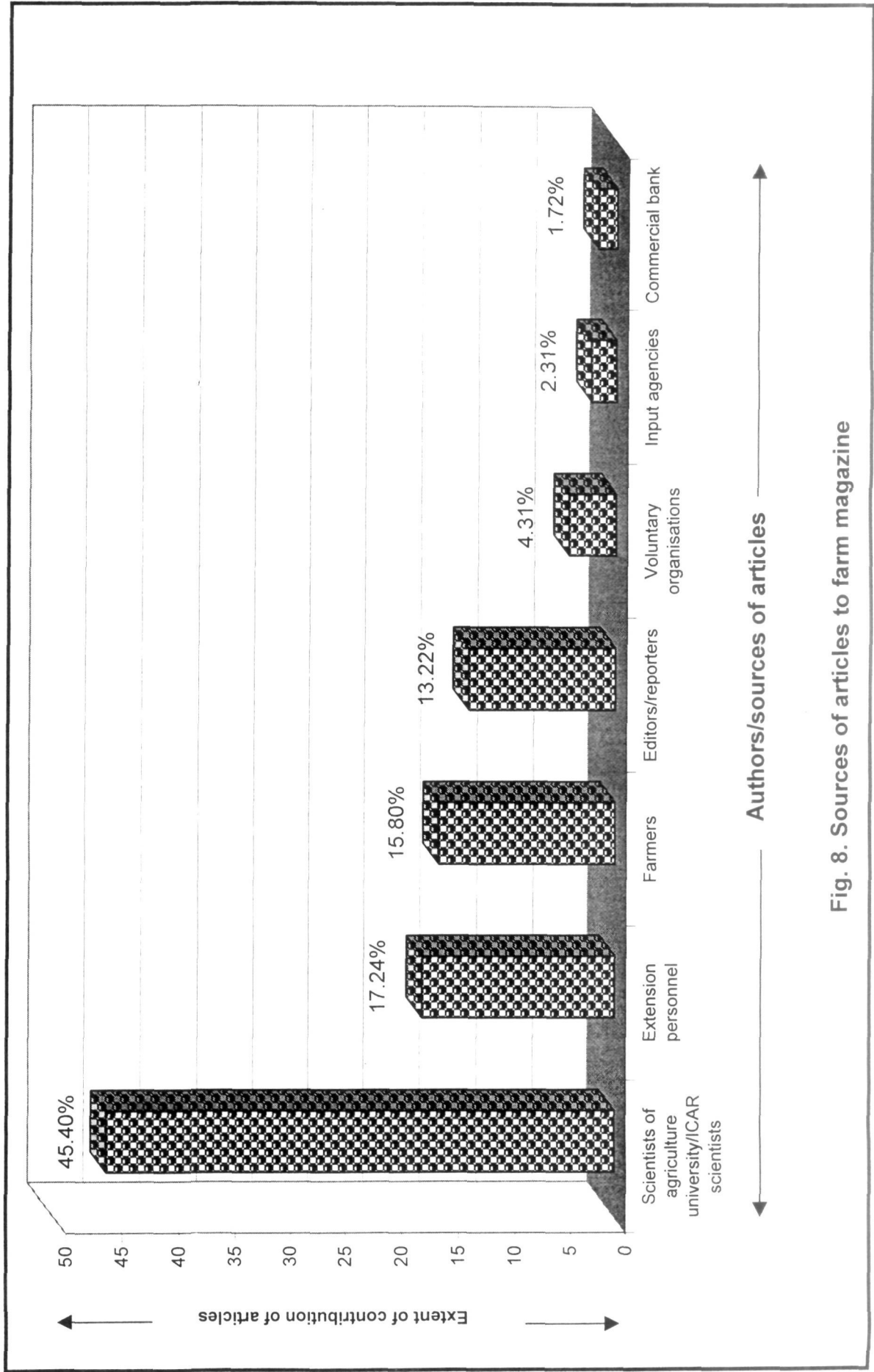


Fig. 8. Sources of articles to farm magazine

Krishi Munnade, Siri Sambruddhi. In all 348 articles published in all the issues of previous year (1999-2000) were considered.

The overall results on depicted in table 12 and Fig. 8 reveals that agriculture university scientists (45.4%) are the major sources for articles followed by extension personnel (17.24%), farmers (15.80%), editor/reporters (13.22%), voluntary organisations (4.31%), input agencies (2.31%), commercial banks (1.72%) respectively. When the data was analysed for each farm magazine the results reveals that almost the same trend was followed in all the magazines except for Krishi Munnade farm magazine where in almost all the articles contributed by agriculture university scientists only.

#### **4.7 READABILITY OF THE FARM MAGAZINES**

The success and utilization of farm magazine mainly depends upon the contents/subject matter and the readability of the articles. In this context, the readability was measured by using the formula developed by Nanjappa and Siddaramaiah (1993) for the selected farm magazines such as Krishi loka, Karnataka Vyvasaya Patrike, Krishi Munnade and Siri Sambruddhi. The articles published during 1999-2000 on different major agriculture subjects matter areas in all the issues of selected farm magazines were considered. Fifty per cent of the articles published in different areas of subject matter and also by giving equal representation to different authors (sources) was considered as criteria in selection of articles to find out the readability/grade level of the articles. Out of 307

articles published in all the issues of selected farm magazines, 180 articles on different major subject matter areas (leaving less important areas) representing different authors were selected to find out the readability of the articles as it can be witnessed from table 13. The data reveals the readability values on different subject matter areas written by different authors in different farm magazines.

It is clear from the table that the 134, 97, 31, 13, 25 and 7 articles are published in the subject matter areas such as agronomy, horticulture, veterinary and animal husbandry, agricultural engineering, home science and sericulture respectively. As per the criteria adopted for analysis of readability irrespective of the farm magazines, 72, 56, 19, 7, 22 and 4 articles were selected from the subjects of agronomy, horticulture, veterinary and animal science, agricultural engineering, home science and sericulture respectively considering the major subjects and leaving less important areas.

An in depth analysis of the data in the table shows that from 'Krishi loka' magazine 18 articles on agronomy subject were selected. Of which 6, 5, 2 and 5 articles are written by scientists, extension personnel, editors/reporters and farmers respectively. Similarly for horticulture subject out of 19 articles, 6, 3, 5 and 5 articles were written by scientists, extension personnel, editors/reports and farmers, respectively. It is interesting to note that 6 articles on veterinary and animal husbandry are written by scientists (1) and extension personnel (5%) whereas in case of home science subject out of 7 articles 3, 1 and 3 articles written by scientists, extension personnel and editor/reporters respectively.

Table 13. Articles selected to find out readability/grade level in different subject matter areas written by different authors in different farm magazines

Sl. No.	Subject matter areas	Krishi loka					Kar. VY. Patrike						
		No. of articles published	No. of articles selected	SC	EP	Ed	Fr	No. of articles published	No. of articles selected	SC	EP	Ed	Fr
1	Agronomy	29	18	6	5	2	5	31	16	6	6	-	4
2	Horticulture	31	19	6	3	5	5	30	16	9	2	2	3
3	Veterinary and animal husbandry	12	6	1	5	-	-	-	-	-	-	-	-
4	Agricultural engineering	-	-	-	-	-	-	7	3	1	1	-	1
5	Home Science	7	7	3	1	3	-	4	3	-	-	3	-
6	Sericulture	-	-	-	-	-	-	-	-	-	-	-	-

SC - Scientist, EP - Extension personnel, ED - Editor/Reporter, Fr - Farmer

Table 13. Contd.....

Sl. No.	Subject matter areas	Krishi munnade						Siri Sambruddhi						Total no. of articles published	Total no. of articles selected
		No. of articles published	No. of articles selected	SC	EP	Ed	Fr	No. of articles published	No. of articles selected	SC	EP	Ed	Fr		
1	Agronomy	27	13	13	-	-	-	47	25	9	8	1	7	134	72
2	Horticulture	4	4	4	-	-	-	32	17	6	4	2	5	97	56
3	Veterinary and animal husbandry	3	3	3	-	-	-	16	10	3	5	-	2	31	19
4	Agricultural engineering	-	-	-	-	-	-	6	4	1	1	1	1	13	7
5	Home Science	4	2	2	-	-	-	10	10	3	3	1	3	25	22
6	Sericulture	7	4	-	-	-	-	-	-	-	-	-	-	7	4
														307	180

SC - Scientist, EP - Extension personnel, ED - Editor/Reporter, Fr - Farmer

The data for the Karnataka Vyvasaya Patrike farm magazine indicates that 16 articles from agronomy subject were selected, of which 6, 6 and 4 articles are written by scientists, extension personnel and farmers respectively. For horticulture subject, out of 16 articles 9, 2, 2 and 3 articles are written by scientists, extension personnel, editor/reporter and farmers respectively. One article each on the subject agricultural engineering written by scientists, extension personnel, editor/reporter and farmers respectively. All the 3 articles on home science subject are written by the editor/reporters instead of scientists from the university.

The farm magazine 'Krishi Munnade' is published from University of Agricultural Sciences, Dharwad and though the extension personnel and farmers are the subscribers to the farm magazine, the authorship of all the articles is belonged to scientists in all the areas of subject matter. 13, 4, 3, 2 and 4 articles selected from the subjects such as agronomy, horticulture, veterinary and animal husbandry, home science are penned by the scientists of university.

The number of articles published in 'Siri Sambruddhi' farm magazine is comparatively higher than the other magazines studied. It is seen that out of 25 articles in agronomy subject, 9, 8, 1 and 7 are written by the scientists, extension personnel, editor/reporter and farmers respectively. Whereas for horticulture subject 17 articles are written by scientists, extension personnel, editor/reporter and farmers respectively. 10 articles on veterinary and animal husbandry subject are written by

scientists (3), extension personnel (5) and farmers (2). One article each is written by scientists, extension personnel, editor/reporter and farmers in the subject of agricultural engineering. Out of 10 articles on home science subject, 3, 3, 1 and 3 articles are written by scientists, extension personnel, editor/reporter and farmers respectively.

In general very few articles on agricultural engineering and sericulture are written and published in the farm magazine either in *Krishi Munnade*, *Karnataka Vyvasaya Patrike*, respectively. No articles on sericulture subject are published in '*Krishi loka*' and '*Karnataka Vyvasaya Patrike*' farm magazine.

It can be seen from the Table 14 and Fig. 9 that the overall readability/grade level of '*Krishi Munnade*' (10.04) and '*Karnataka Vyvasaya Patrike*' (9.84) farm magazine was equivalent to 10<sup>th</sup> standard, whereas the grade level of '*Krishi loka*' (8.92) and '*Siri Sambruddhi*' (8.67), magazines was equivalent to 9<sup>th</sup> standard.

The data in table 15 and Fig. 10 indicates the average grade level of the articles written by different authors. A grade level of 9.56 equivalent to 10<sup>th</sup> standard was obtained by the 'scientists' and 8.85 equivalent to 9<sup>th</sup> standard was obtained by 'Extension Personnel', whereas editor/reporters obtained 8.43 equivalent to 8<sup>th</sup> standard and the farmers obtained 9.09 equivalent to 9<sup>th</sup> standard.

It is evident from the table 16 and Fig. 11 that the average grade of the articles written by different authors published in different farm

Table 14. Overall readability value/grade level of different farm magazines

No. of articles = 180

Name of the journal	Grade level of the farm magazine	
1) Krishi munnade	10.04	10
2) Karnataka Vyvasaya patrike	9.84	10
3) Krishi loka	8.92	9
4) Siri sambruddhi	8.67	9

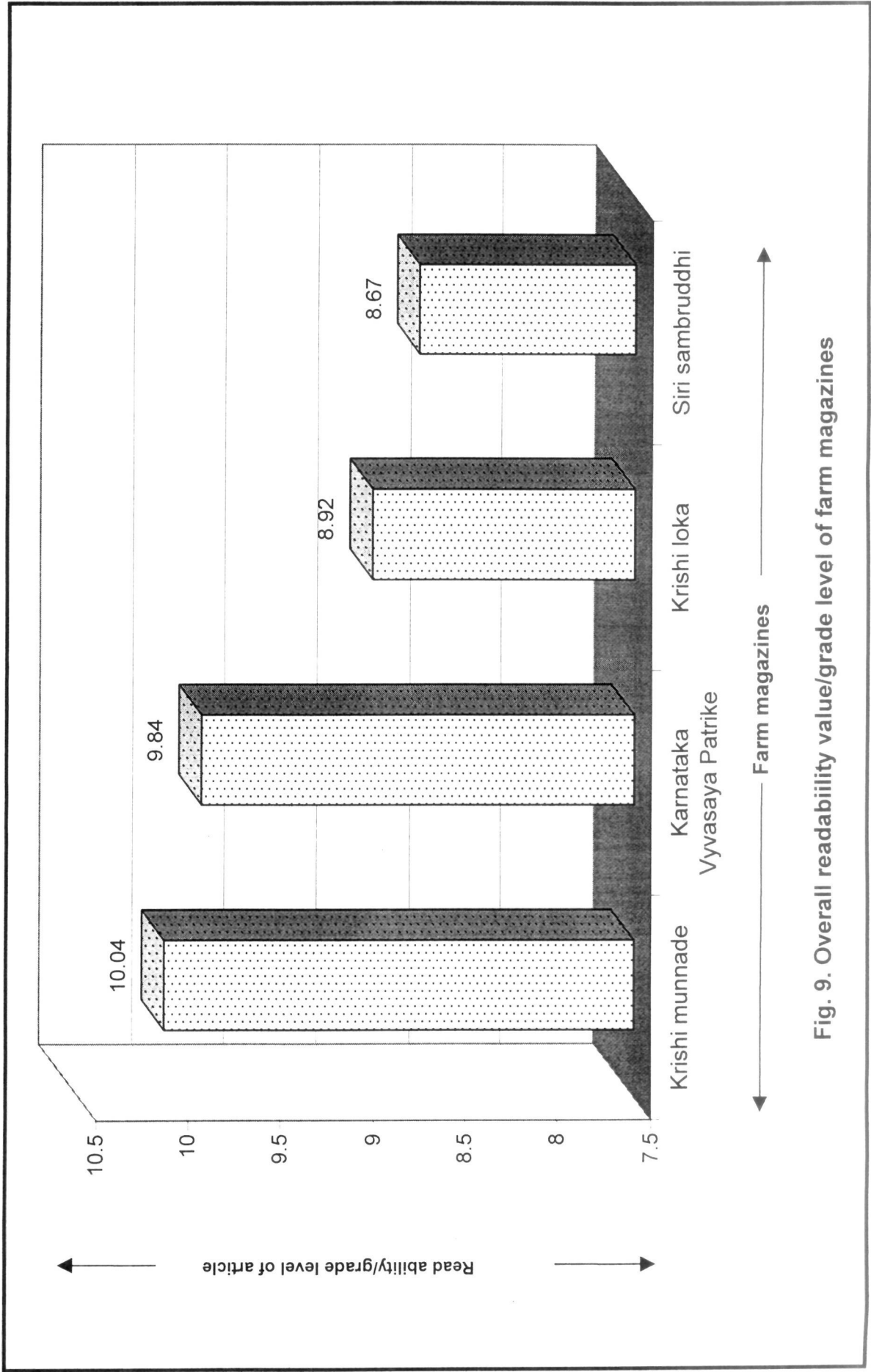


Fig. 9. Overall readability value/grade level of farm magazines

Table 15. Average readability value/grade level of the articles written by different authors irrespective of subject matter areas and farm magazines

No. of articles = 180

Name of the journal	Sample (articles)	Grade level
1) Scientists	80	9.56
2) Extension personnel	44	8.85
3) Editors/reporters	2	8.43
4) Farmers	36	9.09

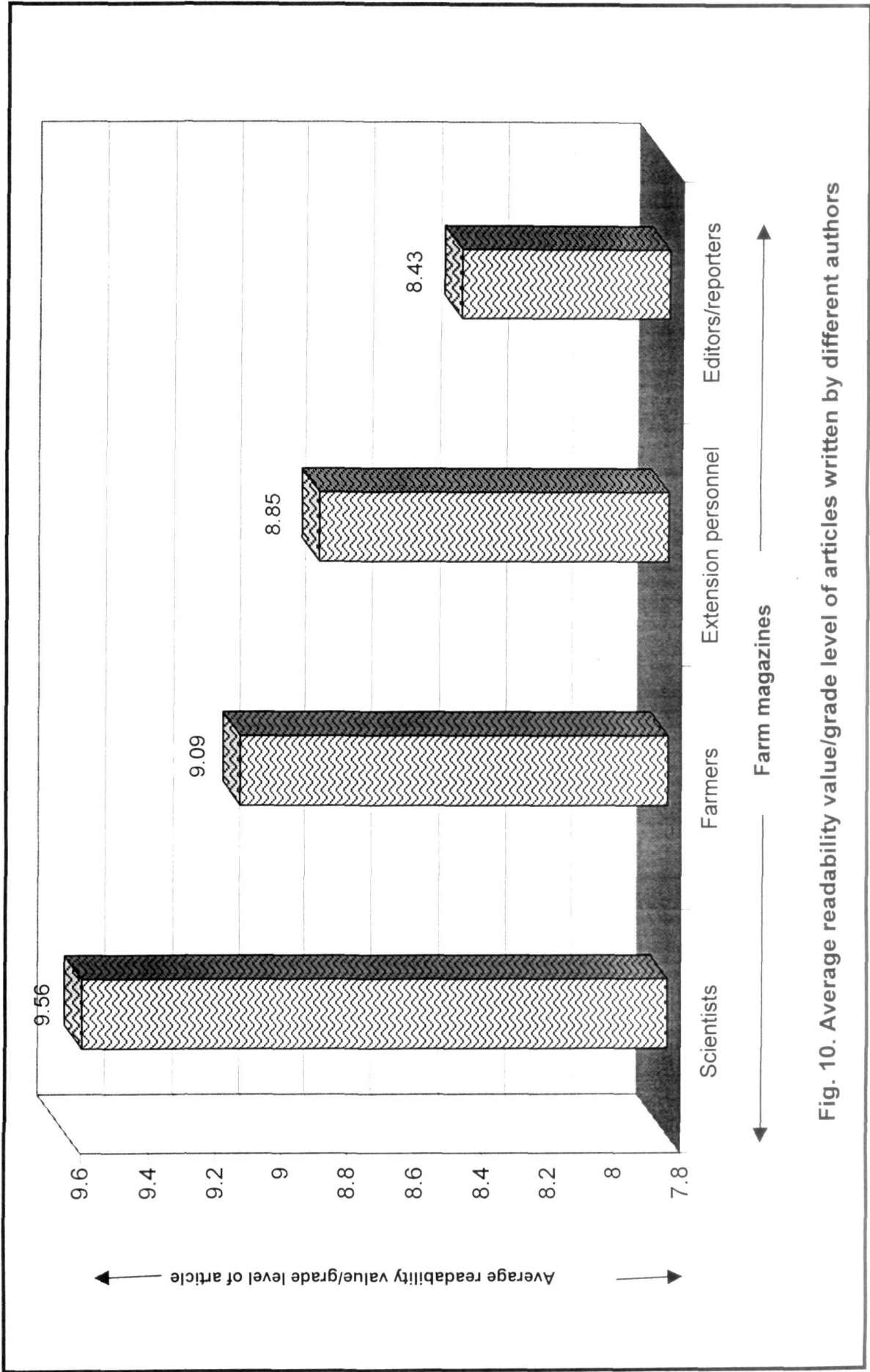


Fig. 10. Average readability value/grade level of articles written by different authors

Table 16. Average readability value/grade level of the articles written by different authors in different farm magazines irrespective of the subject matter areas

No. of articles = 180

Authors of articles	Grade level of farm magazines			
	Krishi munande	K.VY. Patrike	Krishi loka	Siri Sambruddhi
1. Scientists	10.04	10.03	9.43	8.77
2. Extension personnel	-	9.81	9.32	8.12
3. Editors/reports	-	8.50	8.50	8.07
4. Farmers	-	9.72	7.95	9.35

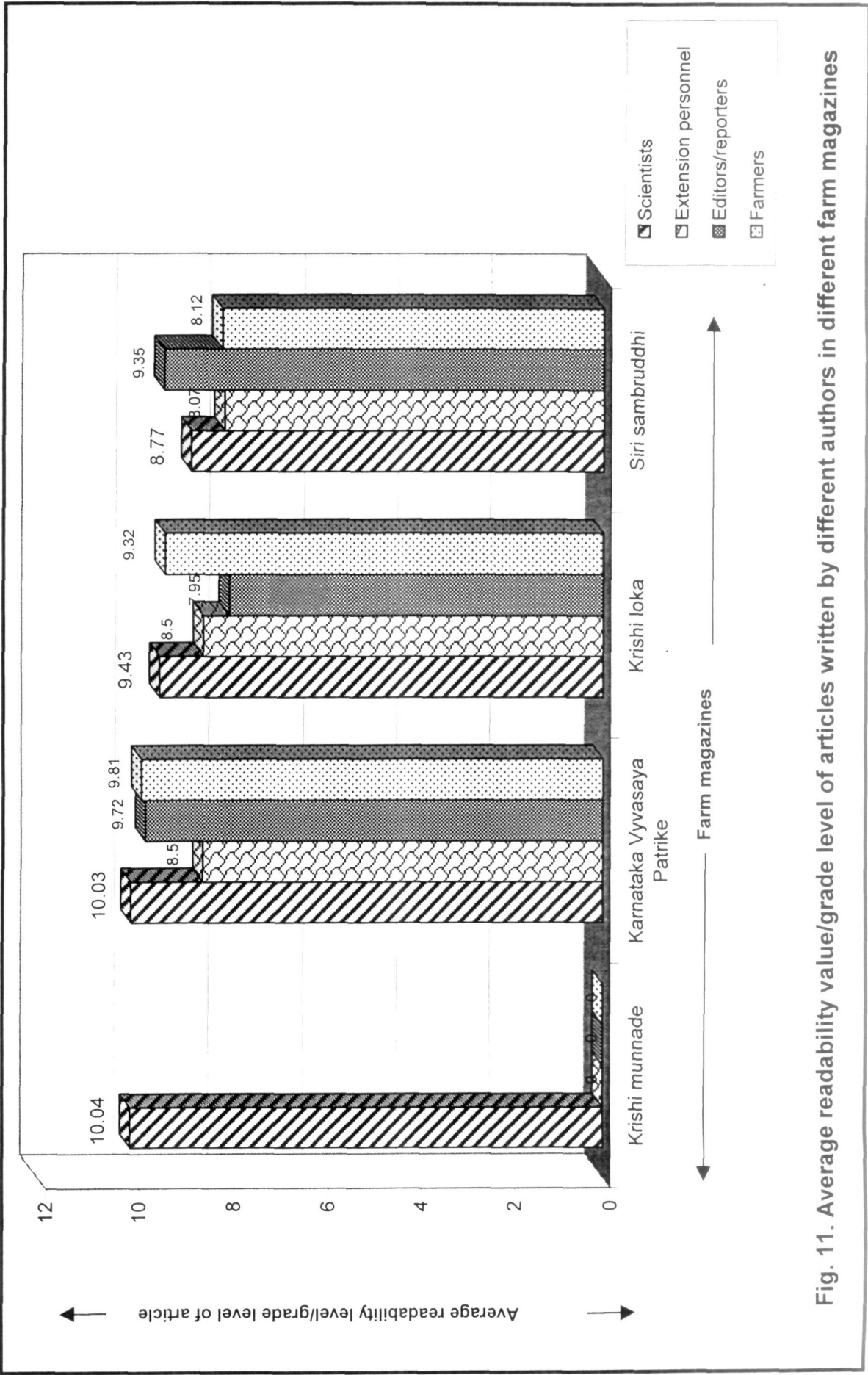


Fig. 11. Average readability value/grade level of articles written by different authors in different farm magazines

magazines irrespective of subject matters indicates that, the grade level/readability value of the articles written by the 'scientists' was 8.77 standard in 'Siri Sambruddhi' followed by Krishi loka (9.43), Karnataka Vyvasaya Patrike (10.03) and Krishi Munnade (10.04 standard). The grade level of the articles written by extension personnel in Siri Sambruddhi farm magazine was 8.12 standard followed by Krishi loka (9.32) and Karnataka Vyvasaya Patrike (9.81) while the grade level of articles written by editors/reports in respect of Siri Sambruddhi (8.07), Krishi loka and Karnataka Vyvasaya Patrike (8.50 each standard). Whereas the grade level/readability level of the articles written by farmers in Siri Sambruddhi (9.35 standard), Krishi loka (7.95) and Karnataka Vyvasaya Patrike (9.72 standard).

In general the grade level/readability level of the articles written by different authors/sources was less in Siri Sambruddhi followed by Krishi loka and Karnataka Vyvasaya Patrike except the grade level of the articles written by farmers in Krishi loka was 7.95 standard. In case of Krishi Munnade farm magazine extension personnel, editors/reporters and farmers did not contribute the articles.

The data in Table 17 indicates that in general, the overall grade level of the articles written by the scientists is 9.56 equivalent to 10<sup>th</sup> standard, whereas the grade level of the articles written by extension personnel is 8.85 equivalent to 9<sup>th</sup> standard by editor/reporter is 8.843 equivalent to 8<sup>th</sup> standard and of farmers is 9.09 equivalent to 9<sup>th</sup> standard.

The trend of grade level/readability value of the articles written by different authors on different subjects for different farm magazine is varying. However it can be seen that the grade level/readability value of the articles “Scientists” for agronomy subject shows 10.56 for Karnataka Vyvasaya Patrike, 10.25 for Krishi Munnade which is higher than the overall average grade level of 9.56, whereas for Horticulture subject the readability value shows 11.04 for Krishi loka, 9.68 for Karnataka Vyvasaya Patrike is higher than the overall average grade level. The readability value is less than the overall average of 9.56 for subject veterinary and animal husbandry. The readability value of 9.88 for the articles on the subject agricultural engineering for Karnataka Vyvasaya Patrike, the value of 10.12 and 11.00 for subjects home science and sericulture for Krishi Munnade is higher than the overall average grade value.

In case of the articles written by the “Extension Personnel” on different subjects for different farm magazines, the readability value of 11.29, 10.05, 10.21, 9.54, 10.81 is higher than the overall average readability value of 8.85 for the subjects on agronomy in Krishi loka and Karnataka Vyvasaya Patrike, horticulture in Karnataka Vyvasaya patrike, veterinary and animal husbandry in Siri Sambruddhi, agricultural engineering in Siri Sambruddhi farm magazines respectively.

When the articles written by the “Editors/Reporters” is considered the readability value of 11.36, 9.27, 9.09 and 10.38 is higher than the overall average readability value of 8.43 for subjects agronomy in Krishi

Table 17. Average readability value/grade level of the articles written by different authors on different subject matter areas published in farm magazines

Authors/subjects	Scientists				Extension personnel				Editor				Farmer			
	KL	KM	KVP	SS	KL	KM	KVP	SS	KL	KM	KVP	SS	KL	KM	KVP	SS
Agronomy	8.77 (6)	10.25 (13)	10.56 (6)	9.44 (9)	11.29 (5)	-	10.05 (6)	7.75 (8)	11.36 (2)	-	-	9.27 (1)	7.84 (5)	-	9.98 (4)	10.86 (7)
Horticulture	11.04 (6)	9.03 (4)	9.68 (9)	9.02 (6)	8.70 (3)	-	10.21 (2)	7.30 (4)	8.09 (5)	-	9.09 (2)	7.52 (2)	8.06 (5)	-	10.15 (3)	7.29 (5)
Veterinary and animal husbandry	8.92 (1)	9.07 (3)	-	7.22 (3)	7.97 (5)	-	-	9.54 (5)	-	-	-	-	-	-	-	5.99 (2)
Agricultural engineering	-	-	9.88 (1)	9.18 (1)	-	-	7.53 (1)	10.01 (1)	-	-	-	5.67 (1)	-	-	12.10 (1)	9.71 (1)
Home science	7.68 (3)	10.12 (2)	-	7.66 (3)	8.09 (1)	-	-	7.20 (3)	7.37 (3)	-	8.13 (3)	10.38 (1)	-	-	-	7.89 (3)
Sericulture	-	11.0 (4)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Average grade	9.56 (80)	10.12 (80)	10 <sup>th</sup> std	7.66 (3)	8.85 (44)	8.85 (44)	9 <sup>th</sup> std	7.20 (3)	8.43 (20)	8.43 (20)	8 <sup>th</sup> std	9.09 (36)	9.09 (36)	9 <sup>th</sup> std.	9.09 (36)	9 <sup>th</sup> std.

KL = Krishi loka, KM = Krishi Munnade, KVP = Karnataka Vyvasaya Patrike, SS = Siri Sambruddhi  
The figures in bracket indicates the number of articles selected

magazines irrespective of subject matters indicates that, the grade level/readability value of the articles written by the 'scientists' was 8.77 standard in 'Siri Sambruddhi' followed by Krishi loka (9.43), Karnataka Vyvasaya Patrike (10.03) and Krishi Munnade (10.04 standard). The grade level of the articles written by extension personnel in Siri Sambruddhi farm magazine was 8.12 standard followed by Krishi loka (9.32) and Karnataka Vyvasaya Patrike (9.81) while the grade level of articles written by editors/reports in respect of Siri Sambruddhi (8.07), Krishi loka and Karnataka Vyvasaya Patrike (8.50 each standard). Whereas the grade level/readability level of the articles written by farmers in Siri Sambruddhi (9.35 standard), Krishi loka (7.95) and Karnataka Vyvasaya Patrike (9.72 standard).

In general the grade level/readability level of the articles written by different authors/sources was less in Siri Sambruddhi followed by Krishi loka and Karnataka Vyvasaya Patrike except the grade level of the articles written by farmers in Krishi loka was 7.95 standard. In case of Krishi Munnade farm magazine extension personnel, editors/reporters and farmers did not contribute the articles.

The data in Table 17 indicates that in general, the overall grade level of the articles written by the scientists is 9.56 equivalent to 10<sup>th</sup> standard, whereas the grade level of the articles written by extension personnel is 8.85 equivalent to 9<sup>th</sup> standard by editor/reporter is 8.843 equivalent to 8<sup>th</sup> standard and of farmers is 9.09 equivalent to 9<sup>th</sup> standard.

loka and Siri Sambruddhi, for horticulture in Karnataka Vyvasaya Patrike and Home Science in Siri Sambruddhi farm magazines respectively.

Likewise the readability value for the articles written by the “Farmers” is considered the value of 9.98, 10.86, 10.15, 12.10, 9.71 is higher than the overall average readability value of 9.09 for the subjects agronomy in Karnataka Vyvasaya Patrike and Siri Sambruddhi, for horticulture in Karnataka Vyvasaya Patrike, for agricultural engineering in Karnataka Vyvasaya Patrike and Siri Sambruddhi farm magazines respectively.

#### **4.8 OTHER RELATED ASPECTS OF FARM MAGAZINE: EXTENT OF READING, DURATION OF READING AND PREFERENCE OF SUBSCRIBER FARMERS READERS TO DIFFERENT SUBJECT MATTER AREAS**

##### **4.8.1 Extent of reading**

It can be seen from the table 18 and Fig. 12 that overall 68.13 per cent of the subscriber farmers use to read the complete information published in the selected farm magazines, while 31.87 per cent of farmer readers read the required or selected articles according to their need and interest.

The table also presents the data regarding the extent of reading in respect of each of the magazine. 75 per cent of the subscriber farmers read complete information while 25 per cent read only required articles

Table 18. Extent of reading of farm magazines by the subscriber farmers

n=160

Farm magazine	Sample size of each farm magazine (No.)	Complete information		Required information/ selected articles	
		Frequency	Percentage	Frequency	Percentage
Krishi loka	40	22	55.00	18	45.00
Karnataka Vyavasaya Patrike	40	31	77.50	9	22.50
Krishi munnade	40	30	75.00	10	25.00
Siri Sambruddhi	40	26	65.00	14	35.00
Total	160	109	68.13	51	31.87

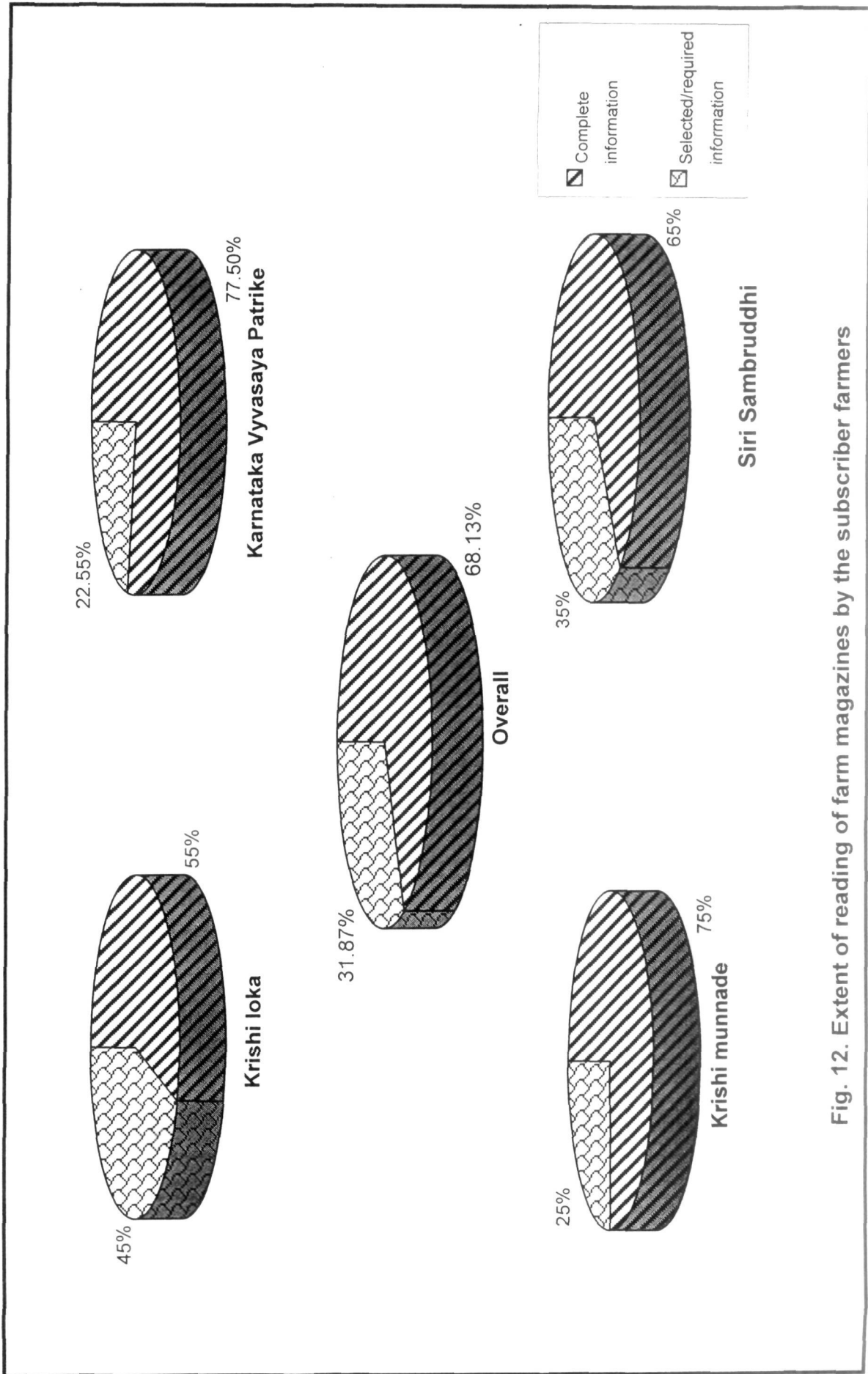


Fig. 12. Extent of reading of farm magazines by the subscriber farmers

published in Karnataka Vyvasaya Patrike farm magazine. The same trend of reading that is majority prefer to read complete information followed by selected/required articles in respect of the articles published in Krishi Munnade, Siri Sambruddhi and Krishi Loka farm magazines.

#### **4.8.2 Duration of reading**

The results presented in table 19 and Fig. 13 reveals the overall reading habit of the subscriber farmers irrespective of the farm magazine reveals that 31.25 per cent of the subscriber farmers read the farm magazine 'once in a month' followed by 'once in 15 days (24.37%)', 'once in a week' (22.5%), two times in a week (18.75%) and daily (3.13%). It is interesting to note that very less percentage of the subscriber farmers read the magazine 'daily' but majority prefer to read these magazines 'once in a month'.

It is clear from the table that 10.0 and 2.50 per cent of the subscriber farmers daily read the Krishi Loka and Krishi Munnade magazines for one hour. In general, a negligible percentage of subscriber farmers read the Karnataka Vyvasaya Patrike and Siri Sambruddhi magazines once in a month for more than 3 hours.

Further, it can be observed from data that varying percentage of the subscriber farmers read Krishi Loka farm magazine for on hour either one in a month (22.5%), on in a week (12.50%), twice in a weeks (12.5%) and once in a fort night (2.50%) respectively.

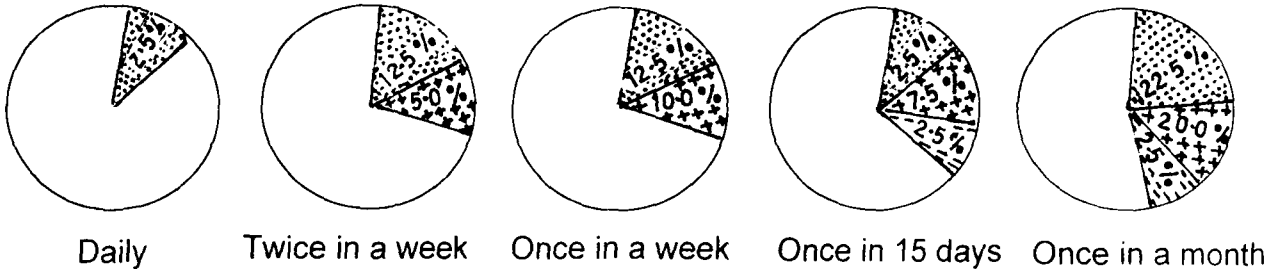
Table 19. Duration of reading of farm magazines by subscriber farmers

n=160

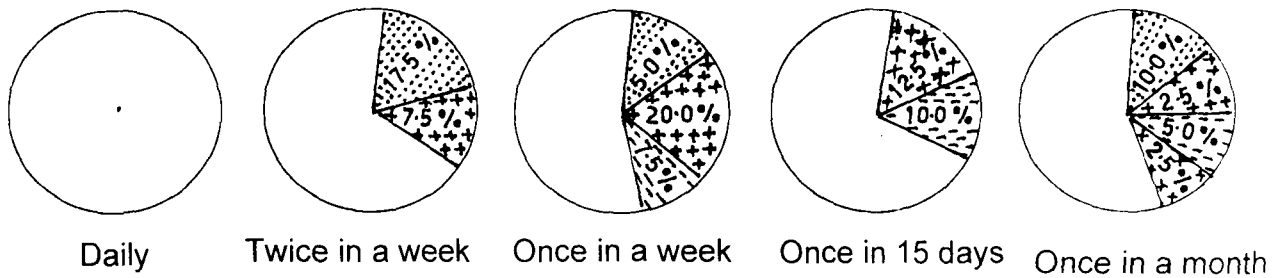
Farm magazine/ duration	Sample size for each farm magazine	Daily		> two times in a week		Once in a week		Once in 15 days		Once in a month	
		F	P	F	P	F	P	F	P	F	P
<b>Krishi loka</b>	40										
One hour		1	2.5	5	12.50	5	12.50	1	2.50	9	22.50
Two hours		-	-	2	5.00	4	10.00	3	7.50	8	20.00
Three hours		-	-	-	-	-	-	1	2.50	1	2.50
> Three hours		-	-	-	-	-	-	-	-	-	-
Sub total		1	2.50	7	17.50	9	22.50	5	12.50	18	45.00
<b>Karnataka Vyvasaya Patrike</b>	40										
One hour		-	-	7	17.50	2	5.0	-	-	4	10.00
Two hours		-	-	3	7.50	8	20.00	5	12.50	1	2.50
Three hours		-	-	-	-	3	7.50	4	10.00	2	5.00
> Three hours		-	-	-	-	-	-	-	-	1	2.50
Sub total		-	-	10	25.00	13	32.50	9	22.50	8	20.00
<b>Krishi munnade</b>	40										
One hour		4	10.00	6	15.00	4	10.00	3	7.50	8	20.00
Two hours		-	-	3	7.50	1	2.50	2	5.00	3	7.50
Three hours		-	-	1	2.50	2	5.00	3	7.50	-	-
> Three hours		-	-	-	-	-	-	-	-	-	-
Sub total		4	10.00	10	25.00	7	17.50	8	20.00	11	27.50
<b>Siri Sambruddhi</b>	40										
One hour		-	-	3	7.50	6	15.00	4	10.00	3	7.50
Two hours		-	-	-	-	1	2.50	11	27.50	4	10.00
Three hours		-	-	-	-	-	-	2	5.00	5	12.50
> Three hours		-	-	-	-	-	-	-	-	1	2.50
Sub total		-	-	3	7.50	7	17.50	17	42.50	13	32.50
Grand total	160	5	3.13	30	18.75	36	22.50	39	24.37	50	31.25

One hour   
  Two hours   
  Three hours   
  >Three hours

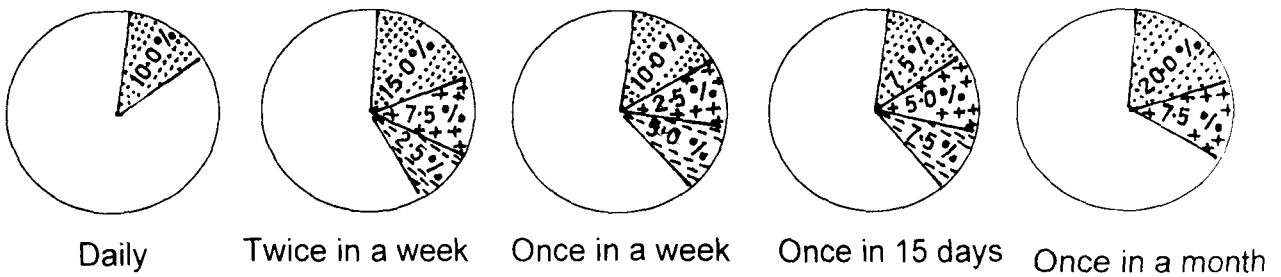
### Krishi loka



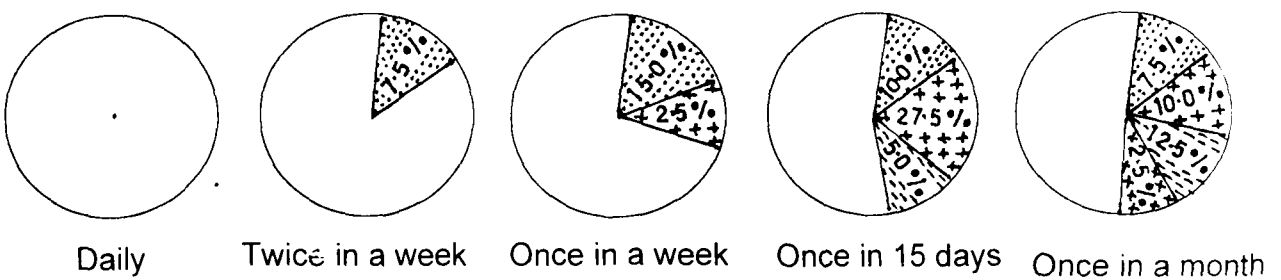
### Karnataka Vyvasaya Patrike



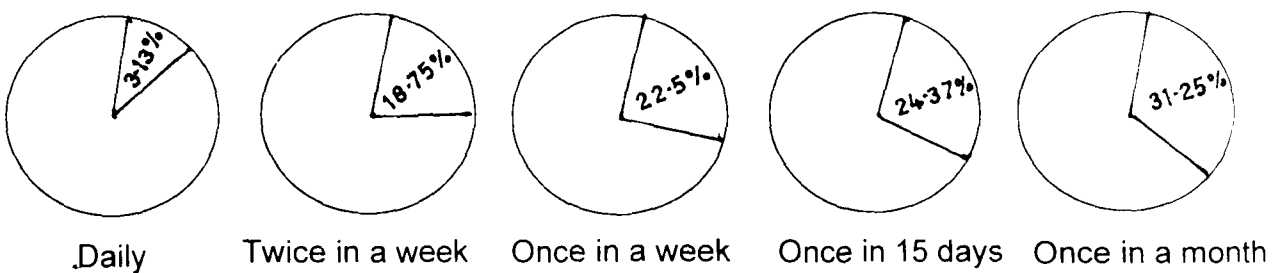
### Krishi Munnade



### Siri Sambruddhi



### Overall



**Fig. 13. Duration of reading of farm magazine by subscriber farmers**

In respect of Karnataka Vyvasaya Patrike farm magazine varying percentage of the subscriber farmers read for two hours either once in a week (20.0%), once in a fort night (12.50%), twice in a week (7.5%) and once in a month (2.5%) respectively.

The subscriber farmers read Krishi Munnade for one hour either once in a month (20.0%) twice in a week (15%), once in a week (10.0%) and once in fort night (7.5%) respectively.

The farm magazine Siri Sambruddhi is read for one hour and two hours by varying percentage of subscriber farmers, 27.5 per cent 10 per cent and 2.5 per cent of the subscriber farmers read the magazine for two hours either once in a fort night, once in a month and once in a week. On the other hand, 15 per cent, 10 per cent, 7.5 per cent and 7.5 per cent of the subscriber farmers read the magazine for one hour either once in a week, once in fortnight, once in a month and once in a week respectively.

#### **4.8.3 Subject matter areas preferred by the subscriber farmers**

The information collected on preference of subject matter areas by the subscriber farmers is presented in the table 20 and Fig. 14.

It can be seen from the table that, the overall preference given for 'reading' by the subscriber farmers for the articles published in Krishi Loka, Karnataka Vyvasaya Patrike, Krishi Munnade and Siri Sambruddhi, in the areas like agriculture/crop production (73.12%), horticulture (53.75%) and sericulture (36.25%). Whereas the subscriber farmer prefer

the articles on veterinary and animal husbandry (48.75%) for 'Discussion with family members'. The other articles in the areas like food and nutrition (58.12%), home management (51.25%), family resource management (55.62%), whereas the articles on fishery (42.75%), agricultural engineering (58.13%), forestry (56.87%), advertisements (70.62%), folk songs/stories (68.12%), rural development (58.75%) and on environment (62.5%) were preferred by majority of subscriber farmers for 'Discussion with their neighbours' followed by 'Reading' except the articles on fishery preferred for 'Discussion with family members'.

An in depth analysis of each farm magazine for preference of subject matter area reveals that the subscriber farmer prefer the articles for 'Reading' published in 'Krishi Loka' farm magazine in the areas of agriculture/crop production (90%), horticulture (70%), veterinary and animal husbandry (50%), sericulture (40%) and less percentage of the subscriber farmers prefer the articles on horticulture for 'Discussion with their family members' and 'Neighbours'. None of the subscriber farmer prefer the articles on agriculture for discussion with their 'Neighbours', whereas 42.5 per cent and 40 per cent of the subscriber farmer prefer the articles on veterinary and animal husbandry and sericulture for 'Discussion with their family members' respectively.

A majority of the subscriber farmers prefer the articles for 'Discussion with family member' in the areas of food and nutrition (67.5%), home management (67.5%), family resource management (67.5%), whereas a majority of the subscriber farmer prefer the articles on

Table 20. Subject matter areas preferred by the subscriber farmers for reading

Sl. No.	Subject matter areas	Krishi loka (n1=40)						Kar. Vy. Patrike (n2=40)						Krishi Munnade (n3=40)					
		Reading		Discussion with family members		Discussion with neighbours		Reading		Discussion with family members		Discussion with neighbours		Reading		Discussion with family members		Discussion with neighbours	
		F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P
1.	Agriculture	36	90.0	4	10.0	-	-	30	75.0	7	17.5	3	7.5	27	67.5	8	20.0	5	12.5
2.	Horticulture	28	70.0	8	20.0	4	10.0	21	52.5	15	37.5	4	10.0	21	52.5	12	30.0	7	17.5
3.	Veterinary and animal husbandry	20	50.0	17	42.5	3	7.5	20	50.0	12	30.0	8	20.0	15	37.5	15	37.5	10	25.0
4.	Sericulture	16	40.0	16	40.0	8	20.0	19	47.5	6	15.0	15	37.5	14	35.0	12	30.0	14	35.0
5.	Home science																		
	a) Food and nutrition	3	75.0	27	67.5	10	25.0	15	37.5	22	55.0	3	7.5	10	25.0	18	45.0	12	30.0
	b) Home management	2	5.0	27	67.5	11	27.5	13	32.5	12	30.0	15	37.5	9	22.5	16	40.0	15	37.5
	c) Family resource management	2	5.0	27	62.5	11	27.5	14	36.0	17	42.5	9	22.5	12	30.0	18	45.0	10	25.0
6.	Fishery	3	7.5	11	27.5	26	65.0	13	32.5	18	45.0	9	22.5	8	20.0	8	20.0	24	60.0
7.	Agricultural engineering	5	12.5	4	10.0	31	77.5	19	47.5	2	5.0	14	47.5	13	32.5	7	17.5	20	50.0
8.	Forestry	6	15.0	4	10.0	30	75.0	19	47.5	3	7.5	18	45.0	13	32.5	6	15.0	21	52.5
9.	Others																		
	a) Advertisements	2	5.0	4	10.0	34	85.0	20	50.0	1	2.5	19	47.5	13	32.5	5	12.5	22	55.0
	b) Folk songs/stories	2	5.0	4	10.0	34	85.0	20	50.0	5	12.5	15	37.5	9	22.5	5	12.5	26	65.0
	c) R.D. articles	4	10.0	2	5.0	34	85.0	20	50.0	3	7.5	17	42.5	16	40.0	7	17.5	17	42.5
	d) Environment articles	3	7.5	2	5.0	35	87.5	18	45.0	4	10.0	18	45.0	15	37.5	7	17.5	18	45.0
	Total																		



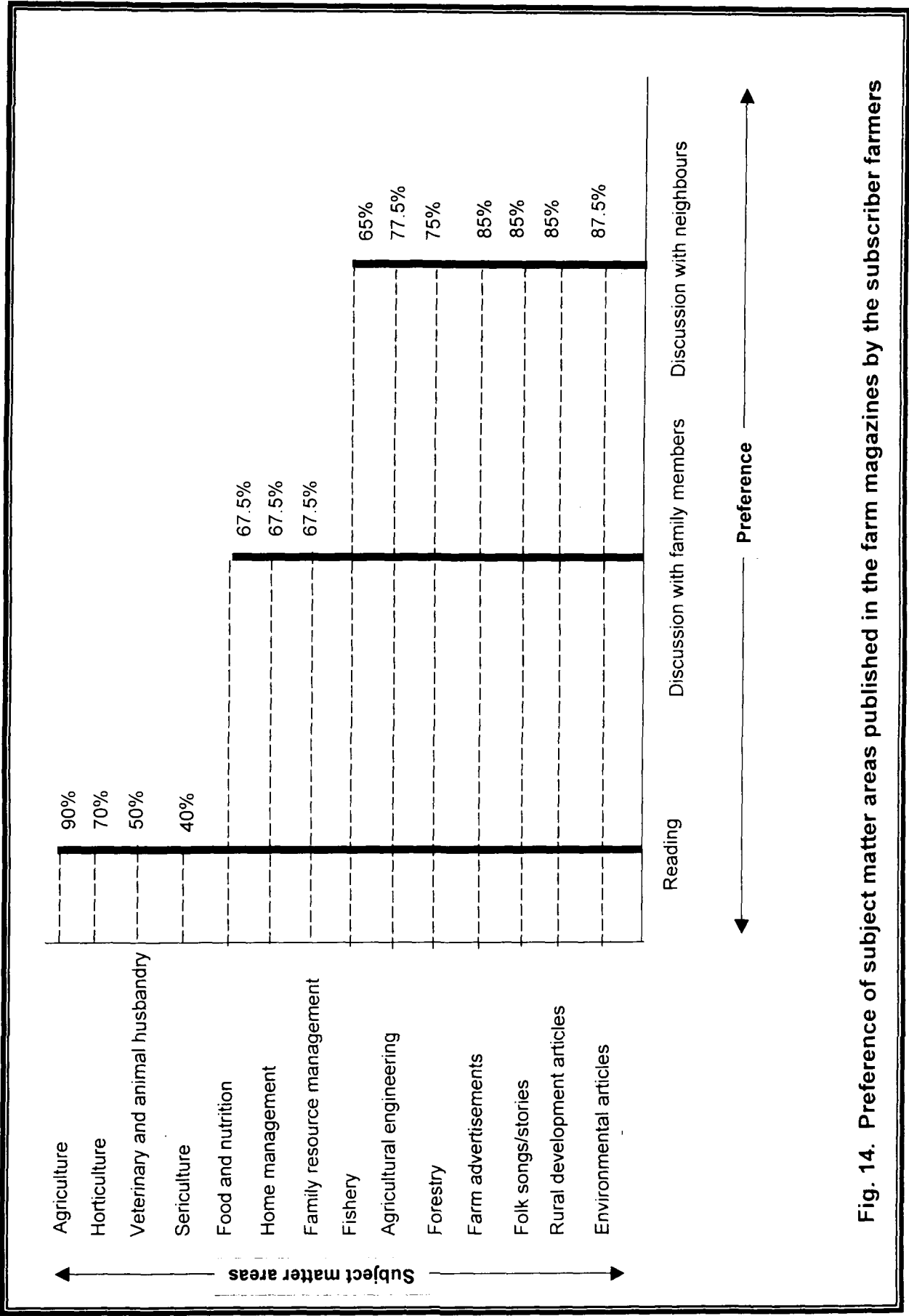


Fig. 14. Preference of subject matter areas published in the farm magazines by the subscriber farmers

fishery (6.5%), agricultural engineering (77.5%) and forestry (75%) for 'Discussion with neighbours' and less percentage prefer to 'Discuss with family members' and very meagre percentage of subscriber farmers prefer the articles for 'Reading' in the above subject matter areas. Further the data indicates that a majority of the subscriber farmers prefer the articles to 'Discuss with neighbours' published in the areas like advertisements (85%), folk songs/stories (85%), rural development (85%), environmental articles (87.5%) and very few percentage by subscriber farmer prefer the articles for 'Discussion with family members' and for 'Reading'.

A majority of the subscriber farmers prefer the articles published in 'Karnataka Vyvasaya Patrike' for 'Reading' in the areas like agriculture/crop production (75%), horticulture (52.5%), veterinary and animal husbandry (50%), sericulture (47.5%) and almost similar trend can be seen for 'Reading' and 'Discussion with neighbours' in case of articles published in the areas like agricultural engineering (47.5%), forestry (47.5%), advertisements (50%), folk songs/stories (50%), rural development (50%) and environment articles (45%) respectively.

Further, a majority of subscriber farmers prefer the articles for 'Discussion with family members' in the areas of food and nutrition (55%), family resource management (42.5%), fishery (45%). The subscriber farmers prefer the articles for 'Discussion with neighbours' in the areas of home management (37.5%).

The preference given by the subscriber farmers for the articles published in Krishi Munnade farm magazine for 'Reading' in the areas of

agriculture/crop production (67.5%), horticulture (52.5%), veterinary and animal husbandry (37.5%) and sericulture (35%) followed by 'Discussion with family members' and 'Neighbours' in the above areas. The subscriber farmers also prefer the articles for 'Discussion with family members' in the areas like food and nutrition (45%), home management (40%), family resource management (45%) and for 'Discussion with neighbours' for the articles in the areas of fishery (60%), agricultural engineering (50%) and forestry (52.5%).

The preference of the subscriber farmers for the articles published in 'Siri Sambruddhi' reveals that a majority of subscriber farmer prefer the articles for 'Reading' in the areas of agriculture/crop production (60%), veterinary and animal husbandry (85%), sericulture (45%). Same trend was observed in respect of food and nutrition (65%), home management (67.5%), family resource management (67.5%), fishery (52.5%). A majority of the subscriber farmers prefer the articles for 'Discussion with neighbours' in the areas like agricultural engineering (57.5%), forestry (55%), advertisements (95%), folk songs/stories (85%), rural development (65%) and environmental articles (72.5%). Very less percentage of the subscriber farmer prefer the articles for 'Reading' and 'Discussion with family members' in the above said areas.

#### **4.9 SUGGESTIONS OFFERED BY THE SUBSCRIBER FARMERS TO IMPROVE THE QUALITY AND EFFECTIVE NESS OF FARM MAGAZINES**

The subscribers were asked to give suggestions to improve the quality and effectiveness of the farm magazines. A list of 15 suggestions

Table 21. Suggestions offered by the subscriber farmers for improving the quality and effectiveness of farm magazines

Suggestions	Krishi loka (n1=40)		Kar. VY. Patrike (n2=40)		Krishi munnade (n3=40)		Siri Sambuuddhi (n4=40)		Overall (n=160)	
	F	P	F	P	F	P	F	P	F	P
1. Publish important information on prescribed page only	37	92.5	36	90.0	36	90.0	40	10.0	149	93.12
2. Publish information in the form of success stories where ever possible	29	72.5	27	67.5	32	80.0	29	72.5	115	71.88
3. Use simple statistical figures	35	87.5	29	72.5	35	87.5	30	75.0	129	80.62
4. Publish information on high-tech agriculture like floriculture, tissue culture, organic farming etc.	32	80.0	32	80.0	35	87.5	31	77.5	130	81.25
5. Publish information on commercial cash crops	39	97.5	40	100.0	39	97.5	39	97.5	157	98.12
6. Publish information on nutritional aspects of fruits and vegetables	36	90.0	39	97.5	38	95.0	39	97.5	152	95.00
7. Publish information on Medicinal value	31	77.5	36	90.0	34	85.0	32	80.0	133	83.12
8. Publish articles using more figures and photo's	37	92.5	38	95.0	32	80.0	33	82.5	140	87.50
9. Use local regional language	39	97.5	40	100.0	36	90.0	37	92.5	152	95.00
10. Publish articles on agro-based subsidiary enterprises like dairy	35	87.5	38	95.0	37	92.5	38	95.0	148	92.50
11. Publish articles using suitable size of letters	38	95.0	37	92.5	34	85.0	37	92.5	146	91.25
12. Publish articles in simple sentences	34	85.0	35	87.5	27	67.5	36	90.0	132	82.50
13. Publish information in small paras	35	87.5	29	72.5	27	67.5	32	80.0	123	76.88
14. Publish information by making series of articles instead of one large article	33	82.5	35	87.5	29	72.5	31	77.5	128	80.00
15. Publish information on integrated pest and diseases management	38	95.0	39	97.5	40	100.0	38	95.0	155	96.88

n=160

were provided for convenience and asked to indicate 'yes' or 'no' for each suggestion. The data in the table 21 reveals that majority of (98.12%) subscriber farmers suggested to 'publish information on commercial crops' followed by 'integrated pest and disease management' (98.86%), 'information on nutritional aspects of fruits and vegetables' (95%), 'use of regional local language' (95%), 'Print the information on prescribed page' (93.12%), 'Publish articles related to agro-based subsidiary enterprises' like dairy, poultry, goat/sheep, rabbit rearing etc (92.5%) and to 'use suitable letter size' (91.5%) while printing.

The other suggestions in the order of priority, 'use of more figures and photos' (87.5%), 'information on medicinal value aspects' (83.12%), 'use simple sentences' (82.5%), information on high tech agriculture like horticulture, tissue culture, organic farming etc (81.25%), use simple statistical figures (80.62%), 'publish series of articles instead of whole article at a time' (80%), 'write in small paras' (76.88%) and 'publish articles in the form of success stories' (71.88%) where ever possible.

# *Discussion*

---

## **V. DISCUSSION**

The results of the study are discussed and interpreted in the same sequential order as it was followed for presentation of results in the previous chapter.

### **5.1 ATTITUDE OF SUBSCRIBER FARMERS TOWARDS THE FARM MAGAZINE**

The data presented in table 1 indicated that 66.25 per cent of the subscriber farmers had 'favourable attitude' while 20 and 13.75 per cent of them had 'less favourable' and 'highly favourable' attitude respectively towards the farm magazines. These findings are in accordance with the findings of Ragaguru *et al.* (1971), Oliver *et al.* (1974), Kayal (1975), Krishna Kumar (1982, 1990), Nagaraj (1986) and Sawant *et al.* (1991).

The study was conducted in north Karnataka having varied cropping pattern with varying size of land holdings and background. It was reported earlier that, usually farmers with high and medium land holdings and progressiveness exhibit more inclination towards new scientific technologies of commercial nature and subscribe more to the farm magazines. Further, as far as the sample is concerned cent per cent of the respondents were educated from middle school to high school with medium economic motivation, high risk orientation and medium innovativeness. All these factors might have contributed to development of favourable attitude among subscriber farmers towards the farm magazines.

Further, the contacts of subscriber farmers with extension personnel of different developmental departments was encouraging their participation in extension activities was more. Almost all the respondent farmers owning the radio, television and subscribers of news paper and farm magazines. As the respondents were subscribers and regular readers of the articles published in the farm magazines as evident from the results might have motivated them to learn and understand more about new technologies and draw comparison with the cultivation practices they practice which might have decided to adopt the new practices that have been published in farm magazines resulting in 'favourable' attitude towards farm magazines. The farmers graded the articles published in farm magazines, as 'very useful' to 'useful' and as 'easy' to read. Hence, influence of all these factors might have contributed to effect on the respondents to develop 'favourable' attitude towards the farm magazines.

The psychological characteristics of farmers such as risk orientation, innovativeness and other factors like economic motivation, mass media exposure exhibited positively significant relationship with the 'attitude' as evident from the results. Therefore all these variables speak about the degree to which a farmer is oriented towards acceptance of risk involved, values associated with new technologies and scientific methods which might have influenced the individuals to develop "favourable" attitude.

The data also indicated that, less percentage of the respondents had developed 'less favourable' attitude towards the farm magazines. This

trend may be due to the fact that some percentage of subscriber farmers belonged to small land holdings, less extension participation. Less social participation, less mass media exposure. Probably small land holdings and low income of respondents might have had influence on less risk bearing capacity and innovativeness of the respondents. Therefore, they might have developed 'less favourable' attitude towards the farm magazines.

Further, the results revealed that very less percentage of the subscriber farmers developed 'highly favourable' attitude towards the farm magazines. This might be due to their high extension participation, high social participation, high mass media participation, more farming experience. All these factors might have motivated the respondents to have high economic motivation and high risk bearing capacity in respect of new technologies which might have contributed to development of 'highly favourable' attitude among the subscriber farmers towards farm magazines.

An in depth analysis of each of the farm magazine was carried out to know the attitude of subscriber farmers towards each of the selected magazine. The data presented in Table 1.a revealed that more than 75 per cent of the subscribers had 'favourable' and 'highly favourable' attitude towards each of the farm magazine and the rest exhibited 'less favourable' attitude towards the farm magazines. The results revealed almost same trend as compared to over all attitude of the subscriber farmers (Table 1) towards farm magazines. The reasons quoted above for over all attitude also holds good here as well. The above analysis lead to accept the hypothesis that majority of the subscriber farmers possess favourable attitude towards farm magazine.

## **5.2 PERSONAL, ECONOMIC, PSYCHOLOGICAL AND SOCIAL CHARACTERISTICS OF SUBSCRIBER FARMERS**

The results in respect of personal, economic, psychological and social characteristics of subscriber farmers of the selected farm magazines *viz.*, Krishi loka, Karnataka Vyavasaya patrike, Krishi munnade and Sirisambruddhi presented in table 2, 3, 4 and 5.

The respondents were classified by following suitable statistical procedure in respect of age, education, farming experience, land holding and annual income. The variables such as material possession, economic motivation, risk orientation, innovativeness of the subscriber farmers were classified into low, medium and high categories by considering the mean and standard deviation. The remaining variables such as extension contact, extension participation, social participation and mass media participation were quantified by considering the frequencies and percentages.

### **1. Age :**

It was observed from the table 2 that as high as 77 per cent of the subscriber farmers belonged to 'middle age' category of 31-55 years and 13 per cent of the subscriber farmers belonged to 'old age' category of more than 55 years and very less percentage (10%) belonged to young age category of upto 30 years age. This finding is in conformity with the findings of Simon (1970), O'Kneefe and Spentegel (1973), Penrose (1974), Oliver *et al.* (1975 a) Siddaramaiah *et al.* (1976 b), William (1981),

Animuthu (1982), Tirupathaiah (1983), Sharma (1983), Saha and Trika (1989), Krishna kumar (1990), Nataraju (1996), Barman and Gogoi (2000).

It is interesting to note that less percentage of subscriber farmers belonged to young age. This might be due to the fact that, as the agriculture occupation needs more farming experience, exposure to mass media , contact with extension personnel and social participation. The present day agriculture being gamble with nature might not have influenced the youngsters to take up agriculture as main occupation at an early age. This finding is in confirmity with the findings of Veerabhadraiah and Sethurao (1970), Siddarmaiah *et al.* (1975 a), Jayaram (1980), Nanjappa (1982), Nijalingappa (1983), Mutha zhagan (1990).

## **2. Education**

The data on education revealed that 39 per cent of subscriber farmers had education upto high school (8<sup>th</sup> - 10<sup>th</sup> standard) and 25 percentage studied upto middle school (5<sup>th</sup>-7<sup>th</sup> standard) followed by 11 per cent each up to primary school and pre-university college level respectively.

It was interesting to note that, none of the subscriber farmers were illiterate and 14 per cent had education upto graduate level. This finding is in accordance with the findings of Zalaki (1973), Khandekar (1975), Oliver *et al.* (1975 a), Siddaramaiah *et al.* (1976 a), Jayaram (1980), Nanjappa (1982), Animuthu (1982), Nijalingappa (1983), Sharma (1983),

Saha and Trika (1989), Krishna Kumar (1990), Muthazhagan (1990), Nataraju (1996), Barman and Gogoi (2000).

In recent years government has introduced a policy called 'education for all'. At present the literacy in India is 52.21 per cent and in Karnataka 56.04 per cent. In this direction the government is conducting number of educational programmes to motivate the farmers to be literate which inturn might help them to understand and adopt the new farming technologies to get more yield, more income there by improve their standard of living. At present government is organising evening classes under the national literacy programme. These factors might have motivated farmers to have education. As a result almost all the farmers had education with varying levels and read technical information published in farm magazines to increase their knowledge horizon.

### **3. Farming experience**

It was observed from table that 48 and 45 per cent of subscriber farmers had farming experience upto 10-20 years and more than 20 years respectively. Very less percentage of the respondents had less than 10 years of farming experience. The results are in confirmity with the findings of Muthazhagan (1990), Krishna Kumar (1990), Sakharkar *et al.* (1992, 1995), Nataraju (1996), Yaligar (1997) and Sawant (1999).

A majority of the respondents were educated upto middle school and high school level and later on they might have started practicing

agriculture as their main occupation and probably they might have been the members of joint families, under such a situation independence is delayed. These factors might have contributed for 48 per cent of farmers to fall under the category of 10-20 years of farming experience. Some of the subscriber farmers had more than 20 years of farming experience probably they might have started agriculture occupation at an early age. Further, it was observed that only 7 per cent of the subscriber farmers had farming experience upto 10 years. This might be due to the fact that, some of them have studied upto pre-university and graduation level. After completing their education they might have started agriculture as their occupation.

#### **4. Land holding**

A glance at the table indicated that majority of (63%) subscriber farmers belonged to big farmers category with land holdings of more than 25 standard acres. Where as 21 per cent of them fall in medium category with a land holding of 10.01-25.0 standard acre, followed by 11 per cent under semi medium farmer category with a farm size of 5.01-10.0 standard acres, while 4.4 per cent of the subscriber farmers belonged to small farmers category with a land holding of 2.51-5.0 standard acres.

It is surprising to note that only 0.6 per cent of the subscriber farmers belonged to marginal farmer category with a land holding of upto 2.50 standard acres.

These findings draw support from the findings of Khandekar (1975), Oliver *et al.* (1975 b), Nijalingappa (1983), Sharma (1983), Thirupathaiiah

(1983), Saha and Trika (1989), Muthazhagan (1990), Krishna Kumar (1990), Nataraju (1996) and Barman and Gogoi (2000).

As the land holding is being the economic factor contributing to increase income. It is evident from the results that 70 per cent of the farmers had annual income ranging from Rs.34000/- to more than 51000. Naturally, every farmer invest more on landed property and increase land holdings and hence majority of the subscriber farmers were belonged to medium to big sized land holding category. In this investigation the sample constituted for the study were only the subscribers of farm magazines, naturally educated and with more number of years of farming experience. All these factors might have had influence on the individuals to acquire more acres of land, so that they can earn more and lead a better standard of living.

## **5. Annual Income**

The results presented in table 2 indicated that 47 and 23 per cent of the subscriber farmers grouped under high and medium income categories with an income of more than 51000 and 34001-51000 rupees respectively. Twenty per cent of them belonged to semi-medium income group with an income of 17001-34000 per annum. While less percentage (10%) of them had low income group up to 17000 rupees per year. This finding has similarity with the findings of Oliver *et al.* (1975 b), Balamatti (1993), Sakhrkar (1995), Nataraju (1996), Chandran Bindu (1997) and Sawant (1999).

Since a majority of the subscriber farmers had medium to high income, this might be due to the fact that majority of them were having large land holdings (more than 25 standard acres) and medium sized (10.01-25.0 standard acres) land holdings. It is proven fact that land holding is one of the major factor contributing for higher income, as a result majority of them belonged to medium to high income group, while, less percentage of the subscriber farmers had semi-medium to low income as they might have small land holdings.

### **6. Material possession**

The results presented in table revealed that 68.75 per cent of the subscriber farmers belonged medium material possession category followed by high (17.5%) and low (13.75%) categories. Similar results were reported by Sontakki (1989), Sankanagoudar (1991), Indravati (1992), Naik (1993), Channal (1995), Hanumanaikar (1995), Saikrishna (1998) and Maraddi (1999).

Majority of the subscriber farmers had medium material possession including agriculture implements, farm power implements and live stock possession. Probably the subscriber farmers with semi medium to medium land holding group and might hence belonged semi – medium income and medium income group with an income ranging from Rs.17000-34000 and 34001-51000 rupees per year. This might have motivated them to possess required number of agriculture implements and live stock. Further, in order to attend the timely agriculture

operations, there is certainly a need for having sufficient number of improved implements to reduce the drudgery of work and to increase the efficiency of the work and as evident income is also not a limiting factor. All these factors might have lead to medium material possession among the farmers.

It is interesting to observe that very less percentage (13.75%) of respondent had low material possession. This might be due to small land holding and low income. It was also observed that 17.5 per cent of the subscriber farmers had high material possession. This might be due to the fact that big farmers (63%) possess all types of agricultural implements required for agricultural operations and hence this type of results.

## **7. Economic motivation**

The results presented in the table 2 indicated that 65 per cent of the subscribers farmers had 'medium economic motivation' followed by high (18.75%) and low (16.25%) economic motivation. Similar findings were reported by Animuthu (1982), Ramesh babu (1989), Krishna Kumar (1990), Sheela (1991), Srinivasreddy (1995), Malagi (1995), Sakharkar (1995), Nataraju (1996) , Saravan Kumar (1996), Sawant (1999), and Barman and Gogoi (2000).

The respondent farmers under medium economic motivation category were more in number, probably this category of respondent belonged to high and medium land holding with high and medium income

group. These variables might have motivated the farmers to get more economic returns resulting in profit making behaviour. Naturally, more land holdings might have had influence on the respondents to get high income. Hence, these factors might have motivated the individuals to gain more economic returns. Therefore, a majority of the subscriber farmers belonged to high to medium economic motivation category. Further, the high risk bearing capacity and innovativeness factors might have also influenced the individuals to get more economic returns.

Further, very less percentage of the respondents belonged to low economic motivation category. This might be because of their less education, less land holding and less income and less exposure to mass medias, low extension personal contact and low social participation.

## **8. Risk orientation**

This refers to the risk bearing capacity of farmers in accepting and adopting the new technologies in the field of agriculture. The results presented in the table indicated that 67.5 per cent of the subscriber farmers belonged to high risk orientation category followed by medium risk orientation (16.87%) and low risk orientation (15.63%) categories. The findings are in accordance with the findings of Ajaykumar (1989), Rameshbabu (1989), Raghu Prasad (1992), Srinivasreddy (1995), Sarowan Kumar (1996) Nataraju (1966) and Sawant (1999).

The risk bearing capacity of an individual depends upon the personal, psychological, economical and social characteristics. The

individuals with more education, more farming experience, more land holdings, high income with high economic motivation and high innovativeness might have exhibited high and medium risk orientation. Further, the subscriber farmers possess news papers, farm magazines and other mass media like radio and television. It is evident from the results that, they were regular readers of news paper, farm magazines and regularly use listen radio and view the television for agriculture related programmes which might have increased the knowledge and confidence of the farmers to be adventurous to adopt the new technologies.

A majority of subscriber farmers contacted extension personnel for agriculture information and actively participated in the activities / programmes conducted in the social organizations. All these factors might have had influence on the subscribers risk bearing capacity. As a result majority of the subscriber farmers had fallen in the category of high to medium risk orientation category.

Very few percentage of the subscriber farmers had less risk bearing capacity. This might be due to their less education, less land holding, less income, less exposure to mass media and less contact with extension personnel and low social participation.

## **9. Innovativeness**

It is the degree to which an individual is relatively earlier in adopting the new ideas/new technologies when compared to other members in the society. The results in the table revealed that 73.75 per

cent of the subscriber farmers belonged to medium innovativeness category followed by low (15.63%) and high (10.62%) innovativeness categories. These results are in conformity with the findings of Ramalinge Gowda (1978), Rannory (1979), Pamadi (1980), Farooque (1990), Nataraju (1996), Swant (1999) and Barman and Gogoi (2000).

Innovativeness of individual depends upon so many factors, mainly education level, farming experience, land holding, income, risk bearing capacity. In the present investigation almost 80 per cent of the subscriber farmers had medium to high degree of innovativeness. The subscriber farmers had more exposure to mass media, frequent contact with extension personnel which might have exerted influence on the respondents to adopt the new ideas little earlier to other members and such of these farmers might have belonged to medium to high innovativeness category.

Less percentage of subscriber farmers belonged to **low** innovativeness category probably, they belonged to less risk bearing capacity, less education, less farming experience and less mass media exposure.

#### **10. Extension contact**

The results in table 3 revealed that 33.75 per cent of the subscriber farmers contacted 'Agriculture Assistant' 'once in 15 days' followed by 'whenever problem arises' (21.87%), once in a week (20%) so on and so forth. These findings are in line with the findings of Sheela (1991), Kher

(1991), Salanki and Kadam (1993), Malagi (1995), Hanumanaikar (1995), Sakharkar (1995), Patil (1995), Saravankumar (1996), Wakle *et al.* (1998), Sawant (1999) and Rajnish Sharma (2000).

This type of result might be due to the fact that 'Training and visit' System of programme is being implemented through department of agriculture, where in the Agriculture Assistants (AA's) were the gross root level workers with a definite schedule to visit to the farmers of 6-8 villages at least once in 15 days to provide information on agricultural operations. Hence, this might have encouraged the respondents to contact Agriculture Assistants. The subscriber farmers had contact with Assistant Agriculture Officers (AAO's) whenever problem arises (24.37%) once in 15 days (14.38%), once in a month (13.75%) and so on.

The subscriber farmer contacted Assistant Agriculture Officers in varying frequency but majority opined that they never contact. This may be due to the fact that the AAO's are placed at distant range level village (a central village surrounded with cluster of villages) as a result they might have preferred to contact Agriculture Assistants who are available at village level.

The data presented in the table also revealed that 58.75 and 68.12 per cent of the subscriber farmers 'never contacted' Agriculture officers (AO's) and Assistant Director's of Agriculture (A.D.A's) where as 25, 16.88 and 10 per cent contacted whenever problem arises and 'once in a month' respectively.

The probable reasons for above trend might be due to the fact that, these officials are located at taluka level, which might have come in their way to approach them for agriculture information. It is interesting to note that, 47.5 per cent of the subscriber farmers contacted Rural Development Officers (R.D.O's) of bank whenever problem arises.' This trend of result might be due to the fact that the R.D.O's sanction loan to farmers on agriculture related aspects, as a result the farmers contacted them. However 50.62 per cent did not contact R.D.O's, probably the Agriculture Assistants are rightly available in the villages which might have resulted this trend of result.

A majority of the respondents 'never' contacted various development officials such as sericulture officers, forest officials, Assistant Agriculture Officer (Farm women) followed by Assistant Director's of Agriculture, Extension Guides of Agriculture University and officials of Veterinary and Animal Husbandry but, they had contact with the above personnel whenever problem arises. Further, these officials have their offices located at taluka level and non-availability of these officials at right time and more ever the availability of Agriculture Assistants at the village level it self might have influenced such a type of results.

### **11. Extension participation**

The data in the table 4 are encouraging and revealed that hundred per cent of the subscriber farmers read the 'extension literature' followed by participation in 'field days' (66.25%), 'Krishi meal' (65%), exhibition on

agriculture (62.5%), demonstrations conducted on his own farm (58.75%). These findings are in agreement with the findings of Animuthu (1982), Muthazhagan (1990), Youganand (192), Srinivas reddy (1995), Hanuma naikar (1995), Sakharkar (1995), Saravankumr (1996), Nataraju (1996) and Yaligar (1997).

Since the respondent farmers were the subscribers of news papers in addition to farm magazines and regularly read the information published on agriculture as they found it as 'useful' and 'very useful' sources of information as evident from the results obtained in this study. The useful, clear, practically applicable message might have influenced the subscriber farmers to read the information regularly and hence, exhibited this type of result. Further, a majority of them participated in the 'field days' organised seasonally on major corps by the extension functionaries to provide live situation to the subscriber farmers to see and observe the new technologies, with an opportunity to discuss with the extension functionaries and clarify their doubts. Accordingly the subscriber farmers were motivated to adopt the useful suitable technologies on the field. All these factors might have influenced the respondents to participate in 'field days'.

Another important activity like 'Krishi mela' use to be organised by the university of Agricultural sciences, Dharwad every year as a regular feature. During 'Krishi mela', all the agriculture related input agencies such as seeds, fertilizer, pesticide agencies depict their products. Further, the university also take the visiting farmers to demonstrations plots and

convince them about the new technological advancements. The farmers can have direct exchange of information with the scientists during Krishimela. All these benefits of Krishimela might have attracted the farmers to take active participation.

Considerable percentage of subscriber farmers visited 'exhibitions' on agriculture organised elsewhere, 'discussion with extension workers', participated in 'demonstrations' conducted on new agricultural technologies might have brought change in cultivation practices.

Less than 50 per cent of the subscriber farmers participated in demonstrations conducted on neighbours plot and participated in 'extension meetings' for want of agriculture information.

## **12. Mass media participation**

The results depicted in table 5 revealed that nearly hundred per cent of the subscriber farmers own 'radio' Nearly 82.58, 70.32 and 56.77 per cent of the radio owners hear the Krishiranga, Hints to farmers and Rural development programmes respectively as a 'regular feature' and very less percentage of the respondent farmers 'occasionally' listen these programmes and very negligible percentage 'never' hear to such programmes.

In Karnataka the 'Krishi ranga' programme is daily broadcasted through radio which is a very popular programme among farmers. The All India Radio broadcast agriculture programmes in a more appealing way

which inturn develop curiocity among the farmers to know more about technological advancements and agriculture activities carried out by the progressive farmers. Hence, agriculture programmes are preferred by the farming community to great extent. As a result, the farmers were more motivated to hear the 'Krishi ranga' programme regularly.

Another programme 'Hints to farmers' broadcasted daily through All India Radio (AIR) in the morning hours, where in, hints on agriculture activities, pest and disease incidence, and weather forecast are given to the farming community which probably influence the farmers to hear the programme regularly.

The other programmes related to rural welfare and rural development aspect broad casted through radio had influence on the farmer's listening habit. Very less percentage do not hear the Krishiranga, Hints to farmers and Rural development programmes as the farmers may not be interested to hear these programmes because of their personal problems/reasons.

A majority of the subscriber farmers possessed Television and regularly view the agriculture related programmes telecasted twice in a week by the Doordarshan Kendra in Karnataka. 'Gram mangala' programme telecasted on every Monday and 'Krishi sampad' programme on every friday are popular agriculture programmes. As such, the Doordarshan Kendra telecast programmes on cultivation practices of different crops, new technologies invested, interview with scientists,

Dialogue with farmers might have influenced the subscriber farmers to view the above programmes. As evident from the data 96, 78 and 72 per cent of the subscriber farmers 'regularly' view Krishi sampad, Gram mangala and Rural development programmes respectively.

Very less percentage of subscriber farmers view the above programmes telecasted through television 'occasionally' and 'never' probably such of the farmers does not possess television.

Hundred per cent of the respondents are the subscribers of farm magazines and read the magazines occasionally for want of agriculture information as and when they receive. This might be due to the fact that, all the respondent are educated. Probably these farm magazines publish information on agriculture related aspects with proper illustrations/ pictures with attractive cover page. In addition, the information published in the form of popular articles, question-answer type, interview with farmers, success stories in simple local regional language might have influenced the regular reading behaviour of the subscriber farmers.

Nearly 50 per cent of the respondents were also subscriber to news papers and every Wednesday news paper publishes agriculture information in the form of popular articles, question answer type. All these factors might have motivated the subscriber farmers to read the information regularly.

It is interesting to note that, none of the subscriber farmers read farm magazines. This might be due to the fact that, all the respondents

were subscribers, educated with sound reading habit to adopt new technologies.

These findings were in accordance with the findings of Animuthu (1983), Nanjappa (1982), Nijalingappa (1983), Thirupathaiah (1983), Muthuzagan (1990), Kirshnakumar (1990), Shetty (1991), Sangha and Kalra (1993), Dharmadhikari *et al.* (1994), Hanumanaikar (1995), Channal (1995), Patil (1995), Maraddi (1999), Sawant (1999).

### **13. Participation in formal organisation**

The results presented in table 6 revealed that 35.63 per cent of the subscriber farmers were members of co-operative society followed by 'Raita sangha' (31.25%), 'village panchayat' (28.75%) and youth club (24.36%). Naturally only 5.63 and 1.25 per cent were members of 'Taluka panchayat' and 'Zilla panchayat' respectively. These findings are in line with the findings of Gupta and Sangha (1980), Animuthu (1982), Nijalingapa (1983), Sharma (1982), Patil and Namasivam (1990), Krishnakumar (1990), Muthuzagan (1990), Lokhande (1990), Sheela (1991), Tawde (1992), Raghu Prasad (1992), Srinivasreddy (1995), Saravankumar (1996) and Nataraju (1996).

It is encouraging to note that 50, 44.44 and 36.92 per cent of the subscriber farmers were 'office bearers' of Zilla panchayat, Taluka panchayat and village panchayat respectively. The above trend might be in general the public is more oriented towards politics due to the fact, same organisations were situated in villages. The cooperative societies

provide fertilizer, pesticides and credit facility to its members hence, majority of farmers might have become the members of cooperative societies. Further, the government encourage establishment of youth clubs by the farmers them selves to unite and work for the right cause of larger interests of people.

Due to the introduction of panchayat Raj system in the state, the village panchayats came into existence which implement all the government programmes for the benefit of whole village. These factors might have motivated the respondents to become the members of these organisations.

Further, the results revealed that majority of subscriber members were 'office bearers' of Zilla panchayat, taluka panchayat and Village panchayat. This might be due to the fact that, selected office bearers of these organisation get some benefits. The results indicated that almost all the subscriber farmers participated in the activities regularly since they were either member or office bearer of the organisations. It is interesting to note that cent per cent of the subscriber farmers participated in the activities of the organisation.

### **5.3 RELATIONSHIP BETWEEN PERSONAL, ECONOMICAL, PSYCHOLOGICAL AND SOCIAL CHARACTERISTICS OF SUBSCRIBER FARMERS WITH 'ATTITUDE' TOWARDS FARM MAGAZINES**

The influence of independent variables over the dependent variable 'attitude' was presented in table 7 revealed that out of 13 variables the

variables such as education, mass media participation, economic motivation, risk orientation, innovativeness had exhibited positive and significant relationship with the dependent variable 'attitude' of subscriber farmers towards farm magazines at 5 per cent level of probability.

The variables such as farming experience, extension participation, participation in formal organisation exhibited positively significant relationship with 'attitude' towards farm magazines at 1 per cent level of probability.

However, the variable age had negatively significant relationship with attitude at one per cent level of probability. The other variables such as land holding, income, material possession, extension contact had not exhibited any relationship with attitude of subscriber farmers towards farm magazines. The above findings lead to accept the hypothesis that there exists relationship between personal, socio-economic and psychological characteristics of subscriber farmers and their attitude towards farm magazines.

The results revealed that 'education' had significant association with the attitude. This finding is in conformity with the findings of Zalaki (1973), Sawant *et al.* (1984), Oliver *et al.* (1975 b) Sohal *et al.* (1977), Thirupathaiah (1983), Dhanunjaya (1995), Nagaraj (1986), Karande and Riswedkar (1987), Kalantri *et al.* (1991), Barman and Gogoi (2000), Nataraju (1996) and Tawde *et al.* (1998).

This trend of result might be due to the fact that, education is the prime factor which brings changes in the behavioural complex of any individual (including knowledge, skill and attitude). Because of education, the individual's knowledge horizon get enlarged, as a result the subscriber farmers might have changed their attitude. This finding lead to accept the hypothesis that there exists relationship between personal, socio-

economic and psychological characteristics of subscriber farmers and their attitude towards farm magazines.

The variable mass media participation exhibited positive relationship with attitude of subscriber farmers towards farm magazine. This finding is in agreement with the findings of Thirupathaiah (1983), Manoharan (1988), Karippai (1988), Krishna Kumar (1990), Dhananjaya (1995), Nataraju (1996), Sharma and Kishore (1970), Lokande (1973), Khandekar and Mathur (1975), Rajan (1982), Nijalingappa (1983).

Almost all the subscriber farmers possessed radio, television, news paper and farm magazines and were regular listeners of radio, regular viewer of television and regular readers of news paper and farm magazines. As a result, they might have exposed to different ideas, technologies and recent advances. These factors might have improved their knowledge level of farmers which in turn might have been responsible to develop favorable attitude. This finding lead to accept the hypothesis that there exists relationship between personal, socio-economic and psychological characteristics of subscriber farmers and their attitude towards farm magazines.

Economic motivation also exhibited the positive relationship with attitude of subscriber farmers. This finding is in line with the findings of Animuthu (1982), Philip (1983), Perumal *et al.* (1988), Krishna Kumar (1990) Nataraju and Muthaiah (1995), Hazarika (1996), Suresh Kumar (1997), Jaya Subramanian *et al.* (1998), Barman and Gogoi (2000), Prasad and Sundar Swamy (2000) and Barman and Gogoi (2000).

Economic motivation of an individual again depends upon the education level, farming experience, land holding and exposure to mass medias which in turn help the individuals to earn more annual income. Therefore all these factors might have influenced the economic motivation behaviour which inturn might have exhibited such a trend of result. This

analysis lead to accept the hypothesis that there exists relationship between personal, socio-economic and psychological characteristics of subscriber farmers and their attitude towards farm magazines.

The other variable risk orientation exhibited positive and significant relationship with 'attitude' of subscriber farmers towards farm magazine. This finding is in accordance with the findings of Philip (1983), Sinha *et al.* (1988), Vija and Pillai (1988), Prasad *et al.* (1989), Shiva prasad (1990), Rahupahty and Nagiredy (1991), Siddaramaiah and Reddy (1993), Hazarika *et al.* (1996), Nataraju (1996).

The result might be due to the fact that, the risk orientation again depends upon the size of land holding, the extent of farming experience, annual income, mass media exposure, innovativeness and confidence of farmers in farming. Probably these factors build the risk bearing capacity in the individuals and psychologically develops courage in the individuals to take risk in adoption new technologies and ultimately risk orientation might have exhibited association with attitude of subscriber farmers towards farm magazines. This finding lead to accept the hypothesis that there exists relationship between personal, socio-economic and psychological characteristics of subscriber farmers and their attitude towards farm magazines.

The variable innovativeness exhibited significant relationship with the attitude of farmers towards farm magazines. This finding has similarity with the finding of Raghupathi and Nagireddy (1991), Tawde *et al.* (1991), Suresh Kumar (1997), Nagabhu Shanam and Nanjaian (1998), Barman and Gogoi (2000).

An individual is said to be innovative when he is relatively earlier in adopting the new ideas when compared to other individuals. The individual adopt new ideas/ new technologies / recent advances in his

field by developing psychologically positive attitude towards new ideas. Further, the subscriber farmers had more risk bearing capacity, economic motivation, big land holdings and high income. All these factors might have motivated the subscriber farmers to be more innovative in nature which in turn might have had impact over the attitude towards farm magazines. This finding lead to accept the hypothesis that there exists relationship between personal, socio-economic and psychological characteristics of subscriber farmers and their attitude towards farm magazines.

The variable farming experience had significant relationship with attitude of farmers towards farm magazine. This finding is in conformity with the findings of Philip (1983), Karande and Riswadkar (1987), Ingle and Virkhare (1988), Sontakki (1989), Aralraj and Ulaganandan (1995), Nataraju (1996).

This type of result might be due to the fact that, the farming experience directly depends upon age, education, extension participation, participation in formal organisation, mass media participation and reading behaviour. The results of the present investigation revealed that majority of the subscriber farmers belonged to middle age, educated, 10-20 years of farming experience, more participation in extension activities and more mass media exposure which in turn might have influenced to bring change in their farming practices. As majority of the subscriber farmers were middle to old age group (31-55 years) having vast experience in agriculture, their exposure to different situations in day to day life definitely might have had impact over attitude of subscriber farmers. Hence, farming experience exhibited positive and significant relationship with attitude. This analysis lead to accept the hypothesis that there exists relationship between personal, socio-economic and psychological

characteristics of subscriber farmers and their attitude towards farm magazines.

Extension participation exhibited positive and significant relationship with the attitude of subscriber farmers towards farm magazine. This finding is in accordance with the findings of Patil (1988), Sontakki (1989), Narwal and Dixit (1991), Meti (1998), Prasad and Sundaraswamy (2000).

The subscriber farmers participated in the various extension activities like field days, Krishimela, exhibitions on agriculture, disussion with extension workers, demonstrations conducted by the agriculture department. Their active involvement in all these activites might have resulted in broadening their knowledge horizon. Again the participation depends upon the age, land holding, education, mass media participation. The subscriber farmers were educated, middle aged with high farming experience, high to medium land holdings, more economic orientation, and more innovative. All these factors might have motivated the subscriber farmers to participate in extension activities organised and which inturn might have had impact over the change in attitude of subscriber farmers towards farm magazine. This finding lead to accept the hypothesis that there exists relationship between personal, socio-economic and psychological characteristics of subscriber farmers and their attitude towards farm magazines.

The other variable participation in formal organisation also exhibited positive and significant relationship with the attitude of subscriber farmers towards farm magazine. This finding is in agreement with the findings of Animuthu (1982), Singh (1983), Ashok reddy (1983), Manoharan (1988), Ingle and Virkhare (1988), Patil and Namasivam (1990), Krishnakumar (1990).

The subscriber farmers were either member or office bearer in one of the organisation and regularly participated in the activities conducted by the social organisations. The extent of participation in formal organisation again depends upon educational level, farming experience, income, more extension participation, more mass media participation and high economic motivation. All these put together might have influenced the subscriber farmers to become member or office bearer of such organisation. Hence, all these factors might have influenced significant relationship with attitude of subscriber farmers towards farm magazines. This finding lead to accept the hypothesis that there exists relationship between personal, socio-economic and psychological characteristics of subscriber farmers and their attitude towards farm magazines.

However the variable age exhibited negatively significant relationship with attitude. There are no earlier studies to substantiate this finding.

This type of trend might be due to the fact that, the out look of an individual will change with the increase in participation in formal organisation, mass media exposure. However the success of doing agriculture mainly depends upon the farming experience, innovativeness and risk taking behaviour certainly not with the age and hence, this trend of negative relationship with attitude of farmers towards farm magazines might have been exhibited.

Land holding had not exhibited relationship with attitude of farmers towards farm magazine. No doubt land holding is an economic factor which influence an individual to increase yield and inturn earn more money and also contributes to risk bearing capacity, extension contact but it may not be having any direct influence on the individuals attitude. Probably with these reasons the land holding might not have exhibited relationship with attitude. This finding is in line with the findings of Oliver

*et al.* (1975 b), Sohal *et al.* (1977), Singh and Singh (1978), Rajan (1982), Sharma (1983), Reddy (1983), Malagi (1985), Nagaraj (1998), Patil (1998), Meti (1990), Himbalkar and Pawar (1990), Patil and Patel (1993), Dhanunjaya (1995), Sureshkumar (1997). Further, this finding lead to reject the hypothesis that there exists relationship between personal, socio-economic and psychological characteristics of subscriber farmers and their attitude towards farm magazines.

The variable 'Income' had not exhibited relationship with 'attitude' of farmers towards farm magazine. The factor income again depend upon other factors like land holding, farming experience, mass media participation, extension participation which in turn have influence on getting higher income. Therefore, income might not have direct impact over the attitude of subscriber farmers. This findings is in accordance with the findings of Oliver *et al.* (1975 b), Rajan (1982), Nagaraj (1986), Ingle and Virkhare (1988), Nimbalkar and Pawar (1990) and Dhanunjaya (1995). This finding lead to reject the hypothesis that there exists relationship between personal, socio-economic and psychological characteristics of subscriber farmers and their attitude towards farm magazines.

The other variable 'material possession' had not exhibited relationship with 'attitude' of subscriber farmers towards farm magazine. The material possession specially refers to the acquisition of agricultural implements and which are necessary to carry the agriculture activities in time and in a better way. The material possession depends upon the size of land holding, farming experience, participation in formal organisation and mainly the annual income of an individual. In this study there may be other factors which might have contributed for non significant relationship between material possession and attitude of subscriber farmers. This finding is in line with the findings of Ashok reddy (1983),

Reddy (1983), Digraaskar and Wangikar (1991). This analysis lead to reject the hypothesis that there exists relationship between personal, socio-economic and psychological characteristics of subscriber farmers and their attitude towards farm magazines.

The other variable extension contact shown no relationship with the dependent variable 'attitude' of subscriber farmers towards farm magazines. Extension contact help the individual to obtain information on agriculture and related aspects with an aim to improve agriculture. Though the results of the study are encouraging, probably there might be other factors which might have dominated in exerting direct or indirect influence on the attitude of subscriber farmers and hence this type of result. This finding is in accordance with the findings of Reddy and Reddy (1977) and Meti (1990). This finding lead to reject the hypothesis that there exists relationship between personal, socio-economic and psychological characteristics of subscriber farmers and their attitude towards farm magazines.

### **5.3.1 Multiple regression between independent variables and dependent variable**

Multiple regression analysis was carried out to ascertain the contribution of independent variables over the dependent variable. The results presented in the table 8 indicated that mass media participation, economic motivation, risk orientation and innovativeness exhibited positively significant relationship with dependent variable 'attitude' of subscriber farmers towards the farm magazines. The discussion given elsewhere in this chapter for their significant relationship holds good here as well. Out of 13 variables studied for their relationship with 'attitude' (dependent variable) only four variables mentioned above had positively

significant relationship but the remaining variables like age, education, farming experience, land holding, income, material possession, extension contact, extension participation and participation in formal organisation exhibited non significant relationship with attitude. The discussion given elsewhere in this chapter for their non significant relationship holds good here also.

### **5.3.2 Path coefficients for direct, indirect and substantial effects of independent variables on dependent variable 'Attitude' of subscriber farmers towards farm magazines**

All the 13 variables were subjected to pathanalysis in order to find out their direct, indirect and substantial effect on the dependent viable 'attitude' of subscriber farmers towards farm magazines. The findings of path analysis presented in table 9 confirmed the results obtained through multiple regression analysis.

#### **Direct effects**

A close examination of the above table revealed that the innovativeness exerted highest (0.4490) positive direct effect on attitude of subscriber farmers towards farm magazines followed by mass media participation (0.2399), risk orientation (0.1871), economic motivation (0.1745), and farming experience (0.1119). The variables such as land holding (-0.1862) material possession (-0.1745) age (-0.1490), exhibited highest negative direct effect on attitude of subscriber farmers towards farm magazines. While the variable social participation exerted minimum negative direct effect over attitude.

### **Indirect effects**

Among the variables studied, the independent variables such as risk orientation (0.3638) economic motivation (0.2337) exerted highest positive indirect effect on 'attitude' of subscriber farmers towards farm magazines followed by education (0.2067), participation in formal organisation (0.2060), extension participation (0.2044) and innovativeness (0.1975). The other variables such as material possession (0.1579), farming experience (0.0737) and mass media participation (0.0256) exhibited minimum positive indirect effect over 'attitude' of subscriber farmers towards farm magazines. Whereas age (-0.0754) and land holding (-0.0235) exerted maximum negative indirect effect over 'attitude', while extension contact (-0.0156) and annual income (-0.0078) exerted minimum negative indirect effect over 'attitude' of subscriber farmers towards farm magazines.

### **Substantial indirect effect**

Out of 26 indirect substantial effects, the variables such as age ( $X_1$ ) education ( $X_2$ ), annual income ( $X_5$ ), land holding ( $X_4$ ), mass media participation ( $X_{10}$ ), economic motivation ( $X_{11}$ ), risk orientation ( $X_{12}$ ) passed through innovativeness ( $X_{13}$ ) exerted indirect substantial influence over 'attitude' of subscriber farmers towards farm magazines. Three variables such as age ( $X_1$ ) education ( $X_2$ ) and economic motivation ( $X_{11}$ ) passed through risk orientation ( $X_{12}$ ) exerted substantial indirect effect over 'attitude'. While three other variables *viz.*, farming experience ( $X_3$ ),

material possession ( $X_6$ ) and extension participation ( $X_8$ ) passed through mass media participation ( $X_{10}$ ) and exhibited substantial indirect effect towards the attitude of subscriber farmers towards farm magazines. Where as two variables such as mass media participation ( $X_{10}$ ) and extension participation ( $X_8$ ) passed through material possession ( $X_6$ ) and had total indirect substantial effect over 'attitude' of subscriber farmers towards farm magazines. Thus, based on the above findings it could be inferred that;

- 1) Innovative ness, mass media participation, risk orientation, economic motivation, and farming experience emerged as the key variables in influencing the highest positive direct effect over 'attitude' of subscriber farmers towards farm magazines.
- 2) The independent variables such as risk orientation, economic motivation exerted highest positive indirect effect on dependent variable 'attitude' of subscriber farmers towards farm magazines followed by education, participation in formal organisation, extension participation and innovative ness.
- 3) Innovative ness with the influence of age education, annual income, land holding, mass media participation, economic motivation and risk orientation exhibited indirect substantial effect over 'attitude' of subscriber farmers towards farm magazines.

#### **5.4 EXTENT OF USEFULNESS OF MESSAGE PUBLISHED IN FARM MAGAZINES**

The results presented in table 10 indicated that 53.12 per cent of subscriber farmers expressed that the articles on agriculture/crop production were 'very useful', 'useful' (43.75%), 'some what useful (2.5%)' and 'not useful (0.62%)'. The reason might be that among the agriculture subjects, crop production technology being the major determinant involved in cultivation of field crops and hence subscriber farmers might have given first preference as very useful in an heirarchical order on the scale and naturally none of the subscriber farmers expressed as 'not useful'. Fifty per cent of the subscriber farmers opined that the articles on horticulture subject as 'useful' followed by 'very useful' (30%), 'some what useful' (15%). This trend might be due to the fact that, precipitation of rainfall is erratic and decreasing yearly and hence most of the farmers cultivating field crops decided to cultivate horticultural crops in addition to field crops. Keeping this in view the Indian Government emphasize cultivation of perrenial horticulture crops by encouraging drip system and sprinkler systems of 'irrigation devices by extending subsidy facility which reduces water use consumption by the crops and a farmer can get good yield and assured income. Therefore, these factors might have influenced the subscriber farmers to rate the horticulture articles as 'useful'. Further, the results also revealed that very less percentage of subscriber farmers opined these articles as 'little useful' (1.89%) and 'not useful' (3.12%).

With respect articles on veterinary and animal husbandry field the subscriber farmers rated the articles as 'useful' (46.87%), 'very useful' (22.5%), 'some what useful' (21.87%), 'not useful' (5.62%) and 'little useful' (3.12%). This trend of result might be due to the fact that, agriculture is a gamble with nature, farmers are not assured of income from agriculture. Hence they are being encouraged by the government to take up agro-based subsidiary enterprises like Dairy, poultry, Goat/sheep rearing, rabbit rearing etc., in order to compensate the income from agriculture through additional income. Therefore, subscriber farmers might have rated these articles 'useful' in an heirarchial order. On the other hand very few subscriber farmers expressed the articles as little useful and not useful, might be due to their poor knowledge and poor financial background.

The subscriber farmers rated the articles on sericulture subject as 'useful' (35%), 'some what useful' (27.5%) and 'not useful' (21.25%), 'very useful' (13.75%) and 'little useful' (2.5%). The results clearly indicated that majority of them considered articles as some what useful or little useful or not useful. The reason might be that north Karnataka being the study area where major crops like jowar, chilli, groundnut, sugarcane and pulse crops are grown, and very less area is under sericulture, hence such a type of results.

The results in the table also indicted that the articles on food and nutrition (33.75%), home management (31.87%), family resource management (31.87%) were rated by the subscriber farmers as 'some

what useful'. The reason might be that poor awareness of subscriber farmers about these areas and hence they have rated these articles as 'some what useful'. The articles on fishery (33.75%), agriculture engineering (34.37%) were rated as 'tittle useful' and forestry (32.5%) articles were considered as 'some what useful'. However varying percentage of subscriber farmers expressed as 'useful' and 'very useful'. This trend of result might be because the subscriber farmers considered areas under fishery, forestry as less important in north Karnataka and rate as some what useful.

The subscriber farmers rated the articles as 'not useful' in the areas of advertisements and folksongs/stories by 38.12 and 41.25 per cent respectively. The result indicated that farmers could not give importance to the advertisements on agriculture related aspects. Now a days almost all the input agencies like seeds, fertilizer and pesticides do conduct number of extension activities to create awareness about their products because of competitive nature. As a result subscriber farmers might not have given importance to advertisements.

Further, the subscriber farmers might not have considered the articles in the areas of folksongs/stories (41.25%) as 'not useful' as they does not have scientific background. With regard to the articles on rural development and environmental aspects 30.62 per cent each of the subscriber farmers judged as 'some what useful'. Most probably the articles on rural development might have created awareness about the importance of rural development programmes implemented by the

government and in turn help them to take advantage of these programmes. As far as environmental articles are concerned, they enhanced their knowledge to protect environment so as to maintain ecological balance. Therefore, the subscriber farmers might have rated these articles as 'some what useful'.

Further, in order to know the extent of usefulness of each of the selected magazines viz., Krishiloka, Karnataka Vyvasaya patrike, Krishi munnade and Siri sambruddhi, the subscriber farmers were asked to rate the articles as very useful, useful, some what useful, little useful and not useful on different subject matter areas with a scoring pattern of 5, 4, 3, 2 and 1. Then the total score for each farm magazine was obtained by multiplying each article published in the magazine irrespective of subject matter areas with the above scoring procedure. Thus, the total score was obtained for each magazine to ascertain the extent of usefulness or to differentiate each of the magazine. The results presented in the table 11 indicated that, out of the four magazines, the 'Krishi munnade' obtained highest score of 1682 followed by 'Siri sambruddhi' (1590), Karnataka vyvasaya patrike (1568) and Krishloka (1512). Therefore, amongst these four farm magazines 'Krishi munnade' emerged as most useful as rated by the subscriber farmers. This analysis lead to accept the following hypothesis that the extent of usefulness of various farm magazines selected differ from each other.

The 'Krishi munnade' farm magazine is being published by the university of agricultural sciences, Dharwad naturally and articles were contributed by the university scientists, considering this the subscriber farmers might have found the articles as most useful and practicable in

nature and also the effectiveness of farm magazine largely depends upon other factors like format of the magazine, cover page, photographs, facts and figures used, size of letters, sentence length, simple words in small paragraphs which might have motivated the subscribers to rate the magazine as most useful. No doubt the other factor as 'scientists' would have made them to rate the magazine more credible source. Hence, these factors might have had influence on the subscriber farmers to rate Krishi munnade farm magazine as most useful compared to other magazines.

The farm magazine 'Siri sambruddhi' is being published by the Baratiya Agro Industries Federation, Tiptur, Karnataka a voluntary organisation completely devoted for the welfare of farming community. It organises number of programmes for the benefit of farmers specially in the areas of Animal husbandry like 'Artificial insemination', promoting dairy and other agricultural extension programmes. It publishes most of the articles written by the farmers in the form of success stories, sharing the experiences of farmers. Therefore, the 'Siri sambruddhi' might have emerged as an important farm magazine. However the factors responsible for effectiveness of magazine mentioned elsewhere in this chapter might have played a role in rating this magazine as useful one.

However, the other two magazines such as Karnataka Vyvasaya patrike and Krishiloka were emerged as useful farm magazines but next in order as evident from the data of rating by the subscriber farmers in the order of priority.

An indepth analysis of each of the selected farm magazine revealed that the articles published in the areas of agriculture/corp production, horticulture, veterinary and animal husbandry and sericulture were rated as 'very useful' 'useful' and 'some what useful' with varying percentage of subscriber farmers of each of the farm magazine followed by 'little useful' and 'not useful' by very less percentage of subscriber farmers. With respect to the articles on food and nutrition, home management, family resource management, fishery, agricultural engineering, forestry areas, varying percentage of subscriber farmers rated as 'some what useful' 'little useful' and 'not useful'. The same trend was observed in all the selected farm magazines. Further, varying percentage of the subscriber farmers rated the articles in the areas of advertisements, folksongs/stories, rural development environmental aspects as 'little useful', 'not useful' and 'some what useful'. The same trend was observed in all the selected farm magazine. However very less percentage or almost nil percentage of subscriber farmers expressed the articles as 'little useful' and 'not useful' in the areas of agriculture, horticulture, veterinary and animal husbandry and sericulture. The same trend was observed in each of the magazine. The reason mentioned elsewhere in this chapter holds good here as well for observation of this trend of results.

Studies conducted by various authors on the usefulness of message published through printed media like books, booklets, leaf lets/folders news papers and farm magazines revealed that the articles published through print media were 'useful' to the farming community. Hence, the

above finding are in conformity with findings of Veerbhadraiah and Sethurao (1970), Hasker (1971), Oliver (1971), Patel and Patel (1972), Kaur (1978), Jayaram (1980), Rajendron (1982), Nijalingappa (1983), Chapelle (1987), Patel *et al.* (1995) and Nataraju and Perumal (1996), Nanjappa (1998), Syed Sadaquat *et al.* (1998), Tawade (1998),

### **5.5 CONTENT ANALYSIS OF FARM MAGAZINE**

The results presented in the table 11 revealed that the overall content analysis of articles published in four farm magazines belonged to agriculture/crop production (38.51%) followed by horticulture (27.87%), veterinary animal husbandry (10.06%), food and nutrition (6.61%) agriculture engineering (6.03%). On the other hand less number of articles were published in the areas of farm forestry (4.02%), sericulture (3.74%), fishery (1.72%), home management (0.86%) and family resource management (0.58%). The above trend of results might be probably agriculture/crop production is an important area where in longer per cent of farmers grow field crops constituting staple food grains of the country and also contributing to the agricultural production and hence we find more area under crop field crops. Therefore, the publishers might have given prime importance to publish the articles on field crops. Horticulture was the another area where in more number of articles were published. Now a days government has extended subsidy to irrigation systems (sprinkler and drip systems) in horticulture crops. The income from field crops is mainly depended on erratic and unassured rainfall so the government encourage the farmers to grow horticulture crops hence, the

publishers might have attached more importance to printing horticulture articles.

With respect to articles on veterinary and animal husbandry aspects, to compensate the loss of income from field crops due to erratic rainfall, the government is encouraging the farmers to adopt agro-based subsidiary enterprises like dairy, poultry, beekeeping, goat/sheep rearing etc. Hence considering to the importance of agro-based enterprises the publishers might have decided to publish the articles on veterinary and animal husbandry area. In other areas such as sericulture, food and nutrition, family resource management, home management, farm forestry, fishery, agricultural engineering very less number of articles have been published in all the four farm magazines.

An indepth analysis of results for each of the selected four farm magazine revealed that, almost all the four magazine had given due importance to publish the articles in the areas of agriculture, horticulture veterinary and animal husbandry followed by food and nutrition, agricultural engineering, farm forestry and fishery. However, Krishloka and Siri sambruudhi farm magazines publish more number of articles on agriculture, horticulture, veterinary and animal husbandry, food and nutrition, agricultural engineering, while the other farm magazines published comparatively less number of articles.

It is interesting to note that almost all the selected four farm magazines published the articles on different subject matter areas

including farm advertisements, folk songs/stories, rural development and environmental aspects. Further, the results revealed that Krishiloka and Siri Sambruddhi farm magazines published articles on plants of medicinal value. This analysis lead to accept the following hypothesis that the contents published in farm magazines differ from magazine to magazine.

These findings are in line with the findings reported by Kayal (1975), Mathur and Bhilegaokar (1976), Krishna kumar (1982), Nandi (1982), Thirupathaiah (1983), Sharma (1983), Khera and Dillan (1989), Saha and Trika (1989), Muthuzhagan (1990) and Nataraju and Perumal (1995), Mishra and Verma (1998), Sawant and shinde (1999), Chandrashekar *et al.* (2000) and Abdullah *et al.* (2000).

## **5.6 SOURCES OF ARTICLES TO FARM MAGAZINES**

The overall results presented in Table 12 revealed that scientists from Agriculture University / Indian council of Agricultural Research (45.4%) emerged as main a source of articles to the farm magazines followed by extension personnel (17.24%), farmers (15.80%), editor/reporters (12.22%), officials of voluntary organisations (4.31%), officials of input agencies (2.31%) and officials of commercial banks (1.72%).

When the data was analysed for each farm magazine, the results revealed the same trend of contributor of the articles to all the farm magazines except in case of 'Krishi Munnade' all the articles were contributed by the scientists from agriculture university. This finding lead to accept the hypothesis that the sources of articles to farm magazines differ from magazine to magazine.

It was observed during the course of study that, there were no reporters employed by the publishers to contribute articles. The agriculture university scientists are expected to carry the functions teaching, research and extension simultaneously. They conduct need based research, keeping farmers in view as their clientele they communicate the research findings to larger section of farming community so as to update their knowledge and bring desirable changes in the cultivation practices aiming to increase income there by improvement in their standard of living. Therefore, the agriculture scientists might have contributed maximum number of articles to the farm magazines for effective transfer of technology and emerged as first and foremost source/contributor of articles to these magazines.

Extension personnel of developmental departments also equally important contributor of articles to the farm magazines. The extension personal work with the farming community to disseminate recent know how related to farming operations to be carried out by the farmers. They also communicate to the farmers about various development programmes implemented by the government, the facilities and benefits rendered through these programmes. Therefore, the extension personnel might have contributed more number of articles for the larger interest of the farming community. Hence, the extension personnel might have emerged as next best source of contributor of articles to the farm magazines in order of priority.

Farmers being the receivers of message and user of message they also contributed articles to the farm magazines in the form of success

stories, practical field problems etc. Under the present agriculture scenario, small land holdings due to fragmentation, erratic rainfall more price fluctuations in market exploitation by the middle agents the farmers are not getting the actual profit out of agriculture. In order to meet the food requirement of their family members, farmers tried to change their attitude from subsistence farming to commercial farming so as to earn more from limited land holdings and learn to adopt recent technologies in agriculture. As a result the farmers read farm magazines consisted of agriculture information on recent technologies. In the process the literate farmers included in the study might have encouraged to contribute articles to the farm magazine.

The other sources of articles to the farm magazine were editors/reporters of the concerned magazines. The editors might have experience in agriculture field are engaged in editing the articles and probe further into various aspects of the articles written might have enriched their knowledge level and motivated to write the articles for the welfare of farming community and also to improve the circulation of their farm magazine.

The officials of voluntary organisations also contributed articles to the farm magazines. The voluntary organisations work very close to the farming community with personal touch and help the farmers by creating awareness about the new technologies and to increase their yield level. They work on the basic principle like mutual help without profit making orientation. Hence, all these factors might have motivated them to write the articles for farm magazines.

To certain extent, the officials of input agencies also contributed articles to the farm magazines to popularise their company products. In addition, these organisations also carryout extension activities for the benefit of farming community. During course of their work, they might have been exposed to the practical problems of the farmers which might have motivated them to write articles to the farm magazines.

The officials of commercial bank also contributed articles to the farm magazine to a little extent. It is observed that every bank has employed agriculture graduates as Rural Development Officers. They conduct number of extension activities to create awareness among the farmers about new technologies, new government programmes and facilities available from banks and developmental departments. While performing their duty, probably they were exposures to practical field problems of farmers which might have motivated them to write the articles for the benefit of farmers.

In respect of 'Krishi Munnade' farm magazine almost all the articles have been contributed by the scientists as it is being published from university of agricultural sciences, Dharwad.

The findings are in agreement with the findings of Oliver *et al.* (1971), Joseph (1975), Ganapathy *et al.* (1977), Mathur *et al.* (1978), Kaur and Mathur (1979), Krishna Kumar (1982), Muthazhagan (1990), Nataraju and Perumal (1995).

## 5.7 READABILITY OF THE FARM MAGAZINES

The utility of farm magazine largely depend upon the contents and readability of the articles. Hence, the readability of the articles published in the selected farm magazines like Krishi loka, Karnataka Vyasaya Patrike, Krishi Munnade and Siri Sambruddhi was measured by using the formula developed for Kannada language by Nanjappa and Siddaramaiah (1993) and the results presented in tables 13, 14, 15, 16 and 17. The results depicted in table 14 indicated that out of 307 articles published in all the issues of selected for farm magazines during the year 1999-2000 were considered for analysis. A total of 180 articles on different major subject matter areas representing different authors were selected four measure the readability of the articles. It could be seen from the table 14 that 134, 97, 31, 13, 25 and 7 articles were published in the major subject matter areas such as agronomy, horticulture, veterinary and animal husbandry, agricultural engineering, home science and sericulture respectively. Irrespective of the farm magazine 72, 56, 19, 7, 22 and 4 articles were selected to measure the readability published in the subject matter areas mentioned above.

An indepth analysis of the data far each of the farm magazine presented in table 13 revealed that in 'Krishiloka' farm magazine, 18 articles published in the area of agronomy, out of which 6, 5, 2 and 5 articles written by the scientists, extension personnel, editor and farmers respectively were selected considering 50 per cent of the articles in each subject matter area giving equal representation to authors. Similarly in

horticulture area 19 articles were written, out of which 6, 3, 5 and 5 articles were selected to find out readability written by scientists, extension personnel, editor/reporters, farmers respectively like wise for all the major subject matter areas published in all the selected magazines, the same criteria was adopted to select the article to measure the readability. Out of 307 articles selected, 180 articles covering different subject matter area were selected to measure the readability of the articles.

### **Overall readability value/grade level of different farm magazines**

The data depicted in table 14 revealed the overall readability value/grade level of different farm magazines. The grade level of 'Krishi Munnade' farm magazine was 10.04 equivalent to 10<sup>th</sup> standard, followed 9.84 grade level for 'Karnataka Vyvasaya patrike' equivalent to 10<sup>th</sup> standard, for 'Krishiloka' 8.92 equivalent to 9<sup>th</sup> standard and for 'Sirisambruddhi' 8.67 equivalent to 9<sup>th</sup> standard indicated the prefer entire rating of farm magazines by the subscriber farmers. This analysis lead to accept the following hypothesis that the readability level of each farm magazine differ from other.

Probably the farm magazine 'Krishi Munnade' was suitable for those reader farmers who studied upto 10<sup>th</sup> standard. This trend of result might be attributed as almost all the articles were contributed by the scientists from agriculture university. The scientists devote their time to teaching research and extension activities as well as to write the quality articles in their field of specialisation for the benefit of the farming community. The Krishi Munnade farm magazine emerged as one of most useful magazine

among the four selected farm magazines. This clearly indicated that, the subscriber farmers with higher education level and more contact with scientists might have become the subscribers for this magazine compared to the subscriber farmers to other magazines. Further 39 per cent of the subscriber farmers attended schooling upto 8<sup>th</sup>-10<sup>th</sup> standard and 25 per cent in between 5<sup>th</sup>-7<sup>th</sup> standard. Hence the articles written by the agricultural scientists published in Krishi munnade was found suitable for farmers educated up to 10<sup>th</sup> standard and rated as most useful one amongst the four selected farm magazines.

Another farm magazine 'Karnataka Vyvasaya patrike' published by a farmers forum, Karnataka Pradesh Krishik Samaj was rated as next best and found suitable for the readers who had studied upto 10<sup>th</sup> standard. This trend of result might be attributed, majority of the articles were contributed by different authors namely scientists from agriculture university /ICAR followed by editor/reporters, extension personnel and farmers (Table 12).

The articles written in simple sentences in local language with less complex words, short sentences, short paras enhances the readability of the magazines. Such a magazine is suitable for educated subscriber farmers and rated as useful farm magazine thereby obtained third preference among the four selected farm magazines.

The farm magazine 'Krishiloka' published by syndicate agriculture and rural development foundation, Manipal an organisation devoted for

the welfare of the farming was community rated as III preferred farm magazine. The 'Krishi loka' farm magazine was suitable for those who studied upto 9<sup>th</sup> standard. A majority of the articles were contributed by agriculture university /ICAR scientists followed by extension personnel, editor/reporters. Scientists with rich experience in the agriculture subject matter areas and the extension personnel with field experience might have contributed the articles to this magazine in a simple and understandable and local language. The editors as source of articles to this magazine, might have contributed to the articles in easy local language, because of the reasons probably the subscriber farmers might have considered as Krishi loka as one of the useful farm magazine in III<sup>rd</sup> preferential order among the four selected magazines.

The other farm magazine 'Siri sambruddhi' was rated by the subscriber farmers as preferred magazine and was suitable to readers who have studied upto 9<sup>th</sup> standard. The 'Siri sambruddhi' farm magazine being the publication of a voluntary organisation namely Bharathiya Agro Industries Federation devoted for the welfare of the rural sector.

The magazine was started to create awareness among farming community about the new agriculture technologies particularly in the area of veterinary and animal husbandry, so that the farmers could adopt and boost up their income. It has a circulation of more than 10,000. This clearly indicates the popularity of the farm magazine among the farming community. Articles written by agriculture university/ICAR scientists followed by farmers, extension personnel were published while the result

of content analysis revealed that preference was given to articles written by farmers, extension personnel in the form of success stories and farmers experience might have attracted the reader farmers to become the subscriber of this magazine and which might have influenced the subscribers to rate as the magazine as VI<sup>th</sup> preferential farm magazine.

It could be concluded that among the four selected farm magazines Krishi Munnade and Karnataka Vyvasaya Patrike had readability level /grade level upto 10<sup>th</sup> standard and krishiloka and Siri Sambruddhi farm magazines had grade level upto 9<sup>th</sup> standard.

A review of literature on readability indicated that the readability of an article depends upon the size of letter, type of word used, sentence length, clarity of the message, use of personal words, photographs. A piece of writing is said to be readable means "easy or interesting to read and would convey the real meaning of it". However the readability of the farm magazines selected for the study ranges between 9-10<sup>th</sup> standard. That means farmers who have studied upto 10<sup>th</sup> standard can read and understand subject matter published in these farm magazines.

The results elsewhere in the chapter indicated that a majority of subscriber farmers studied upto high school (8<sup>th</sup>-10<sup>th</sup> standard) and middle school (5<sup>th</sup>-7<sup>th</sup> standard). This might be the reason that the subscriber farmers rated these magazines as useful and readable.

These findings are in accordance with the findings of Honnart (1970), Veerabhadraiah and Sethurao (1970), Ganapathy (1971), Crump

(1974), Oliver *et al.* (1974), Kayal (1975), Siddaramaiah *et al.* (1976b), Ahuja (1979), Whiley and William (1980), Jayaram (1980), Rajan (1982), Nijalingappa (1983), Thirupathaiah (1983), Oliver (1985), Krishnakumar (1990), Muthazhagan (1990), Nanjappa and Siddaramaiah (1993), Nataraju (1996), Vijayaraghavan *et al.* (1997), Brman and Gogoi (2000).

### **Average readability / grade value of articles written by different authors in farm magazines**

The results depicted in table 15. Indicated that the average readability value / grade level of the articles written by different authors irrespective of subject matter areas and farm magazines. A close view of results revealed that the readability value/grade level of the articles written by editors/reporters was 8.43 equivalent to 8<sup>th</sup> standard and was found to be less when compare to the readability level of article written by extension personnel was 8.85 equivalent 9<sup>th</sup> standard, Farmers 9.09 equivalent to 9<sup>th</sup> standard and scientists 9.56 equivalent to 10<sup>th</sup> standard.

The grade level of the articles written by editors/reporters was less and suited to the individuals who studied upto 8<sup>th</sup> standard. The probable reason could be attributed that, the editors job is to edit the articles, to be simple and easy to understand by the readers. In addition during the course of editing the editors might have been exposed to a variety of articles and might have gained more knowledge in agricultural aspects which might have motivated the editors to write the articles suited for larger majority and be of low grade level.

The results also revealed that the grade level of the articles written by extension personnel was comparatively less i.e., 8.85, equivalent to 9<sup>th</sup> standard. The reason might be that, the extension personnel are the grass root level workers and are expected to work with farmers in the rural areas. During this course of time, the extension personnel might have exposed to diversified conditions of farmers and the constraints faced by the farmers. Here are the better person who can write the articles focusing on agricultural aspects as well as problems of the farmers in a more clear, simple, understandable form for wide acceptance by a larger majority of farming community. Hence all these factors might have motivated extension personnel to write the articles of grade level suited to the frames.

The readability value/grade level of the articles written by the farmers was 9.09 equivalent to 9<sup>th</sup> standard and was comparatively less than the grade level of article written by the scientists and extension personnel which is quite but natural though the farmers are aware of their practical problems, personal status and are right persons to interpret their problems through articles to attracts the attention of scientists and extension personal to get solution to their problems and in reality it is not happening. Articles written by farmers does not find support of research findings and hence the grade level of the articles written by farmers was less than the grad level of the articles written by scientists.

The readability /grade level of the articles written by scientists was 9.56 equivalent to 10<sup>th</sup> standard and was high when compared to the

articles written by editors and extension personnel and farmers. It is the mandate of the scientists of agricultural university and ICAR institutes to show more concern to the betterment of farming community. They are being trained how to write, what to write and why to write. These factors might have contributed for high grade level of articles written scientists.

**Average readability value/grade level of articles written by different authors in different farm magazines**

The results depicted in table 16 related to the average readability value/grade level of the articles written by different authors published in different farm magazines indicated that, the average grade level of the articles written by the scientist was 8.77 equivalent to 9<sup>th</sup> standard in case of Siri Sambruddhi followed by Krishi loka (9.43 = 10<sup>th</sup> standard), Karnataka Vyvasaya patrike (10.03 = 10<sup>th</sup> standard) and Krishi Munnade (10.04=10<sup>th</sup> standard) respectively.

Where as the average grade level of the articles written by extension personnel in case of Siri Sambruddhi farm magazine was 8.12 equivalent to 8<sup>th</sup> standard, followed by Krishi loka (9.32=9<sup>th</sup> standard) and Karnataka Vyvasaya patrike (9.81=10<sup>th</sup> standard) respectively.

While the grade level of the articles written by editors/reporters in case of Siri Sambruddhi was 8.07 equivalent to 8<sup>th</sup> standard, Krishi loka and Karnataka Vyvasaya patrike 8.5 each equivalent to 9<sup>th</sup> standard. It is necessary to mention here that Krishi munnade farm magazine is being published by the agricultural university and scientists are the sole contributors/ sources of articles.

The grade level of articles written by farmers in Siri Sambruddhi was 9.35 equivalent to 10<sup>th</sup> standard followed by Krishi loka (7.95=8<sup>th</sup> standard) and Karnataka Vyvasaya patrike (9.72=10<sup>th</sup> standard).

Looking to the above trend of results it could be concluded that in general the average grade level of articles written by different sources was less in Siri sambruddhi except articles written by farmers for Krishi loka farm magazine. However the average grade level of the articles written by editors/reporters and extension personnel and farmers was comparatively less than the grade level of the articles written by scientists. The possible reasons might be same as mentioned elsewhere in this chapter holds good here as well.

#### **Readability value/grade level of the articles written by different authors on different subject matter areas in farm magazines**

The data on average readability value/grade level of the articles written by different authors on different subject matter areas published in different farm magazines presented in table 17 revealed that, over all grade level of the articles written by scientists was 9.56 equivalent to 10<sup>th</sup> standard, where as the grade level of the articles written by extension personnel was 8.85 equivalent to 9<sup>th</sup> standard and by editors was 8.43 equivalent to 8<sup>th</sup> standard, further, the grade level of the articles written by farmers was 9.09 equivalent to 9<sup>th</sup> standard.

The data in the table also indicated that the average grade level/readability value of the articles in agronomy subject written by

scientists was 10.56 for Karnataka Vyvasaya patrike and 10.25 for Krishi munnade which is higher than average grade value of 9.56. In respect of the grade level of horticulture articles written by the scientists (11.04) for Krishi loka and 9.68 for Karnataka Vyvasaya patrike which is also higher than the average grade value. Whereas the grade level/readability value of veterinary and animal husbandry articles written by scientists for Krishi loka was less (8.92) than the average grade value of 9.07 for Krishi munnade. The readability value/grade value of the articles written by the scientists was 9.88 for agricultural engineering, published in Karnataka Vyvasaya patrike, 10.12 for home science and 11.00 for sericulture published on Krishi munnade farm magazines respectively which was higher than the overall average grade value of the scientists 9.56. This reasons might be due to the fact that the scientists are highly educated, highly experienced with more exposure to various sources might have contributed for such a type of results. Other reasons quoted elsewhere in this chapter supporting the results related to scientists holds good here as well.

The average grade level of the articles written by extension personnel for different farm magazines was 11.29, 10.05, 10.21, 9.54 and 10.01 for the subjects such as agronomy in Krishi loka and Karnataka Vyvasaya patrike, horticulture subject in Karnataka Vyvasaya patrike, veterinary and animal husbandry in Siri sambruddhi and agricultural engineering for Siri sambruddhi respectively. These values were quite higher than the overall average grade value of 8.85.

The average grade level of the articles written by editors/reporters was 11.36, 9.27, 9.09 and 10.38 for the subject agronomy in Krishi loka and Siri sambruddhi, for horticulture in Karnataka Vyvasaya patrike and home science in Siri sambruddhi farm magazines respectively which is higher than the overall average grade value of 8.43.

However, the grade level of the articles written by the farmers was 9.88, 10.86, 10.15, 12.10, 9.71 for the subjects agronomy in Karnataka Vyvasaya patirke and Siri sambruddhi, for horticulture in Karnataka Vyvasaya patrike, for agricultural engineering in Karnataka Vyvasa patrike and Siri sambruddhi farm magazines respectively. These values were higher than the overall average readability value of 9.09.

## **5.8 OTHER ASPECTS OF READING BEHAVIOUR INTERMS OF EXTENT OF READING, DURATION OF READING, PREFERENCE TO SUBJECT MATTER AREAS PUBLISHED IN FARM MAGAZINES OF THE SUBSCRIBER FARMERS**

### **5.8.1 Extent of reading**

The data presented in table 18 revealed that 68.13 per cent of the subscriber farmers read complete articles published in farm magazines, whereas 31.87 pr cent read only the required/selected articles. The possible reasons might be that all the subscriber farmers had education ranging from primary school to graduate level. This clearly indicates that, they become subscriber to these farm magazines on their own interest in order to gain agricultural information and to bring improvement in the

cultivation practices as well as in their standard living. Probably the subscriber farmers might be in the habit of reading the articles completely. Whereas less percentage of the subscribers read the selected articles according to their needs and interest. Some of them interested to gain knowledge only with respect to high tech agriculture like tissue culture, horticulture, bio-technology, organic farming etc., as a result few subscribers, farmers read only selected articles.

The results in the table also revealed the extent of reading by the subscriber farmers in respect of each of the farm magazine. 77.50 per cent of the subscriber farmers of Karnataka vyvasaya patrike read the complete articles where as 22.50 per cent read only selected articles. In respect of Krishi munnade farm magazine, 75 per cent of the subscriber farmers read complete information and 25 per cent read required articles. The same trend of reading was observed in other two magazines such as Siri sambruddhi and Krishi loka. It could be concluded that a majority preferred to read the articles for complete information and few preferred to read the selected/required articles. The possible reasons for this type of results might be education level as mentioned elsewhere in this chapter holds good here as well.

#### **5.8.2 Duration of reading of farm magazines by the subscriber farmers**

The data depicted in table 19 revealed that 10 per cent and 2.5 per cent of the subscriber farmers daily read Krishi munnade and Krishi loka

farm magazines for one hour, whereas 2.80 per cent of the subscriber farmers read Karnataka Vyvasaya patrike and Siri sambruddhi once in a month for more than three hours.

Further, it could be observed from the table that, varying percentage of subscriber farmers read 'Krishi loka' farm magazine for one hour either once in a month (22.50%), more than two times in a week (12.50%), once in a week (12.5%) and once in 15 days (12.5%). However, the overall reading habit of Krishi loka farm magazine that revealed varying percentage of subscriber farmers read the magazine either once in a month once in 15 days once in a week, twice in a week daily. Majority of (45%) subscriber farmers prefer to read the magazine once in a month followed by once in a week (22.5%), more than two times in a week (17.5%), once in 15 days (12.5%) and daily (2.5%), respectively. The possible reasons for this trend of results might be due to the fact that, the Krishi loka is a monthly magazine published by syndicate agriculture and rural development foundation Manipal and a majority might have read the articles at one time wherever they receive the magazine. Further, the subscriber farmers might have read the required information at different frequency of time as and when they felt necessary.

The reading habit of subscriber farmers in respect of 'Karnataka vyvasa patrike' farm magazine revealed that varying percentage of subscriber farmers read the magazine once in a week (20%) followed by once in a fort night (12.5%), twice in a week (7.5%) and once in a month (2.5%) respectively. In general majority of the subscriber farmers read

Karnataka vyvasaya patrike once in a week (32.5%) followed by twice in a week (25%), once in a fort night (22.5%) and once in a month (20%). The possible reasons might be that the Karnataka vyvasaya patrike is being published by farmers organisation called Karnataka Pradesh Krishik samaj. Considering the need and interest of the farmers and also the credibility attached towards the magazine as farmers might have been motivated to read the magazine at different frequency of time. More often, the magazine publishes the activities or functions organised at different places to create awareness about the functioning of the organisation which might have also motivated them to read frequently.

In respect of reading habit of subscriber farmers towards 'Krishi munnade' farm magazine, the results revealed that, the subscriber farmers read the articles for one hour either once in a month (20%), twice in a week (15%), once in a week (10%), once in 15 days (7.5%) respectively. The results also revealed the overall reading habit, that a majority of the subscriber farmers (27.5%) read the magazine once in a month followed by twice in a week (25%), once in a fort night (20%), once in a week (17.5%) and daily (10%). The Krishi munnade farm magazine being the publication of agriculture university Dharwad and hundred per cent of the articles contributed by the scientists keeping in view the need, interest, content and credibility of the scientists would have made them to read the magazines at different frequential time.

The results presented in the table indicated the reading habit of subscriber farmers towards 'Siri sambruddhi' farm magazine by varying

percentage of subscribers for one hour, once in a week (15%), once in 15 days (10%), twice in a week (7.5%) and once in a month (7.5%). In general, the overall reading habit of Sirisambruddhi farm magazine revealed that 42.5 per cent of subscriber farmers read magazine once in 15 days followed by once in a month (32.5%), once in a week (17.5%) and twice in a week (7.5%). This trend of result might be due to the fact that the Siri sambruddhi farm magazine is a monthly which is being published by a voluntary organisation based on developmental work undertaken in rural areas. It publishes more articles on farmers experiences, success stories and practical aspects which might have encouraged the subscribers to read the magazine at different frequential time. Further there might be various factors such as the cover page, size of letters, format, photographs and the language used might have had influence on the subscribers farmers to read the different magazine with different frequencies as per their convenience.

**With above research findings, the following inferences could be drawn in general;**

- 1) Majority of the farmers (31.25%) read the farm magazines once in a month followed by once in 15 days (24.37%), once in a week (22.5%), twice in a week (18.75%) and daily (3.13%).
- 2) No subscriber farmer read the farm magazines daily except very negligible percentage who read Krishi loka and Krishi munnade for one hour duration.

- 3) Almost nil or very negligible percentage of subscriber farmers preferred to read the farm magazines for three and more than three hours duration.
- 4) Varying percentage of subscriber farmers read the farm magazines either twice in a week, once in a week, once in 15 days and once in a month.

The above research findings are in conformity with the findings of Honnart (1970), Zalaki (1973), Siddaramaiah *et al.* (1976), Nijalingappa (1983), Thirupathaiah (1983), Sawant and Waghmore (1985), Nataraju (1996), Barman and Gogoi (2000).

### **5.8.3 Subject matter areas preferred by the subscriber farmers**

The data presented in table 20 revealed that, the overall subject matter areas preferred by the subscriber farmers published in the farm magazines such as *Krishi loka*, *Karnataka vyvasaya patrike*, *Krishi munnade* and *Siri sambruddhi* for 'Reading' were agriculture (73.12%), horticulture (53.75%), Sericulture (36.25%) and of the articles preferred in the areas of veterinary and animal husbandry (48.75%) for discussion with their family members. The possible reasons might be that the articles in the areas by agriculture/horticulture/sericulture are crop based, field oriented, easy to read and understand and does not require discussion with others hence, preferred for 'reading'. Whereas the articles an animal husbandry involves the technical matter and heavy investment on enterprises like dairy, poultry etc., motivated them to discuss with their family members.

Varying percentage of subscriber farmers preferred the articles in the areas food and nutrition (58.12%), home management (51.25%), family resource management (55.62%) followed by the articles on fishery (43.75%), agricultural engineering (50.13%) and forestry (56.87%). The possible reasons might be that the subjects like food and nutrition, home management, family resource management are much concerned to women members of the family, lack of knowledge and require joint decision of all the family members. Further, the subjects like fishery, agricultural engineering, forestry are more scientific in nature and might be the new areas to them, which might have motivated them to have discussion with their family members.

Further, the data in the table revealed that, the majority of the subscriber farmers preferred the articles for 'discussion with neighbours' in the areas of advertisements (70.62%), folk songs/stories (68.12%), rural development articles (58.75%) and environmental articles (62.5%). The possible reasons results might be that the advertisements are made in the areas of new implements, pesticides and fertilizers. The farmers might not be in a position to take decision themselves and might be interested to exchange and discuss with their friends, relatives and neighbours about its advantages and disadvantage. These reasons might have motivated them for discussion with their neighbours. While in respect to the articles on folk songs/stories which also requires the social approval by the member of society might have motivated them to discuss with their neighbours. Where as in case of rural development and environmental

articles which are applicable to all the community members and perhaps this might be the reason for the subscriber farmers to discuss with their neighbours regarding benefits, pros and consequences of the programmes.

Further, an depth analysis was carried out to ascertain the subject matter area preferred by the subscriber farmers from each of the magazine revealed almost the same trend. Hence it could be inferred that ;

- 1) The articles in the areas of agriculture, horticulture, veterinary and animal husbandry and sericulture were preferred by majority of the subscriber farmers for 'reading'.
- 2) The subscriber farmers preferred the articles for 'discussion with their family members' in the areas like food and nutrition, home management and family resource management..
- 3) A majority preferred the articles for discussion with neighbours in the areas like fishery, agricultural engineering, forestry, advertisements, folk songs/stories, rural development and environmental articles.

#### **5.9 SUGGESTIONS OFFERED BY THE SUBSCRIBER FARMERS TO IMPROVE THE QUALITY AND EFFECTIVENESS OF FARM MAGAZINES**

Subscriber farmers were asked to give suggestions Table 21 to improve the quality and effectiveness of farm magazines. A list of 15 suggestions were provided in the questionnaire for ready reference. The

results revealed that the following suggestion expressed by the subscriber farmers in order of priority. Publish the information on commercial crops (98.12%), the possible reason for this might be that, as the average land holdings are small, in competitive world to lead a good life, farmers have to increase the yield as well as the income. The subscriber farmers might have attached more importance to commercial crops which in turn would give higher yield. The other suggestion in order of priority was to publish the articles on integrated pest and disease management (96.86%). For this trend, the possible reason could be the complex nature of diseases and more incidence of pests, insects and diseases. The subscriber farmers might be interested in control measures of the pest and diseases and inturn they could get the higher yield. The other suggestion given was to publish the articles on nutritional aspects of fruits and vegetables (95%). The possible reason could be, the subscriber farmers might be interested in good health since, mal nutrition has resulted in number of diseases. Another suggestion was to publish the articles in regional local language (95%) which would help them easier to understand the message and apply them practically.

The other suggestions offered by the subscriber farmers in order of priority were, to publish information on prescribed page (93.12%) which would help them directly to consult that page to get the required information. Publish the articles related to agro based subsidiary enterprises (92.5%) like dairy poultry goat/sheep rearing etc., so that they adopt these enterprises looking at the availability of resources to get additional income along with agriculture. Next suggestion in order of priority was to use suitable letter size (91.5%) which would help them to read and understand clearly followed by to use more figures and photos' (87.5%) as it would create interest and attract to capture their attention. 82.5 per cent of the subscribers suggested to use simple sentences that would make reading easier.

It is interesting to note that considerable percentage (81.25%) of the subscriber farmers wanted to read more and more information on high-tech agriculture like floriculture, tissue culture, organic farming etc., which would enable them to adopt these recent technologies and earn more profit. Less percentage of subscriber farmer suggested to use simple statistical figures (80.62%) so that they can compare with their present yield levels and make efforts to enhance their income level. 80 per cent of them opined that instead of publishing a whole articles, series of articles, could be published as it would help them to understand easily and maintain a tempo of reading. About 76.58 per cent of subscriber farmers suggested to make simple paras while writing the articles. This would help them to understand in a better way and make their reading easy. The other suggestion expressed by the subscriber farmers as to publish more number of articles in the form of success stories (71.58%). This would help them to contact such farmers and adopt the technologies.

Due to increasing literacy percentage in rural areas, the farm magazines can be better utilized as an effective mode of transfer of agriculture information to the farmers. In this direction, the government is also encouraging the circulation of farm magazines through various schemes. The conceptual model developed for the study was tested, analysed and was noticed that only a few personal, socio-economic and psychological characteristics such as education, farming experience, extension participation, participation in formal organisations, mass media participation, economic motivation, risk orientation and innovativeness exhibited positively significant relationship with attitude of the subscriber farmers.

It is also clear from the study that land holding, annual income, material possession, extension contact shown non-significant relationship with the attitude of subscriber farmers. The above findings are depicted in the Fig. 15.

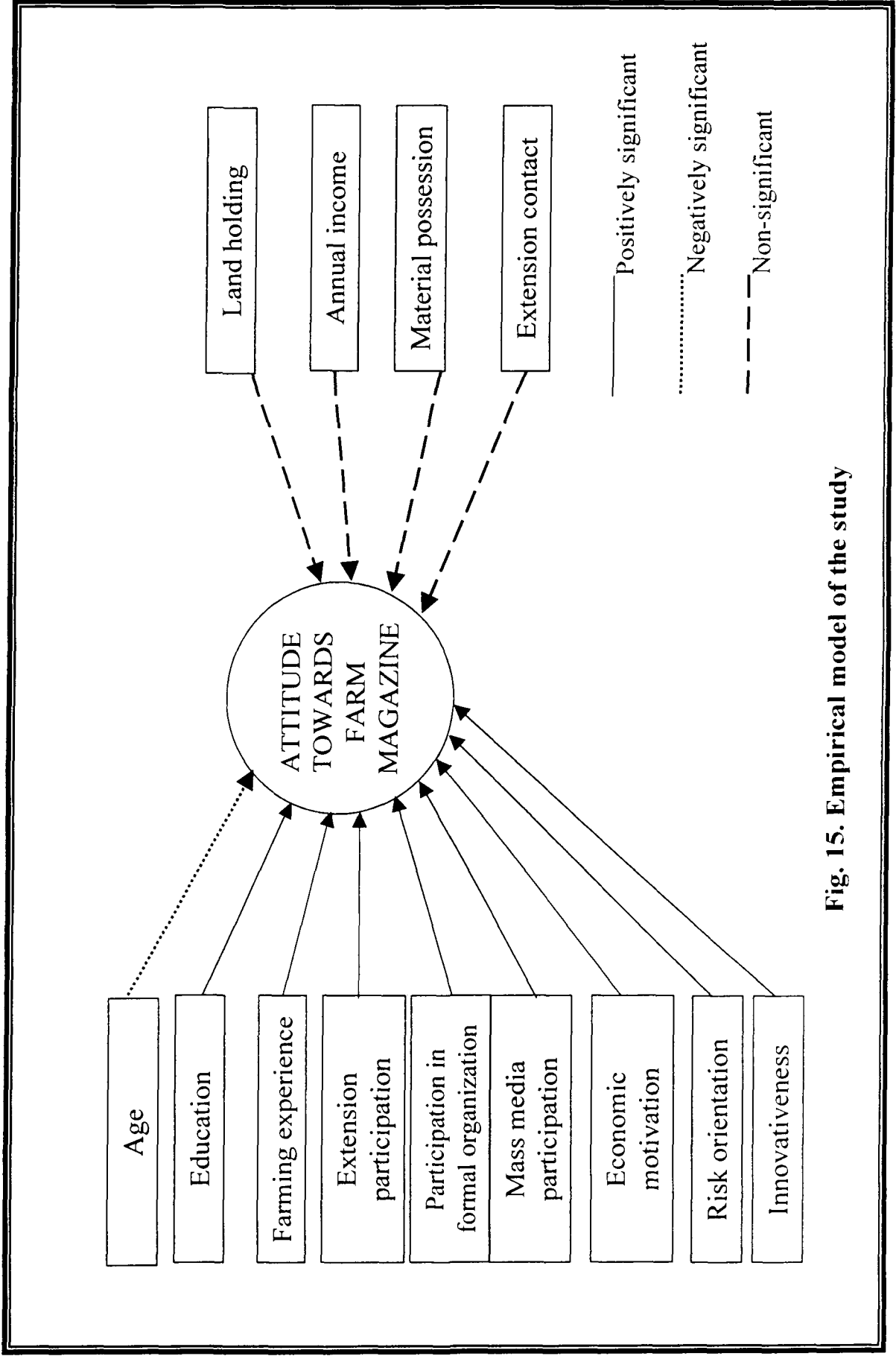


Fig. 15. Empirical model of the study

# *Summary*

---

## **VI. SUMMARY**

Now a days with increase in literacy percentage, there is a lot of scope to use farm magazines for communication of farm information. If agricultural information is communicated through farm magazines in time, well illustrated with pictures/photographs will be more useful to the farming community. Further the government is also encouraging publications of farm magazines. However the success and utilization of farm magazines mainly depends upon the message/ content and readability of message on different subject matter areas of agriculture and allied fields. However till today, less number of studies have been conducted on the use of farm magazines.

The success of farm magazine again depends upon the socio-economic characteristics and reading behaviour of the user farmers. Further, another important factor is the attitude of farmers towards the farm magazines. If the farmers have favourable attitude towards the farm magazines, it will increase the utility of farm magazines by the farming community. The other factors such as size of the letters, sentence length, complexity of words, simple paras, format of the magazine, cover page with photographs using attractive colours, have influence on effective utilization of farm magazines by the farmers. Hence, keeping in view the importance of farm magazine, this study was undertaken with the following specific objectives.

- 1) To develop a scale to measure the attitude of subscriber farmers towards farm magazines.

- 2) To study the socio-economic profile of subscriber farmers
- 3) To ascertain the relationship between personal, economical, psychological and social characteristics of subscriber farmers with their attitude.
- 4) To study the extent of usefulness of message in farm magazines by the subscriber farmers
- 5) To analyse the contents of farm magazines
- 6) To analyse the sources of articles to farm magazines.
- 7) To determine the readability of farm magazines.

The study was conducted in North Karnataka comprising of Dharwad, Belgaum, Bijapur, Bagalkot, Bidar, Gulbarga, Bellary, Raichur North Canara, Koppal, Gadag and Haveri districts. Looking to the availability of sample/subscriber farmers, the North Karnataka was purposively selected as locale for the study.

In Karnataka, more than 20 farm magazines are being published by the government organisations, private organisations and Agricultural Universities. Among these, four farm magazines namely; Krishi loka, Karnataka Vyvasaya patrike, Krishi munnade and Siri sambruddhi were selected for the study based on the criteria of circulation of the magazine as well as based on the availability of subscriber farmers. Then list of subscriber farmers for each of the four selected farm magazine Krishi loka

(125), Karnataka Vyvasaya patrike (113), Krishi munnade (284) and Siri sambruddhi (193) but native/residents of 12 districts of north Karnataka was obtained from the concerned publishers. A pretested questionnaire was mailed to 75 randomly selected subscriber farmers for each of the farm magazines. Out of 300 mailed questionnaire, only 190 subscriber farmers returned the completely filled in questionnaire. It was decided to select 40 subscriber farmers from each of the farm magazine there by constituting a total sample of 160 subscriber farmers. In order to measure the attitude of farmers towards farm magazines, an 'attitude scale' was developed and standardised.

The data was collected by using structured and pretested questionnaire developed for this purpose consisting of 4 parts. Part -I included questions on general background information and also the personal, economic, psychological and social characteristics of subscriber farmers. Part II included 'Attitude' scale developed for the purpose of study including 26 statements. Part-III included questions on the extent of reading, duration of reading and also to know about the awareness of the farm magazines. Lastly part-IV included the list of suggestions to improve the quality and effectiveness of farm magazines keeping in view the objectives, the content analysis, sources of articles and readability of farm magazines were carried out separately. However, the questions on these aspects were not included in the questionnaire later on the questionnaire was mailed to the subscriber farmers and with a request letter to fill the information in an un-based way and mail it in self ad dressed stamped

envelop. The data were tabulated and analysed by using statistical techniques like frequencies, percentages, mean, standard deviation, zero order correlation, multiple linear regression and path analysis. wherever suitable, so that the findings could be meaningfully interpreted to draw necessary inferences and conclusions. The salient findings of the investigation are as follows.

- 1) \* A scale was developed to measure the 'attitude' of subscriber farmers towards the farm magazines. The scale consisted of 26 statements was answered by the subscriber farmers on a five point continuum namely strongly agree, agree, undecided, disagree and strongly disagree to express their degree of agreement or disagreement with the attitude statements. The maximum and minimum scores towards the attitude of subscriber farmers obtained on this scale were 130 and 26.
- 2) It was found that the subscriber farmers (66.25%) expressed favourable attitude towards the farm magazines.
- 3) It was found out that majority of (77.00%) subscriber farmers were in the age of 31-55 years belonging to middle age group followed by old age group of more than 55 years to the extent of 13 per cent.
- 4) Thirty nine per cent of the subscriber farmers had education up to high school (8<sup>th</sup>-10<sup>th</sup> standard) followed by 25 per cent with middle school education (5<sup>th</sup>-7<sup>th</sup> standard).

- 5) It was ascertained that 48 per cent of the subscriber farmers had farming experience in range of 10-20 years and 45 per cent more than 20 years of farming experience.
- 6) It was found out that 63 per cent of subscriber farmers were big farmers having land holding more than 25 standard acres followed by medium farmers having land in the range of 10.01-25 standard acres.
- 7) Forty seven per cent of the subscriber farmers belonged to high annual income group of more than 51000 rupees followed by 23 per cent under medium income group with an income of 34001-51000 rupees per annum.
- 8) It was confirmed that 68.75 per cent of subscriber farmers belonged to medium material possession followed by 17.5 per cent under high material possession group.
- 9) With respect to the economic motivation, 65 per cent of the subscriber farmers had medium economic motivation where as 18.75 per cent of them had high economic motivation.
- 10) Sixty seven per cent of the subscriber farmers exhibited high risk bearing capacity while 16.87 per cent medium risk.
- 11) It was found out from the study that 73.75 per cent of the subscriber farmers belonged to medium innovativeness category.
- 12) In respect of extension contact 33.75 per cent of subscriber farmers had contact with Agricultural Assistant once in 15 days followed by

whenever problem arises. Interestingly 47.5 per cent and 56.25 per cent of the subscriber farmers had contact with university scientists and Rural Development Officers of bank whenever problem arises. Further, it was ascertained that majority of subscriber farmer 'never' had contact with the extension personnel of various developmental departments such as Sericulture Officers (89.3%7%), forest officials (83.75%), Assistant Agricultural Officer (Farm women, 70%), Assistant Director's of Agriculture (68.12%), Extension guides of university (62.5%), Agricultural Officers (58.75%) and Veterinary and Animal Husbandry Officials (51.87%).

- 13) It was found out that hundred per cent of the subscriber farmers read extension literature followed by 'participation in field days' (66.25), 'participation in Krishimela' (65%) and participation in agricultural exhibitions (62.5%).
- 14) A majority the subscriber farmers possessed Radio (96.88%), Television (66.88%), Newspaper (51.88%) and Farm magazines (100%). They regularly listen the 'Krishiranga' (82.58%), 'Hints to farmers' (70.32%) and 'Rural development' programmes (56.77%) broadcasted through radio. In respect of Television viewing habit, majority of the subscriber farmers 'Krishi sampad' (89.72%), 'Gram mangal' (72.90%) and 'Rural development' (62.29%) programmes telecasted through television. It was also ascertained that 98.80 per cent of the subscribers regularly read the news papers whereas 90.00 per cent read the farm magazines occasionally.

- 15) It was confirmed by the study that almost hundred per cent of the subscriber farmers regularly participated in zilla panchayat activities followed by village panchayat (91.30%), taluka panchayat (88.89%) and cooperative society (80.70%). It was also found out that all the subscriber farmers participated in the programmes of one or the other organisation.
- 16) It was found out by the correlation analysis that the independent variables such as education, mass media participation, economic motivation, risk orientation and innovativeness had positive and significant relationship at one per cent level with the dependent variable 'attitude' of subscriber farmers towards farm magazines. The other independent variables such as farming experience, extension participation, participation in formal organisation exerted positively significant relationship with 'attitude' at five per cent level of probability. However age had negatively significant relationship with the 'attitude'.
- 17) Multiple regression analysis revealed the combined influence of independent variable over the dependent variable attitude. The variables mass media participation, economic motivation, risk orientation, innovativeness exhibited positive significant relationship with dependent variable 'attitude' of subscriber farmers towards farm magazines.
- 18) Path analysis was employed to ascertain the direct, indirect and substantial indirect effect of independent variables over the

dependent variable. It was found that the innovativeness had highest positive direct effect over dependent variable 'attitude' of subscriber farmers towards the farm magazines followed by mass media participation, risk orientation, economic motivation, and farming experience. While the other independent variables such as land holding, material possession and age had highest negative direct effect over dependent variable 'attitude' of subscriber farmers towards the farm magazines.

- 19) It was found out that the independent variables such as risk orientation, economic motivation exhibited highest positive total indirect effect over dependent variable 'attitude' of subscriber farmers towards farm magazine. Where as age and land holding exhibited highest negative total indirect effect over the dependent variable 'attitude' towards farm magazines.
- 20) It was confirmed by the study that, out of 26 substantial effects, seven independent variables such as age, education, annual income, land holding, mass media participation, economic motivation, risk orientation through innovativeness exerted substantial indirect effect over the dependent variable 'attitude' of subscriber farmers towards farm magazines. Further three variables such as age, education, economic motivation through risk orientation exhibited substantial indirect effect over dependent variable 'attitude'.
- 21) It was found out that, among the 4 selected farm magazines 'Krishi munnade' farm magazine ranked as most useful farm magazine

followed by Siri sambruddhi, Karnataka Vyvasaya patrike and Krishi loka.

- 22) The articles in the areas of agriculture /crop production was found as 'very useful' followed by the articles in the areas of horticulture, veterinary and animal husbandry and sericulture as 'useful'. Further, the articles in the areas like food and nutrition, home management, family resource management and forestry were 'some what useful' and the articles on fishery and agricultural engineering rated as 'little useful'. The articles in the areas like advertisements, folk songs were rated as 'not useful' and rural development and environmental articles were found as 'little useful' by the subscriber farmers of farm magazines.
- 23) The results on content analysis revealed that all the farm magazines publish the articles in the preferential order of agriculture, horticulture, veterinary and animal husbandry, food and nutrition, agricultural engineering, followed by forestry, sericulture, fishery, home management and family resource management aspects.
- 24) It was found out that, the 'scientists' from agriculture university/ICAR emerged as top most source/contributer of articles to the farm magazines, followed by 'extension personnel', 'farmers', 'editors/reporters', 'officials of voluntary organisations', 'officials of input agencies' and 'officials of commercial banks'.
- 25) The results on readability of farm magazines, indicated that out of 4 selected farm magazines the 'Siri sambruddhi' had lowest readability

- value/grade level followed by Krishi loka, Karnataka Vyvasaya patrike and Krishi Munnade farm magazines, respectively.
- 26) The average readability value/grade value of the articles written by scientists was highest followed by farmers, extension personnel, editors/reporters respectively.
- 27) The articles written by editors/reporters scored lowest average readability value/grade level among the contributor/sources of articles followed by extension personnel, farmers and scientists in the ascending order.
- 28) The average readability value/grade value of the articles written by different authors in different magazines revealed that, the articles written by 'scientists' in 'Krishi munnade' farm magazine was highest followed by Karnataka Vyvasaya patrike and Siri sambruddhi. While the articles written by extension personnel had highest readability value in Karnataka Vyvasaya patrike, Krishi loka and Siri sambruddhi respectively. Where as the articles written by the 'editors/reporters' had higher readability value/grade value in Karnataka Vyvasaya patrike followed by Krishi loka and Siri Sambruddhi respectively. The average readability value/grade level of the articles written by 'farmers' was higher in Karnataka Vyvasaya patirke followed by Sirisambruddhi and Krishi loka.
- 29) A majority of the subscriber farmers (68.13%) read the information published in farm magazines completely and 31.87 per cent read only the selected/required articles from the selected farm magazines.

- 30) A majority of subscriber farmers read the farm magazines once in a month, followed by once in 15 days, once in a week, twice in a week and daily. Varying percentage of subscriber farmers read the magazines either twice in a week, once in 15 days and once in a month .
- 31) No subscriber farmer read the farm magazines daily except very negligible percentage read Krishi loka and Krishi munnade farm magazines for one hour duration and very negligible percentage of the subscriber farmers preferred to read the farm magazines for three hours and or more than three hours.
- 32) It was found out that a majority of the subscriber farmers preferred the articles for 'reading' in the areas of agronomy (90%), horticulture (70%), veterinary and animal husbandry (50%) and sericulture (40%). While majority preferred to 'discuss with family members' in the areas of food and nutrition (67.5%) and family resource management (62.5%). Where as a large majority of sub subscriber farmers preferred to 'discuss with neighbours' in the areas of fishery (65%), agricultural engineering (77.5%), forestry (75%), advertisements (85%), folk songs/stories (85%), rural development articles (85%) and environmental articles (87.5%).
- 33) The subscriber farmers of farm magazines offered following suggestions to improve the quality and effective ness of farm magazines in the order of priority; publish the information on

'commercial crops' (98.12%), integrated pest and disease management (96.88%), nutritional aspects of fruits and vegetables (95%), publish information on agro-based subsidiary enterprises (92.5%), use suitable sized letters (91.25%) followed by other suggestions.

### **IMPLICATIONS OF THE STUDY**

The study was conducted to know the opinion of farmers towards the use of farm magazines with a main objectives of developing a scale to measure the 'attitude' of subscriber farmers towards use of farm magazines, to find out the socio-economic profile of reader farmers, extent of usefulness of message published through farm magazines and to analyse the subject matter areas covered by the farm magazines for the benefit of farming community. To improve the quality and effectiveness of farm magazines, the concerned publishers, policy makers, administrators and the agencies concerned has to devote their attention with regard to the implications as listed below.

1. The scale developed to measure the attitude of farmers towards the farm magazine was standardised and found to be reliable and valid. Hence, the same scale or with modifications could be used else where for measuring the attitude of farmers towards the farm magazines.
2. It was observed that majority of the subscriber farmers were of middle age (31-55 years), had education from middle school to high school (5<sup>th</sup>-10<sup>th</sup> standard), rich farming experience in range of more

than 10-20 years and 96.88 per cent own radio, 66.88 per cent own television, 51.88 per cent were subscribers of news paper and are regular readers of news papers, regular listeners and viewers of agriculture related programme and broadcasted/telecasted through radio and television. All these results clearly indicates that farmers are interested to know the new technologies, hence, there is a need to publish the articles on new agricultural technologies so as to enable the farmers to get the higher yield.

3. Further majority of the subscriber farmers shown favourable attitude towards farm magazines. This finding clearly indicates that the farmers attach credibility towards farm magazines and hence there is still more scope to improve the quality and effectiveness of farm magazines. Almost 70 per cent had shown favourable attitude towards the use of farm magazines. Therefore keeping this point in view the concerned publishers of farm magazines should give more emphasis for wider circulation among the rural areas. Further, in this direction, the government can encourage the publishers by extending subsidy facility etc.
4. The personal and psychological characteristics like economic motivation, mass media participation, risk orientation, innovativeness exerted significant association with attitude of subscriber farmers towards farm magazines. This high light that the farmers with high economic motivation, more innovative in nature possess high risk bearing capacity. As such, it gives clue that farmers

are very receptive to new ideas/new inventions in the field of agriculture to earn more income and improve their standard of living. Hence, looking to their personal traits, and profit making behaviour and their relationship with attitude, more efforts to be made to enroll them as subscribers to farm magazines.

5. Among the 4 farm magazines selected for the study namely Krishi loka, Karnataka Vyvasaya patrike, Krishi Munnade and Sirisambruddhi, the farm magazine. Krishi Munnade was found to be most useful magazine, followed by Siri sambruddhi, Karnataka Vyvasaya patrike and Krishi loka. Hence accordingly, the publishers could bring necessary changes in their magazines to increase the circulation among the rural sector.
6. With regard to the readability value/grade level, the 'Siri sambruddhi' farm magazine was suited to the readers studied upto 9<sup>th</sup> standard followed by Krishi loka (9<sup>th</sup> standard), Karnataka vyvasaya patrike, and Krishi munnade suited to the readers studied upto 10<sup>th</sup> standard. This implies that the readability value/grade level of the articles published in all magazines was quite high i.e., 9<sup>th</sup>-10<sup>th</sup> standard even though the sample of subscriber farmers with middle to high school level education. In this direction the publishers must give attention to select and publish the articles suitable for primary and middle standard levels.
7. The study also revealed that agricultural university/ICAR scientists are the main contributors of articles, followed extension personnel,

editors/reporters and farmers. Hence, there is a need to motivate officials from voluntary organisations, private agencies, commercial bank to contribute articles for the farm magazines in the larger interest of farming community. Hence, the publishers may decide to pay incentives to the writers from the respective organisations.

8. It is interesting to note that, the articles written by the editors and reporters were suitable 8<sup>th</sup> standard readers when compared to other sources/contributors of articles. Further, the articles written by extension personnel were suitable to 9<sup>th</sup> standard readers while the articles contributed by farmers and scientists were suitable to 10<sup>th</sup> standard level readers. Therefore the concerned publishers have to maintain the standard of articles in terms of content, readability etc. suitable for common people.
9. The results revealed that the articles in the areas of agriculture/crop production were 'very useful' and 'useful' followed by the articles in the areas of horticulture, veterinary and animal husbandry and sericulture were rated as 'useful'. Further the articles published in the areas of food and nutrition, home management, family resource management as 'some what useful' where the articles in the areas like advertisements, folksongs, rural development and environmental articles were rated as 'little useful' and 'not useful'. Hence the publishers may take note of these findings and act accordingly so that, balanced development in agriculture and allied fields will take place.

10. The contents/subject matter published in the farm magazines, highlighted that less importance is being given for publication of articles on food and nutrition, home management, family resource management. These articles are more concerned to women folk, so care must be taken to publish more articles in these areas, as well as environmental and rural developmental aspects by way of encouraging incentives to the writers from the above subject matter areas. .
11. The results indicated that, majority of the subscriber farmers read articles published in farm magazines completely. This trend clearly indicates that they read farm magazines completely for want of agriculture information to bring improvement in farming practices.
12. The study also emphasized that, majority of the farmers prefer to 'read' the articles in the area of agronomy, horticulture, veterinary and animal husbandry and sericulture while the articles on food and nutrition, home management, family resource management were preferred by subscriber farmers to 'discuss with their family members' and for some articles with their neighbours. Therefore, in this direction publishers have to take care to publish the articles in simple local language which would enable them to read easily and understand properly.

13. Since, majority of the farming community shown favorable attitude towards farm magazine and read the articles regularly and prefer to preserve for future use and hence the concerned publishers/government may think of making available of these farm magazines in all the co-operative societies, youth clubs, panchayat or local institutions for wider utilization by all section of farmers to boost up the yield levels and to improve standard of living.

### **SCOPE FOR FUTURE RESEARCH**

The present investigation gives scope for future research in the following areas.

- 1) A study may be conducted on standardisation and development of a readability scale widely applicable to Kannada farm publications.
- 2) A detailed study on content analysis of all Kannada farm magazines in Karnataka is required because the farm magazines selected for the study publishing articles in other agriculture related areas with less emphasis.
- 3) As for as circulation of farm magazines is concerned, very few percentage among rural folk are subscribers of these magazines. For this trend there might be so many factors operating. Hence, critical studies to determine, why rural farmers are not becoming subscribers of farm magazines may be conducted focussing on personal and psychological, socio-economic traits of the rural farmers.

- 4) A comprehensive study may be designed and conducted to identify the determinants contributing for circulation, readability and effectiveness of all farm magazines in Karnataka.
  
- 5) Considering the results of present and past studies, a comprehensive study may be planned on standardizing the format of farm magazines, including cover page, text, action photographs in multicolours, letter size, letter type, quality paper and mode of presentation of articles.

# *References*

---

## VII. REFERENCES

- ABDULLAH, M.J., SAWANT, G.K. AND SHINDHE, S.B., 2000, Coverage of agriculture information in Syrian farm weekly. *Maharashtra Journal of Extension Education*, **19**: 10-13.
- AHUJA, B.N., 1979, *Theory and Practice of Journalism*, Sarjeet Publications, New Delhi.
- AIYER, A.K.Y.N., 1958, *Village Improvement and Agricultural Extension*. The Bangalore printing and publishing co. ltd. Bangalore.
- AJAYKUMAR, P., 1989, A study on adoption behaviour and information consultancy pattern of grape growers in Rangareddy district of Andhra Pradesh. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore.
- ALSI, D.M., KUBDE, V.R. AND KALANTRI, L.B., 1989, Agricultural coverage in leading Marathi dailies of Nagapur. *Maharashtra Journal of Extension Education*, **8**: 305-307.
- AMY COWING, 1961, *Writing words that work: A guide for extension worker* No.466 USDA, Federal Extension Service Publication, USDA.
- ANASTASI, A., 1961, *Psychological Testing*, The McMillian Co., New York.
- ANGADI, J.G., 1990, Credibility of extension personnel as perceived by farmers. *Ph.D. Thesis*, University of Agricultural Sciences, Dharwad.

- ANNAMALAI, R. AND RADHAKRISHNA MENON, K., 1975, Communicability of circular letter, folder and booklet. *Madras Agricultural Journal*, **62**(10&12): 842.
- ARULARAJ, S. AND ULAGARANDAN, R., 1995, Early planting in sugarcane-perception analysis. *Journal of Extension Education*, **6**(1): 1065-1070.
- ASHOK REDDY, M.T., 1983, Knowledge attitude and symbolic adoption behaviour of potential farmers towards Bhgyalakshmi biogas plant in Dharwad taluk. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore
- ATHIMUTHU, P., 1982, Content analysis of agricultural news in two Tamil dailies. *M.Sc.(Agri.) Thesis*, Tamil Nadu Agricultural University, Coimbatore.
- ATHIMUTHU, P., 1989, Media research in Tamil dailies. *Madras Agricultural Journal*, **76**(3): 174-176.
- AYAZ MOHAMMAD, 1990, Agricultural communication in Pakistan. *Media Asia*, **17**(4): 227-230.
- BALAMATTI, M.A., 1993, A study on paddy cultivation pattern of Siddhi farmers and their socio-economic characters at Yellapur, Karnataka. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Dharwad.

- BALASUBRAMANIAN, U.A., 1983, Relative effectiveness of cover page and format components of 'Valarum Velanmani'. *Research Report Ag. Extn.*17. Department of Agricultural Extension and Rural Sociology, Tamil Nadu Agricultural University, Coimbatore.
- BHARADWAJ, N. AND HANSRA, B.S., 1983, Effectiveness of some selected models of communication in imparting knowledge to the members of ladies charchamandals of Ludhiana district. *Indian Journal of Extension Education*, **19**(1&2): 99-103.
- BARMAN, U. AND GOGOI, D.K., 2000, Correlates of farmers reading habit - A study on Assamese daily. *Journal of Extension Education*, **11**(4): 2926-2931.
- BERELSON, BERNARD., 1952, *Content Analysis in Communication Research*. The Free Press of Glencoe, New York.
- BHUMRE, V., 1976, A comparative study of content and coverage of farm information in Daily Newspapers before and after green revolution. *M.Sc.(Agri.) Thesis*, R.B.S. College, Agra.
- BROWN, M., 1970, Communication and agricultural development: A field experiment. *Journalism Quarterly*, **47**: 725-734.
- CHANDRAN BINDU, 1997, A study on knowledge and adoption of farmers cultivating tapioca in Ernakulam district of Kerala state. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Dharwad.
- CHANDRASHEKARAN, P., SURESHKUMAR V.B. AND NARAYANSWAMY, B.K., 2000, Newspaper communication for coffee production in Kerala state. *Journal of Extension Education*, **11**(4): 2967-2968.
- CHAPPELLA, J.P., 1987, A regional daily newspaper concerning to forming and farmers. The example of 'Quest-France'. *Economic Rurale*, **177**: 39-43.

- CHENNEGOUDA, M.B., 1977, Influence of different methods involving print information on farmers communication behaviours an experimental study. *Ph.D. Thesis, University of Agricultural Sciences, Bangalore.*
- CHHANNAL, G.P., 1995, A study on knowledge and adoption behaviour of share and non-share holders of co-operative sugar factories. *M.Sc.(Agri.) Thesis, University of Agricultural Sciences, Dharwad.*
- CRUMP, S., 1974, *Fundamentals of Journalism*, McGraw hill Book, Co., New York.
- DHANUNJAYA, B., 1995, A study on utility perception of Krishi Vignana - a farm magazine. *M.Sc.(Agri.) Thesis, University of Agricultural Sciences, Bangalore.*
- DHARMADHIKARII, S.D., SUNDARSWAMY, B. AND SHINDHE, P.S., 1994, Televiewing behaviour of TV owning farmers. *Maharashtra Journal of Extension Education*, **13**: 287-288.
- DIGRASKAR, R.K. AND WANGIKAR, S.D., 1990-91, An investigation in to the attitude of the farmers towards the use of biogas plant. *Maharashtra Journal of Extension Education*, **12**: 335-339.
- DINKLE, R.N., JONDHALE, S.G. AND MISKIN, A.B., 1992, Correlates of utility perception of agricultural information in 'Lokmat'. *Maharashtra Journal of Extension Education*, **11**: 253-256.
- DUFFY, T.M. AND KAMBANCE, P., 1982, Testing a readable writing. Approach to text revision. *Journal of Educational Psychology*, **74**: 733-748.

- FAROOQUE, M., 1990, A study on adoption behaviour of farmers of drought prone area Aurangabad district of Maharashtra. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Dharwad.
- FETT JOHN, H., 1972, Content and situational relevance of agricultural news in Brazilian papers. *Journalism Quarterly*, **49**: 505-511.
- FLESHMAN, E.A., 1967, Performance, assessment based on empirically derived task taxonomy. *Human Factor*, **9**: 349-366.
- FLESH, R., 1948, A new readability yard stick. *Journal of Applied Psychology*, **32**: 221-233.
- FEASTER, G., 1968, Measurement and determinants of innovativeness among primitive agriculturists. *Rural Sociology*, **33**(3): 339-348.
- GAJAPATHY, N., SRINIVASAN, V. AND NANJIAH, K., 1977, An analysis of the sources and frequency of agricultural news published in regional dailies. *Indian Journal Extension Education*, **13**(3&4): 32-36.
- GAJAPATHY, N., 1975, An analysis of agricultural news content in two Tamil Dailies. *M.Sc.(Agri.) Thesis*, Tamil Nadu Agricultural University, Coimbatore.
- GUPTA, G.K. AND SANGHA, G.S., 1980, Personal traits and viewing behaviour of rural TV viewers or Punjab. *Indian Journal of Extension Education*, **16**: 87-88.

- HANCHINAL, S.N., 1999, Privatization of extension service – attitude and preferences of farmers and extension personnel. *Ph.D. Thesis*, University of Agricultural Sciences, Dharwad.
- HANSON, R. AND DENIG, E., 1956, The written word, In: Methods and programme planning in rural extension (Ed.) Penders, J.M.A. H. Veerman and Zowen Wageningen, Netherlands.
- HANUMANAIKAR, R.H., 1995, A study on knowledge, adoption and marketing behaviour of sunflower growers in Dharwad district. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Dharwad.
- HASAN, S. AND Roy, S., 1989, Rural information - A study of the newspaper 'Amar Ujala'. *Indian Journal of Adult Education*, **50**(3): 25-32.
- HASKER, B.R., 1971, Education, communication and agricultural change: A study of Japanese farms. *Ph.D. Dissertation*, comparative Education centre, University of Chicago, Illinois.
- HAVINGRUST, J.R., 1965, *Human Development and Education*. Longmands Green and Co., New York, pp.258-278.
- HAZARIKA, P., TYAGI, K.C. AND RAO, S.V.N., 1996, Relative influence of social, personal, psychological and communicational traits of the farmers on gain in knowledge in plain hilly areas. *Indian Journal of Social Research*, **37**(2): 111-120.
- HIREMATH S.A., 1979, An experimental study on the impact of print media communication in combination with the interpersonal communication on knowledge and adoption levels of farmers of Malaprabha Command Area of Karnataka. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore.

- HONNART, M., 1970, Promotion through the mass media. *Annals Gembolux*, **76**(4): 181-189.
- HOUSER, P.M., GALLOWAY, R.E. AND HOFFSOMMER, H., 1952, Rural reading habit: A study of country library planning, Prince George Country Madison, Md. Agric. Exp. Stn. Bulletin No. 69.
- INGALE, P.O. AND VIRKHARE, S.B., 1988, Printed farm advertisement - readability, utility and information perception. *Maharashtra Journal of Extension Education*, **7**: 105-109.
- JAIN, S.P., 1980, Gobargas: A study of the plants in Andhra Pradesh, Haryana and Karnataka. *Rural Development Digest*, **3**: 4.
- JAYALE, P.S., 1992, A study on extent of adoption and sustainability of horticultural crops advocated by horticultural department. *M.Sc.(Agri.) Thesis*, Marathawada Agricultural University, Parbhani.
- JAYARAM, K., 1980, Evaluation of *Krishi Vignana*' a quarterly farm journal in Kannada. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore.
- JAYASUBRAMANIAN, B., PHILLIP, H. AND ANNAMAI, 1998, Effectiveness of distance education programme of TNAU interms of knowledge gain. *Journal of Extension Education*, **9**(3): 2063-2065.
- JETLEY, S., 1977, Modernizing Indian peasants: study of six villages in eastern Uttar Pradesh. Asia Educational Services, New Delhi.

JOSEPH, 1975, How can I save my crop? *The Am. Rep.*, **23**(2): 9.

JYOTIRAO, P., 1994, Creating assests in rural development. *Kurukshetra*, August, pp.23-24.

KADAM, K.A. AND KARANDE, A.G., 1991, Content analysis of Maharashtra Journal of Extension Education. *Maharashtra Journal of Extension Education*, **10**(2): 18-23.

KADAM, K.R., 1991, Role performance of cotton contact farmers in T&V system. *Maharashtra Journal of Extension Education*, **10**(2): 164-166.

KALANTRI, L..B, SINHA, R.R. AND KUBDE, V.R., 1991, Attitude of farmers towards agriculture information and their adoption as influenced by newspaper reading. *Maharashtra Journal of Extension Education*, **10**(2): 158-163.

KAMATH, M.G., 1969, Writing for farm families, Allied publishers, Private Limited, Bombay.

KAMATH, M.G., 1972, Yen, your listeners and your broadcast. Farm information unit, Directorate of Extension, Ministry of Agriculture, New Delhi.

KARANDE, A.G. AND RISWADKAR, M.R., 1987, Use of print media in information communication in Animal husbandry. *Maharashtra Journal of Extension Education*, **6**: 51-54.

- KARIPPAI RAJAHN, S., 1988, Analysis of reading comprehension of Agricultural articles in daily newspapers by farmers in Kerala State. *Ph.D. Thesis*, University of Agricultural Sciences, Bangalore.
- KATTEPPA, Y., 1973, A study on some aspects of working of farmers - discussion groups in Bangalore district of Mysore State. *M.Sc.(Agri.) Thesis*, Department of Agricultural Extension, University of Agricultural Sciences, Bangalore.
- KAUR, D.K., 1978, Developing textual and format criteria for an effective Hindi farm magazine. *Ph.D. Thesis*, Indian Agricultural Research Institute, New Delhi.
- KAUR, D.K. AND MATHUR, P.N., 1979, Effective feature writing for farmers readers. *Indian Journal Extension Education*, **15**(3&4): 27-33.
- KAYAL, A.M., 1975, Interviewing of radio rural broadcast. Report on Agricultural Communication Workshop. Department of Agriculture, West Bengal and Agricultural Development Council, New York.
- KEENEY, Z.S.A., 1980, Mass media creditability - A study of the October 1987 incident in Kaulalumpur. *Media Asia*, **16**(3): 169-170.
- KERLINGER, F.N., 1973, *Foundations of Behavioural Research*, Holt Rinehart Winston, Inc., New York.

- KHANDEKAR, P.R. AND MATHUR, P.N., 1975, Effectiveness of farm magazine 'Unnat Krishi' as related to different categories of renders. *Indian Journal of Extension Education*, **11**(1&2): 49-53.
- KHER, A.R. AND JHA, P.N., 1978, Factors associated with farmers attitude towards primary agricultural credit society in Gujarat. *Indian Journal of Extension Education*, **14**(1&2): 23-29.
- KHER, S.K., 1991, Constraints in adoption of improved technology in rainfed maize. *Indian Journal of Extension Education*, **27**(1&2): 121-123.
- KHERA, B.K. AND DHILLON, J.B., 1989, A study on various content areas and space covered by different Punjabi Newspapers. *Journal of Research of Punjab Agricultural university*, **26**(4): 694-700.
- KISHORE DEVESH, 1970, Make rural broadcast effective. *Kurukshetra*, **18**(2): 16.
- KLARE, G.R., 1963, The measurement of readability, Iowa State University Press, Ames, Iowa, USA.
- KRISHNAKUMAR, K.N., 1982, Effectiveness of farm journal articles. *M.Sc.(Agri.) Thesis*, Tamil Nadu Agricultural University, Coimbatore.
- KRISHNAKUMAR, K.N., 1990, Farm information agenda setting - comparative media analysis. *Ph.D. Thesis*, Tamil Nadu Agricultural University, Coimbatore.

KUBDE, V.R. AND SINHA, R.R., 1986, Content analysis of rural-urban news coverage in regional dailies of Vidarbha. *Maharashtra Journal of Extension Education*, **5**: 139-143.

KULKARNI, P.R. AND SIRSAT, U.E., 1985, Efficacy of print media in transfer of technology. Selected papers of N.C.D.C. seminar Sampresan, Banaras Hindu University, Varanasi.

KULKARNI, S.V., 1975, Content and coverage of agricultural information in Daily Newspaper. *M.Sc.(Agri.) Thesis*, R.B.S. College, Agra.

KUMAR, B. AND SINGH, K., 1988, Journals for farmers. *Vidura*, Sept.-Oct., pp.15-37.

KUTHIALA, B.K., 1979, Content analysis of some newspapers of Udipur. *Cumunicator*, **14**(4): 44-45.

KWOLEK, W.F., 1973, A readability survey of technical and popular literature. *Journalism Quarterly*, **50**: 255.

LIKERT, R., 1932, A technique for the measurement of attitudes. *American Psychology*, No.140.

LOKHANDE, V.P., 1973, Attitudinal change through integrated rural dairy extension programme. *Madras Agricultural Journal*, **64**: 261-264.

LOKHANDE, V.P., 1990, A study on adoption of selected recommended package and practice of grape cultivation by the farmers in omega taluks of Osmanabad district of Maharashtra state. *M.Sc.(Agri.) Thesis*, Maharashtra Agricultural University, Parbhani.

MALAGI, S.N., 1985, Adoption behaviour and value orientation adopters and non-adopters of soybean in Kalaghatagi taluka of Dharwad district. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore.

MANI, K.C. AND KNIGHT, A.J., 1981, Factors associated with participants attitude towards regulated market. *Indian Journal of Extension Education*, **17**(3&4): 39-43.

MANOHARAN, M., 1988, Relative effectiveness of print media. *Ph.D. Thesis*, Tamil Nadu Agriculture University, Coimbatore.

MARADDI, G.N., 1999, A study on the cotton production technologies constraint analysis. *M.Sc.(Agri.) Thesis*, Haryana Agricultural University, Hissar.

MATHUR, P.N. AND BHILEGOANKAR, M. G., 1976, A exploratory study of content style and writers of 'Khethi'. Division of Agricultural Extension. Indian Agricultural Research Institute, New Delhi.

MATHUR, P.N., SINGH, K.N. AND DAR, K.K., 1978, Readership pattern, nature of content and sources of information of farm periodicals in India. *Indian Journal of Extension Education*, **14**(3&4): 39-44.

- MEENA BIGAI, J. AND RAMICHANDRAN, V., 2000, Factors influencing media utilization behaviour of farm women. *Journal of Extension Education*, **11**(4): 2954-2957.
- METI, S.K., 1990, Attitude towards improved farm implements and their extent of use by the farmers of Dharwad district. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Dharwad.
- METI, S.K., 1998, Technology reach perception, knowledge, adoption and attitude towards improved agricultural technologies by small and marginal farmers in TBP area. *Ph.D. Thesis*, University of Agricultural Sciences, Dharwad.
- MINOCHA, N., 1979, Comparative content analysis of agricultural news in three national dailies. *M.Sc.(Agri.) Thesis*, Haryana Agricultural University, Hissar.
- MISHRA, O.P. AND VERMA, O.S., 1998, Relative importance of different modes and nature of presentation of agriculture news. *Indian Journal of Extension Education*, **35**(1): 162-165.
- MUKHERJEE, S., 1975, Attitude, knowledge and problems of farmers on biogas, biogas achievements and challenges (Sathinathan, M.A.) Association of Voluntary Agencies for Rural Development, New Delhi, pp.161-162.
- MULAY, S.U. AND SABARATHANAM, V.E., 1980, Research methods in extension education, Manasayan, New Delhi.

- MUNEGOUDA, S., 1978, A field experiment on use of radio and newspaper in agricultural communication and other related aspects. *M.Sc.(Agri.) Thesis*, Department of Agricultural Extension, UAS, Bangalore.
- MUTHAZHAGAN, P., 1990, Content analysis and readers perception on 'Valarum velanmai' and seithi madal' publications. *M.Sc.(Agri.) Thesis*, Tamil Nadu Agricultural University, Coimbatore.
- NAGABHUSHANAM, K. AND NANJAYAN, K., 1998, Farm women's attitude towards institutional training programme - An analysis. *Indian Journal of Extension Education*, **9**(1): 1909-19110.
- NAGARAJ, M.S., 1986, Influence of 'Krishiloka' a farm journal in Kannada on farmers knowledge and attitude. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore.
- NAGPAL, A. AND LALI YADAV, 1991, Impact of biogas on rural women. *Maharashtra Journal of Extension Education*, **10**(2): 343-345.
- NAIK, R., 1993, A study on awareness attitude and use pattern of seed supplying agencies by farmers in Dharwad district. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Dharwad.
- NAIK, R.H., 1994, Awareness, attitude and use pattern of different seed supplying agencies by the farmers of Dharwad District. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Dharwad.

- NANDI, S.K., 1982, Content analysis of agricultural based rural fortnightly of West Bengal. *M.Sc.(Agri.) Thesis*, Bidanchandra Krishi Viswa Vidyalaya, Kalyanai.
- NANJAPPA, D. AND GANAPATHY, K.R., 1987, Content analysis of agricultural information in selected Kannada dailies. *Indian Journal of Extension Education*, **23**(1&2): 20-23.
- NANJAPPA, D. AND SIDDARAMAIAH, B.S., 1993, Development and standardisation of a readability formula for Kannada language. *Indian Journal of Extension Education*, **29**(1&2): 36-42.
- NANJAPPA, D., 1982, Content analysis of agricultural information in selected Kannada dailies and farmers reading habits, preferences and suggestions. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore.
- NANJAPPA, D., GANAPATHY, K.R. AND YOGNAND, H.G., 1998, Utility of agriculture information by the newspaper reader farmers of Bangalore district, their performances, options and suggestions. *Journal of Extension Education*, **9**(1): 19419-1924.
- NARWAL, R.S. AND DIXIT, V.B., 1991, Farmers attitude and knowledge about feeding practices in buffalo. *Indian Journal of Dairy Sciences*, **44**(8): 469-473.
- NATARAJAN, K. AND MUTHAIAH, M., 1995, Attitude of farmers towards social forestry programme. *Journal of Extension Education*, **6**(1): 1089-1090.

NATARAJU, M.S. AND PERUMAL, G., 1995, Comparative content analysis of farm magazines. *Journal of Extension Education*, **6**(3): 1213-1218.

NATARAJU, M.S. AND PERUMAL, G., 1996, Critical factors determining effectiveness of farm journals. *Journal of Extension Education*, **7**(4): 1534-1537.

NIJALINGAPPA, B., 1983, Evaluation of 'Reshme Krishi' by its sericultural dientele. *M.Sc.(Agri.) Thesis*, u, University of Agricultural Sciences, Bangalore.

NIMBAL, M.K., 1995, A study on attitude and knowledge of biogas technology users. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Dharwad.

NIMBALKAR, S.O. AND PAWAR, R.S., 1990, Perception of televiewers towards farm programmes. *Maharashtra Journal of Extension Education*, **9**: 157-160.

O'KEEFE, G.T. AND SPENTAGEL, H.T., 1973, Patterns of college undergraduates use of selected news media. *Journalism Quarterly*, **50**: 543-548.

OLIVER, J., 1971, Impact of agricultural news disseminated by IADP through newspaper "Dinamani" on the adoption of package of practices for paddy in Tanjavur District. *M.Sc.(Agri.) Thesis*, University of Madras, Coimbatore.

- OLIVER, J., 1985, Treatment for effective message and development of readability measure. *Ph.D. Thesis*, Tamil Nadu Agricultural University, Coimbatore.
- OLIVER, J., 1990, Farm print media – An analysis. *Paper presented at National Seminar on 'Farm Journalism'* held at Tamil Nadu Agriculture University, Coimbatore.
- OLIVER, J., DURAISWAMY, K.N. AND RADHAKRISHNA MENON, K., 1974, Suitability of agricultural articles published in News paper "Dinamani". *Indian Journal of Extension Education*, **10**(3&4): 52.
- OLIVER, J., DURAISWAMY, K.N. AND MENON, K.R., 1975a, Impact of agricultural articles on the adoption of package of practices of rice in Tanjavar district. *Madras Journal of Agricultural Journal*, **62**(10-12): 659-663.
- OLIVER, J., DURAISWAMY, K.N. AND MENON, K.R., 1975b, Reading habit of farm news by farmers of Tanjavur district. *Madras Agriculture Journal*, **62**(10-12): 664-667.
- OMAR, A., 1977, Government plays key role in disseminating food ag information. *Media Asia*, **4**(2): 21-22.
- PADMAIAH, M., 1995, Watershed development in Mehabubnagar district of Andhra Pradesh – A diagnostic study. *Ph.D. Thesis*, University of Agricultural Sciences, Dharwad.

- PAMADI, B.M., 1980, A study on adoption behaviour, consultancy pattern of groundnut growers in Dharwad district, Karnataka. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore.
- PARKINSON, C.N., KAMATH, M.V. AND RUSTOMJI, M.K., 1985, What journalism is all about. India Book House Pvt. Ltd., Bombay.
- PATALIA, N.R., 1991, A study on the extent of adoption and recommended mango cultivation by the growers in Parbhani district. *M.Sc.(Agri.) Thesis*, Marathawada Agricultural University, Parbhani.
- PATEL, B.S. AND PATEL, R.B., 1993, Image regarding lab to land programme in south Gujarat. *Maharashtra Journal of Extension Education*, **XII**: 229-230.
- PATEL, J.K. AND SURYAVANSHI, V.D., 1995, Expectation of farmer televiewer regarding the content of the farm telecast. *Maharashtra Journal of Extension Education*, **14**: 137-140.
- PATEL, S.M. AND PATEL, H.N., 1972, Study and evaluation of 'khedut patrikas' published by information unit of the Department of Agriculture, Gujarat State. *Indian Journal of Extension Education*, **8**(1&2): 32-36.
- PATHAK, S., 1981, A multiple regression analysis of factors related with attitude of farmers. *Indian Journal Extension Education*, **17**(3&4): 73-80.

- PATHAK, S., PAL, .K. AND GOHARROY, M.L., 1979, Impact of national demonstration on knowledge, attitude and adoption level of farmers in West Bengal. *Indian Journal of Extension Education*, **15**: 49-54.
- PATIL, J. AND NAMASIVAM, D., 1990, Newspaper consumption in a rural community - A case study of Navalur village in Karnataka State, India. *Media Asia*, **17**(2): 84-87.
- PATIL, J. AND VASANTHI, R., 1990, reporting on rural development. *Vidura*, May-June, pp.3-4.
- PATIL, R., 1988, A study on the knowledge, attitude and adoption behaviour of the sunflower growers in Raichur district of Karnataka state. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Dharwad.
- PATIL, S.B., 1995, A study on knowledge and adoption behaviour of commercial sunflower growers and seed producers in Ranebennur taluk of Dharwad district. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Dharwad.
- PATIL, S.L., 1990, A study on the extent of adoption of recommended cultivation practices of DCH-32 cotton by farmers and its economics in Malaprabha Command Area of Dharwad district. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Dharwad.

- PATIL, S.L., 1994, National agricultural extension project as perceived by farmers and extension personnel by Department of Agriculture, Karnataka. *Ph.D. Thesis*, University of Agricultural Sciences, Dharwad.
- PATIL, S.M., 1984, Influence of leaflet on the communication behaviour of literate farm women - A field experiment. *M.H.Sc. Thesis*, University of Agricultural Sciences, Bangalore.
- PENROSE, J., WEAVER, D.H., COLE, R.R. AND SHAW, D.L., 1974, The newspaper non-readers 10 years later. A partial replication of westley-soverin. *Journalism Quarterly*, **51**: 631-638.
- PERUMAL, G., 1970, A study on factors and agencies responsible for the spread of hybrid maize in Coimbatore district. *M.Sc.(Agri.) Thesis*, University of Madras, Coimbatore.
- PERUMAL, G., PONNAPPAN, C. AND BALASUBRAMANIAM, S., 1998, Attitude of fish farmers towards fish farmers development agency. *Rural Development Reviews*, Tamil Nadu Agricultural University, **7**: 667-668.
- PHILIP, H., 1983, Use of farm implements and machinery in farming system. *M.Sc.(Agri.) Thesis*, Tamil Nadu Agricultural University, Coimbatore.
- PHILIP, H., ANNAMALAI, R. AND SRIRAM, N., 1998, Effectiveness of different treatments of knowledge gain and knowledge retention. *Journal of Extension Education*, **9**(4): 2191-2195.

- PIMPRIKAR, V.S., BHATNAGAR, O.P. AND DAHAMA, O.P., 1975, A study on contribution of training in poultry farming. *Mysore Journal of Agricultural Sciences*, **9**(1): 167-175.
- PRAMEELAMMA, V., 1990, A study on knowledge and participation of rural women in agricultural operations in paddy. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore.
- PRASAD, K.S.V., 1978, A comparative study of content and coverage of farm information in the leading English newspapers. *M.Sc.(Agri.) Thesis*, R.B.S., College, Agra.
- PRASAD, M.S., DATTATRI, P. AND SINHA, M., 1989, Factors influencing the media exposure of dry land farmers. *Journal of Adult Education*, **50**(1): 86-91.
- PRASAD, M. S. AND SUNDARASWAMY, 2000, Attitude of farmers towards dryland agricultural technologies. *Indian Journal of Extension Education*, **9**(1): 2666-2671.
- RAGHUPATHI, D. AND NAGI REDDY, K., 1991, Farm telecast and gain in knowledge among Indian mushroom growers. *Maharashtra Journal of Extension Education*, **10**(2): 253-257.

- RAGHUPRASAD, K.P., 1992, A study on innovative proneness and silk rearing practices followed by sericulturist of Chitradurga district. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Dharwad.
- RAJAN, P.K., 1982, Effectiveness of communication through the farm news service of Kerala Agricultural University. *M.Sc.(Agri.) Thesis*, Kerala Agricultural University, Trivendram.
- RAJENDRAN, N., 1982, Print media utilisation by farmers. *M.Sc.(Agri.) Thesis*, Tamil Nadu Agricultural University, Coimbatore.
- RAJINDER KAUR AND RANJIT SINGH, 1991, Adoption of smoke less chullab by rural women. *Indian Journal of Extension Education*, **1&2**: 61-62.
- RAJULUSHANTHY, T., 1991, Indigenous resource management by farm women – An analysis. *M.Sc.(Agri.) Thesis*, Tamil Nadu Agricultural University, Coimbatore.
- RAJAGURU, G.S. AND SATAPATHY, C., 1971; Effectiveness of information in the adoption process of high yielding varieties by the farmers of puri district in Orissa. *Indian Journal of Extension Education*, **7(1&2)**: 72-75.

- RAMADARUMURTHY, V., INDIRA GOPALAN, VISWESWARA RAO, K. AND MOHANRAM, M., 1990, Nutrition news A readership survey *Vidura*, July-Aug., pp.34-35.
- RAMALINGE GOWDA, .B, 1978, A critical analysis of the adoption behaviour of Varalaxmi cotton cultivated in Malaprabha Command Area of Karnataka. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore.
- RAMESHKUMAR REDDY, P. AND REDDY, M.N., 1993, Readability of agricultural leaflets and its association with some selected personal and social characteristics. *Maharashtra Journal of Extension Education*, **12**: 51-54.
- RANNOREY, S.R., 1979, Critical analysis of the agro-economic and socio-psychological characters in relation to adoption behaviour of social borrower farmers of Malaprabha command area in Karnataka. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore.
- RATNAKAR, R. AND M. SUDHARSHAN REDDY, 1991, Tribal farmers perception about ITDA programme. *Maharashtra Journal of Extension Education*, **10**(2): 75-78.
- RAVICHANDRAN, V. AND JOHN KNIGHT, A., 1980, Attitude of the registered sugarcane growers. *Madras Agricultural Journal*, **67**: 693-694.

- REDDY, G.M., 1983, A study on adoption behaviour of Banana growers of Tungabhadra Project area in Karnataka state. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore.
- REDDY, S.M. AND REDDY, S.V., 1997, Personal and socio-economic characteristics associated with attitude of farmers towards crop loan system. *Rural Development Review*, **13**(3&4): 68-70.
- ROBERT, F.R., 1980, Towards more effective news letters. *Journal of Extension*, **18**: 3-4.
- RUIZ RIOS, S.A. AND DIAZ CISNEROS, 1987, Reading comprehension and use of technology by farmers in two communities of Veracruz State. *Agro Ciencia*, **69**: 273-285.
- SAHA, G.S. AND TRIKHA, R.N., 1989, A study on contents and readers characteristics of Indian farmers Digest. *Indian Journal of Extension Education*, **25**(1&2): 58-60.
- SAIKRISHNA, N., 1998, A study on knowledge of paddy cultivation practices and adoption behaviour of Andhra migrant farmers in Raichur district. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Dharwad.
- SAKHARKAR, V.S., 1995, A study on knowledge, fertilizer use pattern and constraints in the cultivation of soybean by farmers of Nagpur district, Maharashtra. *Ph.D. Thesis*, University of Agricultural Sciences, Dharwad.

- SAKHARKAR, V.S., NIKHADE, D.M. AND BHOPLE, R.S, 1992, Correlate of knowledge and adoption behaviour of soybean growers. *Maharashtra Journal of Extension Education*, **11**: 212-217.
- SANGHA, G.S. AND KALRA, R.K., 1993, Utilization of mass media sources by farmers. *Indian Journal of Extension Education*, **29**(1&2): 139-141.
- SARVANAKUMAR, R., 1996, A study on management of mango gardens by the farmers in Krishnagiri taluk of Dharmapuri district. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Dharwad.
- SATAPATHY, C.S., GANSWAR, P. AND PATRAVALI, B.P., 1973, Socio-economic factors and adoption of improved agricultural implements. *Kurukshetra*, **22**: 15.
- SATISHKUMAR, 1980, Content analysis of agricultural news in four popular Hindi dailies. *M.Sc.(Agri.) Thesis*, Indian Agricultural Research Institute, New Delhi.
- SAWANT, G.K. AND SHENDRE, N.K., 1987a, Coverage of agricultural information in lending Marathi Newspaper 'Sakal' from Maharashtra. *Journal of Maharashtra Agriculture University*, **12**(2): 232-235.
- SAWANT, G.K. AND SHENDRE, N.K., 1987b, Agricultural information in 'Sakal' - A Maratha daily. *Journal of Maharashtra Agriculture University*, **12**(3): 358-360.

- SAWANT, G.K. AND SHINDE, S.B., 1999, Coverage of farm information on watershed development in Marathi newspapers. *Maharashtra Journal of Extension Education*, **18**: 304-305.
- SAWANT, G.K. AND WAGHMARE, D.S., 1985, Reading behaviour of literate villages in Ahmed Nagar district of Maharashtra State. *Maharashtra Journal of Extension Education*, **4**: 143-144.
- SAWANT, G.K., KHUSPE, T.S. AND HARKAL, R.B., 1984, Readability of printed Marathi text on jowar as perceived by farmers of Maharashtra. Background papers. *National Seminar on Agricultural Journalism : Problems and prospects*. G. B. Pant University of Agriculture and Technology, Panth Nagar.
- SAWANT, G.K., PAWAR, H.S. AND SHINDE, S.B., 1989, An analytical study of reactions of readers of 'Shrisugi' periodical. *Maharashtra Journal of Extension Education*, **8**: 73-77.
- SAWANT, P.A., 1999, An experimental study on the effectiveness of different modes of presentation of information on mushroom cultivation through television. *Ph.D. Thesis*, University of Agricultural Sciences, Dharwad.
- SHARMA RAJNISH, SINGH, P.R. AND SHARMA, R., 2000, Utility of farm information sources amongst tribals. *Maharashtra Journal of Extension Education*, **19**: 340-341.
- SHARMA, S.K. AND KISHORE, D., 1970, Effectiveness of radio as mass media communication medium in dissemination of agricultural information. *Indian Journal of Extension Education*, **6**: 12-19.

- SHARMA, V.V., 1983, Analysis of the readability content and usefulness 'Krishi Vignana'. Journal by the farmers and extension workers. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore.
- SHEELA, B., 1991, A study on knowledge and adoption of improved dairy practices by dairy practicing women in Bidar district. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Dharwad.
- SHIVASHARANAPPA, 1995, Import of watershed development programme on farmers of north Karnataka. *Ph.D. Thesis*, University of Agricultural Sciences, Dharwad.
- SIDDARAMAIAH, B. S. AND JALIHAL, K.A., 1983, A scale to measure extension participation of farmers. *Indian Journal of Extension Education*, **19**(3&4): 74-76.
- SIDDARAMAIAH, B.S. AND RAGHAVENDRA, S., 1983, Content analysis of Indian Journal of Extension Education. *Indian Journal of Extension Education*, **19**(1&2): 92-94.
- SIDDARAMAIAH, B.S. AND REDDY, H.C.V., 1993, Attitude and adoption of behaviour of farmers towards watershed management. *Mysore Journal of Agricultural Sciences*, **27**: 291-296.
- SIDDARAMAIAH, B.S., VENKATARAMAIAH, P. AND SETHURAO, M.K., 1976a, Mass media consumption in a rural community. *Indian Journal of Extension Education*, **12**(1&2): 52.

- SIDDARAMAIAH, B.S., VENKATARAMAIAH, P., SETHURAO, M.K. AND BASAVARAJU, M.R., 1976b, An valuation of farm information folders by farmers. *Mysore Journal of Agricultural Sciences*, **10**: 494-503.
- SIDELL, B., 1971, Gospel Radio: A 20<sup>th</sup> Century Tool for or 20<sup>th</sup> Century Challenge. Back to the Bible Broadcast Poona.
- SIMONS, W.R., 1970, Daily newspaper readership demographic tables, *Bureau of Advertising*. American Newspaper Publishers Association, New York.
- SINGH, B.K., TYAGI, K.C. AND MAHIPAL, 1988, Relationship of information source utilisation pattern with adoption of dairy innovations of farmers of transgassive and non-transgressive dairy villages. *Indian Journal of Extension Education*, **24**(1&2): 68-70.
- SINGH, J., 1984, A comparative study of content and coverage of farm information in daily Hindi Newspapers ('Amar Ujala' and 'Nav Bharat Times'. *M.Sc.(Agri.) Thesis*, R.B.S. College, Agra.
- SINGH, M.P. AND KUMAR, B., 1977, Analysis of the space provided to agricultural information in leading newspapers of Bihar. *Indian Journal of Extension Education*, **13**(3&4): 27-31.
- SINGH, R., 1983, Selected characteristics of farmers in relation to their adoption of farm mechanization. *Indian Journal of Extension Education*, **19**(3&4): 11-17.

- SINGH, R.P., AND SINGH, K.N., 1978, What farmer think about improved farm implements. *Agricultural Research Rural Development*, (1&2): 7-9.
- SINGH, S., 1978, AN evaluative study of 'Krishi Yuvak' magazine published by Department of Agricultural Extension, R.B.S., college, Bichpuri. *M.Sc.(Agri.) Thesis*, R.B.S. College, Agra.
- SINGH, S.N. AND SINGH, K.N., 1970, A multivariate analysis of adoption behaviour of farmers. *Indian Journal of Extension Education*, **6**(3&4): 39-45.
- SINHA, H.S.P., SINHA, A.R. AND SINHA, K., 1984, Study of attitude of farmers Chotanagpur towards soil conservation programme. *Indian Journal of Extension Education*, **20**: 9-18.
- SINHA, R.R., KUBDE, V.R. AND PRADHAN, T.P., 1988, Impact of wheat result demonstration on knowledge, adoption and attitude of farmers of Nepal. *Maharashtra Journal of Extension Education*, **7**: 139-142.
- SIVAPRASAD, K., 1990, A study on knowledge, attitude and adoption behaviour of farmers towards recommended practices in Yeuachervu model watershed development programme in Anantapur district Andhra Pradesh. *M.Sc.(Agri.) Thesis*, Andhra Pradesh Agricultural University, Hyderabad.

- SOHAL, T.S., DUBEY, V.K. AND HANDAL, J.S., 1977, Opinion of 'Dairy Samachar' readers about its utility. *Indian Journal of Extension Education*, **13**(1&2): 88.
- SOLANKI, G.K. AND KADAM, K.R., 1993, Information seeking behaviour of farmers. *Maharashtra Journal of Extension Education*, **12**: 125-128.
- SOMASUNDARAM, D. AND SINGH, S.N., 1978, Communication gap between extension workers and paddy growing small farmers. *Indian Journal of Extension Education*, **14**(3&4): 26-33.
- SOMASUNDARAM, T. AND JAGANNATHAN, L., 1974, Readability in newsletters. *Indian Journal of Extension Education*, **10**(3&4): 50-61.
- SONTAKKI, B.S., 1989, Possession and use of farm implements by the farmers of Belgaum district. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Dharwad.
- SREEDHAR, V., 1977, A study on readability of agricultural extension literature. *M.Sc.(Agri.) Thesis*, Andhra Pradesh Agricultural University, Hyderabad.
- SRIDHAR, G., 1977, An analysis of communication patterns of extension personnel and client system. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore.

- SRINIVAS REDDY, M.V., 1995, A study on knowledge and adoption of recommended mango cultivation practices among farmers of Kolar district. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore.
- SRINIVASAN, H.R., 1974, Gobargas plants promises and problems. *Indian Farming*, **23**(11): 29-33.
- SRISHKUMAR, K., 1979, Study to evaluate the relative effectiveness of media combinations on dairy farmers of Tumkur District. A field experiment *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore.
- SUPE, S.V., 1969, Factors related to different degrees of rationality in decision making among farmers. *Ph.D. Thesis*, Indian Agricultural Research Institute, New Delhi.
- SUREKHA, S., HEMALATHA, B. AND NAGARAJ, N., 1997, Attitude of farmers towards watershed development. *Maharashtra Journal of Extension Education*, **XVI**: 82-85.
- SURESHKUMAR, M., 1997, Feasibility analysis of privatization of extension science and selected farm enterprise. *Ph.D. Thesis*, Andhra Pradesh Agricultural University, Hyderabad.
- SYED, SADAQUAT, CHANDARAGI, D.M. AND SUNDARASWAMY, B., 1998, Awareness and utility of agricultural publications among farmers. *Maharashtra Journal of Extension Education*, **17**: 78-81.

- TAWADE, A.D., 1991, A study on the extent of adoption of recommended technologies of pomegranate by the farmers in Parbhani district, Maharashtra. *M.Sc.(Agri.) Thesis*, Marathawada Agricultural University, Parbhani.
- TAWADE, N.D., GONJARI, P.A. AND BHAIRAMKAR, M.S., 1998, Perceived effectiveness of various mass media used by farmers for seeking agriculture information. *Maharashtra Journal of Extension Education*, **17**: 82-85.
- THAKUR, P., 1999, Attributes of farmers stimulating exploitation of farm information. *Maharashtra Journal of Extension Education*, **18**: 265-267.
- THURSTONE, L.L., 1946, *Comment American Journal of Sociology*, **52**: 39-50.
- TIRUPATAIAH, K., 1983, A study on readership and effectiveness of farm magazine 'Annadata'. *M.Sc. (Agri.) Thesis*, Indian Agricultural Research Institute, New Delhi.
- TRIPATHI, S.L., 1978, Farmers appraisal of new strategy for agricultural development in Allahabad district. *The Allahabad Farming*, **49**(3): 195-202.
- TRIVEDI, G., 1963, Measurement analysis of socio-economic status in rural families. *Ph.D. Thesis*, IARI, New Delhi.
- UPADYAY, M.K., 1978, A comparative study of content and coverage of farm information in the leading Hindi Newspapers. *M.Sc.(Agri.) Thesis*, R.B.S., College, Agra.

- VEERABHADRAIAH, V. AND SETHURAO, M.K., 1970, Extent of mass media utility in a rural community. *Indian Agriculture New Digest*, **2**: 147-149.
- VENKATAIAH, N. AND REDDY, A.N., 1983, Reading interests of neo-literates. *Indian Journal of Adult Education*, **44**(5): 15-20.
- VENKATESH SHARMA, 1983, An analysis of the readability, content and usefulness of 'Krishi Vignana' journal of farmers and extension workers. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore.
- VIJAYARAGHAVAN, R., ASHOKAN, M. AND KARTHIKEYAN, C., 1997, General reading behaviour of farm families. *Journal of Extension Education*, **8**(4): 1855-1860.
- VIJU, A. AND PILLAI, G.B., 1988, A study on attitude of 'Kanikkars' towards farming factors related with it. *Rural Development Review*, **7**(1&2): 682-686.
- VILANILAM, J.V., 1975, Development of news in two leading Indian Newspapers. *Media Asia*, **2**(1): 37-40.
- VINAYAKA REDDY, K.G., 1991, A study on knowledge and adoption level of registered cotton seed growers in Chitradurga district. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore.
- WAKLE, P.K., WATTAMWAR, V.T. AND KHALGE, M.S., 1998, Utilization of different sources by farmers for seeking farm information. *Maharashtra Journal of Extension Education*, **17**: 299-301.

- WHILEY, J.M. AND WILLIAM, R.D., 1980, Targeting extension publications. *Journal of Extension Education*, **6**: 11-17.
- WILLIAM, A.T., 1981, Declining newspaper readership - impact of region and urbanisation. *Journalism Quarterly*, **58**: 14-23.
- YADAV, G.P., 1971, A study on use of literature as means of communication of farm practices. *M.Sc.(Agri.) Thesis*, RBS College, Agra.
- YALIGAR, S.S.P., 1997, A study on soybean cultivation by farmers of Belgaum district an analytical study. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Dharwad.
- YOGNANDA, H.G., 1992, A study on knowledge level adoption behaviour and training needs of coconut growers. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore.
- YUEHUI, W., 1987, Rural development lends to press Boom. *Media Asia*, **14**(2): 63-66.
- ZALAKI, G.G., 1973, Study on the awareness, use and readability of agricultural publications of farmers in Bangalore District of Mysore state. *M.Sc.(Agri.) Thesis*, University of Agricultural Sciences, Bangalore.

# *Appendices*

---

## APPENDIX I

### Facts and figures related to print media like newspaper/ periodicals and their circulation (in 1998)

Languages	Dailies	Tri/bi-weeklies	Weeklies	Fort rightlies	Monthlies	Quarterlies	Bi-monthlies half yearlies	Annuals	Total
English	353	29	935	635	2,606	1,172	734	153	6,517
Hindi	2,202	125	9,062	2,741	2,960	544	173	29	17,836
Assamese	14	3	73	38	57	12	10	1	208
Bengali	96	14	580	463	661	441	156	14	2,425
Gujarati	106	8	565	161	455	57	43	13	1,408
Kannada	290	6	337	217	542	43	17	3	1,455
Kashmiri	0	0	1	0	0	0	0	0	1
Konkani	1	0	3	1	1	0	0	0	6
Malayalam	208	5	167	152	712	54	23	8	1,329
Manipuri	12	0	6	5	9	6	3	0	41
Marathi	302	20	870	161	451	100	39	103	2,046
Nepali	3	2	14	6	8	16	5	0	54
Oriya	68	2	132	81	260	85	23	4	655
Punjabi	106	15	332	83	231	31	18	1	817
Sanskrit	3	0	8	4	16	13	6	0	50
Sindhi	10	0	35	11	35	8	2	0	101
Tamil	344	43	391	220	717	27	20	7	1,769
Telugu	129	3	236	178	453	24	10	2	1,035
Urdu	509	20	1,290	356	496	56	15	3	2,745
Bilingual	65	19	534	311	1,082	327	135	31	2,504
Multilingual	15	4	92	60	197	64	31	11	474
Others	54	13	82	29	116	47	11	0	352
<b>Total</b>	<b>4,890</b>	<b>331</b>	<b>15,645</b>	<b>5,913</b>	<b>12,065</b>	<b>3,127</b>	<b>1,474</b>	<b>383</b>	<b>43,828</b>

India, 2000 - by publication division, Ministry and Information and Boardcasting Government of India, New Delhi.

## List of farm magazines

Sl. No.	Name of the farm magazine	Type of periodical	Name of publisher
1	Karnataka Vyvasaya Patrike	Monthly	Karnataka Pradesh Krishik Samaj, Bangalore
2	Yuvak Raita	Monthly	Young farmers association, Mysore
3	Krishi Deepthi	Monthly	Harsha Agricultural Engineering, Raithodyama, Nyamati, Davanagere
4	Krishi Prithistan Patrike	Monthly	Krishi Vigyan Kendra Hulakoti, Gadag
5	Okkaliga	Monthly	Netaji Printing, Belgaum Galli, Hubli
6	Siri Samruddhi	Monthly	Bharatiya Agro Industries Federation, Tipatur
7	Krishi loka	Monthly	Syndicate Agriculture and Rural Development Foundation, Manipal
8	Adike Patrike	Monthly	Arecanut Growers Association, Puttur
9	Krishi Pete	Monthly	Kanrataka Krishi Marata Mundali, Hubli
10	Krishi Varthe	Monthly	Indian Institute of Economic Change, Bangalore
11	Krishik Samachar	Monthly	Farmers Forum, Bangalore
12	Krishi Sampad	Bimonthly	Department of Agriculture, Dharwad
13	Krishi Darpan	Quarterly	Department of Agriculture, Belgaum
14	Krishi Munnade	Quarterly	University of Agricultural Sciences, Dharwad
15	Krishi Vignana	Quarterly	University of Agricultural Sciences, Bangalore
16	Bhu Vikas	Quarterly	Karnataka State Co-op Agricultural and Rural Development Bank, Bangalore
17	Krishi Tantragyana	Quarterly	Institution of Agricultural Technologies, Bangalore
18	Meti Vidye	Half yearly	Rekha Matapathi, Bangalore
20	Negilyogi	Weekly	V. K. Kautal, Gadag

### APPENDIX III

#### Statements on attitude

The following statements/items have been formed to measure the attitude of farmers towards the use of farm magazines. Kindly examine the relevance of each statement for inclusion in the scale against four point continuum by putting tick (✓) mark in the appropriate part of column to indicate your rating about the statements as to whether it is more relevant (MR), Relevant (R), Less relevant (LR) or not relevant (NR).

Items/statements generated with Relevancy percentage (RP), Relevancy weightage (RW) and mean relevancy score (MRS) based on judges relevancy ratings and 't' values based on item analysis.

Sl. No.	Statements	MR	R	LR	NR	RP	RW	MRS	't' values
1	The information published in farm journal is useful to the farmers					95	0.88	3.50	4.10*
2	The cost of the farm journal is within the purchasing capacity of farmers.					92	0.86	3.40	3.00*
3	Farm journal publishes information on field crops like jowar, bajra, wheat etc.,					100	0.90	3.60	3.30*
4	Farm journal publishes information on cash crops like sugarcane, chilli, cotton etc.,					100	0.89	3.60	3.86*
5	Farm journal publishes information on dairy enterprise and its profitability					100	0.89	3.60	3.71*
6	Farm journal publishes information on poultry enterprise and its economics.					100	0.88	3.50	4.05*
7	Farm journal publishes information on goat/sheep rearing and its economics					100	0.89	3.60	1.81
8	Farm journal publishes information on Rabittary and its Economics					95	0.86	3.50	0.40
9	Farm journal publishes information on Bee keeping and its economics.					98	0.87	3.50	2.00
10	Farm journal published information on crops Disease management.					90	0.84	3.40	4.48*
11	Farm journal publishes information on fruit crops					100	0.89	3.60	3.40*
12	Farm journal publishes information on plantation crops.					100	0.87	3.50	3.33*
13	Farm journal publishes information on vegetable crops.					100	0.85	3.40	2.63*

Sl. No.	Statements	MR	R	LR	NR	RP	RW	MRS	't' values
14	Farm journal publishes information on floriculture					95	0.80	3.20	0.42
15	Farm journal publishes information on Bio-Technology					72	0.72	2.90	-
16	Farm journal publishes information on tissue-culture					47	0.63	2.50	-
17	Farm journal publishes information on organic farming					82	0.77	3.10	5.0*
18	Farm journal publishes information on vermiculture					83	0.78	3.10	1.38
19	Farm journal publishes information on post-harvest technologies like Grading, packing, processing, marketing, transportation and storage.					87	0.79	3.20	1.14
20	Farm journal publishes information on fishery science such as in land fishery and its economics					80	0.76	3.10	1.45
21	Farm journal publishes information on prawn culture and its economics					75	0.76	3.10	0.18
22	Farm journal publishes information on farm forestry.					82	0.77	3.10	0.37
23	Farm journal publishes information on sericulture and its economics					92	0.81	3.20	2.60*
24	Farm journal publishes information on Balanced nutrition					85	0.76	3.03	0.33
25	Farm journal publishes information on family resource management					40	0.60	2.40	-
26	Farm journal publishes information on medicinal value of tree species which can be locally for curing of minor diseases					35	0.58	2.30	-
27	Farm journal publishes regular seasonal information					58	0.68	2.70	-
28	Farm journal publishes only research papers which are of little use to farmers					38	0.60	2.40	-
29	Farm journal publishes popular articles					70	0.70	2.80	-
30	Farm journal publishes success stories					43	0.69	2.80	-
31	Farm journal present the information in the form of question and answer type					40	0.60	2.40	-
32	Farm journal publishes information by using experiences of farmers					95	0.79	3.20	2.93*
33	Diagrams/illustrations are made use to make the water easily understandable.					100	0.85	3.40	3.44*

Sl. No.	Statements	MR	R	LR	NR	RP	RW	MRS	t' values
34	The style of presentation of message does not motivate the readers to read the complete message.					88	0.78	3.10	3.33*
35	Farm journal publishes information on skill oriented aspects such as Grafting, budding etc.,					40	0.64	2.60	-
36	Farm journal publishes authentic information which is written by research scientists.					40	0.64	2.60	-
37	Farm journal publishes factual information which is provided by extension personnel.					53	0.67	2.70	-
38	The farm journal publishes articles which are written by ill-experienced persons sometimes who are not exposed to field problems					73	0.69	2.80	-
39	The motivational factors like new skills, social status, entertainment, advertisements make the readers to read the farm journal.					93	0.80	3.20	0.49
40	The information published in the farm journal is not clear which makes the readers to have contact with extension workers for clarifications.					88	0.79	3.20	2.85*
41	The information published in the farm journal is not clear which makes the readers to have contact with research scientists for clarifications.					37	0.61	2.50	-
42	The advertisements related to agricultural inputs published in farm journal encourages the readers to get additional information					90	0.83	3.30	0.68
43	The reading of articles in farm journal does not enrich the knowledge level of readers in agriculture.					38	0.76	3.10	5.62*
44	The information published in farm journal helps in decision making to solve the cultivation problems					48	0.66	2.70	-
45	The information published in farm journal is sufficient to solve day to day farm problems.					50	0.65	2.60	-
46	The information published in farm journal helps only the progressive farmers in adoption of recommended practices.					90	0.78	3.10	2.75*
47	The information published in farm journal helps in decision making related to solve the post-harvest and marketing problems.					82	0.75	3.00	1.48

Sl. No.	Statements	MR	R	LR	NR	RP	RW	MRS	't' values
48	The quality of the paper used in farm journal attracts the readers					40	0.62	2.50	-
49	The layout of the cover page used in farm journal attract the readers					48	0.63	2.50	-
50	The information published in farm journal is not applicable to practical field problems.					83	0.75	3.00	4.41*
51	The information published in the farm journal is monotonous.					83	0.75	3.00	1.09
52	The size and type of letters makes the reading pleasant					90	0.80	3.20	1.81
53	Farm journal allocates more space for subject matter compared to advertisements					93	0.83	3.30	5.23*
54	Farm journal publishes information keeping in view of Big and small farmers without bias.					62	0.68	2.70	-
55	Most of the articles published in farm journal are written by the publishers themselves.					27	0.51	2.10	-
56	The farm journal publishes information in simple local language which can be easily understood.					97	0.87	3.50	3.48*
57	Information published in farm journal is worth of keeping for future reference.					95	0.84	3.40	4.88*
58	The language of the article is too technical in nature.					87	0.75	3.00	3.12*
59	The articles published in farm journal are too lengthy which develops boredom.					85	0.75	3.00	7.68*
60	Most of the articles are popular articles.					50	0.63	2.50	-
61	Farm journal cannot be preserved for future use as the quality of the paper is poor.					68	0.68	2.70	-
62	The farm journal is not appealing to the farmers to buy them					73	0.70	2.80	-
63	The farm journal publishes information which is not useful to the farmers					83	0.73	3.00	5.62*
64	More space is allocated to agriculture than allied agriculture disciplines such as horticulture, sericulture, farm forestry, animal sciences etc.,					95	0.84	3.40	2.85*

\* - Selected statements

Here is a list of independent variables, which are found to be related with attitude of farmers towards use of farm magazines. You are requested to kindly indicate your opinion about the relevancy of each variables for inclusion in the study by putting tick (✓) mark against each variable in the appropriate column.

MR = More relevant

R = Relevant

LR = Less relevant

NR = Not relevant

Items generated with Relevancy percentage (RP), Relevancy weightage (RW) and Mean relevancy score (MRS) based on judges relevancy ratings.

Sl. No.	Statements	MR	R	LR	NR	RP	RW	MRS
1	Age					88	0.85	3.40*
2	Education					97	0.88	3.50*
3	Caste					58	0.68	2.70
4	Farming experience					88	0.80	3.20*
5	Land holding					82	0.78	3.10*
6	Family size/type					72	0.75	2.98
7	Family income					85	0.79	3.20*
8	Material possession					92	0.83	3.30*
9	Extension contact					100	0.75	2.98
10	Extension participation					95	0.87	3.50*
11	Social participation					90	0.86	3.50*
12	Mass - media participation					100	0.89	3.60*
13	Information source consultancy					27	0.56	2.30
14	Economic motivation					97	0.85	3.40*
15	Risk orientation					97	0.85	3.40*
16	Progressive outlook					93	0.85	3.40*
17	Innovativeness					95	0.85	3.40*
18	Cosmopolitaness					98	0.86	3.40*

\* - Selected variables

**UNIVERSITY OF AGRICULTURAL SCIENCES, DHARWAD**

Dr. M.R. Ansari  
Professor of Agricultural  
Extension Education

Dept. of Agril. Extension Education  
College of Agriculture, Dharwad  
Date : 7/02/1998

Dear Sir/Madam,

Mr. K.V. Natikar is doing his Research work for Ph.D., Degree programme under my Chairmanship. He has selected the Research Project entitled "Attitude and use of Farm Journals by the subscriber farmers and their profile-a critical analysis".

He is attempting to develop a scale measuring the attitude of subscriber farmers towards the farm journals. In this connection, keeping in view, your rich experience in the field of extension, I am taking the liberty of sending here with the statements on attitude proposed to be included in the study. Therefore, you are requested to indicate the relevancy of each statement for inclusion in the proposed attitude scale. The rating may be done by putting a tick (✓) mark in the given continuum.

Also, enclosed here in a list of independent variables. Kindly examine, each of the variable and indicate the relevancy of each variable to be included in the study. The rating procedure is similar.

I request you to kindly feel free to add or delete the statements and variables if you feel necessary. I thank you in advance for your kind consideration and valuable rating. Please send the appendix duly filled in the self addressed stamped envelop enclosed.

Thanking you,

Yours sincerely

**(M. R. ANSARI)**  
Chairman,  
Advisory Committee

To,

**APPENDIX- IV****QUESTIONNAIRE**Sl. No. : **PART - I****(Includes general back ground information)**

1. Name of the farmer :
2. Age :
3. Village : Taluk : District
4. Name of head of the family : Age : Education :
5. Who is the subscriber of farm : Age : Education :  
Magazine in your family
- a. Who has motivated to become : Name :  
the subscriber of farm  
magazine
- b. Indicate reasons to become :  
subscribers of farm magazine
- c. Do you read agricultural : Yes /No  
information published in farm  
magazines ?
- If no, give reasons :
  
6. Do you read agriculture : Yes/No  
information published in farm  
magazines even though you  
are not a subscriber ?
- If Yes, give reasons :
7. After reading the farm : Yes/No  
magazines do you preserve for  
future use?
- If Yes, given reasons :

8. Mention the number of years of :  
farming experience

9. Indicate landholdings :  
possessed by you

a. Dry land : \_\_\_\_\_ acres  
Irrigated land : \_\_\_\_\_ acres  
Total : \_\_\_\_\_ acres

b. Indicate what type of crops you :  
grow

Dry land	:	Crops	Area (acres)
	:	1.	
	:	2.	
	:	3.	
	:	4.	
	:	5.	
Irrigated	:	1.	
	:	2.	
	:	3.	
	:	4.	
	:	5.	

**10. Annual income of family** :

a. From agriculture : Rupees/year

b. From agro-based subsidiary : Rupees/year  
enterprises like (poultry, dairy,  
goat/sheep, rabbit rearing etc

c. From business : Rupees/year

Total : Rupees/year

**11. Material possession** : Mention the number of farm implements  
possessed by you in the bracket shown

a. Agricultural implements :

Iron plough ( ), wooden plough ( ) Ridger ( ),  
Leveller ( ), Hoes( ), Bund farmer ( ), Harrows ( ),  
Roller ( ), Seed drill( ), Seed cum fertilizer drill ( ),  
Bullock cart ( ), Tractor drawn implements ( ), Bullock  
drawn implements ( )

b. Farm power equipments : Mention the number which you possess

Tractor (            ), Power tiller (            ), Power sprayer (            ), Tractor plough and Disc (            ), Pumpset (            ), Oil engine(            ),  
(ii) Duster (            ) etc.

c. Live stock possession : Mention the number bullocks (            ), She buffaloes (            ), He buffaloes (            ), Goat (            ), Sheep (            ), Cows (            ), Poultry birds (            ).

**12. Extension contact** : This refers to the farmers contact with extension workers. Please put tick (✓) mark against the extension workers you contact.

Sl. No	Extension worker	Once in a week	Once in 15 days	Once in a month	Whenever problem arises	Never
1	Agriculture Assistant					
2	Assistant Agriculture officer					
3	Agriculture officer					
4	Assistant Director of Agriculture					
5	Extension Guides of Agriculture University					
6	Scientists of Agriculture University					
7	Rural development officers of Bank					
8	Assistant Agriculture officer (Farm women)					
9	Horticulture officer					
10	Forest department officials					
11	Animal husbandry department officials					
12	Sericulture department officials					
13	Any other					

**13. Extension participation** : Please put tick (✓) mark against the extension activity in which you have participated

Sl. No.	Activities/items	Score	Number of times participated
1	Conducted demonstrations on my farm	9.50	
2	Had discussion with Extension workers	6.84	
3	Participated in extension meetings	6.60	
4	Participated in field days on farmers field	6.63	
5	Seen demonstrations on neighbours field and had discussion with them	6.16	
6	Participated in Krishi mela	4.84	
7	Seen exhibitions on agriculture	2.79	
8	Read extension publications/literature	1.89	
9	Any other		

**14. Social participation** : Please put tick (✓) mark against the institution in which you are participating

Sl. No.	Types	Member	Office bearer	Non-member	Extent of participation		
					Regular	Occasional	Never
1	Village panchayat						
2	Cooperative society						
3	Youth club						
4	Farmers' forums						
5	Taluka panchayat						
6	Zilla panchayat						
7	Radio listener forums						
8	Friends societies						

**15. Mass media participation** : Please put tick (✓) mark against the item in which you are participating with reference to listening to radio, viewing television, reading news paper, farm magazines and extent of participation

Sl. No.	Mass media/items	Owning / subscription				Extent of participation		
		Owning	Not owning	Subscription	Non subscription	Regular	Occasional	Never
<b>1</b>	<b>Listening to radio</b>							
a.	Krishi ranga programme							
b.	Hints to farmers programme							
c.	Rural development programmes							
d.	General programmes							
<b>2</b>	<b>Watching television</b>							
a.	Krishi sampad programme							
b.	Gram mangala programme							
c.	Rural development programme							
d.	General programmes							
<b>3</b>	<b>Reading news paper</b>							
<b>4</b>	<b>Reading farm magazines</b>							

**16. Economic motivation** : Please indicate your agreement/disagreement and undecided ness about each of the following statements by putting tick (✓) mark against the concerned item

Sl. No.	Statements	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
		(SA)	(A)	(UD)	(DA)	(SDA)
1	A farmer should work towards larger yields and economic profits					
2	The most successful farmer is one who makes the best profits					
3	A farmer should try new farming practices which may earn more money					
4	A farmer should grow cash crops to increase monetary profits instead of growing food crops for home consumption					
5	It is difficult for the farmer's children to make good stand unless he provides them with economic assistance					
6	A farmer must earn for his living but most important thing in life, cannot be defined by only economic terms					

**17. Risk Orientation** : Please indicate your agreement/disagreement about each of the following items by putting tick (✓) mark against the appropriate item

Sl. No.	Statements	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
		(SA)	(A)	(UD)	(DA)	(SDA)
1	A farmer who is willing to take greater risk than the average farmer, usually does better financially					
2	A farmer should take over more chance in making big profit than to be content with a smaller but less risk profit.					
3	A farmer should grow large number of crops to avoid greater risks involved in growing one or two crops					
4	It is good for a farmer to take risk when he knows his chance of success is fairly high					
5	Trying entirely a new practice in farming by a farmer involves risk but it is worthy					
6	It is better for a farmer not to try new farming practices unless most other farmers have used it with success					

**18. Innovativeness** : Please give your agreement/disagreement about each of the statements by putting tick (✓) mark against appropriate item

Sl. No.	Statements	Agree (A)	Undecided (UD)	Disagree (DA)
1	Do you want to learn new ways of farming?			
2	If a farm demonstrator gives a talk, would you attend?			
3	If your government would help you to establish a 20 acre farm elsewhere, would you move out of your village ?			
4	Would you like to own the land?			
5	A man can usually lead a better life by hard work			
6	Do you think it is wise to borrow money?			
7	Do you want a change in your way of life?			
8	Do you think will use live better in future?			
9	Do you want your sons to be the farmers?			
10	A farmer should try to follow			
11	Do you think of living happily today without worrying about tomorrows?			
12	Do you believe that man's future is in the hands of god?			

### Part II

The following statements express the attitude of farmers towards the use of farm journals. You are requested to indicate their relevancy against the appropriate column with tick (✓) mark.

Abbreviations Used : MR-Most relevant, R – Relevant

LR – Less relevant, NR-not relevant.

Sl. No.	Statements	MR	R	LR	NR
1	The information published in farm journal is useful to the farmers				
2	The cost of the farm journal is within the purchasing capacity of farmers				
3	Farm journal publishes information on field crops like jowar, Bajra, wheat etc.,				
4	Farm journal publishes information on cash crops like sugarcane, chilli, cotton etc.,				

U. A. S.  
University Library  
DHARWAD.  
TH-6737  
Acc. No.

Sl. No.	Statements	MR	R	LR	NR
5	Farm journal publishes information on dairy enterprise and its profitability.				
6	Farm journal publishes information on poultry enterprise and its economics				
7	Farm journal publishes information on crops disease management				
8	Farm journal publishes information on fruit crops				
9	Farm journal publishes information on plantation crops				
10	Farm journal publishes information on vegetable crops				
11	Farm journal publishes information on organic farming				
12	Farm journal publishes information on sericulture and its economics				
13	Farm journal publishes information by using experiences of farmers				
14	Diagrams/illustrations are made use to make the matter easily understandable				
15	The style of presentation of message does not motivate the readers to read the complete message				
16	The information published in the farm journal is not clear which makes the readers to have contact with extension workers for clarifications				
17	The reading of articles in farm journal does not enrich the knowledge level of readers in agriculture				
18	The information published in farm journal helps only the progressive farmers in adoption of recommended practices				
19	The information published in farm journal is not applicable to practical field problems				
20	Farm journal allocates more space for subject matter compared to advertisements				
21	The farm journal publishes information in simple local language which can be easily understood				
22	Information published in farm journal is worth of keeping for future reference				
23	The language of the article is too technical in nature				
24	The articles published in farm journal are too lengthy which develops boredom				
25	The farm journal publishes information which is not useful to the farmers				
26	More space is allocated to agriculture than allied agriculture disciplines such as horticulture, sericulture, farm forestry, Animal sciences etc.,				

## Part III

Includes general awareness of subscriber farmers towards farm magazines (Journals) and other related aspects.

1. Please name the farm journal you subscribe and read for agriculture information by putting tick (✓) mark against the concerned

	Farm magazine	Subscriber	Borrowed from others
1	Krishi loka		
2	Krishi Vyavasaya patrike		
3	Krishi munnade		
4	Siri Sambrudhi		

2. How many journals do you read/refer for agriculture information and indicate by putting tick (✓) mark against the concerned

	Farm magazine	Two times in a week	Once in a week	Once in 15 days	Once in a month	Whenever problem arises
1	Krishi loka					
2	Karnataka vyvasaya patrike					
3	Krishi munnade					
4	Siri sambruddhi					

3. Indicate to what extent do you read farm journal for agricultural information by putting tick (✓) mark

- a. Completely ( )  
 b. Partially ( )  
 c. Selected/specific articles ( )

4. Please indicate how much time do you spend to read agricultural information from the farm magazines by putting tick (✓) mark.

	Duration	Name of farm magazine	Daily	Two times in a week	Once in a week	Once in 15 days	Once in a month
a.	One hour						
b.	Two hour						
c.	Three hours						
d.	More than three hours						

5. Indicate the extent of usefulness of message published in the farm magazines under the following categories

Sl. No.	Subject matters areas	Most useful	Useful	Some what useful	Not useful
1	Agriculture				
2	Horticulture				
3	Animal husbandry				
4	Sericulture				
5	Home science				
a	Food and Nutrition				
b	Home management				
c	Family resource management				
6	Fishery				
7	Agricultural engineering				
8	Farm forestry				
9	Others				
a	Advertisements				
b	Folk songs/stories				
c	General articles on rural development				
d	Environmental aspects				

6. Please indicate your preferential order of the subject matter which you read oftenly by putting tick (✓) mark.

Sl. No.	Subject matter areas	Reading	Discussion with	
			Family members	Neighbours
1	Agriculture			
2	Horticulture			
3	Animal husbandry			
4	Sericulture			
5	Home science			
A	Food and Nutrition			
B	Home management			
C	Family resource management			
6	Fishery			
7	Agricultural engineering			
8	Farm forestry			
9	Others			
a	Advertisements			
b	Folk songs/stories			
c	General articles on rural development			
d	Environmental aspects			

## Part IV

Do you consider any of the following suggestions would help in improving the quality and effectiveness of farm magazines? If so, please indicate your opinion by putting tick (✓) mark against the concerned item.

Sl. No.	Suggestions	Yes	No
1	Publication of important information on a particular page of every issue regularly		
2	Publication of information in the form of "success stories" whenever possible		
3	Publication of statistical figures with more easy and understandable manner		
4	Publication of more of information on high-tech agriculture like floriculture, organic farming, biotechnology, vermiculture etc		
5	Publication of more of information an cash crops/commercial crops		
6	Publication of information on nutritive value of fruits and vegetables		
7	Publication of information on medicinal value of tree species and Ayurvedic value aspects		
8	Publication of information by using more number of photographs		
9	Publication of information by using more familiar words in local language		
10	Publication of all categories of information including agro-based subsidiary enterprises like dairy, poultry, sheep/goat rearing, rabbitary, beekeeping, piggery, fishery, vermiculture, sericultlure etc.,		
11	Use suitable size letters		
12	Use short sentences		
13	Use small paragraphs		
14	Series of articles to be published on a particular topic in stead of whole article		
15	Publication of more information on pest and disease management aspects		