

**INFORMATION NEEDS AND UTILIZATION PATTERN
OF THE FARM PUBLICATIONS PUBLISHED BY THE
RAJASTHAN AGRICULTURAL UNIVERSITY**

Thesis

Submitted to the

**G. B. PANT UNIVERSITY OF AGRICULTURE & TECHNOLOGY
PANTNAGAR 263 145 (Udham Singh Nagar) U.P., INDIA**



By

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*DEDICATED
TO
MY PARENTS*

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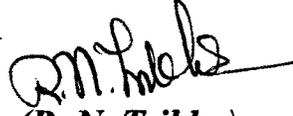
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CERTIFICATE

*This is to certify that the thesis entitled, "INFORMATION NEEDS AND UTILIZATION PATTERN OF THE FARM PUBLICATIONS PUBLISHED BY THE RAJASTHAN AGRICULTURAL UNIVERSITY" submitted in partial fulfilment of the requirements for the degree of **Doctor of Philosophy** with major in **Development Communication** of the College of Post Graduate Studies, G. B. Pant University of Agriculture and Technology, Pantnagar, is a record of bona fide research carried out by **Mrs. Rajendra Rathore**, Id. No. 23977 under my supervision, and no part of the thesis has been submitted for any other degree or diploma.*

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We, the undersigned, members of the Advisory Committee of Mrs. RAJENDRA RATHORE, Id. No.23977, a candidate for the degree of Doctor of Philosophy with major in Development Communication, agree that the thesis entitled "INFORMATION NEEDS AND UTILIZATION PATTERN OF THE FARM PUBLICATIONS PUBLISHED BY THE RAJASTHAN AGRICULTURAL UNIVERSITY", may be submitted in partial fulfilment of the requirements for the degree.



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LIST OF ABBREVIATIONS

RAU	Rajasthan Agricultural University
KVK	Krishi Vigyan Kendra
Distt.	District
Dept.	Department
No.	Number(s)
NGO	Non-Government Organization
ICAR	Indian Council of Agricultural Research
ha	hectare
Ag.	Agriculture
Agril.	Agricultural
cm	centimeter(s)
mm	millimeter(s)
km	kilometer(s)
sq.	square

INTRODUCTION

Chapter 1

INTRODUCTION

In India 70 per cent of the total population classified as rural is residing in more than 5 lakh villages. People speak several languages, maintain diverse cultural identities and derive their livelihood from agriculture directly or indirectly. Agriculture is the backbone of our national economy. Therefore, agricultural development has been treated as one of the main thrust areas of our national development.

The world community has turned into a global village with everyone having the right to know. Besides communicating with others not just for personal gain but for mutual cooperation at economic, political and cultural levels has become the norm of the day.

Communication is a basic need of all human beings and it is a continuing process throughout one's life. It is a natural demand of an individual and a requirement for social existence. Communication is the web that holds a society together, and it is a collection of small and relatively isolated agricultural communities. Culture and cultivation over the ages have rested on communication.

In today's world of technological boom, the communication media have become one of the most powerful means that influence every aspect of life viz., social, economic, political, cultural and religious. There is not a single sphere, which has escaped the onslaught and impact of the revolution in the information and communication technology.

Mass media of communication assume very important responsibilities. Mass media have been termed as hidden - persuades which selectively reflect social reality and thereby create a reality in the minds of audience.

Various mass media like radio, television, printed materials have been employed as the potential channels for carrying technologies from research station to the rural masses. Among the mass media, the printed words are trusted and held in high esteem for communicating technical messages. They still command respect and attract readers despite severe competition from glamorous electronic media. A considerable increase in the rural literacy has geared up the scope of farm publications in rural communities.

Printed words have a more lasting impact compared to the spoken words or visual image. The readers can read printed material at their leisure and can keep it for future reference. Newspapers and farm magazines have large audience, which enable the materials to reach a large number of people at a time with low cost.

Print media enjoy high creditability, prestige and preference, because of its motivating power. This media conveys information quickly, cheaply and can also be referred to as and when required. Due to upward trend of literacy and changing tendency, there is a rise in the demand for printed material. Print media are also utilized as a source of communication both by urban and rural masses. The media provide information on farm practices and developmental issues.

The invention of printing machine accelerated the pace of communication on the earth. The Chinese were the pioneers in printing. The credit for printing the first book *Hiraka Sutra*, in 868 AD, goes to China. The movable type was also first used in China (Pi-Sheng in 1301). Several persons have been mentioned as founders of printing from movable

type. Hohnann Gutenberg Mainz of Germany is, however, generally admitted to be the inventor of printing press.

First printing press in India was brought in 1550 at Goa by the missionaries. India saw the art of printing for the first time on September 6, 1556. The first book printed in 1557 in India was '*Doctrina Christa*'.

The credit for bringing out the first full-fledged printed newspaper in India goes to James Augustus Hicky on January 29, 1780 in Calcutta, bearing the title 'The Bengal Gazette' or 'Calcutta General Advertiser'. *Dig Darshan* (Bengali) was the first language newspaper also from Calcutta started in 1818.

The first agricultural literature in Hindi and Urdu was started as early as in 1866 by 'Vigyan Samiti' of Sir Syed Ahmad Khan with the title '*Kheti ki Youropiya Padatti*' and '*Mausam ki Kahani*'. After these publications, the publication on farmers' need were '*Van Vinod*', '*Krishi Kosh*', '*Khetisar*', '*Chatur Kisan*', '*Krishi Sastra*', etc. But the first agricultural paper 'Indian Agricultural Gazette' by J.C. Bose, J.N. Dey and H. Patro came in 1885 to disseminate agricultural information among English knowing landlords and big farmers. In 1890, '*Shetkari*' monthly magazine from Amravati was published followed by '*Khet Kheti Khetihar*', as fortnightly from Varanasi in 1900. In 1904, '*Kisan aur Sahakari Samachar*' was published from Nagpur. The first book covering the subject as a discipline and profession 'Agricultural Journalism' was published as early as 1926 by Crawford and Rogers from Alfred A. Knopf, New York.

Some important Hindi farm weeklies published during 1946 were '*Krishak Jagat*' by an agricultural graduate from Nagpur and '*Kheti*' by ICAR from Delhi.

With the advent of Independence, the central and state governments started a number of journals/magazines such as 'Indian Horticulture', 'Indian Livestock', 'Kheti

Bari', 'Pashu Palan'. The farm literature revolution began with the inception of Agricultural universities in sixties. Almost all the agricultural universities started publication of a farm magazine, a newsletter and a set of extension publications for rapid transfer of agricultural technologies. Out of the farm magazines, the 'Indian Farmers' Digest', English monthly brought out in 1968 and 'Kisan Bharati' in the year 1969 were started by the G. B. Pant University of Agriculture and Technology, Pantnagar.

Besides the universities, research institutes, state and central departments of agriculture, input organizations, co-operatives, NGOs, training institutes, K.V.Ks and private companies are also producing farm publications and having the extensive use of publications for communicating new technologies to the clientele.

The present day scene in Indian print media is mind boggling. In India, during 1998, 39/49 newspapers were published in 100 languages and dialects including 18 national languages and English. There are 4,453 dailies, 317 tri/bi-weeklies, 13,624 weeklies, 10,913 monthlies, 5,338 fortnightlies, 2845 quarterlies, 343 annuals and 1,316 publications with periodicities like bi-monthlies, half-yearlies, etc.

In 1998, the total registered farm periodicals counted were 486 from 332 district headquarters. These rural newspapers are small in size about 4-8 pages. Farm periodicals constitute a mere 1.25 per cent of the total number of newspapers published.

The unique advantage of print media in the total communication system is that publications allow the reader to control the occasion, the pace and the direction of change. Publications produce superior retention of complex factual material as compared to oral presentations. They also force the reader to participate more actively and creatively.

Use of print media is of greater advantage in the agricultural sector because of 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 (Natraju, 1996).

1.1 Statement of the problem

The success of any print media depends on the readers' information need and the extent to which it is being utilized by them. The proper utilization can influence the adoption of technologies. Utilization includes promptness in reading, preservation of message, follow up in addition to reading. Effective utilization faces constraints at three level of message transfer namely encoding, transmission and decoding.

Artistic cover page, appropriate illustrations, colour printing and easily readable type are some of the contributing factors to the publications. The absence of such elements limit the effective utilization of farm publications.

In the case of farm periodicals, the content areas covered in them do not adequately satisfy the information needs of rural readers. The mode of presentation and readability of the articles have not been tailored to the level of the readers. For this we have to understand the specific nature, demands and level of the readers and reorient the periodicals accordingly.

Information materials are one of the most favoured and widely adopted media of communication among the literate clients. If information materials are prepared in a proper way, they will be of a great help in catering to the need of rural masses. Thus, there is an imperative need to analyze the contents of agricultural information material published in different publications. There is every likelihood for enhanced reading and proper utilization of information if the literature is need based and content adequately satisfy the information needs of the prospective readers.

The farm publications are not only comparatively a few in numbers but the extent of circulation is also low. Most of the farm publications are highly subsidized by the publication units.

The Rajasthan Agricultural University (RAU), Bikaner, has been bringing out the farm publications regularly for more than last two decades in the areas of agriculture, animal science, agricultural engineering and home science. The purpose behind the production of such literature is to motivate the people for the desired action and for the adoption of new technologies. It is a common practice to distribute the literature to the farmers during training programmes, visits and the farmers' fairs. However, no efforts have been made to ascertain whether the information published is properly utilized or the publications cater to the needs of the farming community, and the format aspects of the publications provide maximum satisfaction. Many questions like these motivated the researcher to plan the present study. Hence, the publications of RAU required to be analyzed to make them more purposive and relevant in the near future. Therefore, the study entitled 'Information needs and utilization pattern of the farm publications published by the Rajasthan Agricultural University' was undertaken with the following objectives:

1.2 Objectives of the study

- i) To study the socio-personal characteristics and communication profile of the respondents.
- ii) To study the format and content aspects of the farm publications.
- iii) To assess the information needs of the readers.
- iv) To determine the utilization pattern of the farm publications and the reactions of the readers.

- v) To study the correlation of socio-personal variables with the utilization pattern and information needs of the respondents.

1.3 Scope of the study

The present study will be helpful to know the utilization of farm publications produced by the RAU. The readers' choice towards information sources, content preferences, reactions towards different aspects of publications and status of information needs will give a systematic appraisal about the study. Data regarding the utilization pattern will be useful to improve the maximum utility of publication.

Status of information needs of readers will provide a base to decide further strategy to make the periodical more informative, reasonable and comprehensive one.

The reactions and suggestions of readers and contributors will serve as the guideline for the removal of deficiencies and for framing a new policy to make literature more relevant. In the overview the findings of this study will act as a compass for the extension workers in using literature for the transfer of technology and planning the strategy according to the needs of the readers.

The study will be significant for the planners of publication as the findings of the study would suggest the points for the improvement from a journalistic point of view, too.

1.4 Limitation of the study

- a) The study is limited to the subscribers of RAU publications only.
- b) As the study is focused on the farmers, the findings will have limited generalization to specific audience of Rajasthan state only.
- c) The findings of this study are based on the ability of the respondents to recall and the verbal opinions and feelings expressed by them.

- d) Due to lack of time, only a limited quantitative information could be collected.
- e) The study was confined to the issues of year 1998 only. There may be a change in the content of periodicals in the years to come, hence the generalizations limit to the sample only.
- f) The study suffers with usual limitations of a single student researcher and of social science limitations.

1.5 Organization of dissertation

The study has been presented in five chapters. The introduction deals with the problem, objectives, scope and limitations. The second chapter is devoted to review of available literature. The third chapter including research methodology describes the locale of the study sample, tool and techniques, operationalization of terms and variables, data collection and statistical techniques used. Results and discussion presented in the fourth chapter explains the results of readers' characteristics, utilization pattern, information need, format/content analysis of farm periodicals. Finally the summary and conclusion as well as suggestions for further research are presented in the fifth chapter. In the end the comprehensive list of references (Literature Cited) and Appendices are also given.

***REVIEW
OF
LITERATURE***

Chapter 2

REVIEW OF LITERATURE

The literature in any field forms the foundation upon which all future works are built. If we fail to build the foundation of knowledge provided by the review of literature, our work is likely to be shallow and naive and all will often duplicate work that has already been done by someone else. Past studies serve as a compass in better understanding and theoretical clarification regarding the research problem. The available review of literature is presented below according to the objectives:

2.1 Farmers' profile

2.2 Format and content of farm publications

2.3 Information need

2.4 Utilization pattern

(a) Sources of information

(b) Reading behaviour

(c) Utilization of print media

2.1 Farmers' profile

Oliver (1971) reported that there was higher percentage of readers of newspaper in the groups of middle age, secondary education, medium farm size, low and middle income with agriculture as main occupation. He also found that farm size significantly influenced

the learning attitude of the farmers in a study on reading of agricultural news articles published in the daily 'Dinamani'.

Zalaki (1973) found that majority of the farmers spent half to two and a half hours per week in reading agricultural publications and preserved all or some of their copies for future use. Only 15.00 per cent of the farmers adopted improved farm practices after reading the publications. Majority of the farmers had favourable attitude towards the publications.

Khandekar and Mathur (1975) reported that readers of 'Unnat Krishi' were large farmers. Sixty per cent of the readers had farming as main occupation, 38.00 per cent of the readers had service or business as their main occupation besides farming. About 30.00 per cent of the readers belonged to middle age group. Only 30.00 per cent of the readers had low education making thereby a large percentage of the readers who could either read and write or read only. The majority (56.67 per cent) of the farmers had medium exposure to mass media, only 16.60 per cent readers had farm size of 15 acres and above, 61.60 per cent readers had medium size holding.

Siddaramaiah et al. (1976) found that reading habits of newspaper subscribers were better than non-subscribers. Majority of the readers read agricultural information daily and disseminate the information read in the newspaper to their neighbours, and one fourth of them had also adopted the information read in the newspapers.

Sohal et al. (1977) indicated that 87.00 per cent of the readers of 'Dairy Samachar' were farmers, only one was having dairy as main occupation, where 20.00 per cent of the readers were in business, and 87.50 per cent were in service.. 'Dairy Samachar' had a large

number of readership in small and medium farmers. Thirty per cent of the readers had small to medium size land holding.

Jayaram (1980) found that majority of the farm magazine readers were young having college education with big farms and low organizational participation. Majority of the farm magazine readers communicated the information contained in the magazine after reading it. Magazine is also utilized by neighbours, friends and relatives of the subscribers. A large number of readers subscribed all the copies of the magazine and some readers preserved some copies. More than 50.00 per cent of the farmers consulted other periodicals.

Mankar *et al.* (1981) stated that the major characteristics of rural readers comprised of below 40 years age. Younger people are interested in various types of literature. Most of the rural readers were educated upto high school level and larger income.

Najappa and Ganapathy (1986) reported that farmers with large size of land holding demonstrated high newspaper reading habit while education had no relevance to their reading habits.

Karande and Riswadkar (1987) found that education, occupational status, extension contacts, aspiration level, attitude, and incentives had a positive bearing in use of print media by the respondents.

Saha and Trikha (1989) found that majority of the readers of 'Indian Farmers' Digest' were highly educated, belonged to middle age group, had medium size of land holding with farming as main occupation.

Krishn Kumar (1990) reported that most of the 'Farm Page' readers were found to be old aged with secondary and college education, owned big sized holding, farming as their main occupation with more than 10 years of experience.

2.2 Format and content of farm publications

Wilson and Gallup (1955) suggested that artistic cover page, appropriate illustrations, colour printing and easily readable type are contributing factors to the attractiveness of the publications.

Ensminger (1957) stated that publications must be written in simple words and should have attractive covers, illustrations and pictures which are easily understood.

Sulemani (1962) stated that content of the reading material should be simple, easy to understand, printed in 16 to 18 points type and with plenty of leading. Illustrations in black and white line drawings are effective and they should be clear in design, crisply reproduced, full of life and action. If captions are used, they should supplement the picture. The way in which the material is presented is also important. If the cover page is colourful and well illustrated, it will attract readers. Printing should be of good quality and paper should be white and thick enough for the print.

Murphy (1962) reported that it is possible to effect the interest and reading habits of the readers by manipulating the format of farm magazine.

Kelsey and Hearne (1965) observed that the periodicals should have a cover page of heavy material and illustrations placed near the text reference in natural form. They suggested to use convenient size for the pamphlets and other periodicals.

Oliver (1971) stated that the timeliness, cover page of subject matter, practicability, readability, accuracy and terminology of the agricultural articles were found to be highly satisfying the farmers.

Somasundaram and Jagannathan (1974) found that the personal words and sentences were used adequately to add human interest. They suggested that reading material of news letters should be pre-tested with reference to 'reading ease' and 'human interest' by the persons engaged in planning, preparations and editing, before the news letters are approved for publication.

Kaur and Mathur (1981) reported that only an attractive cover page and format will not help, if the content is not timely, need based and locally relevant.

Nayak (1982) stated that material should be in simple language in different forms such as booklets, pamphlets, folders, content sheet, wall papers on various topics to develop the skill of reading. Script should coincide with 16 point type face and text should occupy only half of the total space, rest should be covered by simple drawings.

Trikha (1989) reported that most of the researches in the area of agricultural journalism have been on the content analysis followed by readability, evaluatory and production of publications.

Pandey and Trikha (1990) suggested that provision of good colour combination, good pictures, thick paper and easy language are contributing factors for increasing the effectiveness of the folders.

Sharma and Trikha (1993) reported that attractive cover page with clear and colour photographs, use of bold type size, bold sub-headings, inclusion of tables and

figures, more spacing between the lines, use of thick paper, use of easy language were the main suggestions offered by the respondents.

Nataraju (1996) reported that the readers' preferences were partially fulfilled by farm periodicals. Most of the readers preferred use of more sub-titles, paragraphs and tables while writing articles. They wanted the creative suspense type captions with text arrangement in double column in 12 points letter type. Readers did not satisfy with numbers, size, layout, attractiveness, and appropriateness of illustrations. They preferred action photographs.

Content analysis

Cartwright (1953) used the term content analysis and coding inter-changeably to refer objective, systematic and quantitative description of any symbolic behaviour.

Saris-Gallhofer et al. (1978) developed a model research which provides solid footing to content analysis in order to lead towards valid and theoretical interesting results.

Mathur et al. (1978) stated that Indian farm periodicals included research articles, technical articles, success stories, news stories and other types.

Krippendorff (1980) defined content analysis as a research technique for making replicable and valid inferences from the data to their context.

Weber (1985) defined content analysis as a research methodology that utilizes a set of procedures to make valid inferences. These inferences are about the sender, message or the audience of message.

The content and coverage of various farm periodicals had been studied using the content analysis as a research technique.

Saha and Trikha (1989) found that the articles on agriculture had the largest coverage followed by agricultural engineering, animal science, home science and general in the 'Indian Farmers' Digest'. Illustrations occupied only 10.42 per cent of space as compared to 76.79 per cent of the articles.

Kapoor and Trikha (1993) found that maximum space was occupied by the text followed by the illustrations and advertisements in the correspondence courses.

Bhamri and Trikha (1996) reported that the three periodicals viz., 'Krishak Jagat' (weekly), 'Gramlok' (fortnightly) and 'Khad Patrika' (monthly) devoted 75.75 per cent of space to text and 24.25 per cent to the advertisements. Out of the three periodicals, 'Khad Patrika' gave maximum space (31.74 per cent) to advertisements.

Sadaqath et al. (1998) reported that mailed printed messages must be more attractive, attention drawing through coloured photographs of technologies which are acceptable by farming community.

2.3 Information needs

Shakya (1973) reported that crop cultivation, horticulture, kitchen gardening, plant protection and livestock's were the most needed areas while agricultural implements, weather forecast, market, storage, and farm news were the least needed areas.

Sandhu and Sharma (1976) reported that the perceived information needs in respect of Home Science practices of farm women were family planning, food and nutrition, home management, child development, health and sanitation.

Singh (1981) found that the farmers had high information needs in agronomic practices, improved varieties, plant protection measures, farm machinery with respect to wheat, rice and potato crops.

Saini (1981) found that the first four areas of information need in hierarchy were seed production, improved varieties, hay making and fodder mixture and climatic requirements. He further found that the items considered very important by them were weather change, crop rotation, information on new varieties, reclamation of saline and alkaline soils, nursery bed preparation, spacing of plants, use of fertilizers, prevention measures of weed control, techniques of preparation of silage and hay making, use of fungicides, and construction of cheap storage structure.

Pestilos and Escalada (1982) reported about the information needs of the respondents on maize production were on shelling, marketing, disease and pest control.

Reddy (1984) found that the major areas of rural farm women incorporating the detailed work items are pre-sowing and sowing, inter-cultivation, harvest and post-harvest, and allied agriculture rule including animal cure, kitchen gardening, cooking, and poultry rearing, etc.

Sawant *et al.* (1984) reported that the readers want information on addresses of different firms, availability of agricultural inputs, cultivation aspect of horticultural and vegetable crops and regular features like farmers' queries and answers and coloured photographs in the content.

Singh and Hansara (1992) reported that there is a big gap in the information supplied and the information needs of the farmers. Therefore, the programmes should be prepared after assessing the needs of the farmers.

Wallace *et al.* (1993) reported that women tend to be especially interested in nutrition information much of which they obtain from magazines and other forms of print media.

Dent (1993) reported that various groups of managers and decision makers need information at different levels with details which are not provided by conventional soil survey and land evaluation.

Miah and Halim (1994) reported that the farmers received inadequate information in comparison to their requirement to perform various farming activities. They recommended that extension messages should be formulated after considering the needs and interest of the farmers.

Zeitlyn (1994) reported that in real development, information can some times be more important than funding. Flow of information should be in such a way that it meets the needs.

Vazquez et al. (1995) found that farmers need information on appropriate technologies that would assist them in preventing the deterioration of their crops due to insects and rodent infestation.

Nataraju (1996) observed that most of the readers preferred information on a wide variety of crops including fruits, vegetables, plantation crops, trees and livestock enterprises.

Lal et al. (1997) reported that tribal farmers had highest information need about soil reclamation whereas the non-tribal farmers had about fertilizer application.

Rao and Reddy (1997) found that the respondents had great information need on varieties as planting techniques, optimum plant population, dose, method and application of manures and fertilizers, and important pests and diseases.

2.4 Utilization pattern

(a) Sources of information

Rao and Kherde (1968) reported that publications are one of the most suitable channels for communicating the information on agricultural techniques. In information publication, folders occupy the predominant position in transmitting the new ideas.

Perumal (1970) observed that 46.25 per cent farmers became aware of the availability of certified seeds and advantage of cultivation of hybrid maize through newspapers.

Chole and Radhukar (1978) found that among 12 information sources, mass media like publication and radio were perceived to be less credible by small and big farmers. But demonstration was given more credibility. University scientists, friends and neighbours were considered as most credible sources among big farmers, respectively. Various sources in order of credibility as perceived by big farmers were university scientists, BDO, AO, demonstration, extension officer, VDO, friends/neighbours, Sarpanch, private agents, agricultural publications, radio, and relatives. While credibility accorded by small farmers was in order of friends/neighbours, demonstration, relatives, Sarpanch, VDO, extension officer, University Scientist, BDO, AO, radio, and agricultural publications.

Vijayaragavan and Subramanyam (1980) found that Deputy Agricultural Officer was considered as the most credible source by the garden land farmers, whereas among the dry land farmers, the Gram Sevak emerged as the most credible source. Radio occupied third position in the case of garland farmers. Neighbours were placed at fourth position by the garland farmers and third position by the dry land farmers. Literature and commercial agencies were the least credible sources for both types of farmers.

Chidanandappa and Veerabhadriah (1988) reported that extension personnel made the use of booklets of package of practices, extension folders, radio, newspapers, and

farm magazines to a large extent. With reference to the frequency of use, the majority of AAS were medium users of all the mass media except newspaper. More AAOs were high users of mass media sources than AAS.

Olowu and Igodan (1989) reported that farmers received most of the information regarding agricultural practices through mass media (radio). Marketing and fertilizer information was received via fellow farmers and extension agent, respectively.

Jacobson (1989) reported that print media was an effective means of reaching specific audiences with environmental messages in Sabah.

Bette et al. (1990) reported that radio broadcasts and general farm magazines were the two marketing information sources most frequently cited as useful. Highly formalized and marketing specific sources such as marketing consultants, commercial advisory newsletters and computerized information sources were cited relatively infrequently. Radio and television broadcasts were more frequently cited as the most useful source of marketing information by older farmers and operators of small farms. Marketing professionals were cited as most useful more frequently by operators of larger farms and operators with at least some college education.

Dinampo (1989) reported that farmers used to prefer an inter-personal medium of extension (agents) rather than the mass media. Among mass media sources, the first preference was radio followed by print and audio visual aids.

Bhangoo and Kaur (1994) found that whenever print material was combined with illustrated lecture and film, knowledge gained by the respondents increased.

Sharma and Sharma (1994) reported that among the institutionalized sources of information, village extension worker was found invariably most utilized source of information from information to trial stage.

Sagwal and Malik (1995) reported that farmers gained maximum knowledge when they were exposed to technology of rice through printed/ cyclostyled material plus discussion.

Mishra and Tripathi (1991) reported that the women had very little contact with extension staff and were not exposed to formal sources of information. They had more contact with friends, relatives and neighbours and hence received information through informal sources. While most of the respondents listened to the radio, some watched the television and very few saw films. The exposure to print media was minimal.

Patel *et al.* (1995) reported that source creditability may vary according to type of farming, previous experience, socio-economic status, mass media exposure, and other characteristics of audience.

Udomisor (1997) reported that in Indian print media have a significant influence over the urban population because both the English and the vernacular print media are well developed in India compared to Nigeria.

Sabharwal and Verma (1997) found that most of the teachers and learners were utilizing double media combination. Hence, it becomes essential to impart education through mass media approach for better understanding of subject matter.

Chandra and Babel (1997) reported about the different sources of information used by small, medium and large moong bean growers. Personal localite source (neighbours, relatives) ranked first, followed by impersonal cosmopolite (mass media, farm

literature) sources. Personal cosmopolite and commercial agencies were among the least used and ranked third and fourth, respectively.

(b) Reading behaviour

Zalaki (1973) found that majority of the farmers spent half to two hours per week in reading agricultural publications and preserved all or some of their copies for future use.

Siddaramaiah et al. (1976) found that the reading habits of newspaper subscribers were better than non-subscribers. Majority of the readers read agricultural information daily and disseminate the information read in newspapers to their neighbours.

Pestilos and Escalada (1982) reported that all read print media, most of them spending 1-8 hours per week. Co-extension workers were the most frequent source of information for all maize production practices followed by print and radio.

Nanjappa and Ganapathy (1987) reported that farmers with large size of land holding in Karnataka demonstrated high power of newspaper reading habit while education has no relevance to their reading habit.

Veerabhadraiah and Sethurao (1987) reported that more than fifty per cent farmers read the farm information regularly and majority of them had follow up discussion with extension workers.

Natikar et al. (1995) reported that 55 per cent respondents read in morning whereas 35 per cent read in the evening or night time. Only 10 per cent read any time when they found leisure in a day. Further regarding frequency in a week, 50 per cent of them read daily.

Srivastava et al. (1996) found that majority of the respondents (46.5 per cent) were reading newspapers daily. Maximum time devoted was about one hour (53.5 per cent)

followed by about 2 hours. In case of magazines, it was observed that maximum respondents were reading magazine occasionally (53 per cent) and maximum time devoted was about 2 hours (48 per cent) followed by about 1 hour (20.5 per cent).

(c) Utilization of print media

Klapper (1966) observed that print among the media, allows the reader to control the occasion. The pace and direction of his exposure permits him to re-expose more easily than other media.

Rao and Kherde (1968) reported that for educated farmers, publication of information on agricultural techniques is helpful in adoption of farm technologies. In information publications, the information folders occupy predominant position in transmitting new ideas.

Bhardwaj and Hansra (1983) stated that printed material followed by group discussion was found to be most effective mode for communicating knowledge to the members of Charcha Mandals. Further, the inter-mode's effective comparisons revealed that groups which had treatment with printed material had higher mean gain than groups which had treatment with tape recorder.

Stewart (1985) reported that strength of print lies in precision and credibility.

Tajuddin and Mohan (1989) observed that among the various extension tools tried to transfer the technology, communication through written words i.e., publication of articles and write-ups in journals/magazines and newspapers had better response. They further reported that one-third of the respondents showed interest to readily adopt the technology in English.

Pandey and Trikha (1990) reported that the agricultural universities and the state departments of agriculture have made extensive use of printed literature in communicating the new technologies to the farmers and they revealed that most of the respondents found the home science extension folders as most effective.

Tawde *et al.* (1998) reported that 65.00 per cent of the respondents had medium perceived effectiveness of mass media. In case of radio, books, magazines, newspapers and leaflets perceived effectiveness was medium i.e., 63.00, 72.50, 71.00 and 82.36 per cent, respectively. Whereas, 45.04 per cent respondents perceived television as high effectiveness and 31.53 per cent respondents felt the medium as medium effectiveness.

Sadaqath *et al.* (1998) found that higher percentage of farmers (75.34%) utilized the agricultural information to some extent published for them, and only 19.17 per cent of them utilised the information to a greater extent, whereas 5.47 per cent of the farmers did not use at all the agricultural information published in the newspapers and monthly magazines.

***RESEARCH
METHODOLOGY***

Chapter 3

RESEARCH METHODOLOGY

A sound methodology is the pre-requisite for obtaining better and accurate results from any research investigation. It is the system of explicit rules and procedures on which research is based.

The methods and procedures developed and adopted for conducting the investigation are presented under the following heads:

- 3.1 Universe and the locale of the Study
- 3.2 Selection of the Districts/KVKs
- 3.3 Selection of the respondents
- 3.4 Selection of the farm publications
- 3.5 Research design
- 3.6 Operationalization of variables, measurements, and terms used
- 3.7 Data collection and tabulation
- 3.8 Data analysis
- 3.1 Universe and the locale of the study**

Selection of State

The present study is planned to be purposively conducted in the Rajasthan State since no study has been conducted on the information needs and utilization pattern of farm publications published by the Rajasthan Agricultural University (RAU), Bikaner. The

other reason in taking up a study in Rajasthan was that the investigator has been sponsored by the RAU and also belongs to the same state having familiarity with socio-cultural fabric, geographic distribution, local languages and dialects, and population distribution of the state.

The details pertaining to locale viz., a brief description of the University with special reference to Extension Directorate and all the KVKs selected for the study, brief description of six districts included in the study, are reproduced hereunder:

Agricultural scenario of Rajasthan

Rajasthan is the second largest state of India covering an area of 3,42,239 sq. km. having an aggregate 4.40 crores population as per 1991 census. About 79 per cent population is engaged in agriculture and allied pursuits for their livelihood. Physiographically, it is difficult to find a region more varied and diverse than Rajasthan. This state is situated in the North-Western part of India and lies between 69°30'5" east to 78°16'15" east longitude and 23°4'10" north to 30°15'5" north longitude. The mean annual rainfall in the west varies between 100 to 400 mm while it ranges between 557 to 1000 mm in the east with an overall mean of 573 mm in the state.

As far as type of soils is concerned, the state has different orders of soils and is also covered by several other physical features such as sand dunes, ranns, rock outcrops, water bodies, etc. Entisols cover the maximum i.e., 36.85% of the total area of Rajasthan state. These are followed by Inseptisols, Aridisols and Vertisols covering 21.86, 19.55 and 2.83 per cent of TGA, respectively. The Alfisols are the least represented covering 0.73% of the TGA.

The land use pattern of Rajasthan state shows that about 48.41 per cent of the total reported geographical area was put under cultivation. The major crops grown in Rajasthan state during kharif season are Pearlmillet, Maize, Sorghum; pulses, Cotton, Groundnut, and during Rabi Wheat, Gram, Mustard, Barley, etc.

Erratic monsoon and scanty water resources are the main constraints to the agricultural development of Rajasthan.

Administratively the state is divided into six divisions with 32 districts which comprise 100 sub-divisions and 229 Tehsils. Agro-climatically, it is divided into 10 zones (Appendix III).

Rajasthan Agricultural University

The Agricultural University in the Rajasthan state was established in the year 1962 at Udaipur and later on renamed as Rajasthan Agricultural University, Bikaner in 1987 with the three main functions viz., teaching, research and extension in the field of agriculture, veterinary science, home science, and agricultural engineering. The Directorate of Extension Education was established in the year 1966 at Udaipur under the Act and Statues of the University with the following three aims:

1. Extension function of the University is educational in nature which does not include supplies, services and regulations.
2. The University is responsible for training of officials and field functionaries of the departments of Government of Rajasthan, NGOs and also of the officers deputed by government for specialized courses.
3. Subject matter specialists of various agricultural production as the members of the extension network and working in close co-ordination with the Department of



Plate A **Rajasthan Agricultural Univeristy, Bikaner**

Agriculture, Animal Husbandry, Forestry, Cooperatives, Panchayat Samities and all other agencies are engaged in betterment of rural population.

Krishi Vigyan Kendra

The Krishi Vigyan Kendra (KVK) is an innovative science based institution which functions on the principle of collaborative participation of the scientists, subject matter specialists, extension workers, and farmers. The concept of KVKs first emerged in the country in the year 1974 by the ICAR. In Rajasthan first KVK was started in Fatehpur-Shekhawati in Sikar district in the year 1976. Rajasthan is a pioneer state where ICAR has sanctioned 31 KVKs which are maximum as compared to any other state in the country. The RAU has the privilege to govern 23 out of 31 KVKs in the state, while 6 KVKs are with the NGOs and 2 are with the ICAR institute CAZRI. These KVKs cover almost whole of the geographical area of the state.

Agricultural scenario of selected districts/KVKs

Out of the 32 districts in the state, only 6 districts/KVKs have been selected and their selection procedure is explained in detail under the heading 3.2 of this chapter. The Agricultural scenario of these selected districts/KVKs is explained below:

Jhunjhunu district

Jhunjhunu district is located on North-Eastern border of the state. It covers a total area of 5928 sq. km comprising 1.73% of the total geographical area of the state. This district has a population of 15,65,488 which accounts for 3.56 per cent of the state population. The district is predominantly and overwhelmingly rural in character as 79.49 per cent of the total population lives in rural areas. Literacy is 37.38 per cent. This district falls in 'Arid western plane agro-eco region' of the Rajasthan state.

The district has extreme climatic conditions with scorching summer, cold winter, and short monsoon season. The rainfall ranges from 30 to 60 cm with an average of 450 mm annually. Soils of the district are sandy loam to loam in texture.

The net sown area is 435.8 thousand ha which is 73.53 per cent of the total geographical area of the district as against the state average of 49.7 per cent. The total cropped area of the district accounts for 561.4 thousand hectares which is 2.75% of total cropped area of the state and 22.48 per cent of total cropped area is irrigated. Wells are the chief source of irrigation covering 99.98 per cent of the net irrigated area.

The principle crops grown in the district are pearl millet, kharif pulses, groundnut, mustard, wheat, gram, and barley. Pearl millet crop in the district covers 5 per cent of pearl millet area of the state. The district contributes 3.5 and 5.0 per cent of total production of pearl millet and kharif pulses of the state, respectively.

KVK Jhunjhunu

Krishi Vigyan Kendra, Jhunjhunu was established on 30th March 1990 on 77.6 ha land near village Abusar at a distance of 5 km from district headquarters.

Sirohi district

The Sirohi district is situated in south-west of Rajasthan. A large part of the district is vast semi-desertic plain marked by the isolated hills and chain of hills. Detached hills of the Aravali range are situated in the south-east of the central portion of the district. It covers a total geographical area of 5136 sq.km. accounting for 1.50 per cent of the total area of Rajasthan state. Total population of the district is about 6,53,324. The population of Sirohi district is predominantly rural based. Literacy percentage in the district is 25.97. Maximum population (40.16 per cent) of main workers are engaged in cultivation. The

climate of the district is moderate. The normal rainfall is 63 cm (annual). The district has deep to very deep well drained loamy and sandy loam black soils. These soils are capable of growing almost all the crops.

Net sown area of the district is 1,42,874 ha which is 27.58 per cent of the total geographical area as against the state average of 49.7 per cent. The total cropped area of the district is 1,81,208 ha which accounts for 0.87 per cent of total cropped area of the state. The net irrigated area in the district is 78,104 ha which forms 54.67 per cent of the net sown area. Wells are the major source of irrigation in the district accounting for 96.88 per cent of the total irrigated area. Major crops of the district are pearl millet, maize, wheat, barley, gram and mustard. The productivity of wheat, bajra, mustard and sesame is higher in comparison to state average whereas it is highest for castor and fennel.

KVK, Sirohi

KVK, Sirohi, sixth in the series of RAU's KVK was established on 16th September, 1989 at Kolar farm near Ambeswarji. It is 10 kms away from district headquarter on national highway no. 14 (Pali road). The land allotted to this KVK is 34.5 ha. The district is part of two agro-climatic zones viz., zone II b and zone IV b.

Udaipur district

The Udaipur district is located in south-west Rajasthan and is in the midst of the Aravali mountain ranges. The Udaipur district which is located in southern Rajasthan has an estimated population of 28,85,039, out of which 55 per cent are tribals. The total area of the district is 17,279 sq. km which is 5.05% of the total area of Rajasthan. Nearly 42 per cent of this area constitute hilly land, permanent pastures, and other lands unfit for agriculture. A number of non-perennial rivers flow through Udaipur. The region which

comes under agro-climatic zone IV A (sub-humid south plain and Aravali hill zone) is characterized by moderate rainfall and temperature variation. The district receives average rainfall of nearly 68 cm. The total population of the district is 28,85,039 which is 6.56 of the state population. The overall literacy percentage is 27.57. There is a wide variation in the district in terms of soil composition as lime soils, red loam soils and rocky and yellowish brown soils in some parts. Important crops are maize, wheat, barley, and gram. Nearly 50 per cent of all farm families in the district have cultivated land under 1 hectare size. Out of the total geographical area of 4,55,693 ha is under cultivation which constitutes 31.41 per cent of total area. The main sources of irrigation are wells, tubewells and tanks.

KVK, Udaipur

KVK, Udaipur is located in the Badgaon block of Udaipur district. It was established in the year 1983 on 20 ha land.

Bikaner district

Bikaner district is located on north-western part of the state. It covers a total area of 27,244 sq.km. comprising of 7.96 per cent of the total geographical area. The total population of the district is 1,209,107 which accounts for 2.75 per cent of the state population. Literacy is 33.35 per cent. This district falls under the hyper arid and partially irrigated western plains. This is the most arid part of the state. The district has extreme climatic conditions with erratic rainfall. The entire rainfall of the year may fall on a single day and rest of the year may be dry. The average rainfall is 26 cm. Net sowing area is 9.27 lakh ha in which 1.24 lakh ha land is irrigated and 8.03 lakh ha is not un-irrigated.

The soils of the district are Aridisols and Entisols in texture. Due to poor rainfall, surface water resources do not exist in this district. Mostly rainfed crops like bajra, pulses, guar, etc., are grown during kharif season. Rabi crops like wheat, rapeseed and mustard are grown only in areas where ground water or canal sources are available for irrigation.

KVK, Bikaner

The KVK, Bikaner was established on 10th December 1983 at Beechwal farm. It is 8 km away from the main city on Ganganagar road. The land allotted to this KVK is about 19 ha.

Nagour district

The Nagour district has central situation in Rajasthan. It shares its border with several districts of Rajasthan. It covers a total area of 17,718 sq. km comprising 5.18 per cent of the total geographical area of the state. The district has a population of 21,37,258 which accounts for 4.86 per cent of the state population. The literacy is 25.18 per cent. This district falls under the agro-climatic zone II A (transitional plain of inland drainage) region of Rajasthan. A part of the district falls under the category of desert, as the north-western region is covered with large sand dunes, extending sometimes in a continuous series. Nagour in terms of climate is conspicuous of extreme dryness, large variations in temperature and high variable rainfall. The annual rainfall of the district is 38 cm. Soils of the district are Aridisols and Entisols. Drainage is not well developed and streams which flow in the rainy season disappear in sandy fields.

Bajra, sesamum, and kharif pulses are the main crops of the rainy season. Wheat, barley, mustard and gram are grown as irrigated crops on conserved soil moisture during rabi.

KVK, Nagour

The KVK, Nagour was established on 17th September 1992 at village Athiyasan, 6 km away from the district headquarters on Nagour-Ajmer road. The land covered by this KVK is 20 ha.

Kota district

The district is located in the eastern part of Rajasthan. It covers a total area of 12,436 sq.km comprising 3.63 per cent of the total geographical area of the state. The district has a population of 20,27,375 which account for 4.61 per cent of the state population. Literacy is 38.45 per cent. The district falls in V humid south-eastern plain agro-region.

The district has dry climate (with high relative humidity). The annual rainfall is 88 cm. Soils of the district are Vertisols (black soil) in texture which come under fertile category. A large number of rivers irrigate this area. The Chambal is the main river along with its main tributaries like Parvati, Kali, Sindh and Banas. The development of canal irrigation in this area with a series of dams and barrages on the chambal. Hence it has made this area rich in agricultural production. Paddy and sorghum are the main crops grown in the kharif season. The area is also suitable for soybean crop. Wheat, barley, gram and mustard are grown in rabi season.

KVK, Kota

KVK, Kota of RAU was established in August 1992 at Borkhera farm. It is 5 km away from the main city. The land allotted to this KVK is 41 ha.

3.2 Selection of the Districts/KVKs

The Rajasthan state is constituted of six divisions and 32 districts. Each district of the state has a Krishi Vigyan Kendra (KVK) under Indian Council of Agricultural Research, which plays a vital role in dissemination of agricultural information to the farming community. The study has been restricted to six districts having one KVK each. The district having highest no. of the subscribers from each division has been selected for the study. The study was limited to six districts because of the time and resource constraints on the part of the investigator (Table 3.1).

3.3 Selection of the respondents

The monthly newspaper *Apna Patra* is subscribed by a large number of farmers. The subscribers during 1998 were over 3500 in the whole state. The subscribers of the Rajasthan Agricultural University are made through KVKs of the University. The number of subscribers differ in each district. Therefore, 20 per cent sample of the respondents from each sample district were selected through simple random technique. Thus a sample of 256 respondents from 31 villages constituted the sample. List of the subscribers in the selected districts was obtained from the office of the Extension Directorate, Udaipur. The details of division, district/KVK, no. of subscribers/respondents and villages covered are given in the table 3.1.

3.4 Selection of the farm publications

The publications published by RAU during the year 1998 were selected for the study. The study of publication namely one priced monthly newsletter, *Apna Patra*, and all the folders (15) and booklets (6) were selected for the study. The extension folders and booklets are distributed free of cost to the farming community.

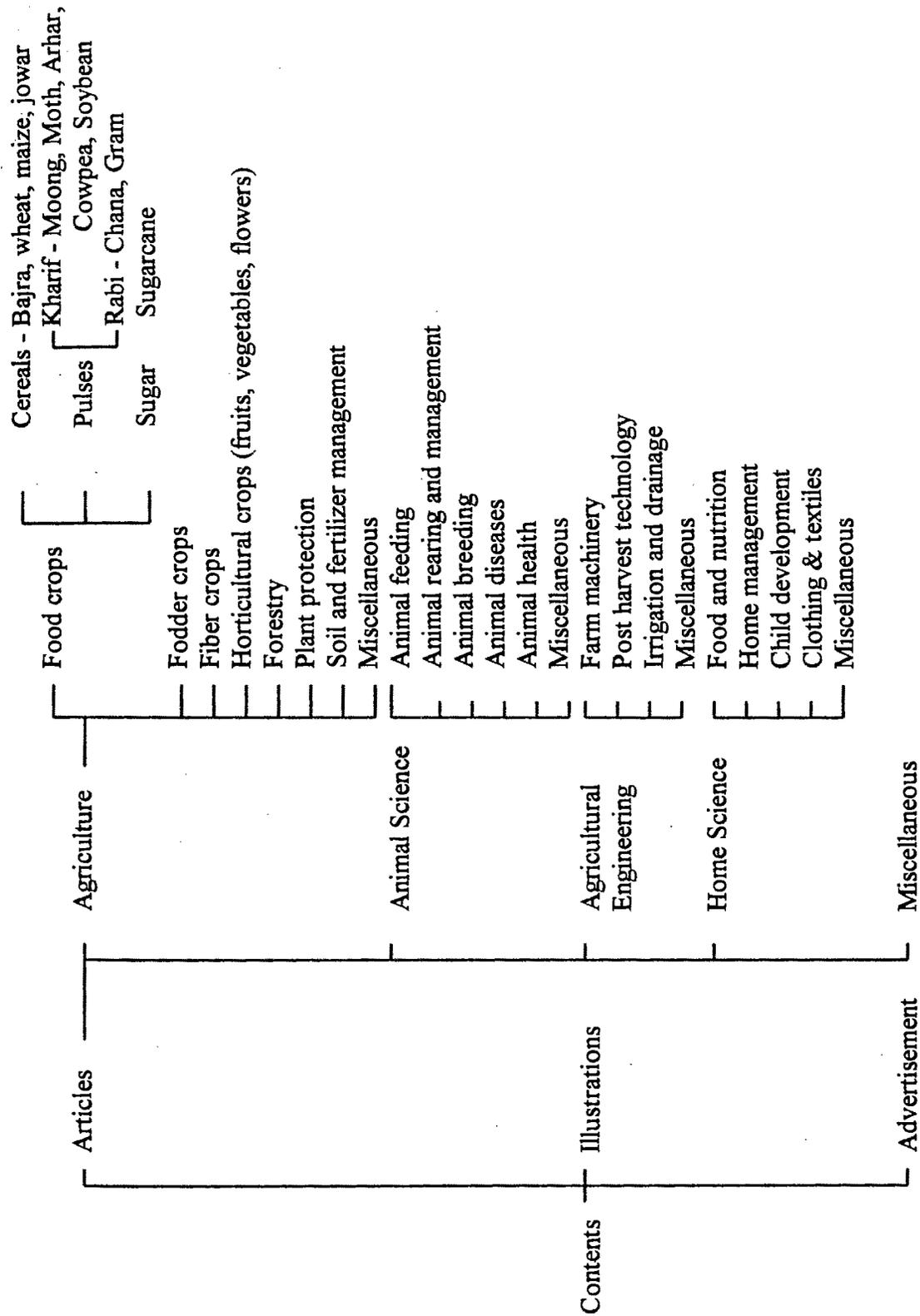


Fig. 2 Classification of content

Table 3.1 Selection of the subscribers and respondents

S. No.	Division	Districts/ KVKs	No. of subscribers	20 per cent Respondents	Name of villages covered
1	Kota	* Kota	150**	30	Borkhera Mandipara Arjunpura Jalkhera Dhakarkheri
		Bundi	55		
2	Bikaner	Jhalawar	65	42	Husansar Bikaner 14 B.D. Thawaria Nokha Bharu
		Baran	60		
3	Ajmer	Sawai Madhopur	30	24	Athiyasan Nagour Kharnal
			360		
4	Jodhpur	*Bikaner	210**	50	Mawanda Nawakhera Moroli Jawal Goal
		Churu	100		
5	Jaipur	Hanumangarh	-	60	Dabali Balonda Bibasara Abusara Sultanpur Pilani
		Ganganagar	110		
6	Udaipur		420	50	Uadipur Ranjitpura Mawali Peeliwas Agoana Badala Bargoan
		Ajmer	70		
		Bhilwara	45		
		*Nagour	120**		
		Tonk	95		
			330		
		Barmer	30		
		Jalore	15		
		Jaisalmer	-		
		Jodhpur	20		
		Pali	105		
		*Sirohi	250**		
			420		
		Alwar	80		
		Bharatpur	20		
		Dholpur	-		
		Dausa	95		
		Jaipur	290		
		*Jhunjhunu	300**		
		Sikar	115		
			900		
		Banswara	240		
		Chittorgarh	130		
		Dungarpur	210		
		Rajsamand	240		
		*Udaipur	250**		
			1070	256	

Total = 3500

Total ** = 1280

indicates selected district/KVK

indicates no. of subscribers in selected district/KVK



Plate B Newsletters



Plate C Folders



Plate D Booklets

3.5 Research design

The Exploratory Research Design was used for the present study to assess the readers' profile, information needs, utilization pattern, and reaction towards format.

Content analysis technique was used to analyze the farm publications.

3.6 Operationalization of variables, measurements and terms used

The variables selected for the study have been listed and described hereunder:

Independent variables

1. Age
2. Education
3. Occupation
4. Caste
5. Land
6. Mass media exposure
7. Extension contact
8. Social participation

Dependent variables

1. Utilization pattern
2. Information need

Other study variables

1. Content analysis
2. Readers' reaction towards different aspects of publications

Independent variables

Age

It refers to the chronological age of the respondents in complete years at the time of investigation. The respondents were grouped into three categories as mentioned below:

Young	15-35 years
Middle	36-55 years
Old	Above 55 years

Education

It refers to the respondents' formal success of various organized levels of education like primary, high school, graduate, etc. The data pertaining to education were collected by asking level of qualifications. It has been categorized as follows:

<u>Category</u>	<u>Score</u>
Illiterate	0
Primary	1
Middle	2
High School	3
Graduate and above	4

Frequency and percentage of the respondents in each category were calculated.

Caste

It refers to the category to which a respondent belong in social hierarchy. The caste was categorized in 3 groups and quantified as below:

<u>Category</u>	<u>Score</u>
Scheduled caste/Scheduled tribe	1
Other backward caste	2
General	3

Occupation

It refers to the means of livelihood of the family. The respondents were asked to state the major source of income in the family. Further they were grouped according to their occupation and quantified as below:

<u>Category</u>	<u>Score</u>
Farming	1
Business	2
Service	3
Farming with service	4
Farming with business	5

Land holding

It refers to the land possessed by the respondents in hectares. Further the respondents were categorized as follows:

<u>Category</u>	<u>Area (hectare)</u>	<u>Score</u>
Marginal farmers	< 1	1
Small farmers	1-2	2
Medium	2-5	3
Large	> 5	4

Mass media exposure

It refers to the frequency of exposure to different types of mass media like radio, television, print and film. These will be quantified on 3 point continuum with score 2, 1 and 0 for often, sometimes and never. Respondents were further categorized on the basis of mean and SD value. Percentage and frequency were also calculated.

Category	Score
Low	< 3
Medium	3 - 8
High	> 8

Mean value = 4.93

SD = 2.89

Extension contact

It refers to the frequency of contact with different extension personnel viz., B.D.O./A.D.O/V.L.O, University scientists/S.M.S., and NGOs. The extension contact of the respondents with different change agents will be measured on the three point scale as often, sometime and never, which will be assigned 2, 1 and 0 score respectively. The respondents will be categorized on the basis of mean and S.D.

Category	Score
Low	< 4
Medium	4 - 10
High	> 10

Mean value = 6.48

SD = 3.32

Social participation

It refers to the association of an individual respondents with any formal organization as a member or as office bearer in the executive committees. The respondents were asked to state the total number of such organization in which they were associated.

Social participation was further categorized as below:

<u>Category</u>	<u>Scores</u>
No membership	0
Membership in one organization	1
Membership in more than one One organization	2

Dependent variables

1. Utilization pattern

The utilization pattern of readers refer to information sources used by them, their reading pattern, content preferences, purpose, time devoted, reason of membership, preservation of farm publications for future use, reading response and, queries (Appendix 2). The utilization pattern aspects were assigned weighted mean score which were rated by the experts of agricultural field i.e., Agricultural Officer (AO), Asstt. Agri. Officer (AAO), Agri. Supervisors, and SMS. Further categorization of utilization pattern was done on the basis of mean and SD value. Frequencies and percentage for each aspect of utilization pattern was also calculated. The minimum and maximum score obtained were 102 and 279, respectively.

<u>Category</u>	<u>Score</u>
Low	< 123
Medium	123 - 216
High	> 216

Mean value = 168.83

SD = 46.33

2. Information needs

This variable is operationalized in terms of what the farmers perceived as their degree of need for obtaining information in agricultural practices. The needs were assessed in terms of most needed, needed and least needed which were given 3, 2 and 1 score, respectively. The minimum score obtained was 97 and maximum was 235. The three categories were made by using values of arithmetic mean and standard deviation as follows:

<u>Category</u>	<u>Score</u>
Least needed	< 153
Needed	153-199
Most needed	> 199

Mean value = 175.34

SD = 23.30

Information need areas

- Crops
- Land
- Seed
- Fertilizer
- Plant protection
- Weed control
- Irrigation and drainage
- Farm implements and machinery
- Fruits, vegetables and floriculture
- Storage
- Credit and marketing
- Energy conservation

Content analysis

The content covered in the selected farm periodicals published during 1998 were analyzed to find out number of articles/news stories, total space (sq. cm) and number devoted to text, illustrations and advertisements of different categories. The subject-wise distribution of content under different periodical is presented as follows:

Text

The text is the content including news items, articles, graphics including tables and figures (diagrams, photographs, etc.). It is the total printed space. The text material appeared in the selected farm periodicals was studied in terms of space occupied and number of items under specific sub-head.

Content analysis

The term content analysis is used here to mean the quantitative analysis of contribution in terms of articles, illustrations and advertisements.

Article

It refers to essay on specific topics that are written by some one. The articles were further divided into five areas as presented below:

Agriculture

It refers to any articles or illustrations pertaining to the production of food crops, fodder crops, fiber crops, horticultural crops, forestry, plant protection, soil and fertilizer management, etc.

Animal Science

It refers to all the articles and illustrations related to the animal feeding, animal rearing and management, animal health and diseases, animal breeding etc.

Agricultural Engineering

It refers to all the articles and illustrations on the design, construction and use of agricultural implements, machinery, irrigation and drainage, and post harvest processing of agricultural products, etc.

Home Science

It refers to articles and illustrations related to areas like foods and nutrition, home management, clothing and textile, and child development.

Miscellaneous

It refers to any articles, news stories, news items, illustrations which did not fall under any of the above mentioned subject matter categories.

Illustrations

It refers to the graphic presentation like photographs, drawings, tables, halftone or colour images that serve to enhance a printed piece.

Advertisement

It refers to the proclamation by the commercial firms or institutions for promotion of sales of their product or services.

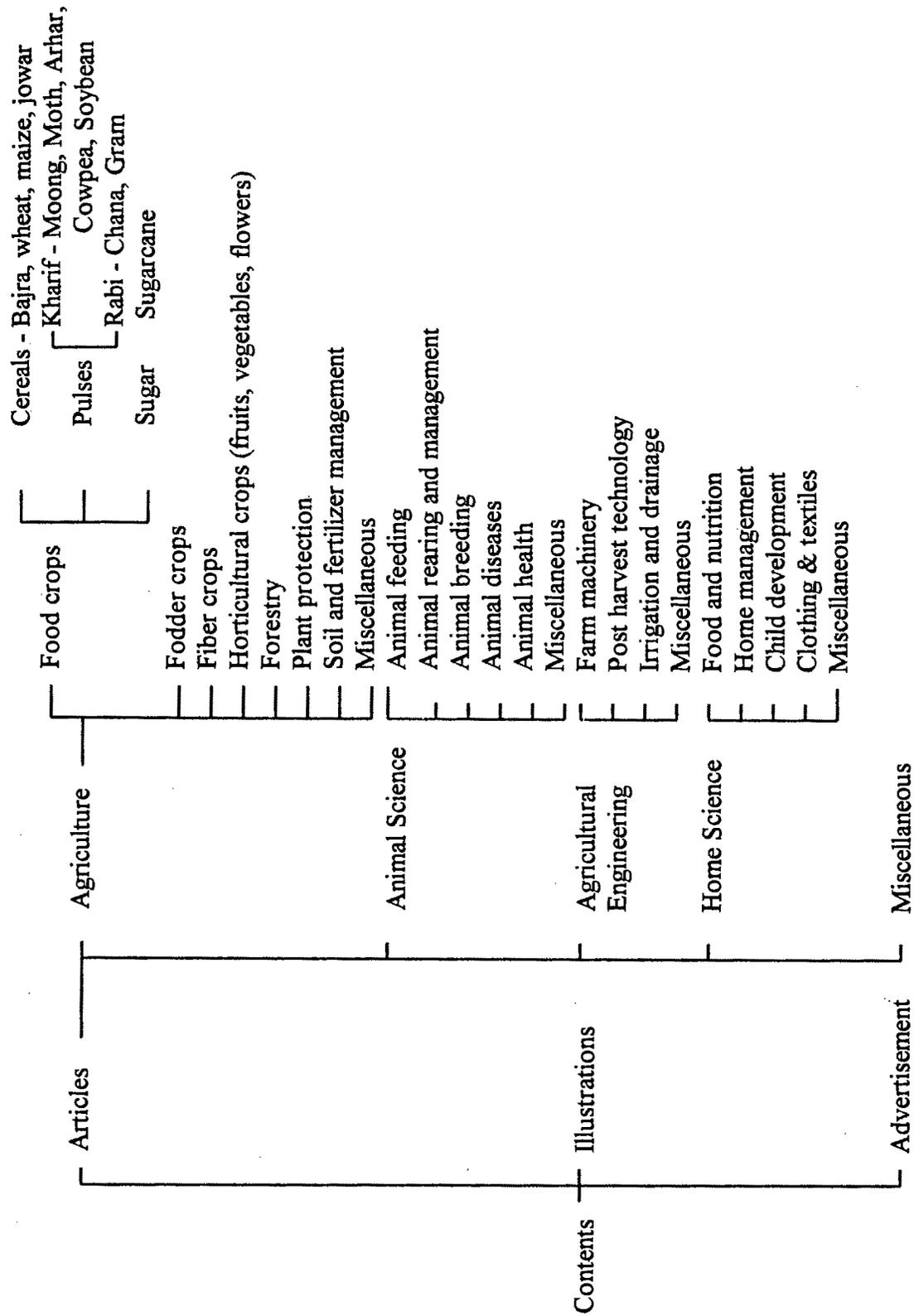


Fig. 2 Classification of content

Measurement of space

The length and width of the column on each page for the respective articles were measured in centimeters, multiplied together and summed up to give the space occupied by each item. The length of the column includes the length from heading to the last line of the content.

For the measurement of space occupied by illustrations the length and width of the illustrations were measured in centimeters and multiplied to find the area. The length of the illustration also includes the caption/outline. As illustration constituted part of the respective article, measurement of space covered by articles also included the space covered by illustrations. However, the space covered by illustrations was also shown separately.

Measurement of space occupied by the advertisements, the length and width of the written/display material including the figures/diagrams were measured in centimeters and multiplied (length and width).

Measurement of pages

The areas measured for each of the content component of the farm publications was divided by the size (length x width) of the respective farm periodicals. The size of selected farm publications is as – *Apna Patra* (693 cm²), folders (175 cm²) and bulletins (256 cm²). The data mentioned here do not give the actual area of a page of respective farm periodicals but gives the area of printed matter of a standard page of the publication.

Format

It refers to general appearance of the publication including its type size, spacing, margins, type face, use of graphic aids, number of words in a sentence, number of

sentences in a paragraph, number of pages, size of publication, printing, quality of paper, and general outlook.

Farm periodical

Indian Rural Press Association defines a rural paper as one which devotes at least 50 per cent of its editorial space to agriculture, horticulture, community development, coöperation. It should have a circulation below 15000 copies and caters to the local issues of immediate importance to the people.

The publications published by the Directorate of Extension with a periodicity viz., monthly newsletter have been considered as farm periodicals. The periodical should be registered with the Registrar of Newspapers of India and with postal department.

Reader – a person who reads, especially one who is fond of reading by either subscribing or sharing a publication.

Subscriber – any person who either subscribes or receives the priced or unpriced farm publications.

Farm publications

Farm publications is a class of publication prepared by the extension agency in printed form, containing information relating to the improvement of farm and home. They are also called extension publications.

Leaflet

It is a single printed sheet of the paper of small size. Normally it is used to convey information regarding package of practices. Leaflet carry specific instructions to get the job done.

Folder

It is a single printed sheet with one or more folds, gives essential information relating to a particular topic. It is printed as and when required. It is invariably numbered, has bold type face, use graphic aids and key points, etc.

Bulletin

It is printed, bounded booklet with a number of pages. It contains comprehensive information about a topic or topics. Some important bulletins may also be priced.

News item

It refers to news/information published in the periodicals i.e., monthly newsletter. News items are categorized viz., agriculture, home science, animal husbandry, agricultural engineering, etc.

3.7 Data collection and tabulation

The data for the present study were collected through structured interview schedule, personal contact, discussion, and observation, ^{during March to July 1999.} The interview schedule was prepared after consulting relevant literature and scientists on the subject under study. It was pre-tested with the 20 respondents. Data collection for the content analysis was done on the analysis sheets after thorough analysis on each subject of all the issues published by the Rajasthan Agricultural University.

3.8 Data analysis

The various techniques that were used to analyze the data are given below:

Percentage

The percentage was calculated with the help of the following formula:

$$P = \frac{n}{N} \times 100$$

where,

n = Frequency of a particular observation

N = Total number of observations/respondents

P = Percentage

Frequency

It was counted to find out the number of responses in a particular cell.

Mean score

It was worked out separately for each character using following formula:

$$\bar{X} = \frac{\sum X_i}{N}$$

where,

\bar{X} = Mean score/arithmetic mean

i = Total number of responses

N = Number of observations/respondents

$\sum X_i$ = Sum of each of individual/group comparisons

Weighted mean score

It was calculated with the following formula:

$$\bar{X}_w = \frac{\sum w_i \bar{x}_i}{\sum w_i}$$

where,

\bar{X}_w = Weighted mean score

$\sum w_i \bar{x}_i$ = Product of weight and mean score

$\sum w_i$ = Total of weight

Standard deviation

The standard deviation was calculated by using the following formula:

$$\sigma = \sqrt{\frac{\sum w_i (X_i - \bar{X})^2}{\sum w_i}}$$

where,

σ = Standard deviation

Coefficient of correlation

It was used to find out the relationship between independent and dependent variables. The formula used to compute the coefficient of correlation was as follows:

$$r = \frac{Cov(X_1, X_2)}{\sqrt{VarX_1, VarX_2}}$$

where,

r = Correlation coefficient between x_1 and x_2

X_1 and X_2 are the two variables

$$Var(X_1) = \frac{\sum (X_1 - \bar{X}_1)^2}{n}$$

$$Var(X_2) = \frac{\sum (X_2 - \bar{X}_2)^2}{n}$$

$$\text{Cov}(X_1, X_2) = \frac{\sum (X_1 - \bar{X}_1)(X_2 - \bar{X}_2)}{n}$$

't' test

The 't' test was performed by using the formula:

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

where,

r = Correlation coefficient

n = number of respondents in a group

This calculated value of 't' was compared with the table value of 't' at 2 levels of significance and (n-2) degree of freedom.

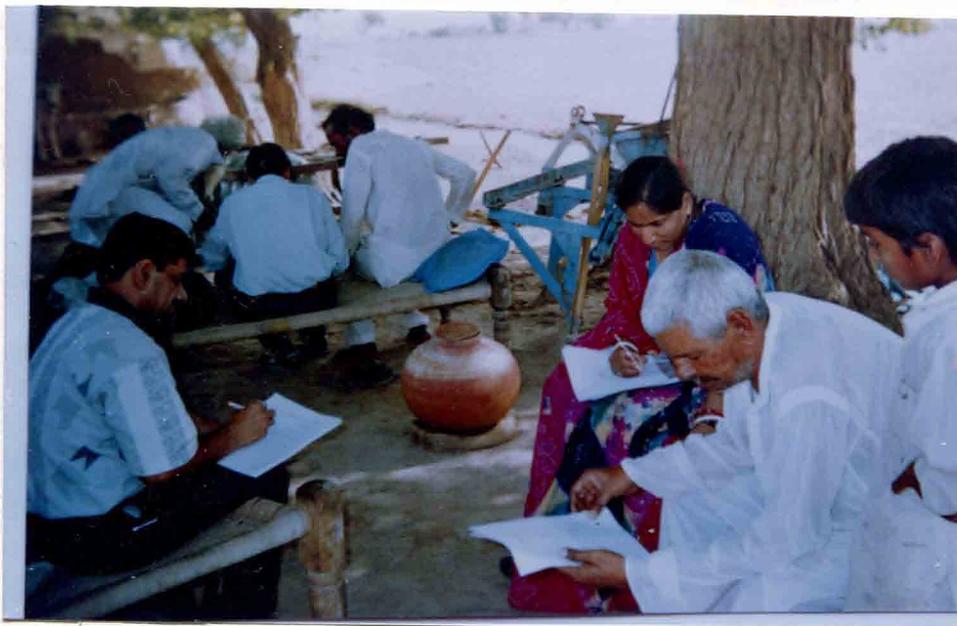


Plate E **Respondents of the study area**



Plate F Respondents of the study area

RESULTS AND DISCUSSION

Chapter 4

RESULTS AND DISCUSSION

The findings of the study and discussion have been presented in this chapter. The collected data were classified and analyzed in light of the objectives of the study. The results are presented under the following sections:

4.1 Profile of the respondents

4.2 Content analysis of the farm publications

4.3 Information need of the respondents

4.4 (a) Utilization pattern

(b) Reactions of the respondents

4.5 Correlation of socio-personal variables with the utilization pattern and information needs

4.1 Socio-personal characteristics and communication profile of the respondents

Age

Table 4.1 Distribution of the respondents according to the age groups

N=256

Category	Krishi Vigyan Kendra/District						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Young	19 (7.42)	23 (8.98)	14 (5.47)	23 (8.98)	8 (3.12)	22 (8.60)	109 (42.57)
Middle	11 (4.30)	15 (5.86)	9 (3.52)	23 (8.98)	43 (16.80)	24 (9.38)	125 (48.83)
Old	-	4 (1.56)	1 (0.39)	4 (1.56)	9 (3.52)	4 (1.56)	22 (8.60)

(Figures in parentheses indicate percentage)

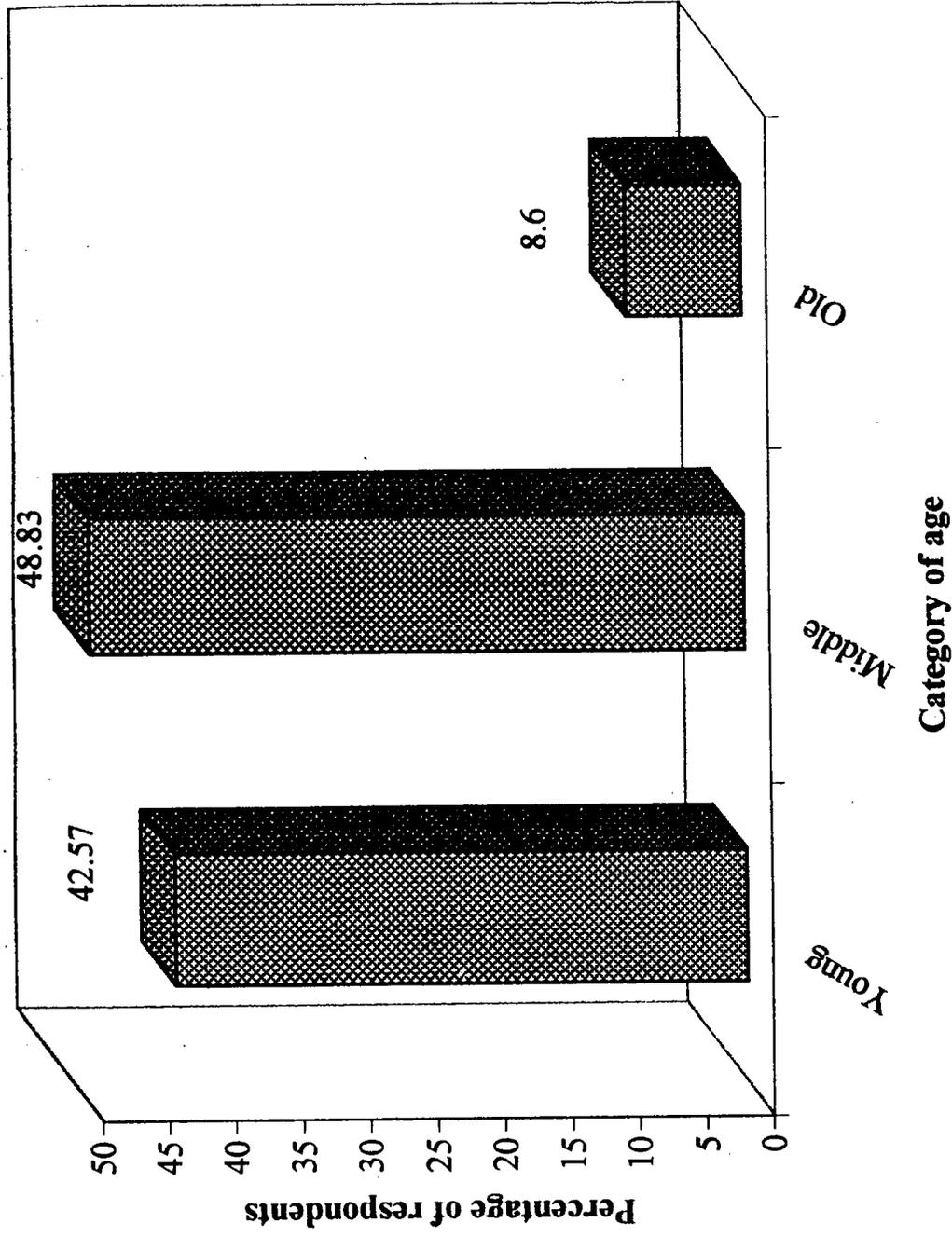


Fig.3 Distribution of respondents according to the age groups

The distribution of the respondents given in Table 4.1 shows that maximum no. of the respondents (48.83 per cent) were of middle category followed by young (42.57 per cent) and old (8.60 per cent).

Comparative distribution among the selected districts shows that maximum no. of the respondents (16.80 per cent) were of middle category from Jhunjhunu district while no respondent of old category was found in district Kota. Among the young category the maximum no. of the respondents (8.98 per cent each) were from Bikaner and Sirohi districts whereas minimum no. of respondents (3.12 per cent) were from Jhunjhunu. The data further reveal that 91.40 per cent respondents were of young/middle age category. In the old category, the maximum no. of the respondents (3.52 per cent) were from Jhunjhunu.

Education

Table 4.2 Distribution of the respondents according to the educational levels

Category	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Illiterate	-	-	-	8 (3.12)	-	-	8 (3.12)
Primary	19 (7.42)	23 (8.98)	9 (3.52)	28 (10.93)	24 (9.38)	27 (10.54)	130 (50.78)
Middle	5 (1.95)	8 (3.12)	2 (0.78)	4 (1.56)	20 (7.81)	9 (3.52)	50 (19.53)
High School	4 (1.56)	9 (3.52)	13 (5.07)	7 (2.73)	10 (3.91)	5 (1.95)	49 (19.14)
Graduate and above	2 (0.78)	2 (0.78)	-	3 (1.17)	3 (1.17)	9 (3.52)	19 (7.42)

(Figures in parentheses indicate percentage)

Table 4.2 shows that majority of the respondents (50.78 per cent) were having primary level of education followed by the middle education (19.53 per cent) and high school (19.14 per cent). A limited number of the respondents (7.42 per cent) were graduate

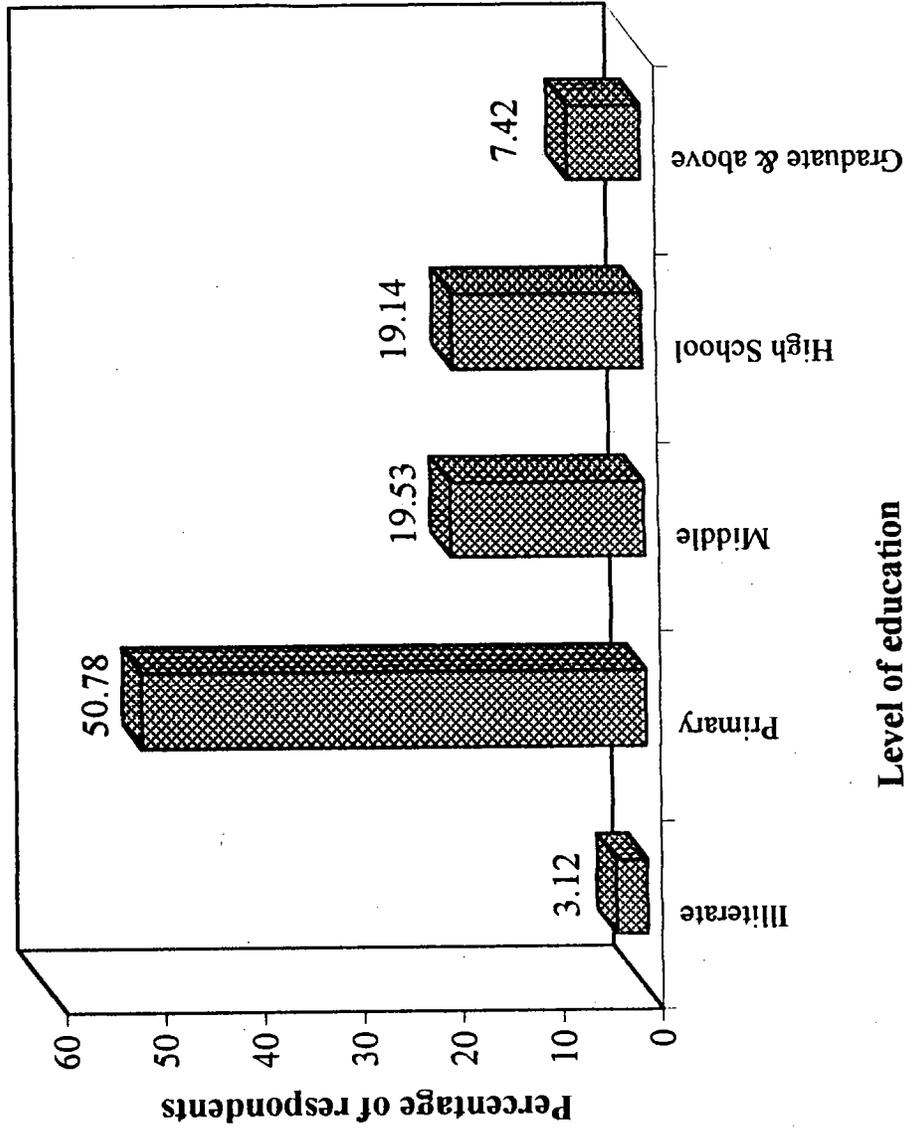


Fig. 4 Distribution of the respondents according to the educational levels

and above. Only a small fraction (8) of the respondents (3.12 per cent) were illiterate. Comparative distribution shows that maximum no. of respondents (10.93 per cent) having primary education were from Sirohi district and lowest (3.52 per cent) were from Nagour district. Maximum respondents were from the Jhunjhunu district (7.81 per cent) and minimum no. from the Nagour district (0.78 per cent) having middle level education.

High school passed respondents were maximum from the Nagour district (5.07 per cent) and minimum from the Kota district (1.56 per cent). Maximum respondents with graduation and above degree were from the Udaipur district (3.52 per cent) while none from the Nagour district. The table further reveals that 96.88 per cent respondents were literate.

Caste

Table 4.3 Distribution of the respondents according to the caste

Category	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Scheduled caste/scheduled tribe	6 (2.34)	5 (1.95)	4 (1.56)	11 (4.30)	2 (0.78)	30 (11.72)	58 (22.66)
Backward caste	23 (8.98)	5 (1.95)	4 (1.56)	18 (7.03)	3 (1.17)	-	53 (20.70)
Others	1 (0.39)	32 (12.50)	16 (6.25)	21 (8.20)	55 (21.48)	20 (7.81)	145 (56.64)

(Figures in parentheses indicate percentage)

Table 4.3 shows that maximum no. of the respondents (56.64 per cent) were from the other castes, followed by scheduled caste/scheduled tribe (22.66 per cent) and backward caste (20.70 per cent).

Comparative data among the KVK districts show that maximum no. of the respondents (21.48 per cent) in the other castes were from the Jhunjhunu district and

minimum (0.39 per cent) were in the Kota district. The maximum number of the respondents in the scheduled caste/scheduled tribe (11.72 per cent) were from the Udaipur district and minimum (0.78 per cent) were in the Jhunjhunu district. Among the backward caste, the maximum respondents (8.98 per cent) were from the Kota and none was in the Udaipur district.

Occupation

Table 4.4 Distribution of the respondents according to the occupation

Category	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Farming	23 (8.98)	33 (12.89)	19 (7.42)	29 (11.33)	57 (22.27)	36 (14.06)	197 (76.95)
Business	1 (0.39)	-	1 (0.39)	6 (2.34)	1 (0.39)	-	9 (3.52)
Service	-	2 (0.78)	-	1 (0.39)	-	4 (1.56)	7 (2.73)
Farming with business	5 (1.95)	4 (1.56)	-	10 (3.91)	-	3 (1.17)	22 (8.60)
Farming with service	1 (0.39)	3 (1.17)	4 (1.56)	4 (1.56)	2 (0.78)	7 (2.73)	21 (8.20)

(Figures in parentheses indicate percentage)

The data in Table 4.4 show that majority of the respondents (76.95 per cent) had only farming as a main occupation followed by farming with business (8.60 per cent), farming with service (8.20 per cent), business (3.52 per cent), and service (2.73 per cent).

The data of table 4.4 further show that maximum no. of the respondents in the farming occupation were from the Jhunjhunu district (22.27 per cent) and minimum no. were from the Nagour district (7.42 per cent). Maximum respondents having farming with business were from the Sirohi district (3.91 per cent) and none was from the Nagour and

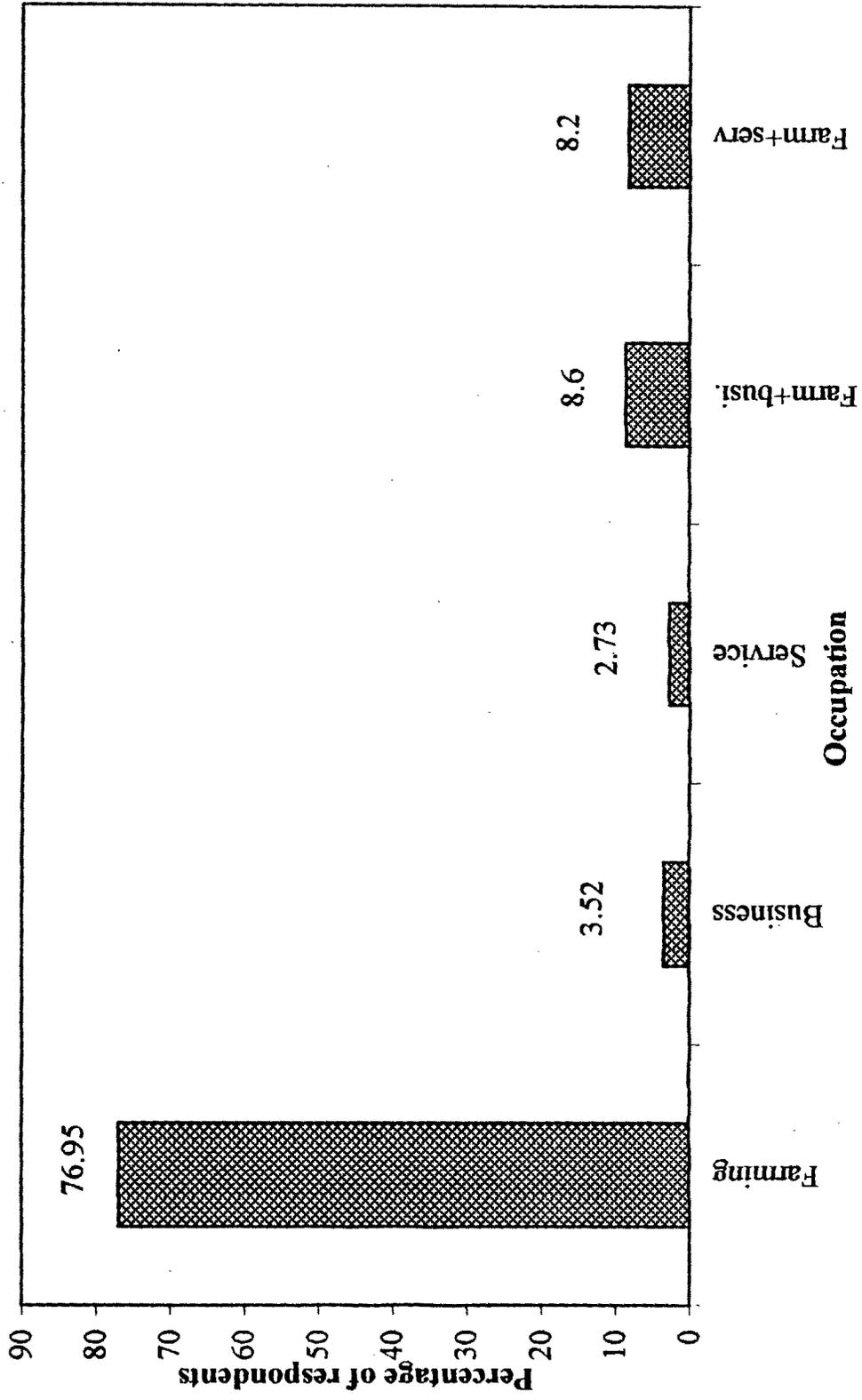


Fig. 5 Distribution of the respondents according to the occupation

Jhunjhunu districts. The respondents in the farming with service category were maximum from the Udaipur district (2.73 per cent) and minimum was one from Kota district (0.39 per cent).

The maximum respondents having only business as their main occupation were from the Sirohi district (2.34 per cent) and none was reported from the Bikaner and Udaipur districts.

The table further shows that maximum service class respondents were from the Udaipur district (1.56 per cent) and none was from the Kota, Nagour and Jhunjhunu districts.

Land holding

Table 4.5 Distribution of the respondents according to the land holding

Category	District /Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Marginal (<1 ha)	2 (0.78)	1 (0.39)	3 (1.17)	5 (1.95)	1 (0.39)	17 (6.64)	29 (11.33)
Small (1 to 2 ha)	16 (6.25)	-	2 (0.78)	12 (4.69)	16 (6.25)	12 (4.69)	58 (22.66)
Medium (2 to 5 ha)	10 (3.91)	3 (1.17)	6 (2.34)	15 (5.86)	35 (13.67)	11 (4.30)	80 (31.25)
Large (>5 ha)	2 (0.78)	38 (14.84)	13 (5.07)	18 (7.03)	8 (3.12)	10 (3.91)	89 (34.76)

(Figures in parentheses indicate percentage)

The table 4.5 shows that maximum no. of the respondents (34.76 per cent) were large farmers followed by the medium farmers (31.25 per cent), small farmers (22.66 per cent) and marginal farmers (11.33 per cent). Comparison between KVK districts shows that maximum number of the respondents among the large farmers were from the Bikaner (14.84 per cent) and minimum (0.78 per cent) from the Kota district.

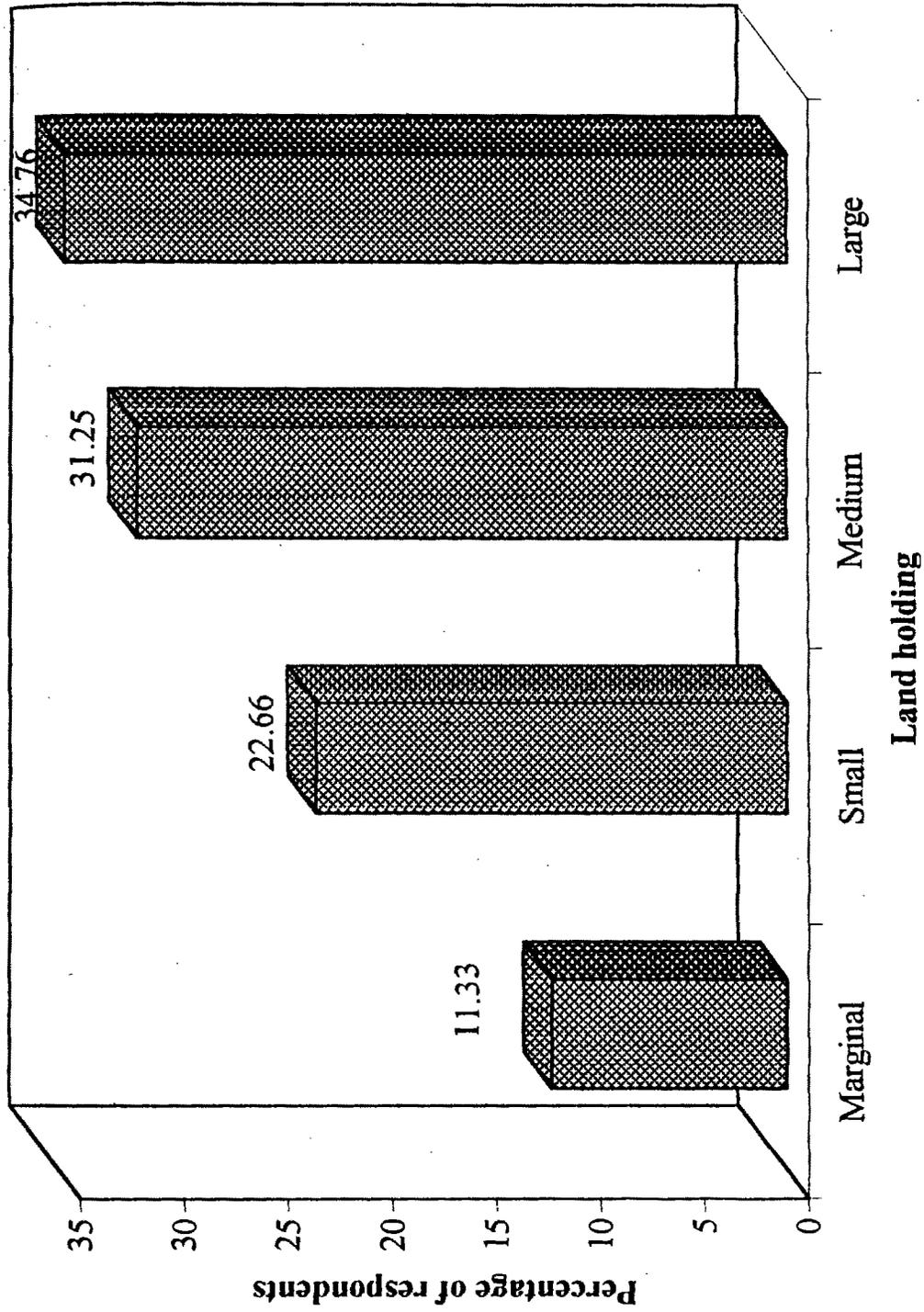


Fig. 6 Distribution of the respondents according to the land holding

The medium land holding farmers were maximum (13.67 per cent) in Jhunjhunu district and minimum (1.17 per cent) in Bikaner.

The small farmers were maximum (6.25 per cent each) from the Kota and Jhunjhunu districts and minimum (0.78 per cent) from the Nagour district.

Among the marginal farmers maximum (6.64 per cent) were from the Udaipur district and minimum (0.39 per cent) each from the Bikaner and Jhunjhunu districts.

Extension contact

Table 4.6 Distribution of the respondents according to the degree of contact with the extension agents

Category	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Low	6 (2.34)	1 (0.39)	-	35 (13.67)	1 (0.39)	7 (2.73)	50 (19.53)
Medium	24 (9.38)	33 (12.89)	19 (7.42)	12 (4.68)	52 (20.31)	36 (14.06)	176 (68.75)
High	-	8 (3.12)	5 (1.95)	3 (1.17)	7 (2.73)	7 (2.73)	30 (11.72)

(Figures in parentheses indicate percentage)

The table 4.6 shows that a majority of the respondents (68.75 per cent) had medium level of contact with extension agents followed by low contact (19.53 per cent), and high contact (11.72 per cent).

Comparison among the KVK districts under the medium extension contact category shows that maximum number of the respondents (20.31 per cent) were from Jhunjhunu district and minimum (4.68 per cent) in Sirohi district.

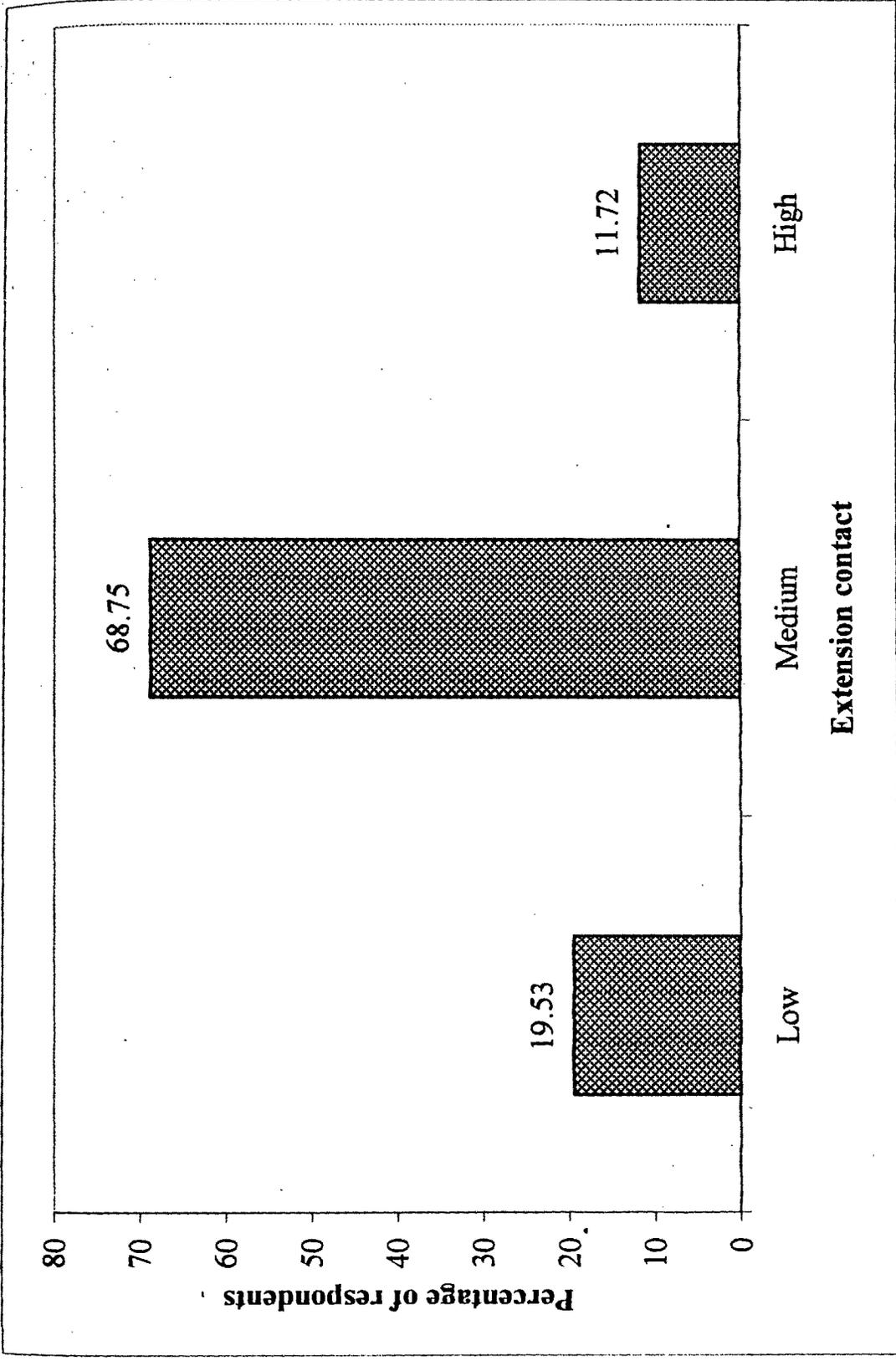


Fig.7 Distribution of the respondents according to the degree of contact with the extension agents

Maximum respondents (13.67 per cent) in the low extension contact category were from the Sirohi district. In the high level category, maximum no. of the respondents (3.12 per cent) were from the Bikaner district.

Mass media exposure

Table 4.7 Distribution of the respondents according to the mass media exposure

Category	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Low	8 (3.12)	9 (3.51)	1 (0.39)	22 (8.60)	5 (1.95)	17 (6.64)	62 (24.22)
Medium	16 (6.25)	28 (10.93)	19 (7.42)	27 (10.54)	54 (21.09)	27 (10.54)	171 (66.80)
High	6 (2.34)	5 (1.95)	4 (1.56)	1 (0.39)	1 (0.39)	6 (2.34)	23 (8.98)

N=256

(Figures in parentheses indicate percentage)

The Table 4.7 shows that majority of respondents (66.80 per cent) were having medium level of mass media exposure followed by the low level (24.22 per cent). Only 8.98 per cent of the respondents had high level of mass media exposure.

Comparison among the KVK districts having medium mass media exposure shows that a maximum no. of the respondents (21.09 per cent) were from the Jhunjhunu district and minimum (6.25 per cent) from the Kota district.

In the low level mass media exposure, maximum (8.60 per cent) were from the Sirohi district and minimum (0.39 per cent) from the Nagour district. Regarding the high level mass media exposure, maximum no. of the respondents (2.34 per cent each) were from the Kota and Udaipur districts and minimum (0.39 per cent each) from the Sirohi and Jhunjhunu districts.

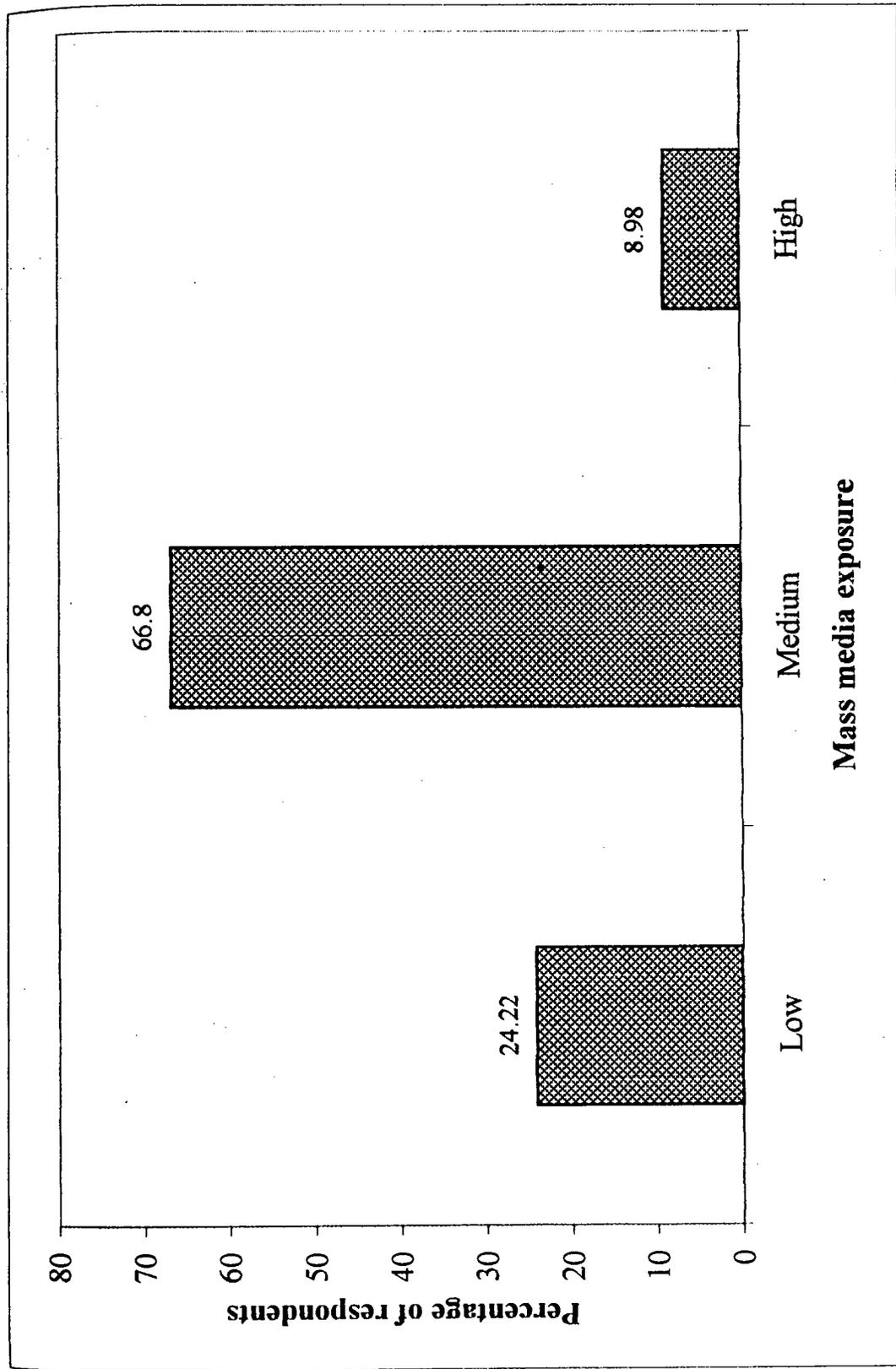


Fig. 8 Distribution of the respondents according to the mass media exposure

Social participation

Table 4.8. Distribution of the respondents according to the social participation

N=256

Member-ship of organiza-tion	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
No member-ship	27 (10.55)	38 (14.84)	22 (8.60)	18 (7.03)	7 (2.73)	44 (17.19)	156 (60.94)
One member-ship	3 (1.17)	4 (1.56)	2 (0.78)	32 (12.50)	43 (16.80)	6 (2.34)	90 (35.16)
More than one	-	-	-	-	10 (3.91)	-	10 (3.91)

Social participation was measured in terms of membership of social organizations. The data presented in Table 4.8 show that majority of the respondents (60.94 per cent) were not the members of any organization. A sizeable number of the respondents (35.16 per cent) were the members of only one organization. Only 10 respondents (3.91 per cent) were the members of more than one organization.

Among the comparative distribution of KVK districts having no membership, it was found that maximum no. (17.19 pr cent) of the respondents were from the Udaipur and minimum (2.73 per cent) from the Jhunjhunu district.

The membership of one organization was maximum (16.80 per cent) from the Jhunjhunu district and minimum (0.78 per cent) from the Nagour district. The data further show that the maximum respondents (3.91 per cent) having membership of more than one organization were from only Jhunjhunu district while none from the other five KVK districts.

4.2 Content analysis of farm publications

General profile

The general profile of *Apna Patra* (monthly newsletter) is as below:

Apna Patra - A monthly newsletter in Hindi is being regularly brought out since 1969 by the Communication Centre of the Directorate of Extension Education, Rajasthan Agricultural University (RAU), Udaipur. It has completed 30 years of its publication in 1999. Its subscribers are spread over whole of the Rajasthan and nearby states. The newsletter is mailed to its readers during first week of every month. The subscription rate is very nominal i.e., Rs. 6.00 per annum. The content on various aspects of agriculture, agricultural engineering, animal science and home science for the interest of farmers, farm women, extension workers and extension officers engaged in agricultural development is covered. Special issue once in a year is also published at the time of Kisan Mela. The number of pages varies in between 6 to 8 while the special number has 90 pages. The title page gives information regarding month, year, number and price. The title headline *Apna Patra* is 72 point size with a line drawing of farmers in block pattern type.

The text of *Apna Patra* is presented in 3 columns of equal size. The size of the newsletter is tabloid (50 x 36 cm) except for the special number (23 x 18 cm). The quality of paper used for printing is 57 GSM creamwov newsprint. The paper publishes about 720 to 950 lines with approximately total words of 4350 to 5700. Back page gives regular column of *Es Maha Khet Main Vividh Prasar Aur Kripaya Dhayan dein*.

Folders and Booklets

The technical authentic farm publications are regularly published and updated by the Directorate of Extension, RAU in Hindi/English as and when required. The first booklet on

the 'Efficient irrigation implements driven by bullocks' was printed at Ajanta Printers Jaipur in the year 1964. Over 390 extension publications on different major crops, vegetables, animal science, agricultural engineering, home science as well as social forestry with over 10 lakh copies have been published by the Directorate of Extension/Krishi Vigyan Kendras and related institutes. In the year 1998, 15 folders and 6 booklets have been published to cater the needs of farming community on various aspects.

The title page of folders contained information regarding number of folder/booklet number, topic (subject), photograph, logo, institution name, month and year.

The cover page of booklets contained the information about title, logo, publisher's name, month, year, number with related seasonal photograph.

The folders have 2-3 folds while the booklets have 10 to 60 pages with a cover page.

The text of folders/booklets is presented in one column. The average size of the folder was between 8.5" to 11" in open and 8.5" to 3.5" in folded form. The text of folders and booklets is printed generally in 12 points size and heading and sub-headings in 18/14 points, respectively. The back page of maximum folders did not contain the information regarding key points, print line with the address of publisher, and the address of person for contact for more information.

The data in Table 4.9 reveal that out of three content categories of text, illustrations and advertisements, number-wise share of text items in the newsletters was largest 10.58 per issue (74.71 per cent) followed by the folders only one per issue (42.86 per cent) and the booklets one per issue (6.74 per cent).

Table 4.9 Distribution of the contents in the farm publications

Content category	Newsletters (12)				Folders (15)				Booklets (6)						
	No. (av. / issue)	%age	Space		No. (av. / issue)	%age	Space		No. (av. / issue)	%age	Space				
			cm ² (av. / issue)	Pages (av. / issue)			%age	cm ² (av. / issue)			Pages (av. / issue)	%age	cm ² (av. / issue)	Pages (av. / issue)	%age
Text	127 (10.58)	74.71	60252.00 (5021.00)	86.92 (7.24)	91.36	15 (1.00)	42.86	12957.75 (863.85)	74.02 (4.92)	94.70	6 (1.00)	6.74	48743.00 (8124.00)	190.40 (31.73)	84.53
Illustrations	43 (3.58)	25.29	5699.00 (475.00)	8.22 (0.68)	8.64	20 (1.33)	57.14	725.00 (48.33)	4.14 (0.27)	5.30	77 (12.83)	86.52	7120.00 (1187.00)	27.81 (4.63)	12.35
Advertisements	-	-	-	-	-	-	-	-	-	-	6 (1.00)	6.74	1800.00 (300.00)	7.03 (1.17)	3.12
Total	170 (14.16)	100.00	65951.0 (5496.0)	95.14 (7.92)	100.00	35 (2.33)	100.00	13682.75 (912.18)	78.16 (5.21)	100.00	89 (14.83)	100.00	57663.00 (9610.50)	195.00 (32.50)	100.00

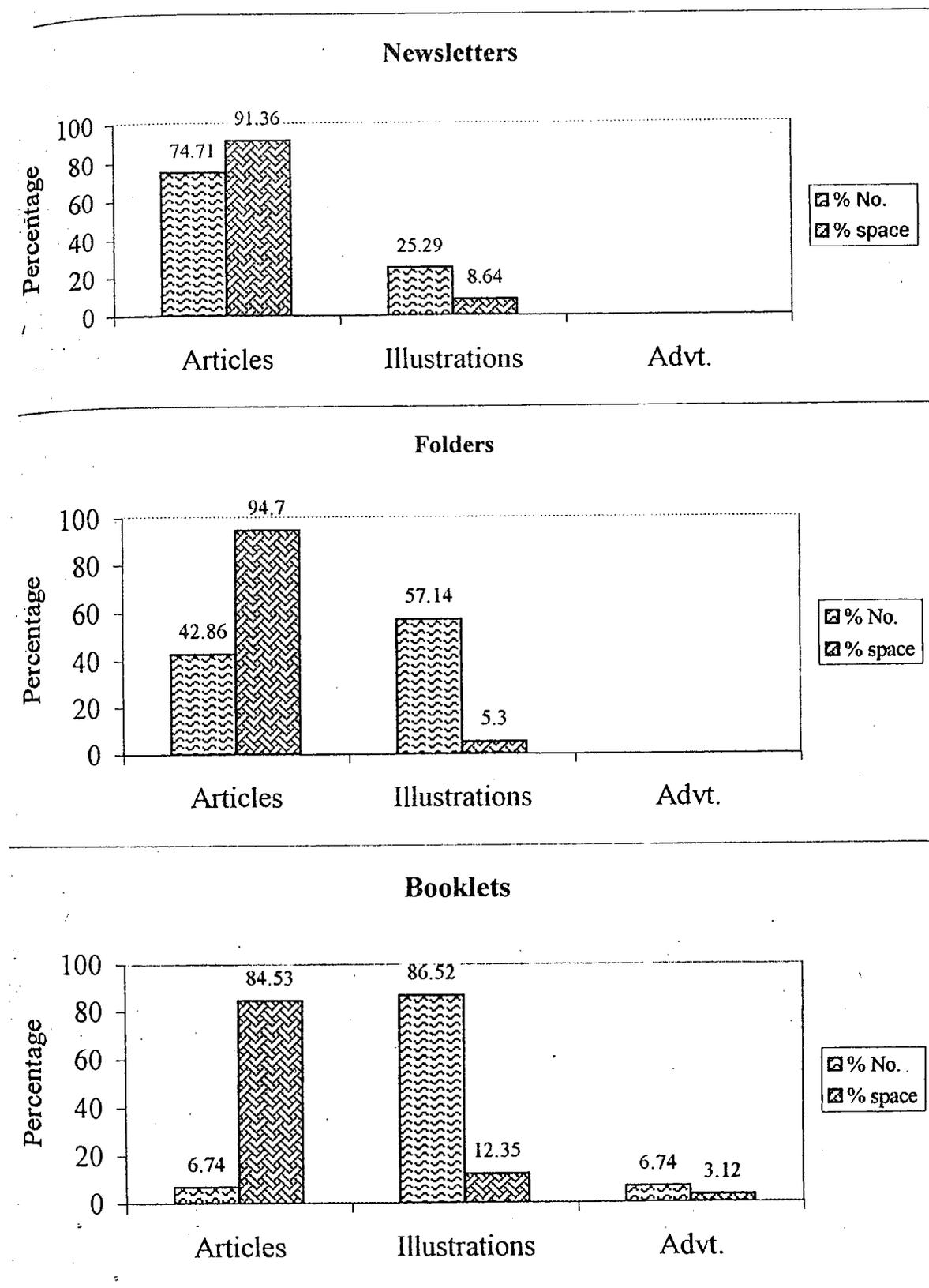


Fig.9 Distribution of the contents in the farm publications

Table 4.10 Distribution of the contents (subject-wise) in the farm publications

Subject/ Areas	Newsletters (12)				Folders (15)				Booklet (6)						
	Content / Article (no. av/ issue)	%age	Space		Content/ Article (no. av/ issue)	%age	Space		Content/ no. (av/ issue)	%age	Space				
			cm ² (av./ issue)	Pages (av. / issue)			%age	cm ² (av./ issue)			Pages (av. / issue)	%age	cm ² (av./ issue)	Pages (av. / issue)	%age
Agriculture	72 (6.00)	56.69	38472.00 (3205.00)	55.51 (4.63)	63.85	10 (0.67)	66.67	7748.75 (517.08)	44.27 (2.95)	59.80	6 (1.00)	100.00	48743.00 (8124.00)	190.40 (31.73)	100.00
Animal Science	9 (0.75)	7.09	5241.00 (437.00)	7.56 (0.63)	8.70	1 (0.06)	6.67	480 (32.00)	2.74 (0.18)	3.70	-	-	-	-	-
Agricultural Engineering	5 (0.41)	3.93	3220.00 (268.00)	4.64 (0.38)	5.35	-	-	-	-	-	-	-	-	-	-
Home Science	9 (0.75)	7.09	5378.00 (448.00)	7.75 (0.65)	8.92	2 (0.13)	13.33	2675 (178.33)	15.28 (1.01)	20.65	-	-	-	-	-
Miscellaneous	32 (2.66)	25.20	7942.00 (662.00)	11.46 (0.95)	13.18	2 (0.13)	13.33	2054 (136.93)	11.73 (0.78)	15.85	-	-	-	-	-
Total	127 (10.58)	100.00	60252.00 (5021.00)	86.92 (7.24)	100.00	15 (1.00)	100.00	12957.75 (863.85)	74.02 (4.92)	100.00	6 (1.00)	100.00	48743.00 (8124.00)	190.40 (31.73)	100.00

The number-wise share of illustrations in the booklets was largest 12.83 per issue (86.52 per cent) followed by the newsletter 3.58 per issue (25.29 per cent) and the folders 1.33 per issue (57.14 per cent). The advertisements' share in booklet was (6.74 per cent) which lacked in other publications.

The space-wise distribution of text reveals that largest share of text was in the folders (94.70 per cent) followed by the newsletters (91.36 per cent), and the booklets (84.53 per cent).

The illustrations' space share was maximum in booklet (12.35 per cent) followed by newsletters (8.64 per cent) and folders (5.30 per cent). The advertisement covered 3.12 per cent space in booklets. The average page space per issue varied according to format i.e., 32.50 in booklets, 7.92 in newsletters and 5.21 in folders.

The table further reveal that text occupied maximum space in the farm publications. These findings are in support of **Kapoor and Trikha (1993)**.

The total number of articles in different fields of agricultural sciences were divided into five broad categories viz., agriculture, animal science, agricultural engineering, home science and miscellaneous items as presented in the Table. 4.9.

The data in Table 4.10 reveals that the agricultural content (article) was maximum in the booklets (100 per cent) followed by the folders (66.67 per cent) and the newsletters (56.69 per cent). The animal science related content occupied 7.09 per cent in the newsletters followed by the folders (6.67 per cent).

The agricultural engineering articles were published only in the newsletter which shared 3.93 per cent of the total content.

The home science related topics were maximum in the folders (13.33 per cent) followed by the newsletter (7.09 per cent) while none was found in booklet.

The miscellaneous content was maximum in the newsletters (25.20 per cent) followed by the folders (13.33 per cent). There was no miscellaneous content in the booklets.

Agricultural content occupied maximum space in the booklets (100 per cent) followed by the newsletters (63.85 per cent), and folders (59.80 per cent). The content related to animal science shared maximum space in the newsletters (8.70 per cent), followed by the folders (3.70 per cent). However, in booklets no space was given to animal science.

The share of agricultural engineering was maximum in the newsletters i.e., 5.35 per cent while it lacked in folders and booklets.

The newsletters gave coverage to all the areas with a maximum coverage of agriculture (56.69 per cent) followed by miscellaneous (25.20 per cent), animal sciences and home science (7.09 per cent each), and agricultural engineering (3.93 per cent).

The number-wise content coverage in folders had different trend with a maximum coverage (66.67 per cent) on agriculture followed by home science and miscellaneous (13.33 per cent each), and animal sciences (6.67 per cent).

Space-wise the home science content was maximum in folders (20.65 per cent) followed by newsletters (8.92 per cent).

The miscellaneous articles were maximum in the folders (15.85 per cent) followed by the newsletter (13.18 per cent) while miscellaneous content was absent in booklets.

The data further reveal that on an average booklets had 31.75 pages (8124 cm²) followed by 7.24 pages (5021 cm²) in newsletter, and 4.92 pages (863.85 cm²) in folder.

Table 4.11 Distribution of agricultural content

Sub-areas of agricultural content	Newsletters (12)				Folders (15)				Booklets (6)						
	Article no. (no. av/ issue)	%age	Space		Content / Article (no. av/ issue)	%age	Space		Content / no. (no. av/ issue)	%age	Space				
			cm ² (av./ issue)	Pages (av. / issue)			%age	cm ² (av./ issue)			Pages (av. / issue)	%age	cm ² (av./ issue)	Pages (av. / issue)	%age
Food crops	26 (2.16)	36.11	15482.50 (1290.20)	22.34 (1.86)	40.25	6	60.00	5044.25 (336.28)	28.82 (1.92)	65.10	2	33.33	10683 (1780.50)	41.73 (6.95)	21.92
Fodder crops	2 (0.16)	2.78	1221.00 (101.75)	1.76 (0.14)	3.17	1 (0.06)	10.00	665 (44.33)	3.8 (0.25)	8.58	-	-	-	-	-
Fiber crop	2 (0.16)	2.78	1404.50 (117.04)	2.02 (0.16)	3.65	1 (0.06)	10.00	647.5 (43.16)	3.7	8.35	-	-	-	-	-
Horticultural crop	24 (2.00)	33.33	11258.50 (938.20)	16.24 (1.35)	29.26	1 (0.06)	10.00	912 (60.8)	5.21 (0.34)	11.77	2 (0.33)	33.33	6300 (1050)	24.60 (4.10)	12.92
Plant protection insecticides	2 (0.16)	2.78	1569.00 (130.75)	2.26 (0.18)	4.08	-	-	-	-	-	2 (0.33)	33.34	31760 (5293.33)	124.07 (20.67)	65.16
Soil and fertilizer management	9 (0.75)	12.50	4520.00 (376.66)	6.52 (0.54)	11.75	1 (0.06)	10.00	480 (32.00)	2.74 (0.18)	6.20	-	-	-	-	-
Agroforestry	1 (0.08)	1.39	1001.00 (83.41)	1.44 (0.12)	2.60	-	-	-	-	-	-	-	-	-	-
Miscellaneous (others)	6 (0.5)	8.33	2015.00 (167.91)	2.93 (0.27)	5.24	-	-	-	-	-	-	-	-	-	-
Total	72 (6.0)	100.00	38472.00 (3206.00)	55.51 (4.63)	100.00	10 (0.67)	100.00	7748.75 (517.00)	44.27 (2.95)	100.00	6 (1.00)	100.00	48743 (8124.00)	190.40 (31.73)	100.00

Agricultural content

The table 4.11 reveals that number-wise, maximum content related to food crops was in folders (60 per cent) followed by newsletters (36.11 per cent), and booklet (33.33 per cent). The fodder crop and fiber crop content was maximum in folders (10 per cent each), followed by newsletters.

The articles related to horticultural crop were maximum in newsletters and booklets (33.33 per cent each) followed by folders (10 per cent). Plant protection articles were maximum in booklets (33.33 per cent) followed by newsletter (2.78 per cent).

The soil and fertilizer management articles were maximum in newsletter (12.50 per cent) followed by folders (10.00 per cent). However, none of the article was found in booklets.

Only 8.33 per cent miscellaneous content in agricultural content category was found in newsletters, while it lacked in the folders and booklets.

Space-wise distribution of agricultural content in table 4.11 further reveals that maximum space was occupied by food crops in folders (65.10 per cent) followed by the newsletters (40.25 per cent) and the booklets (21.92 per cent).

The fodder crops' articles occupied maximum space in folders (8.58 per cent) followed by newsletters (3.17 per cent).

The fiber crop occupied maximum space in folders (8.35 per cent) followed by newsletter (3.65 per cent). However, no booklet related to fodder and fiber crops was published during the year 1998.

Table 4.12 Distribution of the animal science content

Sub-areas of animal science content	Newsletter (12)				Folders (15)				Booklet (6)				
	Content / Article (no. av/ issue)	%age	Space		Content / Article (no. av/ issue)	%age	Space		Content / no. (no. av/ issue)	%age	Space		
			cm ² (av./ issue)	Pages (av. / issue)			%age	cm ² (av./ issue)			Pages (av. / issue)	cm ² (av./ issue)	Pages (av. / issue)
Animal feeding	3 (0.25)	33.33	1503 (125.25)	2.16 (0.18)	28.68	-	-	-	-	-	-	-	-
Animal rearing and manage-ment	1 (0.08)	11.11	462 (38.5)	0.66 (0.05)	8.82	-	-	-	-	-	-	-	-
Animal breeding	-	-	-	-	-	1 (0.06)	480 (32.0)	2.74 (0.18)	100.00	-	-	-	-
Animal health and disease	3 (0.25)	33.33	1926 (160.5)	2.77 (0.23)	36.74	-	-	-	-	-	-	-	-
Miscell-aneous	2 (0.16)	22.22	1350 (112.5)	1.97 (0.17)	25.76	-	-	-	-	-	-	-	-
Total	9 (0.75)	100.00	5241 (437.00)	7.56 (0.63)	100.00	1 (0.06)	480 (32.0)	2.74 (0.18)	100.00	-	-	-	-

The content related to horticultural crop occupied maximum space in newsletters (29.26 per cent) whereas almost same percentage (12.72 and 11.77 per cent) of space was occupied in folders and booklets.

The plant protection articles occupied maximum space in booklet (65.16 per cent) followed by newsletter (4.08 per cent) whereas no folders was published on plant protection aspect of the crops.

The soil and fertilizer management articles occupied maximum space (11.75 per cent) in the newsletters while it was only 6.20 per cent in the folders.

Agroforestry and miscellaneous agricultural articles occupied maximum space in newsletters (2.60 and 5.24 per cent), respectively. No folders/booklets were published on agroforestry.

The data further reveal that folders and booklets were not published on some of the important aspects folders on plant protection, agroforestry and booklets in soil and fertilizer management.

The space-wise distribution of agricultural content had variation e.g., 65.16 per cent on plant protection which was 12.92 per cent on horticultural crops.

Animal science content

The table 4.12 shows the distribution of animal science content. It is clear from the table that out of 9 articles, the maximum number (33.33 per cent each) was on animal feeding, and animal health and diseases followed by miscellaneous articles (22.22 per cent), animal rearing and management (11.11 per cent). However, only one folder on animal breeding entitled '*Gayon mein nasal sudhar*' was published, whereas no booklet on animal science content was published.

Table 4.13 Distribution of the agricultural engineering content

Sub- areas of agricultural engineering Content	Newsletter (12)				Folders (15)				Booklet (6)					
	Content / Article (no. av/ issue)	%age	Space		Content / Article (no. av/ issue)	%age	Space		Content / no. (no. av/ issue)	%age	Space			
			cm ² (av./ issue)	Pages (av. / issue)			%age	cm ² (av./ issue)			Pages (av. / issue)	%age	cm ² (av./ issue)	Pages (av. / issue)
Farm machinery	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Irrigation and drainage	5 (0.41)	100.00	3220 (268.00)	4.64 (0.38)	100.00	-	-	-	-	-	-	-	-	-
Post harvest technology	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	5 (0.41)	100.00	3220 (268.00)	4.64 (0.38)	100.00	-	-	-	-	-	-	-	-	-

Table 4.14 Distribution of the home science content

Sub-areas of home science content	Newsletter				Folders				Booklet					
	Content/Article (no. av/issue)	%age	Space		Content/Article (no. av/issue)	%age	Space		Content/ no. av/issue)	%age	Space			
			cm ² (av./issue)	Pages (av. / issue)			%age	cm ² (av./issue)			Pages (av. / issue)	%age	cm ² (av./issue)	Pages (av. / issue)
Foods and nutrition	6	66.67	3217.50 (268.12)	4.64 (0.38)	59.80	-	-	-	-	-	-	-	-	-
Home management	1	11.11	1080 (90.00)	1.58 (0.14)	20.08	100.00	2675 (178.33)	15.28 (1.01)	100.00	-	-	-	-	-
Clothing & textiles	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Child development	1	11.11	540 (45.00)	0.77 (0.06)	10.06	-	-	-	-	-	-	-	-	-
Miscellaneous	1	11.11	540 (45.00)	0.77 (0.06)	10.06	-	-	-	-	-	-	-	-	-
Total	9 (0.75)	100.00	5378.00 (448.00)	7.75 (0.65)	100.00	100.00	2675 (178.33)	15.28 (1.01)	100.00	-	-	-	-	-

Regarding space, a total of 5241 cm² was devoted to animal science in newsletters followed 480 cm² in folder on animal breeding. Out of the four aspects, maximum space in newsletters (36.74 per cent) was occupied by the animal health and disease articles followed, by animal feeding (28.68 per cent), miscellaneous content (25.76 per cent), and animal rearing and management (8.82 per cent).

No booklet on any aspect of animal science was published.

The data further reveal that number and space-wise the coverage of animal science content was less than one page per issue in the in the newsletters and folders

Agricultural engineering content

Table 4.13 shows the distribution of agricultural engineering content. The data show that no folders/ booklets related to the subject were published.

All the five articles (100 per cent) published in the newsletter were on irrigation and drainage which occupied a total space of 3220 cm² (4.64 pages with 0.38 page per issue). Table further shows that no emphasis was given to farm machinery and post-harvest technology content in the agricultural engineering aspect.

Home science content

The table 4.14 reveals distribution of home science content. Out of 9 articles in newsletter, maximum number (66.67 per cent) was shared by food and nutrition followed by home management, child development and miscellaneous (11.11 per cent each). No article related to clothing and textile was published in the newsletters.

However, content related to home management was maximum in two folders while no folder related to food and nutrition, clothing and textile and child development was published. No booklet was published on any aspect of home science.

Table 4.15 Distribution of the illustrations in the farm publications

Category	Newsletter (12)			Folders (15)			Booklet (6)								
	Number (av. / issue)	Space		Number (av. / issue)	Space		Number (av. / issue)	Space							
		%age	cm ² (av. / issue)		Pages (av. / issue)	%age		cm ² (av. / issue)	Pages (av. / issue)	%age	cm ² (av. / issue)	Pages (av. / issue)	%age		
Tables	35 (2.92)	81.40	4622.00 (385.00)	6.67 (0.55)	81.09	2 (0.13)	10.00	168 (11.2)	0.96 (0.06)	23.17	16 (2.66)	20.78	15.38 (256.3 3)	6.00 (1.00)	21.60
Diagrams	-	-	-	-	-	16 (1.07)	80.00	292 (19.46)	1.67 (0.11)	40.28	60 (10)	77.92	5528 (921.3 3)	21.59 (3.59)	77.64
Photo- graphs	8 (0.66)	18.60	1077.00 (89.75)	1.55 (0.12)	18.91	2 (0.13)	10.00	265 (17.66)	1.51 (0.10)	36.55	1 (0.16)	1.30	54 (9.00)	0.21 (0.31)	0.76
Total	43 (3.58)	100.00	5699.00 (475.00)	8.22 (0.68)	100.00	20 (1.33)	100.0 0	725 (48.33)	4.14 (0.27)	100.00	77 (12.83)	100.0 0	7120 (1187. 00)	27.81 (4.63)	100.0 0

Regarding the space-wise distribution, out of 5378.0 cm² (7.75 pages) maximum space was devoted to foods and nutrition (59.80 per cent) followed by the home management (20.08 per cent), child development and miscellaneous (10.06 per cent each) by the newsletter, while in folders 2675 cm² (15.28 pages) space was provided by the home management aspect.

Illustrations

The table 4.15 shows the maximum number of the tables (81.40 per cent) were in the newsletters followed by the booklets (20.78 per cent), and the folders (10.00 per cent).

The diagrams were maximum in the folders (80.00 per cent) followed by the booklets (77.92 per cent), while no diagram was found in the newsletters.

The photographs were maximum (18.60 per cent) in the newsletters followed by the folders (10.00 per cent) and booklets (1.30 per cent).

Space-wise analysis revealed that maximum space to tables was devoted in the newsletters (81.09 per cent) and minimum in the booklet (21.60 per cent).

The space of diagrams was maximum in booklets (77.64 per cent) followed by the folders (40.28 per cent) while it lacked in the newsletter.

The photographs occupied maximum space in the folders (36.55 per cent) and minimum in the booklets (0.76 per cent).

4.3 Information needs

Information needs here include needs of the farmers on crops, land preparation, seed, sowing of the crops, operations in fruit and vegetables, floriculture, storage operations, fertilizers, plant protection, weed control, irrigation, dairy and poultry production, agricultural implements and machinery, credit and marketing of farm produce,

energy conservation, income generating programmes, social and developmental activities, research and extension activities.

Crop production

Table 4.16 Information needs as perceived by the farmers on crops

N=256

Crop	District/Krishi Vigyan Kendra						Mean score	Rank
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur		
Cereals	72 (2.4)	106 (2.52)	72 (3.00)	147 (2.94)	156 (2.6)	135 (2.7)	2.69	III
Pulses	49 (1.63)	102 (2.42)	72 (3.00)	143 (2.86)	100 (1.66)	135 (2.7)	2.35	V
Oilseeds	86 (2.86)	122 (2.90)	72 (3.00)	144 (2.88)	136 (2.26)	102 (2.04)	2.58	IV
Sugar-cane	30 (1.00)	55 (1.30)	24 (1.00)	52 (1.04)	63 (1.26)	103 (2.06)	1.28	VII
Cotton	46 (1.53)	91 (2.16)	24 (1.00)	129 (0.38)	71 (1.18)	80 (1.6)	1.72	VI
Choice of crops	84 (2.8)	121 (2.88)	72 (3.00)	142 (2.84)	165 (2.75)	146 (2.92)	2.85	I
Improved varieties	86 (2.86)	123 (2.92)	72 (3.00)	142 (2.84)	163 (2.71)	144 (2.88)	2.85	I
Crop rotation	36 (2.86)	113 (2.69)	72 (3.00)	147 (2.94)	142 (2.36)	134 (2.68)	2.71	II

(Figures in parentheses are mean score)

The data in Table 4.16 indicate that the choice of proper crops and improved varieties ranked highest (mean score 2.85 each) followed by the crop rotation (2.71), cereals and oilseeds (mean score 2.69 and 2.58, respectively). However, sugarcane was ranked as the lowest for the information need (mean score 1.28).

The choice of crops and improved varieties got the first rank because the high yielding varieties yield higher than traditional varieties and also highly responsive to

irrigation and fertilizer management. However, cereals ranked second because almost all the farmers grew cereals crops for their own consumption as to fulfill their needs for food grain.

The lowest perceived need is of sugarcane (mean score 1.28), the reason behind the lowest perceived need is the climatic variation and less area under the crop. However, maximum score was from the Udaipur district due to sub-humid and humid climate.

Land preparation

Table 4.17 Information needs regarding the land preparation

N=256

Land Preparation	District/Krishi Vigyan Kendra						Mean Score	Rank
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur		
For different crops	68 (2.26)	101 (2.40)	60 (2.50)	71 (1.42)	161 (2.68)	110 (2.20)	2.23	II
Moisture conservation	72 (2.40)	96 (2.28)	60 (2.50)	73 (1.46)	168 (2.80)	110 (2.20)	2.26	I
Soil testing	67 (2.23)	99 (2.35)	61 (2.54)	75 (1.50)	144 (2.40)	108 (2.16)	2.16	III

(Figures in parentheses are mean score)

It is evident from the data in Table 4.17 that among the land preparation needs of the crops, moisture conservation was ranked at the first position (MS 2.26) followed by the land preparation for different crops (MS 2.23), and soil testing (MS 2.16).

The moisture conservation practices perceived as a highest information need in Rajasthan state was because the annual precipitation is less than annual potential evaporation and uneven distribution of rainfall. The moisture conservation practices conserve the moisture from evaporation, runoff and deep percolation losses.

Land preparation for different crops ranked second because the farmers must know the methods of tillage and intensity of tillage for different crops for better production, while soil testing information is also helpful in better production of crops.

Seeds

Table 4.18 Information needs regarding the seeds

N=256

Seed	District/Krishi Vigyan Kendra						Mean score	Rank
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur		
Seed treatment	87 (2.90)	124 (2.95)	72 (3.00)	144 (2.88)	141 (2.35)	144 (2.88)	2.78	II
Knowledge about seed characteristics	90 (3.00)	114 (2.71)	72 (3.00)	143 (2.86)	167 (2.78)	143 (2.86)	2.84	I
Techniques of seed production	87 (2.90)	114 (2.71)	72 (3.00)	144 (2.88)	136 (2.26)	143 (2.86)	2.71	III

(Figures in parentheses are mean score)

It can be inferred from the Table 4.18 that knowledge about characteristics of seed was perceived as a maximum information need of farmers (MS 2.84) and ranked first, followed by the seed treatment (MS 2.78) and ranked second, and techniques of seed production (MS 2.71).

Top ranking of knowledge about seed characteristics by respondents may be because farmers wanted to know more about high yield potential, response to irrigation and fertilizer, other agricultural inputs and difference between grain and seed. However, the seed treatment ranked second because seed treatment is the basic need for crop production to save the crops from seed and soil born diseases.

Regarding the techniques of seed production which ranked third may be because now farmers are involved in production of certified seeds. Small farmers are unable to

purchase costly seeds every year and seed production also gives high return than grain production.

Sowing operations

Table 4.19 Information needs regarding sowing of the crops

N=256

Sowing operations	District/Krishi Vigyan Kendra						Mean Score	Rank
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur		
Planting time	71 (2.36)	99 (2.35)	54 (2.25)	83 (1.66)	177 (2.95)	98 (1.96)	2.27	I
Methods of sowing	73 (2.43)	99 (2.35)	58 (2.41)	80 (1.60)	167 (2.78)	97 (1.94)	2.24	II
Seed rate	70 (2.33)	105 (2.50)	58 (2.41)	66 (1.32)	168 (2.8)	97 (1.94)	2.20	III
Depth of sowing	65 (2.16)	94 (2.23)	56 (2.33)	80 (1.60)	167 (0.35)	101 (2.02)	2.19	IV
Plant population	58 (1.93)	92 (2.19)	57 (2.37)	80 (1.60)	157 (2.61)	98 (1.96)	2.11	V
Thinning	48 (1.60)	88 (2.09)	57 (2.37)	80 (1.60)	143 (2.38)	92 (1.84)	1.98	VI

(Figures in parentheses are mean score)

The Table 4.19 shows that planting time among the sowing operations of the crops was the most needed area of information placed at the top position (MS 2.27), followed by the methods of sowing, seed rate at the second and third position respectively. However, depth of sowing, plant population were placed at the fourth and fifth positions subsequently. Information need on timely thinning was ranked as the least (MS 1.98).

The planting time got the prime importance as untimely sowing of crops gives less yield. Singh (1984) reported that 33-40 per cent decrease in the yield of wheat due to late sowing.

As far as the methods of sowing are concerned the farmers are interested to know different sowing methods for different crops which are suitable for particular crops in particular area.

Thinning got the least importance as the farmers usually got low germination either due to low seed rate or poor quality of seed. The data further reveal that highest multiple response was from the respondents of Jhunjhunu KVK district while the lowest was from Nagour district.

Operations in fruits and vegetables

Table 4.20 Information need regarding different operations in fruits and vegetables

N=256

Operations	District/Krishi Vigyan Kendra						Mean score	Rank
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur		
High yielding varieties	40 (1.33)	82 (1.95)	24 (1.00)	74 (1.48)	83 (1.38)	125 (2.5)	1.67	I
Plant protection	40 (1.33)	81 (1.92)	24 (1.00)	64 (1.28)	83 (1.38)	120 (2.40)	1.60	II
Nursery raising	38 (1.26)	50 (1.19)	24 (1.00)	60 (1.20)	72 (1.20)	95 (1.90)	1.32	IV
After care	34 (1.13)	65 (1.54)	24 (1.00)	55 (1.10)	66 (1.10)	100 (2.00)	1.34	III
Preservation	34 (1.13)	48 (1.14)	24 (1.00)	57 (1.14)	66 (1.10)	95 (1.90)	1.26	V

(Figures in parentheses are mean score)

The data in Table 4.20 reveal that information regarding high yielding varieties in vegetable and fruit crops ranked first (MS 1.67) followed by the plant protection (MS 1.60) while preservation of vegetable and fruit crops reported as a last (MS 1.26) with V rank.

High yielding varieties of fruits and vegetables was reported on top because of high potentiality of yields similar to cereal crops. The plant protection measures got the second rank because of high incidence of disease and pests in Rajasthan.

As far as the preservation of fruits and vegetables is concerned, there is comparatively little preference since whatsoever is produced by them is consumed in the fresh stage itself and there are no surplus as whatsoever for utilization as processed products.

The data further reveal that highest multiple response was recorded from the respondents of Udaipur KVK district while the lowest response was from Nagour district.

Floriculture

Table 4.21 Information needs regarding floriculture

N=256

Operation	District/Krishi Vigyan Kendra						Mean Score	Rank
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur		
Nursery raising	49 (1.63)	74 (1.76)	28 (1.16)	65 (1.30)	74 (1.23)	144 (2.88)	1.69	I
Methods of floriculture	46 (1.53)	71 (1.69)	28 (1.16)	99 (1.98)	80 (1.60)	105 (1.75)	1.67	II

(Figures in parentheses are mean score)

The data in Table 4.21 reveal that nursery raising for flowers was ranked first (MS 1.69) followed by the methods of floriculture which was ranked second (MS 1.67). As regard the scope of this discipline in Rajasthan, there is a minimum scope because it requires lot of water to grow. Therefore, except some districts viz., Udaipur where farmers had highest need for floriculture, but some progressive farmers would like to know about

different methods of nursery like seed, cutting, budding and grafting and also along with the methods, they would like to have complete knowledge about the varieties, marketing demand and floriculture under the natural and protected conditions so that they take maximum benefit by this discipline.

Storage operations

Table 4.22 Information needs of the farmers on storage

Component	District/Krishi Vigyan Kendra						Mean Score	Rank
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur		
Control measures for storage pests	82 (2.73)	110 (2.61)	67 (2.79)	142 (2.84)	175 (2.91)	134 (2.68)	2.77	I
Safe storage of grains	79 (2.63)	115 (2.73)	67 (2.79)	142 (2.84)	108 (1.80)	134 (2.68)	2.51	II
Cold storage	54 (1.80)	76 (1.80)	38 (1.58)	129 (2.58)	78 (1.30)	116 (2.32)	1.91	IV
Construction of Pusa bins	60 (2.00)	79 (1.88)	61 (2.54)	143 (2.86)	109 (1.81)	118 (2.36)	2.22	III

(Figures in parentheses are mean score)

Table 4.22 reveals that control measures of storage pests was placed in the first rank (MS 2.77) followed by the safe storage of grains (MS 2.51), whereas construction of Pusa bins was ranked third. Construction of cold storage received lowest mean score of 1.91 with fourth rank.

The information need of respondents about the control measures for storage pest is justified since a good percentage of grain i.e., 5 to 10 per cent is lost during the processing which can be reduced substantially by application of low cost measures.

These findings were supported by the Vazquez (1993) that farmers need information on technologies that would assist them in preventing the deterioration of their crops due to insects and rodent infestation.

Use of fertilizers

Table 4.23 Information needs regarding fertilizers' use

N=256

Use of fertilizers	District/Krishi Vigyan Kendra						Mean Score	Rank
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur		
Balanced application	90 (3.00)	119 (2.83)	72 (3.00)	142 (2.84)	150 (2.50)	139 (2.78)	2.78	III
Methods of application	89 (2.96)	119 (2.83)	72 (3.00)	143 (2.86)	153 (2.55)	141 (2.82)	2.80	II
Availability and price	87 (2.90)	117 (2.78)	72 (3.00)	142 (2.84)	171 (2.85)	139 (2.78)	2.84	I
Use of FYM	83 (2.76)	113 (2.69)	72 (3.00)	143 (2.86)	131 (2.18)	138 (2.76)	2.66	IV

(Figures in parentheses are mean score)

Table 4.23 shows that availability of fertilizers and their prices were the most needed area hence ranked first (MS 2.84), followed by the methods of application of fertilizers which ranked second (MS 2.80), and balanced application at the third rank (MS 2.78). However, the use of FYM was reported as the least information need and hence placed in the last rank i.e. IV (MS 2.66).

Availability of fertilizer and its price got first rank because it is the critical input to be applied in a right quantity at the right time. Its cost affect the quantity to be applied hence farmers want to know the price.

Plant protection

Table 42.24 Information needs regarding plant protection

N=256

Operation	District/Krishi Vigyan Kendra						Mean Score	Rank
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur		
Identifica- tion and control of major insects, pests	86 (2.86)	119 (2.83)	72 (3.00)	146 (2.92)	177 (2.95)	144 (2.88)	2.91	I
Source, price and use of pesticides	90 (3.00)	118 (2.80)	72 (3.00)	146 (2.92)	165 (2.75)	144 (2.88)	2.87	II
Precautions in use	86 (2.86)	116 (2.76)	72 (3.00)	145 (2.90)	167 (2.78)	143 (2.86)	2.85	III

(Figures in parentheses are mean score)

The data in Table 4.24 indicate that majority of the respondents had highest need in the identification and control of major insects- pests (MS 2.91) which ranked first, followed by the source, price and use of insecticides/pesticides (MS 2.87) ranked second, whereas the precautions in use of the pesticides was ranked third (MS 2.85).

The identification and control of major insects-pests was ranked first may be because high yielding varieties with high use of fertilizers and irrigation coincide with the high infestation of insects and pests which reduces the yield up to 50 per cent in certain crops, hence the farmers wanted to know more about their identification and control measures.

The data further reveal that highest multiple responses were from the respondents of Jhunjhunu district while the mean score was highest in Nagour district.

The results commensurate with the findings of **Pestilos and Escalada (1982)**.

Weed control

Table 4.25 Information needs regarding weed control

N=256

Operation	District/Krishi Vigyan Kendra						Mean Score	Rank
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur		
Weeds' damage and control	72 (2.40)	90 (2.14)	56 (2.33)	84 (1.68)	162 (2.70)	81 (1.62)	2.13	I
Weedicides application and precautions	69 (2.30)	87 (2.07)	56 (2.33)	83 (1.66)	156 (2.60)	78 (1.56)	2.07	II
Economic use	71 (2.36)	87 (2.07)	56 (2.33)	83 (1.66)	150 (2.50)	76 (1.52)	2.04	III

(Figures in parentheses are mean score)

The table 4.25 shows that weeds' damage and control was the most needed area of information as reported by the respondents and ranked first (MS 2.13), followed by the weedicides' application and precautions (MS 2.07), and ranked second. However, economic use was at the last rank i.e., III (MS 2.04). It was supported by **Saini (1981)**.

Weeds are menace to crop production and they cause loss to a great extent i.e., 15 to 30 per cent of total production reported by **Gupta (1993)**. Therefore, the farmers are interested to know the damage caused by weeds and how to control them. Similarly, the weedicides applications an important aspect has been ranked second.

The data further reveal that a majority of the respondents of Jhunjhunu district expressed the need as most needed with a mean score of 2.60 against 3.00.

Irrigation

Table 4.26 Information needs regarding irrigation

N=256

Category	District/Krishi Vigyan Kendra						Mean Score	Rank
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur		
Efficient use of water	73 (2.43)	96 (2.28)	24 (1.00)	79 (1.58)	165 (2.75)	114 (2.28)	2.15	II
Different methods	70 (2.33)	95 (2.26)	25 (1.04)	79 (1.58)	167 (2.78)	108 (2.16)	2.12	III
Schedule of irrigation	70 (2.33)	87 (2.07)	24 (1.00)	79 (1.58)	165 (2.75)	108 (2.16)	2.08	IV
Timely irrigation	66 (2.20)	101 (2.40)	24 (1.00)	79 (1.58)	174 (2.90)	111 (2.22)	2.17	I
Proper amount of irrigation	75 (2.50)	89 (2.11)	24 (1.00)	78 (1.56)	158 (2.63)	111 (2.22)	2.09	V
Subsidized sources of irrigation	55 (1.83)	96 (2.28)	24 (1.00)	80 (1.60)	130 (2.61)	109 (2.18)	1.93	VI
Methods for plants and small plants	46 (1.53)	88 (2.09)	24 (1.00)	80 (1.60)	132 (2.2)	108 (2.16)	1.87	VII

(Figures in parentheses are mean score)

The data in Table 4.26 indicate that timely irrigation has been reported as highest information need and ranked first (MS 2.17) followed by the efficient use of water (MS 2.15) which ranked second. While proper amount of irrigation, subsidized sources, and methods of irrigation for plants and small plants were perceived as low information with rank orders as fifth, sixth and seventh (mean values 2.09, 1.93 and 1.87, respectively).

Timely irrigation ranked as first information need by the respondents because irrigation is must to get better crop yield. To narrate an example, wheat yield is highest if first irrigation is given on crown root initiation stage i.e., 21 days after planting.

The data further reveal that among the districts, significant difference on information need was visible viz., timely irrigation in Jhunjhunu district was highest (2.90) as compared to Nagour with least value of 1.00.

Animal husbandry

Table 4.27 Information needs regarding dairy and poultry production

N=256

Aspects	Distract/Krishi Vigyan Kendra						Mean Score	Rank
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur		
Cross bred animals	65 (2.16)	101 (2.40)	72 (1.44)	125 (0.4)	153 (2.55)	131 (2.18)	2.53	I
Animal disease and vaccination	65 (2.16)	108 (2.57)	72 (1.44)	122 (2.44)	154 (2.56)	122 (2.44)	2.51	II
Balanced cattle feed	66 (2.20)	113 (2.69)	72 (1.44)	126 (2.52)	134 (2.33)	122 (2.44)	2.47	III
Care of milch animals	64 (2.13)	116 (2.76)	72 (1.44)	126 (2.52)	145 (2.41)	120 (2.40)	2.51	II
Marketing of dairy products	41 (1.36)	79 (1.88)	64 (1.52)	121 (2.42)	105 (1.75)	93 (1.86)	1.96	IV
Poultry management	41 (1.36)	67 (1.59)	60 (1.20)	119 (2.38)	87 (1.45)	88 (1.76)	1.80	V

(Figures in parentheses are mean score)

It is apparent from Table 4.27 that maximum information needs of the respondents were for the crossbred animals (MS 2.53) which ranked first, followed by the animal disease and vaccinations and care of milch animals (MS 2.54 each) whereas poultry management recorded V rank as it is not a common in most of the areas of Rajasthan.

The information need regarding crossbreed animals was perceived as a highest information need because in Rajasthan state animal rearing is the second main occupation of

farming community and they believe crossbreed animals have more potentiality for higher milk production.

Agricultural implements and machinery

Table 4.28 Information needs regarding agricultural implements and machinery

N=256

Category	District/Krishi Vigyan Kendra						Mean Score	Rank
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur		
Different types of implements	64 (2.13)	99 (2.35)	72 (3.00)	123 (2.46)	166 (2.76)	128 (2.56)	2.55	I
Knowledge of sowing and harvesting implements	64 (2.13)	96 (2.28)	72 (3.00)	124 (2.48)	164 (2.73)	130 (2.60)	2.54	II
Low cost implements and machinery	62 (2.06)	103 (2.45)	72 (3.00)	124 (2.48)	148 (2.46)	130 (2.60)	2.50	III
Availability and price	65 (2.16)	109 (2.59)	72 (3.00)	124 (2.48)	120 (2.00)	133 (2.66)	2.43	IV

(Figures in parentheses are mean score)

It is evident from Table 4.28 that information need on different types of agricultural implements was ranked as the highest with a mean score of 2.55, followed by the knowledge about sowing and harvesting implements with mean score of 2.54. However, availability and price of agricultural implements was expressed as the least need and therefore, ranked last (MS 2.43).

Highest frequency values were reported in Jhunjhunu KVK district while the highest mean score (3.00) was from Nagour district. The first ranking of different types of

implements is justified since farmers in general have understood the importance of implements for raising productivity.

Credit and marketing of farm produce

Table 4.29 Information needs regarding availability of credit and marketing of farm produces

N=256

Category	District/Krishi Vigyan Kendra						Mean Score	Rank
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur		
Credit availability	84 (2.8)	120 (2.85)	72 (3.00)	148 (2.96)	164 (2.73)	131 (2.62)	2.81	I
Information on marketing	82 (2.73)	118 (2.80)	72 (3.00)	120 (2.40)	164 (2.73)	130 (2.60)	2.67	II

(Figures in parentheses are mean score)

The table 4.29 indicates that availability of credit for agriculture and information of marketing farm produce have been ranked as I and II respectively with mean value of 2.81 and 2.67. Agriculture totally depends on rainfall. Farmers get good harvest once a while in time in two to three years and majority of the farmers are poor, hence they depend on agriculture credit.

Energy conservation

Table 4.30 Information needs regarding energy conservation

N=256

Category	District/Krishi Vigyan Kendra						Mean Score	Rank
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur		
Energy saving equipment	86 (2.86)	85 (2.02)	59 (2.45)	142 (2.84)	158 (2.63)	120 (2.40)	2.54	I
Solar energy	81 (2.7)	87 (2.07)	59 (2.45)	141 (2.82)	111 (1.85)	122 (2.44)	2.35	II
Biogas and smokeless chulha	81 (2.70)	89 (2.11)	58 (2.41)	143 (2.86)	97 (1.61)	121 (2.42)	2.30	III

(Figures in parentheses are mean score)

The data in Table 4.30 reveal that improved energy saving equipments was the most needed area of information which ranked first (MS 2.54), followed by the solar energy (MS 2.35), and biogas and smokeless chulha with lowest rank (MS 2.30).

Table 4.31 Information needs regarding income generating programmes

N=256

Areas	District/Krishi Vigyan Kendra						Mean Score	Rank
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur		
Mushroom production	36 (1.20)	49 (1.16)	26 (1.08)	57 (1.14)	73 (1.21)	65 (1.30)	1.19	III
Beekeeping & Sericulture	36 (1.20)	59 (1.40)	28 (1.16)	62 (1.24)	67 (1.11)	64 (1.28)	1.23	II
Rearing of camel	36 (1.20)	53 (1.26)	62 (2.58)	127 (2.54)	115 (1.91)	68 (1.36)	1.80	I

(Figures in parentheses are mean score)

Table 4.31 shows that rearing of camel was perceived as a highest information need (MS 1.80), followed by the Beekeeping and Sericulture (MS 1.23) and Mushroom cultivation (MS 1.19).

Camel rearing need of the respondents was highest because in Rajasthan still camel is being used for the farming operations and luggage transport. However, beekeeping and sericulture, mushroom cultivation are perceived as of low order needs because they are the aspects of individual farmers which depend on their personal interest also.

Table 4.32 Information needs regarding social and developmental Activities

N=256

Areas	District/Krishi Vigyan Kendra						Mean Score	Rank
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur		
Information on progressive farmers	82 (2.73)	108 (2.57)	72 (3.00)	146 (2.92)	159 (2.65)	136 (2.72)	2.75	II
Achievements of neighbouring states	79 (2.63)	101 (2.40)	72 (3.00)	144 (2.88)	136 (2.26)	137 (2.74)	2.61	III
Rural development programmes	74 (2.46)	111 (2.64)	72 (3.00)	144 (2.88)	150 (2.50)	105 (2.10)	2.56	IV
Weather forecast	90 (3.00)	115 (2.73)	72 (3.00)	144 (2.88)	168 (2.88)	142 (2.80)	2.85	I

(Figures in parentheses are mean score)

The data in table 4.32 reveal that information about weather forecast ranked at the highest as an information need (MS 2.85) followed by information about progressive farmers (MS 2.75) and the achievements of neighbouring states (MS 2.61), and rural development programmes (MS 2.56).

As regards the information regarding progressive farmers is concerned, it was generally noted that medium class category of farmers have the competition with the progressive farmers and want to be benefited themselves by upgrading their existing status.

Table 4.33 Information needs regarding research and extension

N=256

Areas	District/Krishi Vigyan Kendra						Mean Score	Rank
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur		
Researches	90 (3.00)	114 (2.71)	72 (3.00)	143 (2.86)	168 (2.80)	141 (2.82)	2.84	I
Results demonstration	53 (1.76)	108 (2.57)	64 (2.66)	138 (2.76)	148 (2.46)	67 (1.34)	2.26	II

(Figures in parentheses are mean score)

The table 4.33 reveals that agricultural researches by different institutions were perceived as a highest information need (MS 2.84) whereas demonstrations of results perceived as a secondary need for the information (MS 2.26).

Different researches got first rank only because farmers are interested to get improved package and practices which yield higher crop production.

Information needs of the respondents

Table 4.34 Distribution of the respondents according to information needs

N=256

Category	Distract/Krishi Vigyan Kendra						Total frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Least needed <153	6 (2.34)	5 (1.95)	1 (0.39)	5 (1.95)	10 (3.91)	2 (0.78)	29 (11.33)
Needed 153-198	21 (8.20)	27 (10.55)	22 (8.60)	44 (17.19)	48 (18.75)	40 (15.62)	202 (78.90)
Most needed > 198	3 (1.17)	10 (3.91)	1 (0.39)	1 (0.39)	2 (0.78)	8 (3.12)	25 (9.77)

(Figures in parentheses indicate percentage)

It can be inferred from Table 4.34 that a vast majority of the respondents (78.90 per cent) were in the needed category of information followed by the least needed (11.33 per cent) and most needed (9.77 per cent).

Comparative distribution shows that maximum no. of the respondents in the needed category were from the Jhunjhunu district (18.75 per cent) and minimum no. of the respondents from Kota district (8.20 per cent). In the least needed information category, majority were again from the Jhunjhunu district (3.91 per cent).

The data in table further show that maximum no. of the respondents (3.91 per cent) were from Bikaner district who reported that information is most needed.

4.4 (a) Utilization pattern

The utilization pattern of the farm publications highlighted hereunder include subscriptions reasons, sources of agricultural information, reading, clarification sought, constraints, periodicity, newsletters, folders, and booklets, preferences of the contents, reasons for membership, application of information, preservation and methods of query.

Subscription

Table 4.35 Distribution of the respondents according to the reasons for subscribing the farm publications

N=256

Aspects	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Own reading	30 (11.72)	42 (16.41)	24 (9.38)	48 (18.75)	57 (22.26)	49 (19.14)	250 (97.66)
Gram Panchayat	-	2 (0.78)	-	2 (0.78)	-	-	4 (1.56)
Research purpose	-	-	-	-	-	2 (0.78)	2 (0.78)

(Figures in parentheses are percentage)

Note: Multiple responses to different aspects increased the total percentage

The data in Table 4.35 show that the majority of the respondents (97.66 per cent) are subscribing the publications for their own reading followed by community reading in Gram Panchayats (1.56 per cent) and for the research purposes (0.78 per cent).

Comparative distribution shows that maximum respondents (22.26 per cent) subscribing the publications for their own reading were from the Jhunjhunu district and minimum from Nagour district (9.37 per cent).

Equal number of the respondents (0.78 per cent each) were from the Bikaner and Sirohi districts subscribing the publications for the Gram Panchayat, and none of the respondents from the other four KVKs in Kota, Nagour, Jhunjhunu and Udaipur districts.

The data further show that less than one per cent (0.78 per cent) respondents were subscribing the publication for research purpose, are from Udaipur district.

Sources of agricultural information

Table 4.36 Distribution of the respondents according to the sources of agricultural information

N=256

Sources	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Agric. University	27 (10.55)	43 (16.80)	22 (8.60)	47 (18.36)	53 (20.70)	50 (19.53)	242 (94.53)
Agric. Dept.	10 (3.91)	15 (5.86)	12 (4.68)	18 (7.03)	58 (22.66)	33 (12.89)	146 (57.03)
Development deptt.	2 (0.78)	8 (3.12)	3 (1.17)	-	30 (11.71)	19 (7.42)	62 (24.21)
NGOs	-	-	-	-	8 (3.12)	12 (4.68)	20 (7.81)

(Figures in parentheses are percentage)

The table 4.36 reveals that Agricultural University was the main source of information as reported by majority of the respondents (94.53 per cent) followed by Agriculture Department (57.03 per cent), Development Departments (24.21 per cent) and 7.81 per cent by NGOs.

Comparative distribution shows that maximum no. of the respondents (20.70 per cent) were from the Jhunjhunu district and minimum (8.60 per cent) from Nagour district who reported agricultural university as a main source of information.

Agriculture Department as a source of information was reported maximum (22.66 per cent) by the respondents of Jhunjhunu district and minimum by the respondents (3.91 per cent) of Kota district.

Maximum number of the respondents (11.71 per cent) from the Jhunjhunu district reported Development Departments as a source of information and none were reported from Sirohi district.

The data further indicates that maximum number of the respondents from Udaipur (4.68 per cent) reported NGOs as a source of information and none were reported from Kota, Bikaner, Nagour and Sirohi districts.

Reading farm publications

Table 4.37 Distribution of the respondents according to the reasons for reading the farm publications

N=256

Reasons	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Increase knowledge	17 (6.64)	16 (6.25)	11 (4.30)	22 (8.60)	45 (17.58)	21 (8.20)	132 (51.56)
Exchange information	4 (1.56)	21 (8.20)	2 (0.78)	13 (5.08)	44 (17.19)	13 (5.08)	97 (37.89)
Encourage others	7 (2.73)	2 (0.78)	1 (0.39)	1 (0.39)	33 (12.89)	11 (4.30)	55 (21.48)
Awareness	3 (1.17)	2 (0.78)	7 (2.73)	3 (1.17)	40 (15.62)	13 (5.08)	68 (26.56)
Adoption	19 (7.42)	36 (14.06)	3 (1.17)	12 (4.68)	56 (21.87)	41 (16.02)	167 (65.23)
Innovations	3 (1.17)	-	-	-	13 (5.08)	-	16 (6.25)

(Figures in parentheses are percentage)

The table 4.37 shows that the majority of the respondents (65.23 per cent) reported reading farm publications for the adoption of practices in their own field as one of the reasons; it is followed by the increase in knowledge (51.56 per cent), exchange of information (37.89 per cent), awareness about the new information and ideas (26.56 per cent), and encourage others (21.48 per cent).

Only 6.25 per cent respondents reported innovations as a reason.

Comparative distribution among the districts shows that maximum number of the respondents (21.87 per cent) from Jhunjhunu district and minimum no. of the respondents (1.17 per cent) from Nagour district reported reason of reading publication as to practice in their own field.

Increase knowledge was reported maximum (17.58 per cent) from Jhunjhunu

district, and less than one per cent (0.78) from Nagour reported exchange of information as a reason.

Awareness about new information and ideas as a reason was reported by maximum (15.62 per cent) respondents from the Jhunjhunu district and minimum from the Bikaner district (0.78 per cent).

Maximum no. of the respondents (12.89 per cent) from the Jhunjhunu district and less than one per cent (0.39 per cent each) from the Nagour and Sirohi districts reported to encourage others as a reason of reading farm publications. An innovation as a reason was reported by a maximum respondents (5.08 per cent) from the Jhunjhunu district.

Clarification sought

Table 4.38(a) Distribution of the respondents according to the clarification sought after reading the publications

N=256

Activity	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Discussion with family members	20 (7.81)	16 (6.25)	4 (1.56)	29 (11.33)	51 (19.92)	30 (11.72)	150 (58.59)
Discussions with others	14 (5.47)	25 (9.76)	13 (5.08)	21 (8.20)	48 (18.75)	25 (9.77)	146 (57.03)
Maintain a diary	1 (0.39)	1 (0.39)	6 (2.34)	2 (0.78)	45 (17.58)	9 (3.52)	64 (25.00)
Seeking additional information	1 (0.39)	2 (0.78)	1 (0.39)	-	41 (16.02)	9 (3.52)	54 (21.09)

(Figures in parentheses are percentage)

The table 4.38(a) reveals that the majority of the respondents (58.59 per cent) have a discussion with family members after reading the farm publications followed by the

discussion with others (57.03 per cent), maintenance of diary (25.00 per cent). Only 21.09 per cent respondents reported seeking of additional information after reading.

Comparative distribution further reveals that discussion with the family members after reading the farm publication was maximum from the Jhunjhunu district (19.92 per cent) and a minimum of 1.56 per cent from Nagour district. Discussion with others was reported maximum from the respondents of Jhunjhunu district (18.75 per cent) and minimum from the respondents of Nagour district (5.08 per cent).

Maximum no. of the respondents (17.58 per cent) from the Jhunjhunu district and equal size of the respondents less than half per cent (0.39 per cent each) from Kota and Bikaner districts maintained a diary after reading the publication.

Seeking additional information was reported by maximum respondents from the Jhunjhunu district (16.02 per cent). The data further reveal that overwhelming (185) multiple responses were from the Jhunjhunu district while the lowest (24) was from Nagour district.

Table 4.38(b) Distribution of the respondents according to the methods of query

N=256

Method of query	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Letter writing	1 (0.39)	7 (2.73)	-	3 (1.17)	3 (1.17)	16 (6.25)	30 (11.72)
Self approach at centre	24 (9.38)	30 (11.72)	24 (9.39)	35 (13.67)	58 (22.65)	32 (12.50)	203 (79.30)
Clarification with experts on their visit	17 (6.64)	23 (8.98)	10 (3.91)	30 (11.72)	24 (9.38)	26 (10.16)	130 (50.78)

(Figures in parentheses are percentage)

The data in table 4.38 (b) shows that the self approach at the centre for clarification was maximum (79.30 per cent) followed by the clarification during visit of experts (50.78 per cent), and letter writing (11.72 per cent).

Comparative distribution shows that maximum no. of the respondents (22.65 per cent) were from the Jhunjhunu district and minimum no. of respondents (9.37 per cent each) from Kota and Nagour districts who sought clarification by self approach to the centre. Clarification during the visit of experts was reported maximum by respondents of Sirohi district (11.71 per cent).

Letter writing as a method of query was reported maximum (6.25 per cent) from Udaipur district. The data further reveals that highest (82) multiple responses were received from Jhunjhunu district.

Constraints in utilization

Table 4.39 Distribution of the respondents according to the constraints in utilization of the farm publications

N=256

Constraints	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Technical words in literature	1 (0.39)	15 (5.86)	-	8 (3.12)	31 (12.10)	12 (4.68)	67 (26.17)
Non-availability of reading material	15 (5.86)	18 (7.03)	11 (4.30)	6 (2.34)	33 (12.89)	15 (5.86)	98 (38.28)
Lack of leisure time	9 (3.52)	11 (4.30)	9 (3.52)	18 (7.03)	20 (7.81)	18 (7.03)	85 (33.20)
Non coverage of appropriate latest information	1 (0.39)	4 (1.56)	1 (0.39)	2 (0.78)	3 (1.17)	14 (5.47)	25 (9.77)
Lack of reading environment	6 (2.34)	5 (1.95)	3 (1.17)	14 (5.47)	18 (7.03)	7 (2.73)	53 (20.70)
Lack of trust worthy information	-	-	-	-	-	5 (1.95)	5 (1.95)

(Figures in parentheses are percentage)

Constraints in the utilization of farm publications are shown in Table 4.39. The table shows that non-availability of reading material was reported by the majority of the respondents (38.28 per cent) followed by the lack of leisure time (33.20 per cent), technical words in the literature (26.17 per cent), lack of reading environment (20.70 per cent), non-coverage of appropriate and latest information (9.77 per cent). Only 1.95 per cent respondents reported lack of trust worthy information in the farm publications.

Comparative distribution further shows that non-availability of reading material as a constraint was reported by maximum respondents from the Jhunjhunu district (12.89 per cent) and minimum from the Sirohi district (2.34 per cent).

As far as lack of leisure time as a constraint, maximum respondents reported from the Jhunjhunu district (7.81 per cent) and minimum from the Kota and Nagour districts (3.52 per cent each).

Maximum no. of the respondents (12.10 per cent) from the Jhunjhunu district, and none from the Nagour district reported the use of technical words in the literature as a constraint.

The data further reveal that a total of 333 multiple responses were received. Out of which, maximum responses were from Jhunjhunu district and lowest from Nagour district.

The table further reveals that maximum no. of the respondents from the Udaipur (5.47 per cent) and less than half per cent (0.39 per cent each) from Kota and Nagour districts reported non-coverage of appropriate and latest information. Lack of reading environment in the family as a constraint in utilization of the farm publications was reported by maximum number of respondents (7.03 per cent) from Jhunjhunu district.

Periodicity

Table 4.40 Distribution of the respondents according to the periodicity of reading farm publications

N=256

Periodicity	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Daily	14 (5.47)	14 (5.47)	13 (5.08)	9 (3.52)	29 (11.33)	24 (9.38)	103 (40.23)
Once in 2-3 days	-	5 (1.95)	-	-	7 (2.73)	2 (0.78)	14 (5.47)
Once in a week	-	2 (0.78)	-	-	18 (7.03)	4 (1.56)	24 (9.38)
At the time of receipt	16 (6.25)	21 (8.20)	11 (4.30)	41 (16.02)	6 (2.34)	20 (7.81)	115 (44.92)

(Figures in parentheses are percentage)

The table 4.40 reveals that the majority of the respondents (44.92 per cent) read the farm publications at the time of receipt closely followed by the daily (40.23 per cent) and once in a week (9.38 per cent). Only 5.47 per cent respondents reported to read once in 2-3 days.

Comparative distribution among districts further reveals that maximum respondents (16.02 per cent) were from the Sirohi district and minimum respondents (2.34 per cent) from Jhunjhunu district who read the publications at the time of receipt.

As regards the periodicity of reading farm publications daily, maximum reported from the Jhunjhunu district (11.33 per cent) and minimum from the Sirohi district (3.52 per cent).

Once in a week was reported by maximum respondents from the Jhunjhunu district (7.03 per cent) while none was from Kota, Nagour and Sirohi districts.

The table further shows that regarding reading of farm publications once in 2-3 days, a maximum respondents reported from the Jhunjhunu district (2.73 per cent), while none was from Kota, Nagour and Sirohi districts.

Reading patterns

Table 4.41(a) **Distribution of the respondents according to the reading pattern**

N=256

Reading patterns	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Complete	21 (8.20)	32 (12.50)	20 (7.81)	38 (14.85)	42 (16.41)	34 (13.28)	187 (73.05)
Partial	9 (3.52)	10 (3.91)	4 (1.56)	12 (4.68)	15 (5.86)	11 (4.30)	61 (23.83)
Not at all	-	-	-	-	-	8 (3.12)	8 (3.12)

(Figures in parentheses are percentage)

The table 4.41(a) shows that the majority of the respondents (73.05 per cent) read the farm publications completely followed by the partial reading (23.83 per cent). Only 3.12 per cent respondents did not read the publications at all.

Comparative distribution shows that maximum no. of the respondents (16.41 per cent) were from the Jhunjhunu district and minimum (7.81 per cent) from the Nagour district who read the farm publications completely.

Partial reading of the publications was reported by maximum respondents from Jhunjhunu district (5.86 per cent) and minimum from the Nagour district (1.56 per cent). However, near about 3 per cent respondents from Udaipur district reported not reading the publications at all.

Table 4.41(b) Distribution of respondents according to reading of the monthly newsletter (*Apna Patra*)

N=256

Reading pattern	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Front page	2 (0.78)	3 (1.17)	-	2 (0.78)	3 (1.17)	7 (2.73)	17 (6.64)
Headlines	-	-	-	-	1 (0.39)	5 (1.95)	6 (2.34)
Sub-heads	1 (0.39)	1 (0.39)	-	2 (0.78)	-	3 (1.17)	7 (2.73)
Each page one by one	16 (6.25)	25 (9.77)	15 (5.86)	29 (11.33)	48 (18.75)	27 (10.55)	160 (62.50)
Advertisements	-	-	-	-	-	-	-
Flash eye-view	-	-	-	1 (0.39)	-	8 (3.12)	9 (3.52)
Reading selected items	11 (4.30)	13 (5.08)	9 (3.52)	16 (6.25)	8 (3.12)	10 (3.91)	67 (26.17)

(Figures in parentheses are percentage)

The table 4.41(b) reveals that majority of the respondents (62.50 per cent) read each page one-by-one from the newsletter followed by the reading selected items (26.17 per cent), front page (6.64 per cent), flash eye-view (3.52 per cent), sub-heads (2.73 per cent) and headlines (2.34 per cent).

Comparative distribution of the districts further reveal that maximum number of the respondents (18.75 per cent) were from Jhunjhunu district and minimum respondents from Nagour district (5.86 per cent) who read each page one-by-one.

Reading selected items were reported by the maximum respondents from the Sirohi district (6.25 per cent) and minimum from the Jhunjhunu district (3.12 per cent). Maximum no. of the respondents were from the Udaipur district (2.73 per cent) who read front page.

Reading of sub-heads and headlines was reported by the maximum respondents from Udaipur district (1.95 and 1.17 per cent, respectively).

Table 4.41(c) **Distribution of the respondents according to reading patterns of the folders and the bulletins**

N=256

Reading pattern	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Front page	3 (1.17)	10 (3.91)	-	2 (0.78)	9 (3.52)	17 (6.64)	41 (16.02)
Headlines	-	2 (0.78)	-	4 (1.56)	8 (3.12)	3 (1.17)	17 (6.64)
Inside pages	-	3 (1.17)	-	-	9 (3.52)	3 (1.17)	15 (5.86)
Back page	-	-	-	-	2 (0.78)	1 (0.39)	3 (1.17)
Key points	-	1 (0.39)	-	6 (2.34)	-	1 (0.39)	8 (3.12)
Complete reading	27 (10.55)	27 (10.55)	24 (9.38)	38 (14.85)	48 (18.75)	30 (11.72)	194 (75.78)

(Figures in parentheses are percentage)

The data in Table 4.41(c) show that the complete reading of the folders and booklets was reported by the majority of the respondents (75.78 per cent) followed by the front page reading (16.02 per cent), headlines (6.64 per cent), inside pages (5.86 per cent), and key points (3.12 points). Only 1.17 per cent respondents read backpage.

Comparative distribution among the districts shows that maximum no. of the respondents were from the Jhunjhunu district (18.75 per cent) and minimum from the Nagour district (9.38 per cent) who reported the complete reading of farm publications.

Front page reading was reported by a maximum respondents from the Udaipur district (6.64 per cent).

Maximum no. of the respondents (3.12 per cent) from the Jhunjhunu district read the head lines while none from Kota and Nagour districts reported so.

Inside page reading was maximum from the Jhunjhunu district (3.52 per cent) while none from the Kota, Nagour and Sirohi districts.

Reading of key points was reported by maximum respondents (2.34 per cent) from the Sirohi district while none from the Kota, Nagour and Jhunjhunu districts.

The table further reveals that maximum (76) respondents of Jhunjhunu district gave multiple responses.

Time spent for reading

Table 4.42 Distribution of the respondents according to the time spent for reading

N=256

Time spent	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Up to an hour	12 (4.68)	11 (4.30)	4 (1.56)	9 (3.52)	4 (1.56)	27 (10.55)	67 (26.17)
1-2 hours	9 (3.52)	18 (7.03)	8 (3.12)	13 (5.08)	38 (14.85)	7 (2.73)	93 (36.33)
More than 2 hours	9 (3.52)	13 (5.08)	12 (4.68)	28 (10.93)	18 (7.03)	16 (6.25)	96 (37.50)

(Figures in parentheses are percentage)

The data in table 4.42 reveal that majority of the respondents (37.50 per cent) devoted more than two hours for reading the farm publications followed by the one to two hours (36.33 per cent) while only 26.17 per cent devoted up to an hour. Almost similar trend was identified by **Zalaki (1973)**.

Comparative distribution of the districts with regard to spending more than two hours further reveals that maximum no. of the respondents (10.93 per cent) were from the Sirohi district and minimum were from the Kota district (3.52 per cent).

Respondents spending one to two hours were maximum from Jhunjhunu district (14.85 per cent) and minimum from the Udaipur district (2.73 per cent).

The table further shows that maximum no. of the respondents (10.55 per cent) were from Udaipur district and minimum from the Nagour district (1.56 per cent) who devoted up to an hour only.

Content preferences

Table 4.43 Distribution of the respondents according to the preferences of the contents

N=256

Content	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Agril. practices	29 (11.33)	42 (16.41)	24 (9.38)	42 (16.41)	51 (19.92)	47 (18.36)	235 (91.79)
Animal Science	8 (3.12)	16 (6.25)	10 (3.91)	10 (3.91)	41 (16.02)	24 (9.38)	109 (42.58)
Home Science	16 (6.25)	18 (7.03)	8 (3.12)	19 (7.42)	31 (12.10)	21 (8.20)	113 (44.14)
Agril. Engineering	2 (0.78)	5 (1.95)	8 (3.12)	10 (3.91)	39 (15.23)	26 (10.16)	90 (35.16)

(Figures in parentheses are percentage)

The table 4.43 shows that a vast majority of the respondents (91.79 per cent) have the preference of content for the agricultural practices, followed by the animal science and dairy (42.58 per cent), home science (44.14) and agricultural engineering (35.16 per cent).

Comparative distribution among the districts further shows that maximum no. of the respondents (19.92 per cent) were from the Jhunjhunu district and minimum (9.38 per cent) from the Nagour district who showed their preference for the agricultural content.

Animal Science and dairy content was preferred by maximum respondents from the Jhunjhunu district (16.02 per cent) and minimum from the Kota district (3.12 per cent).

Preference for the home science content was expressed by maximum respondents from the Jhunjhunu district (12.10 per cent) and minimum from the Nagour district (3.12 per cent).

Maximum no. of the respondents from the Jhunjhunu district (15.23 per cent) expressed preference for content on agricultural engineering.

The table further reveal that a vast number of multiple responses was from Jhunjhunu district which may be because of higher rate of literacy.

Membership

Table 4.44 Distribution of the respondents according to the reasons for membership

N=256

Reasons	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Advise of extension institutions	1 (0.39)	3 (1.17)	-	2 (0.78)	38 (14.85)	20 (7.81)	64 (25.00)
Advise of extension personnel	28 (10.94)	41 (16.02)	23 (8.98)	45 (17.58)	40 (15.62)	35 (13.67)	212 (82.81)
Any other (self motivation)	1 (0.39)	-	1 (0.39)	3 (1.17)	2 (0.78)	6 (2.34)	13 (5.08)

(Figures in parentheses are percentage)

The table 4.4 reveals that majority of the respondents (82.81 per cent) reported the reason of membership of farm publications on the advise of extension personnel followed by the extension institutions (25.00 per cent), and self motivation (5.08).

Comparative distribution among the districts shows that maximum number of the respondents (17.58 per cent) from the Sirohi district and minimum from the Nagour district

(8.98 per cent) reported the advise of extension personnel as a reason for taking membership.

Extension institutions' advise was reported as a reason by a maximum number of respondents from the Jhunjhunu district (14.84 per cent).

The table further reveals that self motivation was reported by maximum respondents from the Udaipur district (2.34 per cent).

Application of information

Table 4.45 Distribution of the respondents according to the application of the agricultural information

N=256

Various practices	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Selection of new varieties of crops	3 (1.17)	7 (2.73)	4 (1.56)	2 (0.78)	5 (1.95)	29 (11.32)	50 (19.53)
Hybrid seeds	-	8 (3.12)	4 (1.56)	-	4 (1.56)	27 (10.55)	43 (16.80)
Fertilizers use	1 (0.39)	5 (1.95)	3 (1.17)	2 (0.78)	4 (1.56)	34 (13.28)	49 (19.14)
Increase in yield and profit	25 (9.77)	29 (11.33)	11 (4.30)	32 (12.50)	12 (4.68)	10 (3.91)	119 (46.48)
Pesticides use	-	6 (2.34)	1 (0.39)	-	-	9 (3.52)	16 (6.25)
Weed control	-	2 (0.78)	-	-	2 (0.78)	7 (2.73)	11 (4.30)
Land fertility	-	3 (1.17)	-	-	4 (1.56)	-	7 (2.73)
Other practices	3 (1.17)	9 (3.52)	8 (3.12)	14 (5.47)	42 (16.41)	6 (2.34)	82 (32.03)

(Figures in parentheses are percentage)

The table 4.45 reveals that the majority of the respondents (46.48 per cent) reported the utilization of agricultural information for increase in yield and profit from the

crops followed by other practices (32.03 per cent), selection of new variety of crops (19.53 per cent), fertilizers (19.14 per cent), hybrid seeds (16.80 per cent), new pesticides (6.25 per cent), and weed control (4.30 per cent). Only 2.73 per cent respondents reported the utilization of the information for the land fertility.

Comparative distribution of the districts further reveals that maximum no. of respondents (12.50 per cent) were from the Sirohi district and minimum were from the Udaipur district (3.91 per cent) who reported the application of information provided in the publication for increase in yield and profit from the crops.

Use of information for other practices for higher agricultural productivity was reported by maximum (16.41 per cent) respondents from the Jhunjhunu district and minimum from the Kota district (1.17 per cent).

Fertilizer use, selection of new variety of crops, hybrid seeds, pesticides use, and weed control was reported maximum by the respondents (13.28, 11.33, 10.55, 3.52 and 2.73 per cent), respectively of Udaipur.

Only 1.56 per cent respondents from the Jhunjhunu district and 1.17 per cent from Bikaner district reported the application of information for land fertility, while none reported from the Kota, Nagour Sirohi and Udaipur districts.

Preservation

Table 4.46 Distribution of the respondents according to the preservation of publications after reading

N=256

Preservation	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Filing articles	5 (1.95)	10 (3.91)	-	2 (0.78)	9 (3.52)	13 (5.08)	39 (15.23)
Filing of recommendations	1 (0.39)	7 (2.73)	-	6 (2.34)	10 (3.91)	12 (4.69)	36 (14.06)
Keeping copies	23 (8.98)	24 (9.38)	24 (9.38)	40 (15.62)	28 (10.94)	32 (12.50)	171 (66.80)
Binding of publications	1 (0.39)	2 (0.78)	-	1 (0.39)	20 (7.81)	5 (1.95)	29 (11.33)
Throw as waste	-	2 (0.78)	-	4 (1.56)	-	1 (0.39)	7 (2.73)

(Figures in parentheses are percentage)

The table 4.46 indicates that the majority of the respondents (66.80 per cent) are preserving the farm publications for further use by keeping the copies safely, followed by filing of articles (15.23 per cent). Filing of recommendations (14.06 per cent), binding of the publications (11.33 per cent), and throwing as waste (2.73 per cent).

Comparative distribution regarding the utilization of farm publications in future among the districts show that maximum number of the respondents (15.62 per cent) who kept the copies of publications safely were from Sirohi district and minimum were from Kota district (8.98 per cent).

Filing articles for the future use was reported maximum (5.08 per cent) from the Udaipur district and none from Nagour district.

Maximum no. of the respondents (4.68 and 3.91 per cent, respectively) from Udaipur and Jhunjhunu districts reported filing of the recommendations. Binding of the material for further use was reported by maximum no. of the respondents (7.81 per cent) from Jhunjhunu district. The data further indicate that a vast majority of the respondents (78.13 per cent) are preserving the copies as such or after binding.

Utilization of the information

Table 4.47 Distribution of the respondents according to the utilization of the information

N=256

Utilization	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
As such	-	3 (1.17)	5 (1.95)	8 (3.12)	13 (5.08)	15 (5.86)	44 (17.19)
After modification	30 (11.72)	31 (12.10)	19 (7.42)	41 (16.02)	48 (18.75)	31 (12.10)	200 (78.13)
After discussions with progressive farmers	2 (0.78)	13 (5.08)	7 (2.73)	4 (1.56)	25 (9.77)	26 (10.16)	77 (30.08)

(Figures in parentheses are percentage)

The table 4.47 reveals that the majority of the respondents (78.13 per cent) were utilizing the information after modifications followed by the discussions with progressive farmers (30.08 per cent), and as such (17.19 per cent).

The comparative distribution reveals that maximum no. of the respondents (18.75 per cent) were from the Jhunjhunu district and minimum (7.42 per cent) from the Nagour district utilizing the information after modifications.

Application of information after discussions with progressive farmers was reported by maximum respondents (10.16 per cent) of Udaipur district. The table further shows that

utilization of information as such was also maximum (5.86 per cent) by the respondents of Udaipur district.

Overall utilization pattern

Table 4.48 **Distribution of the respondents according to the utilization Pattern**

N=256

Utilization	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Low (< 123)	2 (0.78)	2 (0.78)	7 (2.73)	10 (3.91)	-	6 (2.34)	27 (10.55)
Medium (123 -216)	28 (10.94)	38 (14.85)	15 (5.86)	40 (15.62)	14 (5.47)	33 (12.89)	168 (65.62)
High (>216)	-	2 (0.78)	2 (0.78)	-	46 (17.97)	11 (4.30)	61 (23.83)

(Figures in parentheses are percentage)

The data in table 4.48 indicate that the majority of the respondents (65.62 per cent) had the medium level of utilization of publications followed by the high level (22.83 per cent). These findings are in contrast to the findings of *Sadaqath et al. (1998)*.

Comparative distribution further indicates that medium level of utilization was maximum (15.62 per cent) from Sirohi district and minimum (5.86 per cent) from Nagour district.

In the high level category, maximum respondents (17.97 per cent) were from Jhunjhunu district while none was from Kota and Sirohi districts.

The table further reveals that maximum no. of respondents (3.91 per cent) from Sirohi district reported low level of utilization.

4.4(b) Reactions of the respondents

Language

Table 4.49 Respondents' reaction towards the language of farm publications

N = 256

Language	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Simple	26 (10.16)	40 (15.62)	20 (7.81)	47 (18.36)	52 (20.31)	44 (17.19)	229 (89.45)
Some what difficult	1 (0.39)	-	2 (0.78)	3 (1.17)	4 (1.56)	2 (0.78)	12 (4.69)
Difficult	3 (1.17)	2 (0.78)	2 (0.78)	-	4 (1.56)	4 (1.56)	15 (5.86)

(Figures in parentheses indicate percentage)

The data in Table 4.49 indicate the respondents' reactions towards the farm publications. The use of language in the farm publications was reported simple by overwhelming majority of the respondents i.e., 89.45 per cent with maximum percentage of 20.31 in Jhunjhunu KVK district and with minimum of 7.81 per cent in Nagour KVK district, followed by 5.86 per cent in difficult category ranging from 0.78 per cent each in Bikaner and Nagour KVK district to 1.56 per cent each in Jjunjhunu and Udaipur KVK districts, while the minimum percentage of respondents (4.69) expressed the use of language as somewhat difficult.

Illustrations

Table 4.50 Readers' reaction towards Illustrations used in the publications

N = 256

Illustrations	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Less	29 (11.33)	29 (11.33)	14 (5.46)	49 (19.14)	48 (18.75)	24 (9.38)	193 (75.39)
Sufficient	1 (0.39)	13 (5.07)	6 (2.34)	1 (0.39)	10 (3.91)	25 (9.77)	56 (21.88)
More	-	-	4 (1.56)	-	2 (0.78)	1 (0.39)	7 (2.73)

(Figures in parentheses indicate percentage)

The data in Table 4.50 reveal that majority of the respondents (75.39 per cent) reported less use of the illustrations with a maximum percentage (19.14) in Sirohi KVK district and a minimum of 5.46 per cent in Nagour KVK district. The respondents of almost all the KVK districts expressed their reactions for less illustrations followed by sufficient except Udaipur where slight edge was observed.

As regard the use of more illustrations, respondents of three KVKs viz. Nagour, Jhunjhunu and Udaipur (1.56, 0.78 and 0.39 per cent) reported.

Use of technical words

Table 4.51 Readers' reaction towards use of technical words in the farm publications.

Technical words	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Appropriate	27 (10.55)	34 (13.28)	16 (6.25)	29 (11.33)	47 (18.36)	18 (7.03)	171 (66.80)
Less	2 (0.78)	3 (1.17)	7 (12.73)	9 (3.51)	2 (0.78)	7 (2.73)	30 (11.72)
More	1 (0.39)	5 (1.95)	1 (0.39)	12 (4.68)	11 (4.30)	25 (9.76)	55 (21.48)

N = 256

(Figures in parentheses indicate percentage)

The table 4.51 shows the reactions of the respondents towards the use of technical words in the farm publications. The use of appropriate number of technical words was reported by the majority of the respondents i.e., 66.80 per cent with maximum percentage 18.36 in Jhunjhunu KVK and with minimum of 6.25 per cent in Nagour KVK, followed by 21.48 per cent in more technical words category with maximum percentage (9.76) in Udaipur and minimum of 0.39 per cent each in Kota and Nagour districts.

While minimum percentage of the respondents (11.72) expressed the use of technical words as less.

Letter size

Table 4.52 Readers' reaction towards letter size of printing in the farm publications.

N = 256

Letter size	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Small	2 (0.78)	2 (0.78)	-	13 (5.07)	9 (3.51)	12 (4.68)	38 (14.85)
Appropriate	28 (10.93)	40 (15.62)	24 (9.38)	37 (14.45)	51 (19.92)	38 (14.85)	218 (85.15)

(Figures in parentheses indicate percentage)

The letter size of the printing in the farm publications was reported as an appropriate by a vast majority of the respondents i.e., 85.15 per cent with maximum percentage 19.92 in Jhunjhunu KVK and with minimum of 9.38 per cent in Nagour KVK followed by 14.85 per cent respondents who expressed the printing types of small size of letter with a maximum of 5.07 per cent in Sirohi KVK while none was from the Nagour KVK as shown in the table 4.52.

Print quality

Table 4.53 Readers' reaction towards print quality of the publications.

Print quality	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Good	8 (3.12)	12 (4.68)	5 (1.95)	6 (2.34)	5 (1.95)	10 (3.91)	46 (17.97)
Fair	21 (8.20)	24 (9.38)	19 (7.42)	44 (17.19)	50 (19.53)	38 (14.85)	196 (76.56)
Poor	1 (0.39)	6 (2.34)	-	-	5 (1.95)	2 (0.78)	14 (5.47)

(Figures in parentheses indicate percentage)

The data in Table 4.53 reveal that the fair quality of printing was expressed by a large portion of the respondents 76.56 per cent with maximum percentage (19.53) in Jhunjhunu KVK and with minimum of 7.42 per cent in Nagour KVK followed by the food quality printing category (17.97 per cent) with maximum of 4.68 per cent in Bikaner KVK and minimum (1.95 per cent each) in Nagour and Jhunjhunu KVKs. Poor quality of printing was expressed by 5.47 per cent of respondents.

Individually districtwise some variation in the reactions can be observed viz., a vast majority of respondents (88.00 and 83.33 per cent, respectively) of Sirohi and Jhunjhunu KVKs expressed the printing quality as fair.

Attractiveness of the cover page

Tabel 4.54 Attractiveness of the cover page in the publications.

N = 256

Attractive-ness	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Attractive	8 (3.12)	4 (1.56)	4 (1.56)	43 (16.80)	50 (19.53)	27 (10.54)	136 (53.12)
Somewhat attractive	20 (7.81)	27 (10.55)	10 (3.91)	-	2 (0.78)	20 (7.81)	79 (30.86)
Not attractive	2 (0.78)	11 (4.96)	10 (3.91)	7 (2.73)	8 (3.12)	3 (1.17)	41 (16.02)

(Figures in parentheses indicate percentage)

The data presented in Table 4.54 indicate the reactions regarding attractiveness of the cover page of the farm publications. Attractive cover page was reported by the majority of the respondents (53.12 per cent) with maximum percentage (19.53) in Jhunjhunu KVK and with minimum (1.56 per cent each) in Bikaner nad Nagour KVKs, followed by somewhat attractive category (30.86 per cent) with a maximum of 10.55 per cent in Bikaner KVK and none was reported from Sirohi district. Some respondents (16.02 per cent) expressed the cover page as not attractive.

A variation has been observed in six KVKs respondents viz., a vast majority (83.33 per cent) of Jhunjhunu district expressed the cover page as attractive, while 64.28 per cent respondents of Bikaner expressed somewhat attractive.

Usefulness of the informations

Table 4.55 Usefulness of the informations

N = 256

Usefulness	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Useful	4 (1.56)	1 (0.39)	1 (0.39)	44 (17.19)	44 (17.19)	4 (1.56)	98 (38.28)
Less useful	21 (8.20)	41 (16.02)	23 (8.98)	3 (1.17)	12 (4.68)	41 (16.02)	141 (55.08)
Not useful	5 (1.95)	-	-	3 (1.17)	4 (1.56)	5 (1.95)	17 (6.64)

(Figures in parentheses indicate percentage)

The table 4.55 shows that the majority of the respondents (55.08 per cent) expressed the usefulness of informations as less useful with maximum percentage (16.02)

in Udaipur KVK and a minimum of 1.17 per cent in Sirohi KVK. This was followed by useful category with 38.28 per cent respondents ranging from 0.39 per cent each in Bikaner and Nagour KVKs to 17.19 per cent each in Sirohi and Jhunjhunu KVKs. Some respondents (6.64 per cent) expressed that the information of farm publications is not useful.

Level of interest

Table 4.56 Level of interest in the presentation of informations

Level	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Interesting	7 (2.73)	7 (2.73)	2 (0.78)	13 (5.08)	49 (19.14)	7 (2.73)	85 (33.20)
Somewhat interesting	20 (7.81)	31 (12.10)	18 (7.03)	35 (13.67)	6 (2.34)	3 (1.17)	113 (44.14)
Not interesting	3 (1.17)	4 (1.56)	4 (1.56)	2 (0.78)	5 (1.95)	40 (15.63)	58 (22.66)

(Figures in parentheses indicate percentage)

The data in Table 4.56 reveal that majority of the respondents i.e., 44.14 per cent expressed somewhat interesting level of presentation with maximum percentage (13.67) in Sirohi KVK and a minimum of 1.17 per cent in Udaipur KVK. This was followed by 33.20 per cent of the respondents who gave their opinion about interesting category which ranged from 0.78 per cent in Nagour KVK to 19.14 per cent in Jhunjhunu KVK, while a substantial percentage of respondents (22.66) expressed the level of presentation of farm information in the farm publications as not interesting.

Number of pages

Table 4.57 Number of pages in the publications

Pages	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Less	23 (8.98)	27 (10.55)	18 (7.03)	45 (17.58)	22 (8.60)	42 (16.41)	177 (69.14)
Sufficient	7 (2.73)	12 (4.68)	6 (2.34)	4 (1.56)	34 (13.28)	6 (2.34)	69 (26.95)
More	-	3 (1.17)	-	1 (0.39)	4 (1.56)	2 (0.78)	10 (3.91)

(Figures in parentheses indicate percentage)

The data regarding the number of pages in the farm publications as shown in the Table 4.57 reveal that less number of the pages in the publications was reported by the majority of the respondents (69.14 per cent) with maximum percentage of 17.58 in Sirohi KVK and with minimum of 7.03 per cent in Nagour KVK. This was followed by 26.95 per cent in sufficient category with maximum percentage (13.28) in Jhunjhunu KVK and with minimum of 1.56 per cent in Sirohi KVK, while a few respondents (3.91 per cent) expressed the use of number of pages as more.

Timeliness of information

Table 4.58 Timeliness of information in farm publications.

Timeliness	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Up-to-date	9 (3.51)	12 (4.68)	5 (1.95)	24 (9.38)	28 (10.93)	14 (5.47)	92 (35.94)
Somewhat up-to-date	12 (4.68)	7 (2.73)	6 (2.34)	17 (6.64)	2 (0.78)	30 (11.71)	74 (28.91)
Outdated	9 (3.51)	23 (8.98)	13 (5.07)	9 (3.51)	30 (11.71)	6 (2.34)	90 (35.15)

(Figures in parentheses indicate percentage)

The data in Table 4.58 show that a majority of respondents (35.94 per cent) reacted towards the timeliness of information as up-to-date in the farm publications with maximum percentage 10.93 in Jhunjhunu KVK and with minimum of 1.95 per cent in Nagour. This was closely followed by the outdated by 35.15 per cent respondents having the same trend of maximum respondents from Jhunjhunu district. Somewhat up-to-date category was also reported by a substantial (28.91 per cent) respondents with maximum of 11.71 per cent in Udaipur KVK.

The trend of data in the table is not very clear as more than half of the respondents of Bikaner, Nagour and Jhunjhunu district mentioned the outdatedness of the information.

Regularity of publications

Table 4.59 Regularity of the publications

N = 256

Regularity	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Regular	18 (7.03)	31 (12.10)	21 (8.20)	41 (16.02)	44 (17.19)	42 (16.41)	197 (76.95)
Somewhat regular	8 (3.12)	4 (1.56)	2 (0.78)	7 (2.73)	10 (3.91)	4 (1.56)	35 (13.67)
Irregular	4 (1.56)	7 (2.73)	1 (0.39)	2 (0.78)	6 (2.34)	4 (1.56)	24 (9.38)

(Figures in parentheses indicate percentage)

The data in Table 4.59 indicates that the publications were regular as reported by a majority of the respondents i.e., 76.95 per cent with maximum percentage of 17.19 in Jhunjhunu KVK and with minimum of 7.03 per cent in Kota KVK. Some respondents (13.67 per cent) expressed that the publications are somewhat regular with maximum percentage (3.91) in Jhunjhunu KVK and a minimum of 0.78 per cent in Nagour KVK while the irregularity of publications was reported by 9.38 per cent of the respondents.

Cost of publications

Table 4.60 Cost of the publications

N = 256

Cost	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Cheap	20 (7.81)	20 (7.81)	12 (4.68)	2 (0.78)	12 (4.68)	8 (3.12)	74 (28.91)
Appropriate	8 (3.12)	19 (7.42)	10 (3.91)	45 (17.58)	48 (18.75)	42 (16.41)	172 (67.18)
Costly	2 (0.78)	3 (1.17)	2 (0.78)	3 (1.17)	-	-	10 (3.91)

(Figures in parentheses indicate percentage)

The data in Table 4.60 indicate that the appropriate cost of the publication was reported by majority of the respondents (67.18 per cent) with maximum percentage of 18.75 in Jhunjhunu KVK and with minimum of 3.12 per cent respondents of Kota. This was followed by 28.91 per cent respondents who expressed that the cost of publication is cheap ranging from 0.78 per cent in Sirohi KVK to 7.81 per cent each in Kota and

Bikaner KVKs. Only ten respondents (3.91 per cent) expressed their opinion that publications cost is more.

Length of article

Table 4.61 Readers' reaction towards length of article

Length	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Small	15 (5.86)	19 (7.42)	12 (4.68)	5 (1.95)	10 (3.91)	9 (3.51)	70 (27.34)
Appropriate	12 (4.68)	23 (8.98)	12 (4.68)	40 (15.63)	48 (18.75)	41 (16.02)	176 (68.75)
Large	3 (1.17)	-	-	5 (1.95)	2 (0.78)	-	10 (3.91)

(Figures in parentheses indicate percentage)

The data in Table 4.61 reveal the information regarding the length of the articles of the farm publications. The appropriate length of article was reported by the majority of the respondents (68.75 per cent) with maximum percentage of 18.75 in Jhunjhunu KVK and with minimum of 4.68 per cent each in Kota and Nagour KVKs. This was followed by 27.34 per cent in small length category with maximum percentage of 7.42 in Bikaner KVK and minimum of 1.95 per cent in Sirohi KVK. Few respondents (3.91 per cent) expressed the size of article as large.

Correctness

Table 4.62 Correctness of information of the farm publications.

Correctness	District/Krishi Vigyan Kendra						Frequency
	Kota	Bikaner	Nagour	Sirohi	Jhunjhunu	Udaipur	
Correct	20 (7.81)	33 (12.89)	12 (4.68)	36 (14.06)	52 (20.31)	38 (14.85)	191 (74.61)
Somewhat correct	2 (0.78)	9 (3.51)	11 (4.30)	12 (4.68)	4 (1.56)	8 (3.12)	46 (17.97)
Incorrect	8 (3.12)	-	1 (0.39)	2 (0.78)	4 (1.56)	4 (1.56)	19 (7.42)

(Figures in parentheses indicate percentage)

The data in Table 4.62 indicate that the correct information used in the publications was reported by majority of the respondents i.e., 74.61 per cent with

maximum percentage (20.31) in Jhunjhunu KVK and with minimum of 4.68 per cent in Nagour KVK. This was followed by the 17.97 per cent in somewhat correct category with maximum percentage (4.68) in Sirohi KVK and with minimum of 0.78 per cent in Kota. The use of incorrect information in the publication was expressed by some respondents (7.42 per cent). The data further reveal that individually in Jhunjhunu KVK an overwhelming majority of the respondents (86.67 per cent) reported that the information used in publication is correct.

4.5 Correlation among the variables.

Table 4.63(a) Correlation coefficient between independent variables and utilization pattern.

	Variables	'r' values
1.	Age	0.2809**
2.	Education	0.1475*
3.	Caste	0.1851*
4.	Occupation	-0.1588*
5.	Land	-0.0259 ^{NS}
6.	Mass media exposure	0.0897 ^{NS}
7.	Extension contact	0.1810*
8.	Social participation	0.3238**

* Significant at 1 per cent level

A perusal of data in Table 4.63(a) reveals that the age, education, caste, extension contact, social participation were positively and significantly associated with the utilization pattern of farm publications at 1 per cent level of probability. While occupation was negatively and significantly related with the utilization pattern of farm publications, it means that these six variables (age, education, caste, occupation, extension contact and social participation) exerted their influence on the utilization of farm publications published by the RAU. However, remaining independent variables viz., land and mass media exposure level were found non-significant association with utilization of farm publications by the farmers. It means that these variables did not exert their significant influence on the utilization pattern.

Table 4.63(b) Correlation coefficient between independent variables and information needs.

	Variables	'r' values
1.	Age	-0.171**
2.	Education	0.224**
3.	Caste	-0.078 ^{NS}
4.	Occupation	0.237**
5.	Land	0.033 ^{NS}
6.	Mass media exposure	0.045 ^{NS}
7.	Extension contact	0.265**
8.	Social participation	0.037 ^{NS}

* Significant at 1 per cent level

The data in Table 4.63(b) reveal that education, occupation, extension contact were positively and significantly associated with the information need of the subscribers at 1 per cent level of probability, while age was negatively and significantly related with the information needs of the farmers at 1 per cent level of probability. It means that these four variables (age, education, occupation and extension contact) exerted their influence on the information needs of the farmers. Remaining independent variables viz., caste, land, mass media exposure and social participation were found non-significantly associated with the information needs of the farmers. It means that these four variables did not exert their significant influence over the needs for information.

***SUMMARY
AND
CONCLUSION***

Chapter 5

SUMMARY AND CONCLUSION

Mass media have been termed as hidden persuader which selectively reflect social reality and thereby creates a reality in the minds of audience. Among the mass media, the printed words are trusted and held in high esteem for communicating technical messages. They still command respect and attract readers despite severe competition from glamorous electronic media. Increase in the rural literacy has geared up the scope of farm publications in the rural communities a bit better.

The printed words have a lasting impact over the spoken words or visual images. Print media enjoy high creditability, prestige and preference because of its motivating power. This media conveys informations quickly, cheaply and can also be referred to as and when needed.

First printing press in India was brought in the year 1550 at Goa by the missionaries. The first book printed in 1557 in India was 'Doctrina Christa', the first agricultural literature in Hindi and Urdu was started as early as in 1866 by 'Vigyan Samiti' of Sir Syed Ahmad Khan with the title '*Kheti ki Youropiya Padhatti*' and '*Mousam ki Kahani*'.

The farm literature revolution began with the inception of agricultural universities in sixties. Almost all the agricultural universities started publications of farm magazines, newsletters and a set of extension publications for the transfer of agricultural technologies.

Use of print media is of greater advantage in the agricultural sector because of reliable and scientific information in simple language, on a specific topic and generally illustrated with pictures, and can reach a large number of farmers quickly and simultaneously (Natraju, 1996). The success of any print media depends on the readers information need and the extent to which it is being utilized by them.

The Rajasthan Agricultural University, Bikaner, has been bringing out the farm publications regularly for more than last two decades in the areas of agriculture, animal science, agricultural engineering and home science. But till today no efforts have been made to ascertain whether the informations are properly utilized or the publications cater the needs of farming community, and the format aspects of the publications have been providing maximum satisfaction or not. Many questions like these motivated the researcher to plan the present study entitled 'Information Needs And Utilization Patterns of the Farm Publications published by the Rajasthan Agricultural University' was undertaken with the following objectives:

- To study the socio-personal characteristics and communication profile of the respondents.
- To study the format and content aspect of the farm publications.
- To assess the information needs of the readers.
- To determine the utilization pattern of the farm publications and the reactions of the readers.
- To study the correlation of socio-personal variables with the utilization pattern and information needs of the respondents.

The study was planned to be purposively conducted in the Rajasthan state. The study has been restricted to six districts out of 32 districts having one KVK each. The district having highest number of subscribers from each administrative division has been selected for the study. The subscribers of 'Apna Patra' during 1998 were over 3500 in the state. The number of subscribers differ in each district. Therefore, 20 per cent sample of the respondents from each sample district was selected through simple random technique. Thus a sample of 256 respondents constituted the sample. The other extension publications (folders and booklets) published during the year 1998 were taken for the study.

The Exploratory Research Design was used for the present study to assess the readers' profile, information need, utilization pattern and reactions towards the format. Content analysis technique was used to analyze the farm publications. The data for the study were collected through structured interview schedule, personal contact, discussion, and observation. The data were analyzed using simple statistical techniques, frequency, percentage, mean, mean weighted score, standard deviation and correlation coefficient.

Major findings of the study

A. Profile and socio-personal characteristics

- The majority of the respondents (48.83 per cent) were middle aged followed by young (42.58 per cent), and old (8.59 per cent).
- Half of the respondents (50.78 per cent) were having primary level of education.
- The majority of the respondents (56.64 per cent) were from the other castes followed by the scheduled caste and scheduled tribe.

- Most of the respondents (76.95 per cent) were having farming as a main a occupation.
 - Maximum number of the respondents (34.76 per cent) were large farmers having land more than 5 hectares, followed by medium farmers (31.25 per cent).
 - The majority of the respondents (66.80 per cent) were having medium level of mass media exposure.
 - Maximum number of respondents (68.75 per cent) were having medium level of contact with extension agents.
 - Sixty one per cent of the respondents were not the members of any organization.
- Content analysis**
- Number-wise articles were maximum in newsletters (*Apna Patra*) (74.71 per cent).
 - Illustrations were maximum in booklets (86.52 per cent) followed by folders (57.14 per cent).
 - The advertisements were maximum and occupied more space in the booklet.
 - Space-wise, articles occupied maximum space in folders (94.42 per cent) followed by newsletters (91.36 per cent).
 - The illustrations occupied maximum space in the booklets as compared to folders and newsletters.
 - The share of agricultural content both number wise and space wise was maximum in booklet (100 per cent) followed by folders (66.67 per cent).

- Articles among the agricultural content was maximum on food crops published in the folders (60.00 per cent) followed by the newsletters (36.11 per cent).
- Space-wise folders provided maximum space to food crops (65.10 per cent) followed by the newsletters (40.25 per cent).
- Among the distribution of animal science content maximum articles were on animal feeding (33.33 per cent) in the newsletter.
- Space-wise maximum articles on the animal health and disease were in the newsletters (36.74 per cent).
- There were no folders and booklets available on agricultural engineering
- Maximum agricultural engineering articles number-wise and space-wise were devoted to irrigation and drainage in the newsletters (100 per cent).
- Maximum number of articles in home science content were related to food and nutrition in the newsletters (66.67 per cent) which also occupied the maximum space (59.80 per cent).
- Maximum number of tables were published in the newsletters (81.40 per cent).
- Maximum number of diagrams were in the folders (80 per cent) while space-wise maximum space was occupied by diagram in the booklets (77.64 per cent).
- The photographs occupied maximum number in the newsletters (18.60 per cent) and occupied maximum space in the folders (36.35 per cent).

Information needs

- The subscribers of farm publications magazine published by the Rajasthan Agricultural University have maximum or highest information needs about the control measures of insect pests (2.91), choice of crops (MS 2.85), weather forecasting (2.85), knowledge

about seed characteristics (2.84), availability of fertilizer and price (2.84), availability of credit (2.81), control measures for storage pests (2.77), different types of agricultural implements (2.55), energy saving equipments (2.54), crossbred animals (2.53), planting time (2.27), moisture conservation (2.26), timely irrigation (2.17), weed damage and control (2.13), high yielding varieties (1.67) and, nursery raising (1.67).

- Majority of the respondents (78.91 per cent) were in the moderately information need category followed by the low information needed category (11.33 per cent), and high information needed (9.76 per cent).

Utilization pattern

- Maximum number of the respondents (97.66 per cent) had subscribed the publications for their own reading.
- Majority of the respondents (94.53 per cent) expressed the agricultural university as a main source of information.
- Maximum number of the respondents were reading the farm publications for the adoption of practices in their own field.
- Majority of the respondents (58.59 per cent) had discussion with family members after reading the material.
- Majority of the respondents (38.28 per cent) reported the non-availability of reading material as a constraint.
- Majority of the respondents (44.92 per cent) read the publications at the time of receipt, followed by the daily reading (41.02 per cent).
- A vast majority of the respondents read the publication completely followed by the partial reading (23.83 per cent).

- Maximum number of the respondents (37.50 per cent) devoted more than two hours for reading the publications.
- Majority of the respondents (62.50 per cent) were reading each page one by one in the publications.
- Near about seventy five per cent respondents were reading the folders and booklets completely.
- A vast majority (91.70 per cent) preferred the contents related to agricultural practices.
- The main reason for taking the membership of publications was the advise of extension personnel (82.81 per cent).
- Maximum number of respondents used the agricultural information to increase the yield and profit from the crops.
- Majority of the respondents (66.80 per cent) were preserving the publication copies for future use.
- Maximum number of the respondents (79.30 per cent) followed the practice of self approach to the Centre for clarifications.
- Majority of the respondents (78.13 per cent) were utilizing the information of publications after some modifications.
- Majority of the respondents (65.63 per cent) had the medium level of utilization of the farm publications followed by the high level of utilization (23.83 per cent).

B. Reactions of respondents towards farm publications

1. Overwhelming majority reported language of farm publications as simple.
2. Maximum number of respondents reported less use of illustrations in the publications.
3. Majority of the respondents perceived appropriate use of technical words in the publications.
4. Vast majority of the respondents reported appropriate size of the letter in printing.
5. Majority of the respondents reported quality of printing as fair in the publications.
6. More than fifty per cent respondents reported attractiveness of cover page of the publications.
7. Maximum number of the respondents perceived information in the publications as less useful.
8. Majority of the respondents expressed somewhat interesting level of presentation of information.
9. Maximum number of the respondents reported less number of print pages in the farm publications.
10. Maximum number of the respondents reported information in the publications to be up to date.
11. Vast majority of respondents reported the publications to be regular.

12. The cost was viewed appropriate of the publications by majority of the respondents.
13. Length of the article was reported appropriate by most of the respondents.
14. Majority of the respondents perceived correctness of the information.

Correlation

1. The age, education, caste, extension contact and social participation were positively significant with the utilization pattern.
2. The education, occupation and extension contact were positively significant with the information need.

CONCLUSION

On the basis of results obtained from the exploratory study, it may be concluded that subscribers of the farm publications were from the different agro-ecological and socio-economic groups of the Rajasthan.

The farming community of the Rajasthan seems to have moderate information need which was not only confined to agricultural aspects but also on weather forecast, income generating programmes, researches, achievements of progressive farmers, availability of credit, rural development programmes etc.

Despite of a good communication infrastructure in the state, the mass media exposure was of medium level as most of the respondents were middle aged, educated upto primary level, having large land holding and medium level extension contact.

Simple language, appropriate use of technical words, more use of illustrations, useful informations and more pages in the publications were desired.

The utilization of farm publications was at the medium level, however, mostly farmers utilized the information after some modifications and seeking the clarification of the information from the Krishi Vigyan Kendras.

The farm publications lacked balanced approach with respect to content, illustrations and advertisements. They further lacked sufficient page space for exploring the package of practices.

The responses received from farmers provided important clues to the feasibility of improving the farm publications.

Suggestions

- The monthly newsletter need to be published with more illustrations, relevant display type advertisements and standard magazine print size of 8 ½ x 11”
- The farm publications need to be pre-tested among the farmers before final production to avoid the use of technical words/difficult words, mis-comprehension of contents etc.
- Farmers’ information needs and utilization pattern be kept in mind while designing the farm publications.
- Farm publications should invariably carry introduction, content, graphic aids, key points and the address of contact for clarification.
- The information be presented as articles (package of practices/demonstration of results), news stories, success stories, poems, jokes, cartoons, book reviews.

The paragraphs should be short with 3-4 sentences of 10 to 15 words, with a letter size of 14 point and heading in bigger point size (18 to 24).

Suggestions for future research

During the course of investigation and also at the completion, it was felt that many more studies are needed to improve the publications of the RAU. Some of the areas which need attention for future researches are as below:

- An in-depth study on the production system of the farm publications.
- A comparative study to ascertain qualitative and quantitative differences for improving the publications.
- Experimental research on message design with various format aspects.
- Agricultural journalism scenario : A study of trends in the Rajasthan state.

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कृषि संचार विभाग, गोविन्द बल्लभ पन्त कृषि एवं प्रौद्योगिकी विश्वविद्यालय
पन्तनगर, उत्तर प्रदेश

श्रीमति राजेन्द्रा राठौड़
अन्वेषक

डा० आर०एन० त्रिखा
प्राध्यापक

नाम :

पता :

उम्र :

शिक्षा : प्राथमिक/ मिडिल/ हाईस्कूल/ स्नातक/ स्नात्कोत्तर

जाति : अनुसूचित/ अनु.जन जाति/ अन्य पिछड़ी जाति/ अन्य जाति

व्यवसाय मुख्य: कृषि/ व्यापार/ बागवानी/ मत्स्य/ पशुपालन / मुर्गीपालन/
नौकरी/ नौकरी एवं कृषि/ नौकरी एवं व्यवसाय/ कृषि एवं
व्यवसाय/ अन्य

भूमि (जमीन-हेक्टर में) :-

- 1.0 हैक्टर से कम
- 1.0 से 2.0 हैक्टर तक
- 2.0 से 5.0 हैक्टर तक
- 5.0 हैक्टर से अधिक

सिंचित असिंचित

संचार माध्यम :-

आप कृषि संबंधी जानकारी के लिए किन संचार माध्यमों का उपयोग करते हैं ?

माध्यम	अक्सर	कभी-कभी	कभी नहीं
रेडियो			
टीवी			
थफ्लम			
समाचार पत्र			
छपा हुआ साहित्य			
अन्य कोई			

प्रसार संपर्क :-

कृषि संबंधी जानकारी के लिए आप निम्न में से किन-किन से संपर्क करते हैं ?

	अक्सर	कभी-कभी	कभी नहीं
लोकप्रिय व्यक्ति			
क्षेत्रीय विकास अधिकारी/जिला विकास अधिकारी			
सहायक विकास अधिकारी/ग्राम विकास अधिकारी			
विश्वविद्यालय वैज्ञानिक/विषय वस्तु विशेषज्ञ			
स्वयं सेवी संस्थायें			
अन्य			

सामाजिक संगठनों की सदस्यता एवं संस्थाओं के नाम :-

- कोई सदस्यता नहीं
- एक संस्था की सदस्यता
- एक से ज्यादा संस्थाओं की सदस्यता

आपके घर की व्यवस्था :-

- झोपड़ी
- कच्चा मकान
- पक्का मकान

घर में रोशनी की व्यवस्था :-

- लालटेन
- बिजली
- गैस व्यवस्था

कृषि प्रकाशनों के उपयोग के अध्ययन हेतु प्रश्नावली

१. आप किसके लिए कृषि प्रकाशन मँगवाते हैं ?

- अपने पढ़ने के लिये
- अपनी ग्राम पंचायत के लिये
- स्कूल या कॉलेज के लिये
- अनुसंधान के लिये
- अन्य

२. आपके अनुसार निम्नलिखित में से सूचनाओं एवं जानकारी के मुख्य स्रोत कौन से हैं ?

- कृषि विभाग
- कृषि विश्वविद्यालय
- सरकारी विभाग
- स्वयं सेवी संस्थाएं
- अन्य कोई

३. कृषि प्रकाशन पढ़ने का कारण :-

- ज्ञान वृद्धि
- दूसरों के साथ जानकारी आदान प्रदान के लिये
- दूसरों को उपयोग के लिये प्रेरित करने के लिये
- नयी खोजों की जानकारी प्राप्त करने के लिये
- स्वयं अपने खेतों में प्रयोग लाने के लिये
- अपने खेतों में अनुसंधान करने के लिये

४. कृषि प्रकाशन पढ़ने के बाद आप क्या करते हैं ?

- परिवार के सदस्यों के साथ विचार विमर्श
- परिवार के सदस्यों के साथ-साथ दूसरों के साथ भी विचार विमर्श
- किसी डायरी या रजिस्टर में लिखते हैं
- दूसरे स्रोतों से और अधिक जानकारी लेते हैं ।

५. आपको कृषि प्रकाशनों के उपयोग में किस-किस तरह की दिक्कतें आती हैं ?

- प्रकाशनों में तकनीकी शब्द होते हैं
- पढ़ने के लिये साहित्य की कमी
- खली समय की कमी
- उपयुक्त एवं नई जानकारी की कमी
- परिवार में पढ़ने के वातावरण की कमी
- पत्र-पत्रिकाओं पर विश्वास में कमी
- अन्य कोई

६. आप कृषि प्रकाशन किस तरह से पढ़ते हैं ?

- नियमित
- दो तीन दिन में एक बार पढ़ते हैं
- सप्ताह में एक बार
- जब कभी प्राप्त होता है, तभी

७. कृषि प्रकाशन का पढ़ने का आपका तरीका कैसा है ?
- पूर्ण पढ़ते हैं
 - आंशिक पढ़ते हैं
 - पूर्ण ही नहीं पढ़ते हैं
८. आप कृषि प्रकाशनों के पढ़ने के लिये कितना समय देते हैं ?
- आधा घंटा
 - एक घंटा
 - एक घंटे से अधिक
९. आप सबसे पहले कृषि प्रकाशनों (कृषि मासिक पत्रिका) में क्या पढ़ते हैं ?
- मुख्य पृष्ठ
 - शीर्षक
 - केवल शीर्षक एवं उपशीर्षक देखते हैं
 - एक के बाद एक पृष्ठ पढ़ते हैं
 - फोटे चित्र देखते हैं
 - विज्ञापन
 - सारांश पढ़ते हैं
 - जो पसंद आता है, वही पढ़ते हैं
 - अन्य कोई
१०. आप फोल्डर्स में सबसे पहले क्या पढ़ते हैं ?
- मुख्य पृष्ठ
 - शीर्षक
 - आन्तरिक पृष्ठ
 - अन्तिम पृष्ठ
 - अन्तिम पृष्ठ पर मुख्य बिन्दु केवल
 - अन्य कोई

99. कृषि प्रकाशने पढ़ने का तरीका :-

- केवल पढ़ते हैं
- पढ़ने के साथ-साथ विचार विमर्श भी करते हैं
- पढ़ने के साथ-साथ मुख्य बातें नोट करते हैं

92. कृषि प्रकाशनों को पढ़ते समय आप किस विषय सामग्री को प्राथमिकता देते हैं?

- कृषि से सम्बन्धित सामग्री को
- गृह विज्ञान से संबंधित विषय सामग्री को
- पशु विज्ञान एवं डेयरी से संबंधित विषय सामग्री को
- कृषि उपकरणों से संबंधित विषय सामग्री को
- अन्य कोई

93. कृषि प्रकाशनों की सदस्यता आपने क्यों ली ?

- संस्था के सदस्यों के अनुरोध पर
- सरकारी बजट व्यवस्था होने के कारण
- विषय वस्तु विशेषज्ञ के अनुरोध पर
- अन्य

94. कृषि से संबंधित विषय सामग्री को निम्नलिखित में से आप किन विषयों के लिये उपयोग करते हैं ?

- नई फसलों की किस्मों के चयन के लिये
- उन्नत बीजों के लिये
- नये उर्वरकों के लिये
- अधिक पैदावार एवं आर्थिक लाभ देने वाली फसलों के लिये
- नये कीटनाशकों के चयन के लिये
- खरपतवार एवं फफूँदी नाशकों के लिये
- जमीन की क्षमता बढ़ाने के तरीकों के लिये
- अन्य कोई

१५. आप कृषि साहित्य को पढ़ने के बाद क्या करते हैं ?
- आप भविष्य में काम लेने के लिये संभाल कर रखते हैं
 - पढ़ने के बाद दूसरों को बाँट देते हैं
 - संबंधित कटिंग को काट कर रखते हैं
 - पढ़ने के बाद रद्दी में फेंक देते हैं
१७. यदि आप संदर्भ के लिये रखते हैं, तो किस तरह संभाल कर लेखों को रखते हैं?
- आलेखों को फाईल में रखते हैं
 - सिफारिशों को संभाल कर रखते हैं
 - प्रतियों को संभाल कर रखते हैं
 - पत्र-पत्रिकाओं को बाइंड कराकर रखते हैं
 - अन्य कोई
१८. विशेष जानकारी के स्पष्टीकरण हेतु सम्पादक/ वैज्ञानिक से आप कैसे सम्पर्क करते हैं ?
- पत्र व्यवहार करते हैं
 - खुद जाकर संपर्क करते हैं
 - आपके यहाँ आने पर स्पष्टीकरण करते हैं
 - अन्य कोई
१९. क्या कृषि प्रकाशन को पढ़ने एवं समझने के लिये घर के किसी सदस्य की मदद लेते हैं, उन सदस्यों के नाम लिखिये :-
२०. कृषि प्रकाशनों की उपयोगी जानकारी को आप कैसे प्रयोग में लाते हैं ?
- जानकारी को वस्तुस्थिति में प्रयोग करते हैं
 - जानकारी को संशोधित करके काम में लाते हैं
 - क्षेत्र के प्रगतिशील किसानों से विचार विमर्श करके प्रयोग में लाते हैं
 - अन्य कोई

कृषि सूचनाओं की आवश्यकता के अध्ययन हेतु प्रश्नावली

सूचनाओं की आवश्यकताओं के क्षेत्र	अति आवश्यक	आवश्यक	कम आवश्यक
<p>१. <u>फसलों संबंधी जानकारी की आवश्यकता</u></p> <ul style="list-style-type: none"> - अनाज - दालें - तिलहनी फसलें - गन्ना - कपास - सही एवं उपयुक्त फसल के चुनाव संबंधी जानकारी की आवश्यकता - उन्नत किस्मों की जानकारी - शीघ्र पकने वाली किस्में - बीमारी अवरोधी किस्में - अन्य कोई 			
<p>२. <u>खेत के लिये भूमि तैयार करने की जानकारी की आवश्यकता</u></p> <ul style="list-style-type: none"> - अलग-अलग फसलों को उगाने के लिये भूमि तैयार करने की विधि की जानकारी - नमी संरक्षण के लिये सामयिक खेत तैयार - मृदा परीक्षण करवाने के तरीके, स्त्रोतों एवं होने वाले व्यय की जानकारी- अन्य कोई 			
<p>३. <u>बीजों से संबंधित जानकारी की आवश्यकता</u></p> <ul style="list-style-type: none"> - कीटाणुरोगों के लिये बीज शोधन 			

<p>- उच्च प्रमाणित बीजों एवं उनकी उपलब्धता एवं श्रेणीकरण की जानकारी</p> <p>- रबी और खरीफ फसलों के बीजों का उपचार</p> <p><u>४. बुवाई/रोपाई संबंधी जानकारी की आवश्यकता</u></p> <p>- उचित रोपाई/बुवाई के समय की जानकारी</p> <p>- बुवाई की सही विधि की जानकारी</p> <p>- सही एवं उपयुक्त बीज दर की जानकारी</p> <p>- सही बीज गहराई की जानकारी</p> <p>- उपयुक्त पौधों की संख्या की जानकारी</p> <p>- सामयिक छंटाई की जानकारी</p> <p><u>५. उद्यान संबंधी जानकारी की आवश्यकता</u></p> <p>- अधिक पैदावार देने वाले फलों एवं सब्जियों की किस्मों की जानकारी</p> <p>- फलों एवं सब्जियों की सुरक्षा, देखरेख, कटाई की जानकारी</p> <p>- पुष्प उत्पादन विधियों की जानकारी</p> <p>- फूलों के पौधशाला तैयार करने की जानकारी</p> <p>- फलों एवं सब्जियों के परिरक्षण की जानकारी</p>			
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<p><u>६. सब्जी फसलें</u></p> <ul style="list-style-type: none"> - सब्जी उत्पादन एवं रख-रखाव के तरीके- सब्जियों के लिये पोथशाला तैयार करने की जानकारी - अन्य कोई <p><u>७. फलों की जानकारी</u></p> <ul style="list-style-type: none"> - आम, अमरुद एवं अंगुरों के बागों की देखभाल की जानकारी - अन्य कोई <p><u>८. भंडारण से संबंधित जानकारी की आवश्यकता</u></p> <ul style="list-style-type: none"> - भंडारण के दौरान लगने वाले कीड़े एवं नाशक जीवों से बचान के उपाय - अनाज के सुरक्षित भंडारण की विधियों की जानकारी - शीतागार में भंडारण की जानकारी - पूसाबिन में भंडारण की महत्ता एवं निर्माण की विधि की जानकारी - अन्य कोई <p><u>९. उर्वरक संबंधित जानकारी की आवश्यकता</u></p> <ul style="list-style-type: none"> - उर्वरकों का समुचित उपयोग - संतुलित उर्वरक प्रयोग और उसके तत्वों <p style="padding-left: 40px;">महत्ता की जानकारी</p> <ul style="list-style-type: none"> - रासायनिक उर्वरक एवं प्राकृतिक खादों का फसलों के लिये महत्व एवं इस्तेमाल की जानकारी - रासायनिक उर्वरकों का मूल्य और उपलब्धता की जानकारी 			
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<p>- जैविक खादों के उपयोग की जानकारी</p> <p>90. <u>पौधों के कीटों एवं रोगों से बचावकी जानकारी की आवश्यकता</u></p> <p>- वार्षिक एवं अर्द्धवार्षिक फसलों में लगने वाले मुख्य कीड़ों की पहचान एवं रोकथाम की जानकारी</p> <p>- कीटनाशक दवाओं के मूल्य एवं मिलने के स्रोतों और किफायती इस्तेमाल की जानकारी</p> <p>- कीटनाशक दवाओं के प्रयोग करते समय बरती जाने वाली सावधानियों की जानकारी-</p> <p>-अन्य कोई</p>			
<p>99. <u>खरपतवार को नियंत्रण करने संबंधी जानकारी की आवश्यकता :</u></p> <p>- फसलों में मुख्य खरपतवार, उनसे होने वाले नुकसान की मात्रा एवं रोकथाम की जानकारी</p> <p>- विभिन्न खरपतवारनाशी , उनके इस्तेमाल एवं सावधानियों की जानकारी</p> <p>- खरपतवार नाशियों का किफायती इस्तेमाल, उनके मिलने के स्रोतों एवं मूल्यों की जानकारी</p> <p>- अन्य कोई</p>			

<p>92. <u>सिंचाई एवं जल निकास प्रणाली संबंधी जानकारी की आवश्यकता :</u></p> <ul style="list-style-type: none"> - पानी के प्रभावी उपयोग की जानकारी - सिंचाई की विभिन्न विधियों की जानकारी - सिंचाई की सही समय सारणी की जानकारी - सामयिक सिंचाई की जानकारी - फसल की विभिन्न अवस्थाओं पर सिंचाई की जानकारी - सिंचाई की सही मात्रा की जानकारी - सरकारी वित्तीय सहायता पर नलकूपों की उपलब्धता और सरकार की नीति की जानकारी - वृक्षों एवं छोटे पौधों की सही सिंचाई की जानकारी <p>93. <u>कृषि यंत्रों की जानकारी की आवश्यकता</u></p> <ul style="list-style-type: none"> - विभिन्न प्रकार की कृषि उपकरणों की जानकारी - बुवाई, कटाई एवं घायी के यंत्रों की जानकारी - कम लागत के कृषि यंत्रों एवं उपकरणों की जानकारी - इनकी उपलब्धता के स्रोतों एवं उनके मूल्यों की जानकारी - अन्य 			
<p>94. <u>पशुपालन एवं डेयरी संबंधी जानकारी की आवश्यकता :</u></p>			

<ul style="list-style-type: none"> - शंकर प्रजनक पशु नस्लों की जानकारी - पशुओं में होने वाले विभिन्न रोगों एवं टीका-करण की जानकारी - संतुलित पशु आहार एवं चारा उत्पादन की जानकारी - दूध देने वाले पशुओं की देखभाल एवं उनके आहार की जानकारी - मुर्गी पालन प्रबन्धन की जानकारी - डेयरी उत्पादनों में विपणन की जानकारी 			
<p><u>१५. ऋण एवं विपणन संबंधी आवश्यकता की जानकारी</u></p> <ul style="list-style-type: none"> - कृषि कार्यों के लिये विभिन्न प्रकार के ऋणों की जानकारी - ऋण लेने के नियम तरीकों एवं स्रोतों की जानकारी 			
<p><u>१६. उर्जा के संरक्षण की जानकारी</u></p> <ul style="list-style-type: none"> - उर्जा की बचत करने वाले उपकरणों की जानकारी - सौर उर्जा के महत्व की जानकारी - गोबर उर्जा एवं धुआँ रहित चूल्हे संबंधित जानकारी 			
<p><u>१७. साधारण कृषि संबंधी जानकारी की आवश्यकता :</u></p> <ul style="list-style-type: none"> - मौसम के पूर्वानुमान की जानकारी - कृषि की नई खोजों की जानकारी 			

<ul style="list-style-type: none"> - प्रगतिशील किसानों एवं उनके फार्मों की उपलब्धियों की जानकारी - पड़ोसी राज्यों एवं देशों की उपलब्धियों की जानकारी - मशरूम खेती की जानकारी - मधुमक्खी, रेशम कीट पालन एवं लाख संबंधी व्यवसाय की जानकारी - ग्रामीण विकास कार्यक्रमों एवं उनके लाभार्थियों की जानकारी की आवश्यकता - अन्तरवर्ती फसलों की जानकारी - उपयुक्त फसल चक्र की जानकारी - उचित उँट एवं घोड़ों के पालन की जानकारी 			
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पाठकों के कृषि प्रकाशनों के विभिन्न पहलुओं के बारे में विचार हेतु प्रश्नावली

भाषा : सरल/कठिन/समझने में दिक्कत आती है ।

फोटों एवं चित्रों की संख्या : कम/अधिक/पूर्ण/उपयुक्त है ।

सारणियों की संख्या : कम/अधिक/पूर्ण/उपयुक्त है ।

तकनीकी शब्दों का प्रयोग : कम/अधिक/आवश्यकतानुसार है ।

छपाई के अक्षर : छोटे हैं/उपयुक्त हैं/बड़े हैं ।

छपाई : अच्छी है/सुधार की आवश्यकता है/अच्छी नहीं है ।

कवर पेज : हमेशा आकर्षक होता है/कभी-कभी आकर्षक होता है/ प्रायः आकर्षक नहीं होता है ।

जानकारी की उपयोगिता : कम उपयोगी/ उपयोगी/ अनुपयोगी

जानकारी में नवीनता : हमेशा/कभी-कभी/पुरानी जानकारियाँ/जानकारी की पुनरावृत्ति होती है ।

प्रस्तुतिकरण में रोचकता : रूचीपूर्ण/सामान्य/अरूचीपूर्ण ।

प्रकाशनों में पेजों की संख्या : कम है/ अधिक है/ सही है ।

कृषि प्रकाशनों में नियमितता : नियमि/अनियमित/हमेशा अनियमित

कीमत के बारे में राय : उचित/सस्ती/ मँहगी

लेखों की लम्बाई : आमतौर पर ठीक होते हैं/ अधिक लम्बे होते हैं/छोटे होते हैं ।

कृषि प्रकाशनों की सूचनायें : सही होती है/कुछ हद तक सही होती है/बिल्कुल गलत होती है।

कृषि प्रकाशनों में आपके विचार से और कौन-कौन से और विषयों पर जानकारी प्रस्तुत करनी चाहिए ।

प्रस्तुतिकरण में किस प्रकार के सुधार करने चाहिये ।

इन मासिक पत्रिका से संबंधित सुझाव ।

- मूल्य
- सज्जा
- मुख्यपृष्ठ
- चित्र
- अन्य

Weighted mean assigned to utilization pattern

1. Reasons for subscribing the farm publications

<u>Aspects</u>	<u>Weighted mean</u>
Own reading	7
Gram Panchayat	2
Schools and colleges	2
Research	5

2. Main sources of agricultural information

Agri. Deptt.	7
Agri. University	7
Govt. Deptts.	4
N.G.O.	3
Any other	3

3. Reasons for reading farm publications

To increase knowledge	6
To exchange information	6
To encourage others to utilize information	6
Awareness of new agricultural information	6
Adoptions in own field	4
For innovation	6

4. Response after reading

Discussion with family members	7
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	Discussion with others	6
	Maintain a diary, register	3
	Seeking additional information	5
5.	Constraints in utilization of farm publications	
	Technical words in literature	6
	Non-availability of reading material	6
	Lack of leisure time	5
	Non-coverage of appropriate and latest information	5
	Lack of reading environment	6
	Trustworthiness of farm publications	5
6.	Frequency of reading	
	Daily	5
	Once in 2-3 days	5
	Once in a week	6
	At the time of receipt	6
7.	Pattern of reading	
	Complete	6
	Partial	5
	Not at all	3
8.	Devotion of time for reading	
	Up to an hour	6
	2 hours	6
	More than 2 hours	5

9.	Reading of monthly newspaper	
	Front page	7
	Headlines	7
	Sub-heads	6
	Each page one by one	5
	Photographs only	6
	Advertisements	5
	Complete eye view	4
	Reading selected items	6
	Any other	3
10.	Reading of extension publications	
	Front page	6
	Headlines	6
	Inside pages	5
	Last page	5
	Key points	6
	Complete reading	3
11.	Utilization of reading material	
	Only reading	6
	Discussion with others after reading	6
	Noting main points after reading	5
12.	Preference of the content	
	Agricultural practices	7

	Home Science	5
	Animal science and dairy	6
	Agricultural Engineering	6
13.	Reasons for membership	
	Advise of the extension institutions	6
	Financial aid	5
	Advise of extension personnel	7
	Self motivation/influenced by others	3
14.	Utilization of the agricultural information	
	Selection of new varieties of crops	7
	Hybrid seeds	6
	New fertilizers	6
	To increase the production and profit from the crop	7
	For new pesticides	5
	For control of weeds	4
	For methods which improve the land productivity	6
	For increase in agricultural productivity	7
15.	Method of future utilization	
	Filing of articles	4
	Filing of recommendations	5
	Keeping copies	6
	Binding of material	3
	Treating as a waste	3

16.	Methods of query	
	Letter writing	5
	Self approach at centre	6
	Clarification with experts on their visit	7
17.	Utilization of the information	
	Utilization as such	5
	After modifications	7
	After discussions with progressive farmers	6

Agro-climatic zone-wise location of KVKs in the state

Zone	Agro-climatic zone	District	Location of KVK	Year of Estt.	Instructional farm area (ha)
I a	Arid western plains	Jodhpur	Jodhpur	1983	-
		Barmer	Barmer	1992	20.00
I b	Irrigated north western plains	Hanumangarh	Sangariya	1993	-
I c	Hyper arid and partially irrigated western plains	Bikaner	Beechwal	1983	19.00
		Jaisalmer	Jaisalmer	1992	20.00
		Churu	Sardar Sahar	1993	20.00
II a	Transitional plain of inland drainage	Sikar	Fatehpur	1976	10.50
		Nagur	Athiasan	1992	20.00
II b	Transitional plain of Luni basin	Jhunjhunu	Abusar	1990	77.67
		Jalore	Keshwana	1985	43.00
		Sirohi	Kolar	1989	34.50
III a	Semi arid eastern plains	Pali	Pali	1992	69.80
		Jaipur	Kotputli	1989	76.05
			Chomu	1993	18.00
		Ajmer	Tabiji	1992	10.60
		Dausa	Khedla Khurd	1994	17.30
III b	Flood prone eastern plains	Tonk	Vanasthali	1994	20.00
		Alwar	Navgaon	1992	11.00
		Bharatpur	Kumher	1988	21.35
		Dholpur	Masudpur	1992	21.04
IV a	Sub-humid southern plains and Arvalli hills	Bhilwara	Suwana	1992	11.25
		Chittorgarh	Rithola	1992	20.00
		Rajsamand	Dhoinda	1994	11.47
IV b	Humid southern plains	Udaipur	Badgaun	1983	20.00
		Banswara	Borwat	1983	13.82
		Dungarpur	Falaj	1992	21.60
V	Humid south eastern plains	Kota	Borkhera	1992	41.00
		Bundi	Gandhigram	1992	20.00
		Jhalawar	Jhalawar	1992	17.00
		Baran	Anta	1994	20.70
		S. Madhopur	Karmoda	1992	16.50

APPENDIX

SOME FACTS ABOUT RAJASTHAN

Agro-climatic zone	1	2	3	4	5	6	7	8	9	10	11	12	13
	Name of Division	District	Location of KVK	Year of establishment	TGA (sq.km) & % TGA of state	Population	Literacy %	Climate and rainfall (cm)	Soil	Major sources of irrigation	Main crops	No. of RAU subscribers	
I C Hyper arid partially irrigated western plains	Bikaner	Bikaner	Beechwal	1983	27,244 7.96	1209107 2.75	33.35	25.96	Aridisols + Entisols	Canal	Bajra, kharif pulses, cotton, groundnut, wheat	210	
II a Transitional plain of inland drainage	Ajmer	Nagour	Athiasan	1992	17,718 5.18	2137258 4.86	25.18	38.34	-do-	Wells	Til, bajra, Kharif pulses, wheat, barley	120	
II a -do-	Jaipur	Jhunjhunu	Abusar	1990	5,928 1.73	1565488 3.56	37.38	44.59	-do-	Wells and tubewells	Bajra, groundnut, kharif pulses, mustard, wheat, grass, barley	300	

cont'd...

Table cont'd...

1	2	3	4	5	6	7	8	9	10	11	12	13
II b. Traditional plain of luni basin	Jodhpur	Sirohi	Kolar	1989	5,136 1.50	653324 1.48	25.97	63.84	Aridisols + Entisols, hills and inceptisols	Wells	Bajra, maize, kharif pulses, cotton, wheat, mustard	250
IV a. Sub-humid southern plain and Aravalli hills	Udaipur	Udaipur	Badgaon	1983	17,279 5.05	2885039 6.56	27.57	65.03	Inceptisols, Entisols, Vertisols, hills	Wells, tube wells, tanks	Maize, jowar, kharif pulses (urd) wheat, barley, mustard, soybean	250
V Humid south eastern plains	Kota	Kota	Borkhera	1992	12,436 3.63	2027374 4.61	38.45	88.28	Vertisols	Wells, tube wells, canal	Wheat, barley, gram, soybean, rabi pulses	150

SOURCES:

1. Resource Atlas of Rajasthan. First edition. 1994.
2. Annual Report published by Directorate of Extension Education, Rajasthan Agriculture University, Bikaner.

