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# Information Needs of Farmers Regarding Improved Agricultural Technologies

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## ABSTRACT

The study was conducted among 200 farm families selected from five villages of two blocks in district Gurgaon (Haryana) to investigate social, economic and communication characteristics of farmers and to know their information needs related to agriculture. The study revealed that majority of the farmers was educated up to primary, having land size 2.51 to 7.50 acres and poor extension and mass-media contacts. They needed information regarding different aspects of cultivation of wheat, rice, pigeon-pea, bajra, mustard, gram and vegetables. Majority of them needed information regarding selection of recommended varieties of different crops, vegetables and flowers, seed treatment, interpretation of soil & water testing reports, soil and water testing and management, integrated nutrient management, use of different weedicides for the control of specific weeds and time & method of application of weedicides, causes of spread of insect pests & diseases and time and methods of the control of insect, pests & diseases. A large majority also required information regarding integrated nutrient management, organic farming, protected agriculture, market and weather information, post-harvest processing and value addition. Neighbor, progressive farmer, radio and KVK scientist were the most utilized sources of information by the farmers in order of merit. They suggested to have information on allied enterprises like bee-keeping, vermi-composting, mushroom cultivation etc. for additional income and employment.

India may be the major global power in the overall agricultural development and exports provided it modernizes agriculture for becoming internationally competitive in production. With WTO agreement and technological revolution in agriculture and information communication, the famers' needs have become more complex and they require multifarious information pertaining to farming from cultivation to post-harvest processing, value addition, animal husbandry, marketing etc. The farmers, farmwomen and young farmers need to be trained and educated about latest crop production technologies. Mass media are required to play a significant role and to be effectively utilized in the transfer of appropriate technology to the farming community. Knowledge and information are the critical elements for empowerment endeavour and therefore, knowledge driven development paradigm is the order of the day considering challenges and threats to livelihoods. Agriculture in our country is dominated by smallholders. The small holdings have little or limited scope for horizontal expansion of agriculture. Enhancing agricultural productivity from limited land is the only option open to increase income level and improving living standard of the rural people. In order to harness the agricultural potentials and derive optimum profit, the dissemination of innovative technologies to farming communities is essential. It is also essential for developing a multi-media integrated system so that a comprehensive communication strategy could be developed and utilized for technology dissemination in agriculture and allied areas in the villages. This paper has made an attempt to investigate socio - economic and communication profile of farmers and to know their information needs related to different agricultural practices.

## METHODOLOGY

The study was conducted in two randomly selected blocks namely, Pataudi and Farrukhnagar, in the district Gurgaon (Haryana). Three villages from Pataudi block and two villages from Farrukhnagar blocks were selected randomly, making a total of five villages for the study. From each village, forty farm families were selected randomly. Thus, a total of 200 farm families were selected as the sample for the study. Both husband and wife

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together in the family were considered as one respondent. Socio-economic characteristics i.e. age, education, land holding and farming experience, and communication characteristics i.e. extension contact and mass media exposure were included. Important sources of information, which were being utilized by the farmers, were also included. Appropriate schedule and scales were used for collecting different data using personal interview and group discussion method. The data collected were tabulated and analyzed statistically for interpretation of results.

## RESULTS AND DISCUSSION

### 1. Social, economic and communication characteristics

The important characteristics considered for the study were age, education, land holding, farming experience, extension contact and mass media exposure. The data analysed in this respect are presented in Table 1.

The data in Table 1 reveal that age of the respondents ranged between 18-67 years. Majority of them (55.50%) were categorized in the age group of 36-55 years, 28.00 per cent were in 18-35 years age group and only 16.50 per cent of the respondents were in 56 and above years of age category.

The educational level of the farmers ranged from primary to graduate and above. The maximum 41.50 per cent of the respondents were found in primary level of education. About 18.50 per cent of them were illiterate, 18.00 per cent in middle/junior high school, 11.50 per cent in high school, 10.00 per cent in graduate and above and only 05.50 per cent in intermediate levels.

**Table 1: Distribution of respondents based on socio-economic & communication characteristics.**

(N=200)

| Sl. No. | Characteristics | Categories | Farmers/farmwomen | |
|---|---|---|---|---|
| | | | Frequency | Percentage |
| 1. | Age (in years) | 18-35 | 56 | 28.00 |
| | | 36-55 | 111 | 55.50 |
| | | 56 & above | 33 | 16.50 |
| 2. | Education | Illiterate | 27 | 18.50 |
| | | Primary | 83 | 41.50 |
| | | Middle/JHS | 36 | 18.00 |
| | | High School | 23 | 11.50 |
| | | Intermediate | 11 | 05.50 |
| | | Graduate & above | 20 | 10.00 |
| 3. | Land holding (in acres) | Up to 2.50 | 70 | 35.50 |
| | | 2.51-7.50 | 101 | 50.50 |
| | | 7.51 & above | 29 | 14.50 |
| 4. | Farming experience(in years) | Up to 14 | 71 | 35.50 |
| | | 15-28 | 92 | 46.00 |
| | | 29 & above | 37 | 18.50 |
| 5. | Extension contact | Always | 55 | 22.50 |
| | | Sometimes | 99 | 49.50 |
| | | Never | 46 | 23.00 |
| 6. | Mass-media contact | Low | 78 | 39.00 |
| | | Medium | 87 | 43.50 |
| | | High | 35 | 17.50 |

The land holding was categorized into three categories according to land size. The study revealed that size of land holding of the respondents ranged from a minimum of 0.75 to the maximum of 16.00 acres. Majority of the respondents (50.50%) was categorized in '2.51 to 7.50' acres of land holding group, whereas 35.50 per cent were in 'below 2.50 acres' of land holding group and only 14.50 per cent in '7.51 & above' acres of land holding group.

The data indicate that farming experience of the farmers varied from 5-46 years. Majority of the

respondents 46.00 per cent had farming experience of 15-28 years, while 35.50 per cent had up to 14 years of farming experience and only 18.50 per cent were found to have 29 and above years of farming experience.

About 23.00 per cent of the respondents had no contacts with the extension workers. Only 22.50 per cent of respondents used to contact the extension workers always and 49.50 per cent of the farmers had contacted the extension workers sometimes for the information or advices regarding the farming practices.

About 43.50 per cent of the respondents had medium exposure of different mass-media. Only 17.50 per cent of respondents used to have high exposure of mass-media and 39.00 per cent had low exposure of mass media like radio, TV, newspapers / magazines, films etc.

**2. Information needs regarding agricultural practices**

The information needs considered for the study were quality seeds and sowing methods, soil and water management, weeds and their control, plant protection measures and harvesting, storage and marketing. The data analyzed in this respect are presented in Table 2.

It is revealed from the data in Table 2 that out of total respondents, 95.50 per cent needed information for the selection of recommended varieties of different crops, 86.50 per cent needed information for seed treatment before sowing, 71.50 per cent needed information regarding seed rate and method of sowing different crops and 69.50 per cent about time of sowing and spacing. About 64.50 per cent of farmers needed information on protected agriculture.

The data in Table 2 depict that about 87.50 per cent of the respondents needed information regarding soil and water testing and its relevance,. About 95.00 per cent of them needed information about interpretation of soil and water testing report. The data indicate that 92.00 per cent of the farmers needed information about soil conservation, reclamation of saline and alkaline soils, 84.00 per cent of them needed information about time, amount and method of N.P.K. fertilizers application and 90.00 per cent needed information about irrigation schedule for different crops. Only 28.50 per cent of them needed information about moisture excess, cracking, splitting etc. and 93.50 per cent needed information about water logging problems and drainage techniques. About 94.50 of them required information about integrated nutrient management in different crops.

**Table 2: Information needs about seed rate & showing methods and soil & water management in various crops (wheat, rice, mustard, bajra, pulses, vegetables, flowers)**

| Information needs on crop husbandry | No. of Farmers | |
|---|---|---|
| | Frequency | Percentage |
| **a. Quality seeds and showing method** | | |
| i. Improved/ recommended varieties | 191 | 95.50 |
| ii. Seed treatment | 173 | 86.50 |
| iii. Seed rate & method of sowing | 143 | 71.50 |
| iv. Time & space of sowing | 139 | 69.50 |
| v. High-tech /protected agriculture | 129 | 64.50 |
| **b. Soil and water management** | | |
| i. Testing of soil & water | 175 | 87.50 |
| ii. Interpretation of soil & water testing reports | 190 | 95.00 |
| iii. Soil conservation, reclamation of saline & alkaline soils | 184 | 92.00 |
| iv. Time, dose & method of fertilizers application | 168 | 84.00 |
| v. Irrigation schedule of different crops | 180 | 90.00 |
| vi. Moisture excess like cracking, splitting etc. | 057 | 28.50. |
| vii. Water logging problems & drainage techniques | 187 | 93.50 |
| viii. Integrated nutrient management | 189 | 94.50 |
| **c. Weeds and their control** | | |
| i. Identification of deferent weeds | 165 | 82.50 |
| ii. Use of weedicides for the control of specific weeds | 184 | 92.00 |
| iii. Mechanical weed control | 131 | 65.50 |
| iv. Time & method of application of weedicides. | 193 | 91.50 |

| | | | |
|---|---|---|---|
| **d. Plant protection measure** | | | |
| i. | Symptoms of insect pests & diseases | 178 | 89.00 |
| ii. | Causes of spread of insect pests & diseases. | 188 | 94.00 |
| iii | Time & Method of control of insect, pests & diseases. | 187 | 93.50 |
| iv. | Use of pesticide for control of insect, pest & disease | 179 | 89.50 |
| **e. Harvesting, storage & marketing** | | | |
| i. | Stage & method of harvesting | 129 | 64.50 |
| ii. | Use of harvesting & threshing machines | 017 | 08.50 |
| iii. | Factors and conditions for successful storage | 170 | 85.00 |
| iv. | Awareness about market places of farm products | 050 | 25.00 |

Data in Table 2 reveal that about 82.50 per cent of the respondents needed information about identification of different weeds, 92.00 per cent of them needed information about use of different weedicides for the control of specific weeds, 65.50 per cent about mechanical weed control and 91.50 per cent about time and methods of application of weedicides.

The data in Table 2 show that about 89.00 per cent of the respondents needed information about identification and symptoms of insect pests and diseases of different crops. 94.00 per cent needed information about causes of spread of insect pests and diseases and 93.50 per cent about time and method of controlling insect-pests and diseases. About 89.50 per cent of the respondents needed information regarding method of application of various pesticides for the control of specific insect, pest and diseases.

The data in Table 2 also depict that about 64.50 per cent of the respondents needed information about stage and method of harvesting various crops, 08.50 per cent about use of harvesting and threshing machines, 85.00 per cent needed information about the factors and conditions for successful storage and only 25.00 per cent needed information about market places of different farm products.

### 3. Sources of information

There were seven important sources from where farmers used to seek advices/collect information regarding improved agricultural technologies and these were neighbor, progressive farmer, KVK scientist, TV, radio, extension worker and extension literature. The extent of use of these sources was studied on 3-point scale i.e. always, sometime and never with scoring 2, 1 and 0 respectively. The data analyzed on this aspect are presented in Table 3.

**Table 3: Utilization of different information sources by the respondents**

| Sl. No. | Information source | Extent of utilization | | |
|---|---|---|---|---|
| | Total score | Mean | Score | Rank order |
| 1. | Neighbour | 380 | 1.90 | I |
| 2. | Progressive farmer | 356 | 1.78 | II |
| 3. | KVK Scientist | 306 | 1.53 | IV |
| 4. | Television | 210 | 1.05 | V |
| 5. | Radio | 334 | 1.67 | III |
| 6. | Extension worker | 204 | 1.02 | VI |
| 7. | Extension literature | 198 | 0.99 | VII |

It appears from Table 3 that by and large, the respondents utilized almost all sources of information for their farming. The neighbor was ranked at Ist as most preferred and utilized source of information by the respondents. This was followed by progressive farmers, radio, KVK scientist, extension worker and extension literature with IInd, IIIrd, IVth, Vth, VIth and VIIth ranks respectively. The mean scores obtained for neighbor, progressive farmer, radio and KVK scientist were above the neutral score indicating that these sources were the most utilized sources of information by the respondents regarding improved agricultural technologies.

## CONCLUSION

The study concludes that majority of the farmers needed information regarding different aspects of

cultivation of wheat, rice, pigeon-pea, mustard, bajra, gram and vegetables. Majority of the farmers needed specific information regarding selection of recommended varieties of different crops, interpretation of soil & water testing reports, water logging problems & drainage techniques, soil and water testing and management, use of different weedicides for the control of specific weeds and time & method of application of weedicides, causes of spread of insect pests & diseases, time and methods of the control of insect, pests & diseases in plant protection aspect. Among various information sources, the neighbor, progressive farmer, radio and KVK scientist were the most utilized sources of information regarding improved agricultural technologies.

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