

Full Length Research Paper

Agriculture information needs of farm women: A study in State of north India

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Access to accurate, timely and reliable information plays a crucial role in the adoption of appropriate agriculture technology. Although, women contribute significantly in the farming operations, their contribution is not yet fully recognised and acknowledged. In order to improve agriculture productivity and production efficiency, there is an urgent need to identify their agriculture information needs. The present study was undertaken to find out the agriculture information needs of farm women in a Himalayan State of North India. The study adopted a descriptive research design and the study sample included 120 farm women selected from eight randomly selected villages using PPS method. The findings indicate that farm women expressed the need for information regarding disease control/management, weed control/management, high yielding variety crops, fertilizer requirement, use of improved farm implements, and information related to marketing. An appropriate information dissemination strategy can be developed on the basis of their information seeking and information sharing behaviour. The study has policy and programming implications for devising appropriate extension strategies for fulfilling the information needs of farm women for enhancing agriculture productivity and production efficiency.

Key words: Information needs, farm women, information seeking behavior.

INTRODUCTION

Agriculture has been and continues to be the principal engine of economic growth in India as well as in most of the developing countries. It is the one of the critical sector of national development planning as it employs about 60% of the workforce and contributes almost 18% to the national gross domestic product (Government of India, 2011). Besides, it also contributes significantly towards India's export earnings and provides raw material for

many industries. Hence, continued and sustained growth of agriculture sector is critical to meet the food requirements of a growing billion-plus population of the country besides providing livelihood opportunities and income generation activities in rural areas.

Farm women have traditionally been an important work force in agriculture. They play a significant and crucial role in all the stages of crop production from seed

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selection to post harvest activities and in other allied enterprises such as dairy, cattle management, fish and poultry farming, sheep rearing etc., besides fulfilling their responsibilities of home making and child rearing. In recent years, there has been an increasing recognition of the need to integrate women into mainstream development efforts. Despite rural women's active involvement in farming, they do not have access to scientific and technological knowledge. Therefore, for consistent growth in agricultural production, it is very important to equip the women farmers with relevant and timely information to improve their production techniques and increase their income (Shailaja and Reddy, 2003). Due to the lack of agricultural extension services support, farm women have no agricultural information sources related to crops and livestock production, inadequate technical competency and exposure to outer world (Olowu and Yahaya, 1998). It is important to disseminate information about new technologies so that farm women are able to make use of latest agricultural developments.

Theoretical framework

Information asymmetry at farm level has been identified as one of the main reasons for low agriculture productivity and production efficiency. Access to accurate, timely and reliable information plays an important role in the adoption of appropriate agriculture technology. Although, women contribute substantially in farming operations, their contribution is not yet fully recognised and acknowledged. Although, rural women are actively involved in the process of food production, processing and marketing, social and economic constraints have placed barriers around their access to scientific and technological information (Daman, 1997). The women folk do not have needed technical knowledge to enable them derive productive use of farm input for optimum yield. In India, it is a known fact that male farmers have more access to agriculture extension services than women. In fact, the whole agriculture extension system is organised to serve men farmers, and women farmers are often neglected whether they have access to information and training opportunities.

Consequently, farm women's knowledge and skills remain low and unsuitable for modern farming techniques. Protz (1997) posited that due to the multiple roles women play in the rural household (including caretakers of children and the elderly), they do not fully benefit from extension services, particularly, when the time of delivery (of extension service) conflicts with their other household responsibilities. According to FAO (1998), rural women are burdened by their domestic tasks and family obligations and controlled by social restraints such that they are constrained time-wise to be away from home to attend to extension training programmes.

Information need can be conceptualised as the data or set of data specially required to perform a task or make an appropriate decision about a problem related to farming at a particular time. Research on information needs and information seeking behaviour concurs that information is tailored to individuals' job or task. Hence, we need to assess the information needs of farm women so that they can perform their farming operations efficiently and contribute in increasing agriculture productivity.

Uttarakhand: A North Himalayan state of India

The locale of the present study was a north Himalayan State (Uttarakhand) which was created on 9th November, 2000 as 27th State of India. It borders China on the North, Nepal on the East, and Indian States of Himachal Pradesh (H.P.) and Uttar Pradesh (U.P.) on North-East and South, respectively. The State is divided into two main divisions – Garhwal and Kumaon – with a total of thirteen districts. It has a total area of 53,484 km² of which 93% is mountainous and 65% is covered by forests. Most of the northern part of the state is covered by high Himalayan peaks and glaciers. The total population (Census, 2011) is 10.116 million with almost 70% population living in rural areas.

The state's economy is primarily based on tourism, especially religious tourism in Garhwal region. The agriculture is basically subsistence type with little or no marketable surplus. The land holdings are small and scattered, much of which is unfit for farming. However, as we know, the mountainous farming is primarily a family farming system due to its small scale character, diversification of crops grown, integration of forest and animal husbandry activities. The life and lifestyle of the people living in these areas have evolved over the centuries and inspired them to seek sustenance from the land besides conserving natural resource base and ecosystems.

Besides tourism, Agriculture sector is the employers of the largest work force which is the backbone of Uttarakhand's economy. Most of the farming in hills is subsistence level and there is very little marketable surplus. A woman in Uttarakhand is earning Rs.18.13/day (less than half-a-dollar per day) and this is less than the per capita income of India (Sharma, 2012). And, for them to play a more active role in food security, sustainable farming and rural development, there is an urgent need to provide rural women with more latest, reliable and convenient information continuously and on timely basis (Kazilastan, 2007). In order to enhance agriculture production, and ensure continuous flow of appropriate agriculture technologies to women farmers, there is an urgent need to determine their information needs, find out their preferred information sources and their access to training and capacity building opportunities. One of the

Table 1. Distribution of respondents according to their socio-personal characteristics (N = 120).

Characteristic	Categories	Frequency	Percentage
Age	Young (up to 31)	16	13.33
	Middle (32-57)	69	57.50
	Old (more than 57)	35	29.17
Land holding	Marginal (<1 ha)	120	100.00
	Small (1-2 ha)	0	0
	Medium (2-4 ha)	0	0
	Large (>4 ha)	0	0
Education	Illiterate	32	26.67
	Primary	42	35.00
	Junior	33	27.50
	High school	13	10.83
Type of family	Nuclear	86	71.67
	Joint	34	28.33
Size of family	Small (up to 5)	86	71.67
	Medium (6-10)	34	28.33
Media exposure	Radio	13	10.83
	Television	117	97.50
	Mobile Phone	120	100.00
Extension agency contact	Formal	0	0.0
	Informal	120	100.00

ha = hectare.

remedial measures that needs to be undertaken is to induct a sizeable number of well trained women personnel in training and extension programmes at all levels and more so at the grass-root level. An appropriate information delivery mechanism needs to be developed to take care of it.

Against this backdrop, the present study was conducted with the following objectives: (1) to find out the socio-personal, communication characteristics of the farm women; (2) to study their information seeking and information sharing behaviour; and (3) to determine their agriculture information needs.

METHODOLOGY

(i) Study locale: The study was carried out in Kumaon region of Uttarakhand State. Out of the six districts of the Kumaon region, one district (Pithoragarh) was selected randomly. Out of eight development blocks, two blocks (Gangolihat and Berinag) were selected randomly. For documenting the information needs of farm women, two villages from each of the selected blocks were selected randomly. Members of those households whose main occupation had been agriculture were considered as the respondents for the study.

(ii) Sampling procedure: The respondents (that is, farm women) were selected purposively as the study was focused on farm women. From each village, a list of all the farm women engaged in agriculture was made using census method. And by using probability proportionate to size (PPS) method, 25% of total farm women from each of the selected villages were selected randomly. Thus, a sample of 120 respondents, that is, farm women who actually performed the farming activities were included in the study. The sample is representative of hill farm women of Kumaon division of Uttarakhand state.

(iii) Data collection and analysis: The data were collected (in March - April 2013) with the help of a semi structured interview and analysed using the SPSS. In order to validate the data collected through quantitative technique, some qualitative technique like observation was also used.

RESULTS AND DISCUSSION

Socio-personal characteristics of farm women

Presented below are the demographic attributes of the respondents. The results in Table 1 reveal that majority of the respondents (57.5%) belonged to middle age group followed by old (29.17%) and young (13.33%) age group.

Table 2. Distribution of respondents according to information seeking and information sharing behaviour of farm women (N = 120)*.

S/N	Communication behaviour	Always		Sometimes		Never	
		F	%	F	%	F	%
(a)	Information seeking behaviour						
1.	Friends and Relatives	106	88.33	10	8.3	4	3.33
2.	Progressive Farmers	0	0	0	0	120	100
3.	Elderly person	99	82.5	9	6.91	12	10
4.	Extension functionaries	0	0	0	0	120	100
(b)	Information sharing behaviour						
1.	Friends and relatives	119	99.16	1	0.83	0	0
2.	Progressive farmers	0	0	0	0	120	100
3.	Neighbours	118	98.33	2	1.66	0	0
4.	Needy person	119	99.16	1	0.83	0	0

F = Frequency.

The findings reveal that all the respondents (100%) were marginal farmers having land holding of less than one hectare and there were no respondents found in small, medium and large category. Dwivedi (2011) reported that majority of farm women in the category of small farmers (less than 2 ha) were 64%, followed by 28% marginal (2 to 10 ha) and 8% large (more than 10 ha).

Further, 35% of the respondents were educated up to primary level followed by Junior (27.5%) whereas 26.67% of the respondents were illiterate, and only 10.83% had education up to High school. Traditionally, the state of Uttarakhand has been rated as a high literacy rate (about 72.28% as per census 2011), and the results of the present study also emphasize that most of the respondents were literate. As regards the type of family, majority of respondents, that is, (71.67%) had nuclear families while only 28.33% respondents belonged to joint families. It is generally believed that people in rural areas/village live in large/ joint families. But the study found that nuclear family was predominant which may be due the reason that the younger generation in the these villages (and elsewhere as well) has migrated to nearby urban areas/cities in search of employment and higher educational opportunities; but the elderly people still preferred to stay in the villages for social, emotional and age factor. These findings are supported by Kumar and Bhardwaj (2005) who reported that nuclear family system was predominant in the villages as 55.36% of the respondents belonged to nuclear family, and the rest (that is, 44.64%) were living in joint families. Regarding family size, majority of the respondents (71.67%) belonged to small family followed by medium family (34%); and no respondent figured in large family due to the fact that most of the families were 'nuclear type'. As regards media exposure of farm women, only 13% of them had access to Radio whereas 97% had watched television, and all of

them (100%) had access to a mobile phone. The findings of the study are in line with that of Papnai (2011) who also reported that a positive change was visible in the hills owing to mobile phones being ranked first in media ownership as well as its use. Television and radio are still considered supreme by many of the respondents because of low cost and easy availability to farmers in rural areas whereas computer has yet not reached in the hill regions.

Further, as regards extension agency contact with farm women, the study found that public sector extension agents did not visit the farm women in villages of hills as all the respondents reported 'no' when asked about their level/frequency of contact with formal sources of extension advisory services. However, all the respondents reported to have had contact with informal sources which included fellow farm women, friends and relatives living in the same village/nearby village. Further, there could be several reasons for their unavailability as they rarely visit the villages. Besides, selective approach towards meeting only male farmers may also have contributed to this trend as observed in the study findings. Thus, we can conclude that there is an urgent need to streamline the formal extension mechanism and sensitize it to serve the farm women.

Information seeking and information sharing behaviour of farm women

As we have already noted, timely access to and availability of information plays an important role in technology adoption thereby improving the agriculture productivity. The study sought to find out the information seeking and information sharing behaviour of farm women. The results obtained are given below.

It can be inferred from Table 2 that majority of farm

Table 3. Information needs as expressed by farm women (N = 120)*.

S/N	Areas of information need	Most needed		Needed		Not needed	
		F	%	F	%	F	%
(a)	Pre-sowing phase						
1.	Decision about crops to be grown	93	77.50	27	22.50	0	0
2.	Land/area allocation	94	78.33	26	21.67	0	0
3.	Crops Varieties: HYV	120	100.00	0	0	0	0
4.	Land preparation methods	78	65.00	42	35.00	0	0
5.	Farm implements	120	100.00	0	0	0	0
(b)	Sowing phase						
1.	Right time of sowing	71	59.16	49	40.83	0	0
2.	Sowing method	66	55.00	54	45.00	0	0
3.	Spacing	67	55.83	53	44.16	0	0
4.	Use of farm implements	120	100.0	0	0	0	0
(c)	Post-sowing phase						
1.	Weed control/management	120	100.0	0	0	0	0
2.	Irrigation/water requirement	74	61.66	46	38.33	0	0
3.	Fertilizer requirement & Application	106	88.33	14	11.66	0	0
4.	Disease control/Management	120	100.00	0	0	0	0
(d)	Harvesting phase						
1.	Time of Harvesting	82	68.33	38	31.66	0	0
2.	Method of Harvesting	85	70.83	35	29.17	0	0
(e)	Post-harvest phase						
1.	Processing Techniques	86	71.67	34	28.33	0	0
2.	Storage	73	60.83	47	39.17	0	0

F = Frequency in each cell; HYV refers to high yielding varieties of crops.

women (88.33%) always sought information about farming from friends and relatives; however, elderly persons were 'always' a good source of information for sizable number of farm women (82.5%). The farm women did not contact progressive farmers, local leaders and extension functionaries for any kind of information. Lack of visits by extension functionaries in the village and low exposure to the different social and media organizations might be the reasons behind this tendency of seeking information from cosmopolite sources. Saleh (2011) also observed that information used by rural women was mainly informal. They align more to information received from friends, relatives, husbands, sons and daughters.

Further, as regards informing sharing behaviour of farm women, almost all of them (99.16%) always shared the information with friends and relatives and needy persons followed by neighbours (98.33%). They never shared the information with progressive farmers which could be due to less frequency of interaction with them as male members of their family usually held discussion/consultations with them. Singh and Bishnoi (2009) reported that majority (80%) of the respondents shared their information with family members only, followed by neighbours (70%), friends (68%) and relatives (30%).

Agriculture information needs of farm women

Agriculture information needs of farm women were analyzed and prioritized. The information need was identified by two methods, that is, information collected through semi-structured interview schedule and followed with a focus group discussion in each of the selected village. The types of information needed was organized into five categories so that each aspect of crop cycle was covered adequately. The categories of information needs were: Pre-sowing, sowing, post-sowing, harvesting and post-harvest and marketing. The intensity of information need was determined on three point continuum-Most needed, needed and not needed. The results obtained are given in Table 3.

The respondents as explained above have expressed a variety of information needs related to different areas of agriculture. An attempt was made to rank-order these needs and they were analysed using mean score/weighted mean. The results obtained are given in Table 4.

Table 4 shows that information about three areas, viz. disease control/management and weed control/management and use of farm implements were accorded 'first rank', which means that all the

Table 4. Ranking of information needs related to agriculture.

S/N	Areas	Weighted mean	Rank
1.	1. Weed control/management 2. Disease control/management 3. Use of farm implements	3.00	I
2.	Seed treatment and seed rate	2.92	II
3.	Fertilizer requirement and application	2.88	III
4.	Land/area allocation	2.78	IV
5.	Decision about crops to be grown	2.77	V
6.	Processing	2.71	VI
7.	Method of harvesting	2.70	VII
8.	Time of harvesting	2.68	VIII
9.	Land preparation methods	2.65	IX
10.	Irrigation/water requirement	2.61	X
11.	Storing	2.60	XI
12.	Right time of sowing	2.59	XII
13.	Sowing method and spacing	2.55	XIII

respondents essentially need the information about these areas equally. Further, seed treatment and rate was ranked second followed by fertilizer requirement and application (third rank), land area and allocation (fourth rank), decision about crops to be grown (fifth rank), processing (sixth rank), method of harvesting (seventh rank), time of harvesting (eighth rank), land preparation methods (ninth rank), irrigation/water requirement (tenth rank), storing (eleventh rank), right time of sowing (twelfth rank). Sowing method and spacing occupy the last rank with weighted mean score 2.55. Thus, we can conclude that information most needed by farm women in the study area are information about disease control/management, weed control/management and farm implements/use of farm implements.

Conclusion

On the basis of the study findings, it can be safely concluded that farm women had moderate to high need for information about the areas as specified above. The fact that three areas, viz. disease control/management, weed control/management, and high yielding variety of crops were given top rank by a large majority of farm women indicate that our extension advisory services should make intensive efforts to educate the farm women. The information seeking and sharing behaviour of the farm women gives an indication to the communication strategy to be followed in information dissemination.

Further, farm women had expressed that they had little knowledge about modern farming practices which can be provided through regular visits of extension functionaries. Specific trainings need to be organized

targeting farm women. Besides, proper demonstration in training along with theoretical knowledge, use of proper farm implements, deployment of required field staff and adequate supporting facilities and services, frequent field visits, required marketing information and awareness about governmental schemes should be given top priority in public communication campaigns.

Findings of the study would be useful for the extension personnel for conducting need based and well focused training programmes and generate mass awareness using accessible media to farm women. The study may also serve as a reference point to suggest and implement various development plans and extension strategies to bridge the information gap between the research stations, the farm women, and may lead to upscale the knowledge and skills of farm women leading improved agriculture productivity.

Conflict of Interests

The authors have not declared any conflict of interests.

REFERENCES

- Daman P (1997). Cooperatives and poverty reduction: Enhancing social and economics imperatives. ICA-ROAP, New Delhi.
- Dwivedi SN (2011). Gender participation in crop production and animal husbandry and related activities in the rural area of Sikkim in North-East India. *Int. J. Soc. Sci. Tomorrow* 1(6):34.
- FAO (1998). *Women Feed the World – Tele Food Material*, Rome.
- Government of India (2011). *Census Statistics Handbook*, New Delhi.
- Kazilastan N (2007). Rural women in agricultural extension training research. *J. Soc. Sci.* 2(1):23.
- Kumar M, Bhardwaj N (2005). Information needs of Hill women on health and nutrition: A study in the Kumaon Division of Uttaranchal. *J.*

- Commun. Stud. 23(2):35-48.
- Olowu TA, Yahaya MK (1998). Determination of agricultural information needs of women farmers: A case study of North-Central Nigeria. *J. Ext. Syst.* 4:39-54.
- Papna G (2011). Designing distance learning module for vegetable growers of Hill Regions of Uttarakhand. Unpublished Ph. D Thesis. G. B. Pant University of Agriculture and Technology, Pantnagar.
- Protz M (1997). Developing sustainable agricultural technologies with rural women in Jamaica: A participatory media approach. University of Reading, UK, pp. 1-3.
- Saleh GA (2011). Information needs and information seeking behaviour of rural women in Borno State, Nigeria. Ukachi, Ngozi Blessing main Library, University of Logos, Akoka, Lagos.
- Shailaja A, Reddy MN (2003). Changing Needs of farm women in agriculture, *Indian J. Ext. Edu.* 3(2):41-43.
- Sharma KS (2012). Media use pattern of dairy women in Uttarakhand, *Agriculture Science Digest*, Delhi. pp. 23-27.
- Singh DK, Mishra OP (2012). Information need of rural families in Ballia District of Uttar Pradesh. *J. Commun. Stud.* 30(1):151-157.
- Singh M, Bishnoi I (2009). Communication behaviour of farm women. *J. Commun. Stud.* 27(2):88-91.