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Exposure, evaluation and final result of the information regarding the selection and use of pesticides among the vegetable growers and the role of public sector extension workers: An empirical study

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Abstract

The present study revealed that among all the types of sources of information regarding the selection and use of pesticides, the intensity of exposure of the vegetable growers to radio was highest followed by newspaper, friends, farm publications and agricultural input dealers. The present study further showed that the public sector extension workers had very low level of contact with the respondents as far as the intensity of exposure of the information regarding the selection and use of pesticides among the respondents was concerned. The present study clearly showed us that a majority of the respondents (59.33 percent) rejected the information while nearly one-third of the respondents i.e. 33.33 percent accepted the information regarding the selection and use of pesticides.

Keywords: Intensity of exposure, Level of contact, Information on the selection and Use of pesticides, Evaluation, Final result

Introduction

According to Rolling (1988) information is a difficult concept. It is patterned or formatted data, first of all. But it only 'informs' if it provides some new pattern relative to the one already known, i.e., if it reduces someone's uncertainty beyond his or her existing knowledge. Some patterned data will, therefore, be information to some but not to others. Other information will act as such for everybody. Information, then, is a historical phenomenon. It is the growth point of human advance– for better or for worse.

When deliberately creating information, one assumes an audience for which the reduction of some uncertainty is relevant. This audience by definition is always at the limit of its own information threshold. The threshold is particular to the audience. The concept of information therefore has targeting built into it. It cannot be seen in isolation from its audience. Hence, an attempt was made to assess the sources and evaluation of information by the selected farmers regarding the selection and use of pesticides in this paper. Here an attempt was also made to analyze the role of the extension workers in the whole ambit of information seeking and evaluating pattern by the selected farmers. The objectives of the present study are: (1) To analyze the exposure of information regarding the selection and use of pesticides among the selected farmers, (2) To examine the pattern of evaluation of the information regarding the selection and use of pesticides among selected farmers, (3) To study the final result of the information regarding the selection and use of pesticides among selected farmers and (4) To find out the contribution of the extension workers in seeking and evaluating of the information regarding the selection and use of pesticides by the selected farmers.

Materials and Methods

Two way direct communication is a "must" to achieve good rapport in any research work, which involves farmers as the unit of study. Keeping these in view, West Bengal in India was selected for the present study. The state of West Bengal has nineteen districts. Among these districts, the district of Bardhaman is one of the most agriculturally advanced and prosperous district of the state. So, this district was purposively selected for the present study. The district of Bardhaman has thirty one (31) Community Development Blocks (CDB). Among these CDB, the Katwa-I was purposively selected for the present study, because the soil of Katwa-I CDB was conducive for vegetable cultivation. This was supported by the fact that nearly 600 hectares and 1000 hectares of land were under the vegetable cultivation in the summer and winter seasons, respectively in the Katwa-I CDB in the year 2005-06. This CDB also consumed a large amount of pesticides for plant protection purposes. The Katwa-I CDB consumed nearly 8000 litres of pesticides in the year of 2005-06. In the summer season the production of brinjal and pointed gourd topped the list, whereas in the winter season, the production of cauliflower and cabbage topped the list of the produced vegetables in the selected CDB. So, the two summer vegetables viz. brinjal and pointed gourd and the two winter vegetables viz. cauliflower and cabbage were selected for the present study.

All the eighteen (18) villages falling under the five (5) kilometers radius of Katwa Town were selected for the present study, as these villages have sizeable population who grew the above mentioned four vegetables in more than 0.33 acre or 0.57 hectare or 1 bigha of farm land were taken into consideration for the present study. At present 150 such farmers were there. So, all the 150 vegetable growers were selected as the sample population of the present study.

The data was collected personally through interview schedule during June, 2005 to May, 2006 at the selected villages. The frequency of contact or exposure of a farmer to the different sources for obtaining farm business information regarding the selection and use of the pesticides was measured with the help of the scale developed by Nandapurkar (1980). This refers to the information sources used by respondents for obtaining knowledge and information about the pesticides to be used for the selected vegetable cultivation. In this investigation, the degree of frequency of contact with the information sources of the respondents was measured on four-point continuum viz. "never", "seldom", "often" and "regular" with the weightage of 0, 1, 2 and 3, respectively. The rank score of each individual sources of farm information was calculated by multiplying the frequencies with the respective weights of those particular sources of the farm information and adding them up. On the basis of their respective rank scores, each sources of the information regarding the selection and use of the pesticides was ranked. The various sources of farm information were categorized as per the classification of Sawhney (1967). The evaluation of information was measured by calculating the frequency and percentage of the respondents utilizing each different processes of evaluating the farm information in relation to the selection and use of the pesticides. The ranking of the various processes of evaluating the farm information in relation to the selection and use of the pesticides was done on the basis of the respective frequency-percentages of the respondents present in each category of the processes of evaluation of the farm information.

The final result of information regarding the selection and use of the pesticides was measured by calculating the frequency and percentage of the respondents showing each different type of the final result of the communicated farm information in relation to the selection and use of the pesticides. The ranking of the different final results of the disseminated farm information in relation to the selection and use of the pesticides was done on the basis of the respective frequency-percentage of the respondents present in each category of the final results of the disseminated farm information.

Results and Discussion

Exposure to the information regarding the selection and use of pesticides among the selected farmers

Though the respondents had various sources of information regarding the selection and use of pesticides, still the respondents had different levels of intensity of exposure of the various sources of information regarding the selection and use of pesticides. The ranking of various sources of information regarding the selection and use of pesticides on the basis of the intensity of the exposure to the respondents (vegetable growers) has been given in the following Tables.

From Table 1, it was observed that among the personal localite sources of information regarding the selection and use of pesticides, the intensity of exposure was highest in the case of friends with a rank score of 110, followed by neighbours and relatives. This picture was identical with that of the distribution of the respondents regarding various farm information sources regarding the selection and use of pesticides. It was also observed from this table that among the personal cosmopolite sources of information regarding the selection and use of pesticides, the intensity of exposure of the respondents was most visibly found in private sector sources. Findings of Table 1 also demonstrated that among the personal cosmopolite sources, the intensity of exposure of the vegetable growers was highest in the case of agricultural input dealer with a rank score of 91, followed by sales agents of agricultural input companies with a rank score of 75, both of whom belonged to the private sector. The third rank position was enjoyed by the Krishi Prajukti Sahayak with a rank score of 57 and the fourth rank position was held by the representatives of co-operatives with a rank score of 53. Both of the mentioned last two sources of information belonged to the public sector. But the public sector personal cosmopolite sources like Krishi Prajukti Sahayak (KPS) [village level extension workers], representatives of cooperatives, Agricultural Development Officer (ADO) [block level extension workers], Sub-Divisional Agricultural Officer (SAO) [sub-division level extension workers], Principal Agricultural Officer (PAO) [district level extension workers], representatives of Panchayati Raj Institutions, training camp on vegetable production, Subject Matter Specialist (SMS) etc. had very low level of contact with the respondents with a rank score of 57, 53, 21, 03, 02, 17, 09, 06, respectively. It was interesting to note that State Agricultural University (SAU) and Krishi Vigyan Kendra (KVK) [farmers science centre] had no contact with the respondents at all.

The Table 1 also showed that among the mass media the intensity of the exposure of the respondents to radio, an electronic mass media was highest with a rank score of 161 followed by newspaper with a rank score of 124 and farm publications of 95, both of whom belonged to print mass media. This picture was also identical with that of the use of sources of information regarding the selection and use of pesticides.

Table 1. Rank position of various sources of information regarding the selection and use of pesticides on the basis of intensity of the exposure to the respondents

Sl. No.	Sources of information	Total Score (Ranked)	Rank position in particular category	Overall Rank position
	A. Personal Localite Sources			
01.	Friends (excluding neighbours)	110	I	III
02.	Neighbours	69	II	VII
03.	Relatives	60	III	VIII
	B. Personal Cosmopolite Sources			
	(i) *Public Sector*			
04.	Krishi Prajukti Sahayak (KPS)	57	III	IX
05.	Representatives of Co-operatives	53	IV	X
06.	Agricultural Development Officer (ADO)	21	VI	XIII
07.	Representatives of Panchayati Raj Institutious	17	VII	XIV
08.	Training Camp on vegetable production	09	VIII	XV
09.	Subject Matter Specialist (SMS)	06	IX	XVI
10.	Sub-Divisional Agricultural Officer (SAO)	03	X	XVII
11.	Principal Agricultural Officer (PAO)	02	XI	XVIII
12.	Other government officials	00	XII	XX
13.	State Agricultural University (SAU)	00	XII	XX
14.	Krishi Vigyan Kendra (KVK)	00	XII	XX
	(ii) Private Sector			
15.	Agricultural input dealers	91	I	V
16.	Sales agents of agricultural input companies	75	II	VI
17.	Non-Governmental Organisation (NGO)	48	V	XI
	C. Mass Media			
	Print Media			
18.	Newspaper	124	II	II
19.	Farm publications	95	III	IV
	Electronic Media			
20.	Radio	161	I	I
21.	Television	33	IV	XII
	Traditional Mass Media			
22.	Agricultural fair	01	V	XIX

It was also seen from the Table 1 that among all the types of sources of information regarding the selection and use of pesticides, the intensity of exposure of the vegetable growers to radio was highest followed by newspaper, friends, farm publications and agricultural input dealers. This picture was slightly different from that of the use of sources of information regarding the selection and use of pesticides. The intensity of exposure of the vegetable growers to radio was most. It was interesting to note that the intensity of exposure of the respondents to friends was much more than the relatives. It was also interesting to note that the intensity of exposure of the respondents to private sector personal cosmopolite sources of information regarding the selection and use of pesticides viz. dealers of agricultural input companies and sales agents of agricultural input companies was much more than the public sector personal cosmopolite sources of information

Hence the above mentioned results amply revealed that the personal localite sources and mass media sources of information are mostly used by the respondents regarding the selection and use of pesticides in vegetable cultivation.

Evaluation of the information regarding the selection and use of pesticides by the selected farmers

The respondents tried to evaluate the received information regarding the selection and use of pesticides through various processes and with the help of various persons. The distribution of the respondents regarding the use of various processes of evaluation of information on selection and use of pesticides has been given in the Table 2.

Table 2. Distribution of the respondents on the basis of various processes of evaluation of information regarding selection and use of pesticides

Sl. No.	Processes of evaluation of information regarding the selection and use of pesticides	Frequency	Percentage	Rank Position
01.	Discussion with relatives	146	97.33	I
02.	Discussion with neighbours	145	96.67	II
03.	Comparing with own past experience	90	60.00	III
04.	Discussion with Krishi Prajukti Sahayak (KPS), Agricultural Development Officer (ADO), Sub-Divisional Agricultural Officer (SAO)	30	20.00	IV
05.	Discussion with agricultural scientist	05	03.33	V
06.	By giving a field - trial	03	02.00	VI
05.	Any other method	02	01.33	V

The Table 2 showed that the respondents evaluated the information regarding selection and use of pesticides mostly through discussion with their relatives (97.33% respondents) closely followed by the discussion with the neighbour of the respondent (96.67% respondents). Among the processes of evaluation of information regarding selection and use of pesticides by the respondents, comparing with the respondents' own past experience held third position with 60.00% vegetable growers utilized this process of evaluation of information, distantly followed by the discussion with Krishi Prajukti Sahayak (KPS), Agricultural Development Officer (ADO), Sub-divisional Agricultural Officer (SAO) with 20.00 percent of respondents utilized this process of evaluation of information. It was interesting to note that discussion of the respondents with agricultural scientists held the lowest rank position with 03.33 percent of the respondents utilized this process of evaluation of information. It was to be noted with great interest that no respondent took the risk of giving a field – trial to evaluate the information on the selection and use of the pesticides on the selected vegetables.

The findings of Table 2 clearly indicated that the respondents depended more on relatives, neighbours and own past experience than various formal public sector extension channels while the issue of evaluation of information regarding the selection and use of pesticides came before them. This implies that the informal, personal localite sources are the main sources for evaluation of information regarding the selection and use of pesticides by the respondents.

Final actions taken by the respondents on the basis of the received information on selection and use of pesticides

The distribution of respondents regarding final result of information regarding selection and use of pesticides has been given in Table 3.

Table 3. Distribution of respondents with respect to the type of final actions taken by them on the basis of the received information on selection and use of pesticides

Sl. No.	Final action taken on the basis of the information on selection and use of pesticides	Frequency	Percentage	Rank
01.	Rejection of information by the respondents	89	59.33	I
02.	Acceptance of information by the respondents	50	33.33	II
03.	Information till not either accepted or rejected (undecided) by the respondents	11	07.33	III

Table 3 clearly showed us that a majority of the respondents (59.33%) rejected the information while nearly one-third of the respondents i.e. 33.33% accepted the information regarding the selection and use of pesticides. However, it was interesting to note that nearly 07.33% of the respondents did not still decided on the type of final action to be taken i.e. they neither accepted nor rejected the information regarding the selection and use of the pesticides.

The above noted results clearly revealed that the majority of the respondents rejected the information regarding the selection and use of pesticides in vegetable cultivation to a large extent.

Conclusions

It was observed that among all the types of sources of information regarding the selection and use of pesticides, the intensity of exposure of the vegetable growers to radio was highest followed by newspaper, friends, farm publications and agricultural input dealers. The intensity of exposure of the vegetable growers to radio was most. It was interesting to note that the intensity of exposure of the respondents to friends was much more than the relatives. It was also interesting to note that the intensity of exposure of the respondents to private sector personal cosmopolite sources of information regarding the selection and use of pesticides viz. dealers of agricultural input companies and sales agents of agricultural input companies was much more than the public sector personal cosmopolite sources of information. The present study further revealed that the extension workers like Krishi Prajukti Sahayak (KPS), Agricultural Development Officer (ADO), Sub-Divisional Agricultural Officer (SAO), Principal Agricultural Officer (PAO), Subject Matter Specialist (SMS), State Agricultural University (SAU), Krishi Vigyan Kendra (KVK) etc. had very low level of contact with the respondents The present study further showed that the public sector extension workers had very low level of contact with the respondents as far as the intensity of exposure of the information regarding the selection and use of pesticides among the respondents was concerned.

The findings of the study indicated that clearly indicated that the respondents depended more on relatives, neighbours and own past experience than various formal public sector extension channels while the issue of evaluation of information regarding the selection and use of pesticides came before them. The present study also clearly revealed that the respondents could take little help of the formal public sector extension workers like Krishi Prajukti Sahayak (KPS), Agricultural Development Officer (ADO), Sub-Divisional Agricultural Officer (SAO) etc. while evaluating the information regarding the selection and use of pesticides as only 20 percent of the respondents had discussion with the above mentioned extension workers on evaluating the information on the selection and use of pesticides in the selected vegetable cultivation.

The present study clearly showed us that a majority of the respondents (59.33%) rejected the information while nearly one-third of the respondents i.e. 33.33% accepted the information regarding the selection and use of pesticides. This means that the respondents themselves were hesitant to a large extent to accept the information in relation to the selection and use of the pesticides. Here lies the failure of the formal public sector extension agencies in disseminating the information regarding the selection and use of pesticides among the farmers effectively.

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