

Comparative Analysis of Information Reception by the Farmers on Selected Practices of Sugarcane

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Received on : 20.11.1995

ABSTRACT

The study was conducted to determine the extent of information received by farmers on selected practices of sugarcane cultivation, namely, recommended varieties, planting methods, intercropping and plant protection measures. Data were collected from a random sample of 105 sugarcane growers out of 1100 numbers of Kushna union of Jhenaidah district. Reception of information for recommended varieties ranked the highest followed in descending order by intercropping, plant protection measures and planting methods. Analysis on the overall reception of information, it was revealed that 61% sugarcane growers had low reception of information compared to 35% and 4% who had medium and high levels of reception respectively.

INTRODUCTION

The gradual growth of international agricultural research centres and strengthening of national research systems in many developing countries have led to generate a stream of productive technological information. The knowledge system thus enriched gets double every seven years (Morris and Elkins, 1978) which leads to "information explosion" at the research system. However, despite appearance of many communication technologies which Schramm (1977) calls "big media" and "little media", 90 of every 100 inventions, which took decades of work, get lost (Lionberger and Gwin, 1982). Consequently, a chronic "information crisis" exists mostly at the client system level.

In extension work, the role of information for increased farm production has been well established by thousands of empirical evidences since Ryan and Gross (1943) studied the diffusion of hybrid seed corn in 1942. But availability of farming information in developing countries including Bangladesh conclusively remain inadequate. Huque (1972) stated that slightly above one-fourth of potential information were received by IR-8 growers from ten selected media when innovation was just put in extension programme in the late 60s. Other studies, following this, revealed the same phenomenon in diffusion of cereal and fibre crops.

In Bangladesh, sugarcane has been an important cash crop whose per hectare yield is low only 42 tons (Ali *et al.* 1991). According to FAO, Bangladesh need 16 lakh tons sugar annually for 120 million population, on the basis of 13 kilograms sugar per head. At present, approximately 1.4% of the total cultivable land of the country is cropped with

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different varieties of sugarcane (Anon., 1992). The country, therefore, lags much behind the sugar requirement for domestic consumption. However, diffusion of sugarcane technologies at farmers fields invariably can make the country self-sufficient in sugar. Such major technologies include use of recommended varieties, adoption of fertilizers, irrigation, intercropping, plant protection measures, better farm implements use, soil management practices etc.

But before these could be adopted in the field, farmers need to be informed adequately in various technological aspects of sugarcane. The present study was designed to determine extent of information received by farmers on four major practices of sugarcane which include; (a) Recommended varieties of sugarcane (b) Planting methods (c) Intercropping and (d) Plant protection measures.

MATERIALS AND METHODS

The population of this study consisted of 1100 sugarcane growers in 15 villages of Kushna union of Jhenaidah district. Of these, 10 villages were selected at random. In the second step, 15 percent of the sugarcane growers of each selected villages were taken by random sampling procedure which gave 105 as the sample of the study. Data were collected during April 1992 using an interview-schedule.

A three-point rating scale was used for measuring reception of information scores of growers on practices. The scale for each aspect contained ten probable informations which the growers might receive in respect of using the practices. Each grower indicated extent of reception of each information by checking any one of the three responses such as "frequently", "occasionally" and "not at all"; assigned weights were 2, 1 and 0, respectively. Weights for responses against all ten informations of a grower were added together to obtain his reception of information score on practices. This score of a respondent could range from 0-20, 0 indicating no reception of information and 20 very high reception of information.

An overall reception of information score was computed for each farmer by adding his reception of information scores in the four practices of sugarcane production. The overall reception of information scores in four aspects could range from 0 to 80.

RESULTS AND DISCUSSION

Recommended varieties : Reception of information scores of sugarcane growers on recommended varieties ranged from 4 to 13, the average being 6.7. Fifty-five percent growers had low reception of information in using recommended varieties compared to 43 percent having moderate reception and only 2 percent in high reception (Table 1). Agronomical studies conclusively show a significant contribution of recommended varieties to increased yield of sugarcane. But the findings observed here indicate that high reception of recommended varieties was very low (2 percent) among sugarcane growers. Some of the reasons for low reception of information on recommended varieties of sugarcane might be due to lack of awareness of sugarcane growers about improved

variety, non-availability of seeds of recommended varieties and lack of contact with extension agents.

Table 1. Extent of reception of information by the growers on selected aspects of sugarcane cultivation.

Aspects of sugarcane cultivation	Reception level	Growers		Observed range	Average
		No.	Percent		
Recommended varieties	Low (upto 6)	58	55	4-13	6.7
	Medium (7-12)	45	43		
	High (above 12)	2	2		
Planting methods	Low (upto 6)	84	86	1-12	4.8
	Medium (7-12)	21	20		
	High (above 12)	0	0		
Intercropping	Low (upto 6)	63	60	3-11	6.0
	Medium (7-12)	42	40		
	High (above 12)	0	0		
Plant protection measures	Low (upto 6)	71	68	1-11	5.7
	Medium (7-12)	34	32		
	High (above 12)	0	0		

Planting methods : Reception of information scores of sugarcane growers in this aspect ranged from 1 to 12, the average being 4.8. Eighty percent of growers had low reception of information on planting methods of sugarcane cultivation, while none had received information to a high level and only 20 percent of growers had moderate reception (Table 1). Improved planting methods e.g., trench method, spaced transplanting (STP) etc. of sugarcane cultivation have many advantages and make a significant contribution to increased yield of sugarcane (Kabir, 1994). In spite of many advantages of improved planting methods, overwhelming majority of sugarcane growers (80 percent) had received low information about practices. Sugarcane growers are not generally aware of advantage of such practices. Spaced transplanting or trench method may take higher labour, high production cost and growers also do not have trencher or other implements. These facts might be the reasons for non-reception of information on planting methods by majority of sugarcane growers.

Intercropping : Reception of information scores of sugarcane growers regarding intercropping ranged from 3 to 11 with an average of 6.0. In respect of intercropping, 60 percent of sugarcane growers had received low information, while 40 percent of them had received moderate information. Surprisingly, none had been in high reception of information on this innovation (Table 1).

Sugarcane is an important cash crop for growers. But it is a long duration crop and growers have to wait 10-14 months for its return. The inter-row spaces between two rows (60 to 90 cm) remains unused till canopy formation. Agronomical studies revealed that the lands between the rows could be used to grow different rabi crops such as potato, onion, garlic, cauliflower, cabbage etc. without any decrease in the yield of sugarcane (Anon. 1993). Besides, this intercropping strategy would help to increase income of sugarcane growers. But the findings of this study indicate that 100 percent of growers had received low to moderate information and none had the high level. The possible interpretations for this findings might be lack of awareness about intercropping technique of sugarcane, lack of knowledge about life-cycle of recommended intercrops, planting or sowing methods and inter cultural operation of the intercrops. For achieving the goal of increased income of a farmer, it is necessary to identify real causes for low reception of information on intercropping as an innovation and then take measures to diffuse innovation on a long run approach.

Plant protection measures : Reception of information scores of sugarcane growers in this practice ranged from 1 to 11, the average being 5.7. Sixty eight percent of sugarcane growers had low information received in using plant protection measures while 32 percent had moderate reception and none had high reception of information (Table 1). There are a number of harmful insects and diseases of sugarcane which cause considerable damage to sugarcane crop (Ahad *et al.* 1987). The growers thus need adequate information on insects and diseases of sugarcane. But the findings indicate that 100 percent growers received information from low to moderate levels. Information received at these levels could be considered unsatisfactory.

It was considered necessary to have an understanding about the comparative reception of information of sugarcane growers on four practices of sugarcane cultivation. For this purpose, an information reception index (IRI) was computed taking into account of respondent distribution by frequency in each of the four aspects of sugarcane cultivation using the following formula :

$$IRI = RL \times 1 + R_m \times 2 + R_h \times 3$$

Where, IRI = Information Reception Index of a particular practice,

RL = Number of sugarcane growers having low information reception in that practice,

R_m = Number of sugarcane growers having moderate information reception in that practice,

R_h = Number of sugarcane growers having high information reception in that practice.

Information reception index (IRI) for any of these selected aspects could range from 105 to 315 where 105 indicated low reception of sugarcane growers and 315 high reception of information. However, IRIs for four aspects ranged from 126 to 154. The rank order of indices is shown in the Table 2. The IRI for recommended varieties was the

highest 154 compared to 147 for intercropping, 139 for plant protection measures and 126 for planting method (Table 2). These facts indicate that sugarcane growers, in general, received low information in all four aspects of sugarcane cultivation. However, the extent of information reception by sugarcane growers in recommended varieties was the highest.

Table 2. Comparison of information reception of the growers on four practices of sugarcane cultivation.

Aspects of sugarcane cultivation	Information reception indices (IRIs)	Observed range	Rank order
Recommended varieties	154	126-154	1
Intercropping	147		2
Plant protection measures	139		3
Planting method	126		4

Considering information reception levels of sugarcane growers on four aspects of sugarcane production, it is assumed that increased production of sugarcane would remain far away if situations do not change significantly.

Computed overall information reception scores of sugarcane growers, when analysed on individual basis, ranged from 12 to 52 and the average was 23.8. Based on overall information reception scores, sugarcane growers were categorised into three levels viz. low reception (scores upto 25), moderate reception (scores 26 to 50) and high reception (scores above 50).

The highest proportion (61 percent) of sugarcane growers had low reception of information on four aspects compared to 35 percent who had moderate reception and only 4 percent had high reception (Table 3).

Table 3. Classification of growers according to their overall reception of information.

Categories	Sugarcane growers		Observed range	Average
	No.	Percent		
Low reception (upto 25)	64	61	12-52	23.8
Moderate reception (26-50)	37	35		
High reception (above 50)	4	4		
Total	105	100		

There is little scope of bringing more land under sugarcane cultivation in Bangladesh and hence, it would be wise to increase per hectare yield of available land. But the findings indicate that the information on the four aspects have not been received by sugarcane growers to a desired extent. Lack of proper knowledge, attitude and awareness about practices, non-availability of required inputs, poor economic condition and small farms of growers are presumably other factors responsible for the situation. Extension agencies need to take measures to identify real reasons for low reception of information on four aspects and then take necessary and specific steps for improvement of improved sugarcane cultivation.

Dissemination of information related to new varieties, new practices, plant protection measures etc. would be the urgent tasks for the concerned extension agencies. Hence effective extension programme need to be reorganized immediately to improve sugarcane cultivation.

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