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Research Article

Non-adoption and discontinuation of the recommended sali rice practices by the farmers of Jorhat district of Assam

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SUMMARY : The present study was conducted to determine the continuation and discontinuation of the recommended Sali rice practices and the reasons behind it. The present study was conducted in Jorhat district of Assam. The study revealed that the cent per cent of sampled farmers adopted the practices like seed selection and proper seed rate, 78.89 per cent adopted HYV, 48.88 per cent adopted proper fertilizer application, 64.44 per cent adopted line transplanting, 45.55 per cent adopted chemical pest control measure. However, the adoption was found to be low in practices like seed treatment, raising of seedlings in proper nursery, chemical disease control. Nobody was found to apply chemicals to control weeds. The study again revealed that 52.11 per cent, 91.66 per cent, 83.87 per cent, 34.09 per cent, 81.03 per cent, 43.90 per cent farmers discontinued the growing of HYV, seed treatment, raising of seedlings in proper nursery, application of fertilizer, line transplanting and chemical pest control, respectively.

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BACKGROUND AND OBJECTIVES

Rice is the principal staple crop of Assam and it occupies about 67 per cent of the total cropped area. In the year 2010-11, in Assam, rice was cultivated in approximately 25.71 lakh hactres with an annual production of 50.86 lakh MT. The yield per hactre in the state however is 1.97 ton/ha which is very low in comparison to the national average yield of 2.24 t/ha. This low yield of the crops shows that there is a wide scope for obtaining higher yield of rice in the state with the application of suitable cultural practices by way of giving training to the farmers to motivate them to adopt the scientific practices. The training of the farmers on the scientific cultivation of the crops can do a lot to reduce this yield gap (Gupta *et al.*, 1989). Therefore, in 1990, AAU with the active collaboration of TATA Tea Company made an attempt in 5 different districts of Assam namely Jorhat, Golaghat, Dibrugarh, Nagaon and Tinsukia to increase the productivity of Sali rice as the area under Sali rice is more than the other three types of rice grown in the state. In this collaborative programme, the scientists from the AAU directly interacted with the farmers and helped them in adopting the improved practices for enhancing productivity and income of the farmers and the material inputs were supplied by the TATA Tea estate.

Despite the fact that Indian agricultural research and extension have yielded handsome dividends by bringing out several revolutions and metamorphosing the nation's impressions from being a begging bowl to food grain exporting country, many of the potential agricultural production technologies and livestock production technologies are either being partially adopted by the users or totally rejected by them

(Singh and Sharma, 2001). More objectively, it has already been pointed out that the actual acceptance of the recommended production technologies (RPTs) is only about 30 per cent in India. The above scenario helped us to infer that the adoption pattern of RPTs is not uniform across the country and probably there was more orientation towards resource –rich farmers and well endowed areas in the conventional paradigm of technology design and delivery. It has also been pointed out that RPTs themselves are not appropriate to the small farmers and their production situation if blanket recommendation of these technologies is made (Chambers and Ghidyal, 1985)

The achievement under this programme was quite encouraging. Therefore, in order to see whether all practices advocated by the programmes were adopted by the farmers and also whether any of the adopted practices were discontinued, the present study was undertaken to find out the status and reasons of non-adoption as well as discontinuation of the recommended practices by the beneficiary farmers. The findings of present evaluative study will help the associated scientist in developing/ refining new technology as well as the extension managers in planning and implementing the similar line of programme in future.

RESOURCES AND METHODS

The present study was conducted in Jorhat district of Assam as this district had the highest no. of beneficiary farmers under this programme. The study was done after three years of completion of the programme. There were 12 villages adopted by three tea estates of TATA Tea Company in this district. From these adopted villages, 8 villages were selected purposively where the no .of beneficiary were comparatively higher. The villages selected for the present study were Midhakhat, Tengabari, Jagduar, Doloikakati, Dorokial, Tiruwal, Morongial and Eragaon. From the selected villages, 90 beneficiary farmers were selected proportionately following random sampling technique. The data were collected with the help of the structured interview schedule. The frequency and percentage of the farmers non-adopting and discontinuing the practices were calculated out against the 10 practices of Sali rice advocated under the programme. Also, perception of the attributes/ reason for non-adoption/ discontinuance of recommended practices were ascertained and ranked.

OBSERVATIONS AND ANALYSIS

The results of the present study as well as relevant discussions have been presented under following sub heads:

Status of adoption, non-adoption and discontinuation of recommended practices of Sali rice:

It is evident from the Table 1 that the cent per cent of sampled farmers adopted the practices like seed selection and proper seed rate. The similar findings were also reported by Mehrotra (1988). The Table 1 shows that 21.11 per cent of the farmers did not grow HYV seed and 52.11 per cent of the adopted farmers (78.89%) later discontinued it. In case of seed treatment, it was noticed that 73.33 per cent of the farmers did not adopt it and 91.66 per cent of the adopted farmers (26.66%) though adopted it because of the programme intervention at first time, later they discontinued it. Similarly, 65.55 per cent of the farmers did not adopt the scientific raising of seedling in the nursery and 83.87 per cent of the adopted farmers (34.44%) discontinued it. In the application of fertilizer, it was noticed that 51.11 per cent of the farmers did not adopt it and 34.09 per cent of the adopted farmers (48.88%) discontinued it. In the case of line transplanting also it was found that, this practices was not adopted by

Table 1 : Frequency distribution of adoption, non adoption and discontinuation of recommended practices of Sali rice (n=90)

Practices	No. of adopted farmers	No. of non-adopted farmers	No. of adopted farmers discontinuing the practices
Growing of HYV	71(78.89)	19(21.11)	37(52.11)
Seed selection	90(100.00)	-	-
Seed treatment	24(26.66)	66(73.33)	22(91.66)
Raising of seedling in the nursery	31(34.44)	59(65.55)	26(83.87)
Proper seed rate	90 (100.00)	-	-
Application of fertilizer	44(48.88)	46(51.11)	15(34.09)
Line transplanting	58(64.44)	32(35.55)	47(81.03)
Chemical disease control	21(23.33)	69(76.66)	10(47.62)
Chemical pest control	41(45.55)	49(54.44)	18(43.90)
Chemical weed control	00(00.00)	90(100.00)	-

Figures in the parentheses indicate percentages

35.55 per cent of the farmers and 81.03 per cent of the adopted farmers (64.44%) discontinued it. The similar finding was reported by Mehrotra (1988). Similarly in the area of plant protection, it was found that in chemical control of disease, 76.66 per cent of the farmers did not adopt it and 47.62 per cent of the adopted farmers (23.33%) discontinued the use of chemicals. Similarly in chemical control of pest, where 54.44 per cent of the farmers did not adopt and 43.90 per cent of the adopted farmers (45.55%) discontinued it after experienced with it. It is evident from the Table 1 that no. body of the sample farmers was found to adopt the chemical weed control measure.

Attribute/ reasons as perceived by the Sali farmers for non-adoption and discontinuation of recommended practices of Sali rice:

It is evident from the Table 2 that the practices like seed selection and proper seed rate were being fully adopted by the farmers as these are non-monetary in nature. The similar findings were also reported by Mehrotra (1988). The Table 2 shows that the reason of non-adoption of HYV seed was because of the fact that it was presumed to be risky and involved high cost. Also farmers expressed their unhappiness over the release of the HYV without making it available to the farmers, albeit they were convinced of superiority of HYV. Whereas the same practice was discontinued by many adopted farmers because they experienced that the HYV were more prone to pest and diseases and required more nutrition as compared to local variety and also not profitable without adequate irrigation facility. In addition to these, the HYV seed were not available on time. In case of seed treatment, the non-adoption was because of the fact that most of the sampled farmers were small and marginal in nature and hence, could not afford to buy the chemicals and also they think that they are growing reliable seeds and do not require to treat it. However, many farmers though adopted it because of the programme intervention at first time, later they discontinued it as the benefits of the seed treatment is not observed directly. Similarly, most of the farmers did not adopt the scientific raising of seedling in the nursery because of the more complexity involved therein and took time, however, most of the adopted farmers later discontinued it because after experienced with it, they felt that their own traditional practice was better. In the application of fertilizer it was noticed that farmers not adopting the practice was because of the lack of money and also it was not cost effective. Whereas some of the adopted farmers discontinued it because they experienced that application of fertilizer affects soil structure and texture and left the soil to a condition in which without fertilizer, it will not give good yield. In the case of line transplanting also, it was found that the reasons of non-adoption was that it was cumbersome and they do not have enough labour and time to spend on it where as many of the adopted farmers discontinued it as they did not find any difference in yield level as well as this practice being cumbersome and time consuming. The similar finding was reported by Mehrotra (1988). Similarly in the area of plant protection, it was found that the reasons of non-adoption of chemical, disease and pest control were lack of money as well as lack of proper knowledge, however, the same was later discontinued by the farmers as it kills the domestic animals and birds in the field and also the chemicals coming to the market are not effective in controlling the pest and

Table 2: Farmers perception of the attributes/ reasons for non-adoption/ discontinuation of the recommended practices of Sali rice

Sr. No.	Practices	Attributes/ reasons						
		Costly	Complex to practice	Non-observability of results	Time and labour consuming	Damages the production system	Non-availability	Own practice is better
1.	Growing of HYV	I	II	-	-	-	III	-
2.	Seed selection	-	-	-	-	-	-	-
3.	Seed treatment	II	-	I	-	-	-	-
4.	Raising of seedling in the nursery	-	II	-	I	-	-	-
5.	Proper seed rate	-	-	-	-	-	-	-
6.	Application of fertilizer	I	-	-	-	II	-	-
7.	Line transplanting	-	I	III	-	II	-	-
8.	Chemical disease control	I	II	-	-	III	-	-
9.	Chemical pest control	I	II	-	-	-	-	-
10.	Chemical weed control	I	-	-	-	-	-	II

diseases of the crop. It is evident from the Table 2 that no body of the sample farmers was found to adopt the chemical weed control measure because the problem of weed in Sali rice is very less for which they do not feel to apply chemical to control it as the hand weeding is sufficient for that.

Conclusion:

It may be concluded that attributes of technologies act as intrinsic and extrinsic motivators for their large scale acceptance by their users (Gowda and Jayaramaih, 1989). The frequency analysis shows that the programme has made its impact on a number of farm practices being adopted by farmers resulting in a moderate increase in production and productivity of the crops. The non-adoption of certain farm practices is to some extent due to gap found in the conditions under which demonstrations are carried out by the functionaries of the progarmme and the actual condition under which the farmers operate.

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