

## A STUDY ON THE RATE OF ADOPTION OF IMPROVED AGRICULTURAL PRACTICES BY THE NATIONAL DEMONSTRATORS OF TRIVANDRUM DISTRICT

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National demonstration programmes were started in the country during 1965 in order to convincingly demonstrate to farmers the production potential of high yielding varieties of crops on unit area of land, use of improved agricultural implements and balanced use of fertilisers etc. This study has been undertaken to study the rate of adoption of improved agricultural practices, by the farmers conducting the national demonstrations in Trivandrum district.

An evaluation of national demonstration programme in Bihar by Mishra and Singh (1970) revealed that demonstrator farmers reacted the innovation in a rather practical manner. They were concerned with high initial cost, complicated techniques and the amount of risk in relation to the cost. Pathak, Pal and Roy (1979) studying the impact of national demonstration in West Bengal revealed no significant difference in their knowledge regarding paddy cultivation between national demonstrators and others.

### Materials and Methods

Seventy nine farmer demonstrators who conducted the national demonstration programme organised by the Farmer's Training Centre, Trivandrum, Kerala during 1970 to 1975 were taken as the sample of the study. The response of selected farmers was secured through mailed questionnaire. The questionnaire was developed on the basis of a pilot study with a structured interview schedule. The responses of thirtyfour farmers were analysed in terms of pre and post-demonstration period.

### Results and Discussion

Adoption of recommended package of practices.

It is seen from Table 1 that 29 farmers out of the 34 respondents have been using the high yielding variety seeds and they were transplanting their paddy crop. This implies a 47.06% and 41.18% increase respectively in the adoption of the recommended practices. Similarly all the 34 farmers applied fertiliser to their paddy crop which evidenced a 61.76% increase on the recommended practice over that of those farmers who followed the practice even before the start of the national demonstration programme in 1970. The study also revealed that 26.47% increase in the use of insecticides/fungicides by the farmers involved in the demonstration programme in the district.

Soil testing and seed treatment practices did not have any popularity amongst farmers of the district.

### Use of manures

Twentyseven out of the 34 national demonstrators (Table 2) never used green manure in their paddy cultivation during the post-demonstration period, though the practice of applying green leaves has been recommended along with farm yard manure/compost. But 25 out of the 34 farmers applied cowdung, both in the nurseries and main paddy fields. Farm yard manure was also used by some farmers. Lime application was practiced by some farmers. Only two farmers responded to have been using ash for their crops.

Application of fertilisers by all the farmers has been found to be remarkably low with reference to the recommended dosages of NPK for high yielding varieties. Majority of the farmers preferred straight fertilisers than mixtures Factomphos (ammonium phosphate) and muriate of potash combinations have been favoured by 55.90% of the farmers.

### Adoption of high yielding varieties

In the popularisation of HYV programme, it is seen from Table 3 that 29 out of the 34 national demonstrators continued to use tall local varieties, as shown by the increase in their use in the post-demonstration period (1977) to that of the pre-demonstration period (1970). Similarly in the same year a reducing and stagnated level of adoption has been noticed in their adoption of the recommended HYV of paddy, namely IR-8, Jaya and Jyothi. Meanwhile, the variety Jaya doubled its trend as a popular variety in the district followed by Bharathi and Mashoori. Adoption of IR-8 has sown a reducing trend.

The 'Z' value is not significant which implies that the introduction of the high yielding varieties in the national demonstration programme has evidenced no significant change in the adoption behaviour of the farmer towards new varieties of paddy.

### Improved agricultural implements

Table 4 reveals that 24 out of the 34 national demonstrators possessed iron plough and they emphasised the necessity for deep ploughing and better tilth. Sixteen out of them also had sprayers enabling them to protect their paddy crop from pests and diseases. Eight farmers possessed pumpsets and 7 of them had the Japanese weeder which is not seen used at present. None possessed tractors or power tillers. The findings thus reveal that majority of the farmers possessed the most commonly used implements, namely, the iron plough and the sprayer. The farmers possessing pumpsets had sizable garden land for cultivation. Relationship between the farmers' personal characteristics and their adoption of HYV of paddy cultivation given in Table 5 reveals that age of



Table 3

Paddy varieties grown by the participant farmers before and after the national demonstrations

Local varieties	Paddy varieties grown by national demonstrators (N=34)				
	Before 1970	After 1975 (1977)	HYV	Before 1970	After 1975 (1977)
PTB varieties (Nos. 2, 9, 10, 20, 22, 28)	20	29	IR-8*	8	3
Kutticheradi	11	11	IR-5	1	3
Thulunadan	2	4	Bharathi	3	7
H-4	0	3	Jaya*	5	10
OTP-9x10	0	2	Triveni	3	3
Mangalapuram	2	1	Culture-28	3	0
Bhavani	0	1	Sabari	0	2
Rajameni	2	0	Jyothi*	1	1
UR.19	2	0	Aswathi	2	0
			Mushoori	1	b

\* Varieties recommended, z value = 0.0130 not significant

Table 4

Possession of improved agricultural implements by the national demonstrators

Agrl. implement/equipment	No. of farmers possessing the materials (N=34)
Iron plough	24
Duster	3
Sprayer	16
Pumpset	8
Power tiller	0
Tractor	0
Weeder	7

Table 5

Relationship between the farmers' personal characteristics and their adoption of HYV of paddy cultivation

Personal characteristics	Use of high yielding varieties.
Age	-0.140*
Education	+0.158
Land holding	-0.134

\* Significant at 0.05 per cent level.

the farmer demonstrators is found to be important with regard to the adoption of high yielding varieties of paddy for cultivation. A negative attitude among the old aged farmers towards HYV is evident. The findings reveal that young farmers are better adopters of high yielding varieties of paddy.

### Summary

A study was conducted amongst 79 national demonstrator farmers in Trivandrum district to study the rate of adoption of improved agricultural practices. Their responses through mailed questionnaire revealed an increased use of high yielding variety of seeds, fertilisers and plant protection measures. Jaya was found to be the popular rice variety followed by Mushoori and Bharathi. Young farmers were found to be better adopters of improved farming practices.

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### സംഗ്രഹം

തിരുവനന്തപുരം ജില്ലയിൽ നാഷണൽ ഡെമോൺസ്ട്രേഷൻ പ്രോഗ്രാം പ്രകാരം 1970-75 കാലയളവിൽ നടത്തിയ നെൽകൃഷി ഡെമോൺസ്ട്രേഷന്റെ ഫലമായി ജയ, ഭാരതി, മഷൂരി മുതലായ പുതിയ ഇനം നെൽദിനൂസ്സുകൾ കൂടുതലായി കൃഷി ചെയ്യുന്നതായി കണ്ടു. വളം, കീടനാശിനികൾ മുതലായവ പ്രയോഗിക്കുന്നതിലും അവർക്ക് ഉത്തേജനം ലഭിക്കുകയുണ്ടായി. മണ്ണു പരിശോധനയ്ക്കും കളനാശിനിപ്രയോഗത്തിനും അവരുടെ ഇടയിൽ പ്രചാരം കൂറവായിരുന്നു. ചെറുപ്പക്കാരായ കർഷകർ പുതിയ കൃഷിരീതികളിൽ കൂടുതൽ ഉത്സാഹം കാണിച്ചിരുന്നതായി പഠനം തെളിയിക്കപ്പെട്ടിട്ടുണ്ട്.

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