

STUDY OF HIGH YIELDING VARATAS Paddy (REPORT FOR THE RABI-WHEAT, PADDY AND JOWAR), 1969

1. The Study

Encouraged with the results of study conducted during 1967-68 to evaluate the High Yielding Varieties Programme, the Ministry of Agriculture requested for the continuation of the study during 1968-69. Accordingly, the study was repeated during the agriculture year 1968-69 covering three rabi Crops namely, wheat, paddy and jowar. All the major aspects of the Programme such as planning, programming organisation of input supplies, agriculture research and extension, extent of adoption by participant farmers, cash expenditure on inputs, yield levels, disposal of surplus incomes by selected respondents and problems of both participants and non-participants have been analysed.

2. Objectives

i) To assess the spread of the various high yielding varieties in different parts of the country and also determine the extent of such spread.

ii) To assess the reaction and attitudes of cultivators, participating in the programme and also examine the problems of non-participating cultivators: and

iii) To study the problems of implementation of the programme at different levels of administration such as state, district, block and village,

iv) To study the aspects relating to the production and multiplication of seed, assessment of requirements of various inputs, special measures taken to provide timely credit, technical guidance etc.

3. Sample Size/Criteria for Selection of Sample

The study was carried out in 32 development blocks for wheat, paddy and jowar and 96 sample villages covering 876 participant and 160 non-participant cultivators.

The sample of blocks was selected in two stages. At the first stage, requisite sample of districts for each crop-State combination was selected with probability proportional to area targeted for the relevant crop. The selection was **done** by the method of systematic sampling with probability proportional to size. At the second stage, one block was selected from each of the selected districts with probability proportional to area targetted.

In respect of each of the sampled blocks, a list of village participating in the programme for the relevant crop was prepared and a sample of 3 villages was taken with probability proportional to area targetted.

In respect of each of the selected villages, a list of cultivator-household participating in the programme for the relevant crop for the year 1968-69 was prepared and arranged in the descending order of the size of holding. **From** the list so prepared, a systematic sample of about 10 households was drawn by the method of systematic sampling with equal probability.

4. Reference Period

Data were collected during 1968-69 rabi season.

5. Main Findings

1. **The liberalisation** of cooperative credit as in the earlier years continued during this season. There were no dearth for cooperative credit.

2. The departmental loans were given in kind while the cash **component** of cooperative credit varied considerably from state to state and was generally higher for paddy (40.3 per cent) compared to wheat (17 per cent) Relatively, the cash component was quite less (10 to 16 per cent) in the selected areas of Punjab, UP, Kerala and Orissa.

3. Slightly **less than** one third of the sample participants reported borrowings for cultivation of HY Varieties.

4. The per hectare cash expenditure on inputs for the cultivation of these varieties was the highest for jowar (Rs.1445) compared to that for paddy (Rs 1187) and wheat (Rs.580). But for all these three crops, the main items of expenditure were chemical fertilizers and labour charges.

5. In the earlier season the bulk of seed requirements were met through 'natural spread, both for paddy and wheat. The extent of treated seed supplied through such spread was very small for both these crops compared to departmental and cooperative supplies and needed urgent attention. Seed processing Centres had been started in a number of States but there was considerable scope to expand such facilities. Generally, supplies were adequate and timely and no shortage were reported from the observed areas.

6. In spite of favourable seasonal conditions rabi cultivation reportedly suffered, to some extent, because of problems of inadequate and untimely irrigation in Rajasthan, stoppage of canal water in the crucial months, frequent failure of power etc. in Bihar, delayed irrigation in Orissa and non-adherence to irrigation schedules by farmers in Mysore. On account of such natural conditions and problems of irrigation, Rabi cultivation suffered a setback in some of our selected districts in these states and targets fixed could not be fulfilled.

7. The new varieties such as IR-8, TN-1 varieties of paddy and CSH-1 and CSH II varieties of jowar had fared much better during the rabi season than in the kharif. In rabi 1968-69, a few new paddy varieties like Jaya, Padma and Hamsa and CR-28-25 had also been released for trials in Tamil Nadu, Andhra Pradesh and Orissa. A new jowar variety swarna was also under trial. S-227 and S-308 had become the most popular wheat varieties in all the wheat growing states during this season and pure Mexican varieties introduced earlier had been practically replaced.

8. In one third of the sample wheat blocks of this season, no demonstration programme was reported. This programme was insignificant in the paddy and jowar blocks. The detailed training programme envisaged at different levels in the initial year of the programme had become somewhat routine in nature and such training camps were reportedly held at different levels during this season.

9. About 55 per cent of the cultivators growing these three crops in the season in the sample villages reported adoption. The rate of participation was very high for wheat (73 per cent) compared to paddy (54 per cent) and jowar (12 per cent). Except for a slight decrease in wheat participants in Bihar, the rate of participants increased in all the relevant States for these crops.

10. **Preparatory** ploughing to the recommended extent was observed to be better adopted during the current rabi compared to last year rabi for all the three crops.

11, The average yield for the high yielding wheat varieties of all the selected participants worked out to 24.63 quintals per hectare, slightly less than the yield of last rabi season (26.56 quintals). In regard to paddy varieties the average yield was slightly more during the current rabi at 44.36 quintals per hectare compared to last rabi (42.18 quintals).

12. Among the selected participants about 95 per cent were willing to continue the wheat varieties and this proportion was relatively less for paddy (81 per cent) and jowar (about 75 per cent).

6. **Major Suggestions**

1. The need for increasing the cash component was stressed In our earlier reports mainly because of the heavy costs of labour and other items of expenditure. There is a case for review and revision of the existing system.

2. All the three crops were relatively free from pest/disease attack during this season in many of our selected areas. A few stray and mild attack of pests diseases was reported from the selected districts of Punjab for wheat and West Bengal for paddy. Since this problem seems to be persisting, suitable repair facilities at local levels needs to be organised on a priority basis.