

**EVALUATION STUDY OF THE HIGH YIELDING VARIETIES
PROGRAMME - REPORT FOR THE KHARIF, 1967**

1. The Study

At the instance of the Planning Commission the PEO carried out detailed evaluation study of the implementation of the High **Yielding Varieties** Programme during the kharif season of 1967. The focus was on planning, programming, organisation of input supplies and credit, adoption of the package of recommended practices and cash expenses incurred on cultivation and yield levels.

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 level 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

In all a sample of 865 participating cultivators and 622 non-participating cultivators were selected in 123 villages spread over 41 development blocks for the four kharif crops viz, paddy, Jowar, Maize and Bajra.

The sample of blocks were selected in two stages. At the first stage, the requisite sample of districts for each crop state combination had been selected with probability proportion to area targeted for the relevant

crop. The selection was made by method' of systematic sampling. At the second stage, one block had been selected from each of the selected districts with probability proportional to the area targeted. A sample of 3 villages was selected with probability proportional to size. From each of the selected villages, a sample of **about** 10 households was drawn by method of systematic sample with equal probability.

Cultivators not participating in the H.Y.V. Programme were listed in descending order of the size of holding and sample of about 5 was drawn by method of systematic sampling with equal probability. A sample of three registered growers was also selected for each block corresponding to the three villages selected for study.

4. **Referencne Period**

The study was conducted from May, 1967 to December, 1967 and the data were collected for the agriculture year 1966-67.

5. **Main Findings**

1. The programme was drawn up with the desired emphasis, urgency and seriousness at the higher levels of administration in all the states. Barring a few areas where no more than a casual or routine attention was given to this programme, by and large, this sense of urgency and enthusiasm had percolated in a good measure at the lower levels upto the village.

2. The Programme was not very successful in some areas and the factors responsible for that were non-acceptability of the variety, lack of irrigation, **heavy** cost of imputs and adverse seasonal factors etc.

3. It was observed that practically no trials/demonstrations were reported to have been conducted under actual farm conditions prior to 1966-67.

4. only in a limited number of blocks, the principles laid down for the' selection of villages and cultivators were strictly followed.

5. For all the high yielding seed varieties the quantities of seed obtained locally within the block were much less.

6. For distribution of hybrid seed, the co-operatives were an important agency and in their case the seed was supplied on credit for little over two thirds of the cases.

7. The supply of the chemicals fertilisers was mainly arranged through the cooperatives while for pesticides and equipment the departmental agencies attended to such distribution. The number of distribution points was considered to be adequate in the selected blocks and for the distribution of high yielding varieties of seed and pesticides, the distribution points recorded an increase during the current season compared to the last kharif season.

8. In the selected villages, 87.3 per cent of **the total disbursement** of credit was accounted for by co-operatives.

9. About a fifth of the cultivators in the selected villages reported adoption of high yielding paddy varieties during this kharif season while this proportion was of about the same order for jowar and maize and about one seventh for bajra.

10. The application of potassic fertilisers was reported only for about one tenth of the plots but the average dose per acre was nearer the recommended level. The proportion of plots covered under this type was not significant in any of the states.

11. A large proportion of irrigated maize plots (68%) reported basal dose of "N" fertilisers **and about one-third** of such plots had also the recommended dosage. In the case of other hybrid crops the proportion of plots obtaining basal dose upto recommended levels was substantially low.

12. The proportion of plots reporting top-dressing with-fertilisers was upto 77.2 per cent for maize, 75.8 per cent for Jowar and 55.4 per cent for bajra.

13. In the selected villages, more than a third of the area under the high yielding paddy varieties was covered by both preventive and curative measures. Among the selected participants about a quarter of them took preventive measures while the curative measures were taken by a large proportion (46 per cent).

14. The average cash expenditure incurred per acre for the high yielding paddy varieties worked out to about one and half times more than that for the other crops.

15. The average yield per acre for 500 harvests of the high yielding paddy varieties worked out to about 10 quintals. The variations were quite large as between the selected areas of different states ranging from about 15 quintals in UP to as low as 4 quintals in Orissa.

16. The superior genetic characteristics of these varieties like high yields, non-lodging and short duration were well recognised by the participants; but the negative aspect, such as, higher susceptibility to pests/diseases, expensive cultivation, unsuitability of varieties propagated for particular areas or climatic conditions, etc, were also expressed by the sample participants on the basis of their experience in the current season.

17. Among the hybrid varieties, the largest proportion who wanted to continue was for bajra (83.5%) followed by jowar (78%) and maize (57.6%). Similarly, among the non-participants cultivators the largest proportion who wanted to take up the cultivation of these varieties from the next season was for bajra (61.3%) followed by jowar (43.9%) and maize (15.4%).

18. The **reasons** for non adoption of high yielding varieties during the season were reported to be (1) physical limitations such as lack of irrigation or drainage facilities, (2) higher costs of inputs and labour, (3) non-availability of seed, (4) inability to take the risk of cultivating these varieties, (5) greater risk because of the varieties being more susceptible to pests/diseases and (6) lack of sufficient knowledge of all the practices.

6. Major Suggestions

1. A systematic programme of trial/demonstration on a scientific basis at all levels should be organised in the long term interests of the programme.

2. Although self-sufficiency within a block may not have been intended at this stage of the programme, it may be desirable to orient the programme in that direction in future.

3. There is need of a more even spread of the programme in future without any bias in favour of bigger cultivators.

4. There is a need to create adequate facilities for repairs and servicing of plant protection equipments at the district and block levels.

5. About a tenth of plots under hybrid jowar and bajra and a third of them under hybrid maize had received the prescribed number of ploughings. The performance in this regard showed considerable variations as between different States. Therefore, the solution seems to lie in enlarging the use of improved implements such as iron plough, power tiller and tractor in areas where there have not made sufficient headway.