

**THE HIGH YIELDING VARIETIES PROGRAMME
IN INDIA (1970-75) - PART-II - 1976**

1. The Study

Embarked upon in 1965-66 as an integral part of the so-called Green Revolution, the High Yielding Varieties Programme (HYVP) was an attempt to metamorphose the backward Indian agriculture, especially with respect to certain crops. Following the Joint Report on the operation of the HYVP in India, which had been brought out jointly by the Programme Evaluation Organisation (PEO) and the Australian National Academy in 1971, a more technical and profound appraisal of the performance of the programme during the period 1970-75 was released by the same team in 1976. The 1976 study, which confined to wheat and paddy, sought to make clear the long term trends in these crops for further analytical use of agricultural planning and research. The report provided a partial synthesis of the analysis of data compiled by all the surveys hitherto undertaken.

2. Objectives

- i) To examine the trends in the spread of the HYVP for wheat and paddy for the period ranging from 1971-72 to 1974-75.
- ii) To assess the adequacy and timely availability of various inputs.
- iii) To investigate the constraints upon further spread of the HYVP during the study period.
- iv) To review the planning and administration of the programme.

3. Sample Size/Criteria for Selection of Sample

The procedure adopted for the selection of states, districts, blocks and villages was identical to the one which had been followed in the previous studies. The States where the selected crop was grown extensively and to which the HYVP area targets of over one lakh hectares had been allocated for the Fourth Five Year Plan were selected. The chosen group included 4 States for wheat and 10 States for paddy. In the selected States, districts were grouped on the basis of their

participation indices in 1969-70 into three participation levels (high, medium and low) and the requisite number of districts were selected from each group. In each selected district, blocks with the highest and the second-highest targets were chosen for the study. The sample villages for the present survey (three from each selected block) were the same as those selected for the study during 1967-68 and 1968-69. 10 participant farmers were selected from each selected village through systematic sampling with equal probability of selection from the lists ranked by size of holding. The final sample comprised of 16 blocks in 8 districts from 4 States for wheat, 27 blocks in 14 districts from 10 States for paddy and a total of 1327 cultivators.

4. **Reference Period**

The field survey was conducted in two rounds, one in 1973-74 and the other in 1974-75. Primary data were collected for the period 1970-71 to 1974-75.

5. **Main Findings**

1. The spread of wheat HYVs was confined only to optimally irrigated areas. The expansion of paddy HYVs was even more limited due mainly to the suitability of available HYVs to only limited areas.

2. The application of fertilizers, especially of potassic and phosphatic fertilizers, was inadequate and unbalanced. This was due to multifarious reasons like inadequate availability of credit, ignorance of the gains from the use of potassic and phosphatic fertilizers, insufficient irrigation facilities, the overall fertilizer shortage in 1973-74 and the hike in their prices in 1974. Credit availability was better in IADP districts than in non-IADP districts.

3. Other perturbing problems included lack of regular replacement of HYV seeds, disastrous rust infestation combined with lack of rust resistant varieties and preventive treatment in the case of wheat HYVs, greater vulnerability of paddy HYVs to pest and disease attacks, lack of direction in the extension efforts, etc.

4. Due to greater stress on fulfilment of targets of area coverage than on field returns, the above mentioned constraints could hardly be appreciated and corrected.

5. Major Suggestions

1. The flow of credit in support of the Programme, especially to small and marginal farmers, must be monitored meticulously and co-operative agencies must be rejuvenated to ensure the required flow.

2. The assessment of the economics of fertilizers application by variety and quantity with reference to optimal and sub-optimal and varying soil conditions must be taken up by the State Agricultural Research Stations and Farms as well as the extension agencies. Official recommendations regarding doses and frequency of fertilizers to be applied must be communicated effectively to the farmers.

3. Research to develop locally suited varieties should be fostered and seed multiplication and distribution arrangements should immediately be reviewed.

4. With a view to develop the required information system a host of suggestions are mooted. They include (a) formulating realistic district-wise annual targets by taking stock of local constraints, (b) ensuring matching availability of complimentary inputs by framing proper targets and by conducting district-wise reviews of the same, (c) cross-checking and correcting the performance reports received from departmental sources through sample checks of estimates of achievements, (d) tabulating the data regarding variations in yield and interpreting the causes of low yields and (e) highlighting at the state level the results of the above mentioned action at the operation levels (village, primary co-operative societies).