STUDY ON THE USE OF FERTILISERS AND MANURES IN AGRICULTURAL PRODUCTION, 1967

1. The Study

The study was undertaken by the Programme Evaluation Organisation at the instance of Planning Commission and the Ministry of Food & Agriculture. The study report threw light on the administrative hurdles, the inadequacy of the soil testing appartus, the limited involvement of local institutions and inadequate supervision and follow-up of the demonstration programme by the extension agency & suggested certain remedial measures for streamlining, the extension of fertilizers use, augmenting the local manurial production in the overall schemes of agricultural production.

2. Objectives

i) To analyse the growth of fertilizer and manure inputs of specific crops;

ii) To study problems involved for stepping up the distribution and consumption of different types of fertilizers and local manurial researches;

iii) To understand the attitudes and responses of cultivators for this programme,

3. Sample Size/Criteria for Selection of Sample

15 States and Himachal Pradesh were selected for the study. In each State, two to three districts were selected, one of which was an Intensive Agricultural Programme District (Package) and other where the irrigation facilities were more than the average in the state; but the yield of the principal crop was lower as also distribution of fertilisers. In each district, two blocks were selected and five villages were selected in each of the selected Blocks. One of the these was the Headquarter village of VLW. 10 households were selected per village. The total number of households canvassed was 3,749 of which 3,084 were owner cultivators, 320 tenant cultivators and 345 others. 624 additional tenants/share croppers were also interviewed for the household schedules.

4. **Reference Period**

The report was brought out in 1967 and the record data were collected for the year 1959-60 to 1962-63.[1]

5. **Main Findings**

1. In the States of Bihar, UP and HP, the soil testing facilities existed prior to the Second Five Year Plan. By the end of the Second Plan, each of the 15 states had set up at least one soil testing laboratory.

2. Only 1.23 per cent of the sample cultivators reported that soil tests were carried out in their fields.

3. In most of the states there was a separate set up for administering the various schemes relating to the production of local manurial resources. Except in Assam, in the remaining States there was a state level officer exclusively in-charge of local manurial programme.

4. There was need to educate the average farmer to equip him with better knowledge of the technical aspects of the adoption of chemical fertilisers. In a little over 37 per cent of the sample villages, adverse soil effects including depletion of soil fertility, acidity and hardening of soils was apprehended while another 18 per cent of the villages reported no ill effects if fertilizers were used alongwith organic manures. Regarding yields on the other hand, there was better appreciation and only in 17 per cent of the villages, the non-response of yields to fertiliser application was reported.

5. Targets for distribution of fertilizers were generally fixed at the State level by the Agriculture Department except in Madras State where it was attended by the Revenue Board and approved by the Planning and Development Departments of the State Government. These targets were linked to the agricultural production targets indicated to various States by the Planning Commission at the time of Plan formulation.

6. There was no clear cut policy about the opening of additional fertilizer distribution points in any of these States.

7. A little over three-fourths of the respondents in package districts obtained their supplies from the cooperatives. The private agencies were resorted to only by less than one fifth of the respondents.

8. Among the different extension methods adopted, demonstration was one of the most important methods. The important stages in the process of popularising new agricultural practices, were trials and demonstrations. Simple fertilizer trials were conducted for some years in most of the States.

9. The Block Extension agency had been playing a major role in educating the farmers although some private traders were also doing similar work.

10. About 89.5 per cent of the sample cultivators in the package and 86 per cent in the non-package areas had acquired knowledge of one type of fertiliser or other at the end of 1962-63. The actual users among them formed about 68% and 50% in package and non-package areas respectively.

11. Proportionately, large number from each category of respondents (owners, tenants and others) had reported use of chemical fertilizers during 1962-63 in intensive development districts than in non-package distts.

12. By the end of 1962-63 nearly all respondents were aware of N Group of fertilisers in both types of districts. From amongthe knowledgeable persons, three-fourth from package and about half from non-package **area had begun** using fertilizers by the end of this period.

13. Next to N fertilizers, the most popular was the phosphatic group. By 1962-63, about three-fourths of those who were aware of any fertilisers in package and about 58 per cent in the non-plackage areas knew of phosphatic fertilizer also.

14. It was observed in the package districts that more than 90 per cent of respondents applying any fertilizers to the four crops viz., Paddy, wheat, sugarcane and groundnut, had also used N-fertilizer on part of their crop-areas.

15. In respect of sugarcane, large number of growers from intensive development areas preferred the use of fertilizer in combination with manure, while such preference was for exclusive use of manure in non package distts. Exclusive application of fertilizers for this crop was not very popular in either type of distt.

16. The combined use of fertilisers with manure for groundnut did not appear to be very popular in both types of districts. The crop being mainly unirrigated exclusive application of manures seemed to be the dominant practice in' package as well as non-package areas.

17. A bigger proportion of wheat area was either treated with fertilisers only or with manures than in combination.

5. **Major Suggestions**

1. The analysis of the state of knowledge among respondents of the recommendations regarding fertilizers and the.respective doses revealed need to equip the average farmer with better and skills to minimise indiscriminate and of this scarce input. The the selected the use of the urgent technology wasteful application integrated approach as conceived under the package of recommendations in intensive development areas, seemed to be the solution in all areas relevant for fertilizer application.

2. Streamlining the existing facilities on the basis of broad soil tracts, systematising the working of laboratories with adequate staff and equipment, ensuring a regular flow of samples to the laboratories, maintenance of proper records on the samples tested and resultant recommendations, quicker communication of the results to the cultivators through the extension officers functioning at the distt and block levels etc will go a long way in promoting the rational use of chemical fertilizers.

3. In the field of credit, the pressing need was to channelise all type of loans short or medium-term, through a single agenCy. Much more important was to make such loans production oriented and issue the major part in kind rather than cash, thereby minimising misutilisation.

4. In the developmen; of local manurial resources, there was an urgent need for better planning of the schemes rather than leaving it to the good sense and discretion of individual cultivators.

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