

EVALUATION REPORT ON DRYLAND FARMING PROGRAMME

1. The Study

Dryland agriculture has its distinct importance in the sphere of agricultural production. About 70 percent of the total cultivated area in the country is dryland/rainfed contributing about 42 percent of the total production of foodgrains. The dryland areas suffer due to frequent weather aberration resulting in crop failure and widespread unemployment. Since the cultivation in dryland areas involved high risks of crop failure, the farmers in such a situation, were unable to make high investment in their land for improvement.

In order to increase the agricultural production and improve the economic condition of the farmer, the dryland farming programme was incorporated in the revised 20-point programme to give priority to the programme through development of selected micro-watershed, use of improved drought resistant seeds, fertiliser, improved implements and agro-forestry programme, etc. The study was taken up by the Programme Evaluation Organisation at the instance of the Prime Minister's Secretariat to assess overall impact of the programme, its success and failure.

2. Objectives of the Study

The objectives of the study were as stated below:

- i) to study the strategy adopted and steps taken by various State Governments for the development of dryland agriculture with particular reference to the watershed development programme,
- ii) to study the organisational and administrative set-up available at the State, District and Project levels for project planning, formulation and implementation of the programme,
- iii) to assess how far the land management and crop production approach has been successful in minimising the risk involved in dryland farming and increasing productivity in the agriculture in these areas.

- iv) to study the extent of adoption of dryland farming practices by cultivators, the problems faced by them, their reactions and attitude, and
- v) to assess the impact of the programme on the target group of beneficiary households including the weaker sections of the society.

3. Sample Size/Criteria for Sample Selection

The evaluation study was conducted in 18 major states because the programme coverage in other states and Union Territories had been insignificant. In these states 32 districts were selected for the purpose of study with the breakup as under:

- (a) all the 6 districts, where Externally Aided Watershed Development Projects , were under implementation.
- (b) 18 districts in 13 States having Pilot and Model Watershed Projects.
- (c) in Madhya Pradesh and Uttar Pradesh where centrally Sponsored Pilot and Model Watershed Projects were in operation a sample of two and three districts, respectively were selected.
- (d) one district each in Assam, J&K, and Tripura were selected on the basis of probability proportional to the area covered under the State Sector Programme.

From each selected district two projects each from (a) Central Sector and Externally Aided Projects, and (b) State Sector Programme, completed upto 31st March, 1986 were selected.

A sample of three assisted cultivators from the list (divided into five stratum) from each stratum was selected at random. Further five non-assisted cultivators were selected from outside the watershed area.

4. Reference Period

The field work was conducted during the year 1987-88 and the secondary data were collected for the years 1983-84 and 1985-86.

5. **Main Findings**

1. The core programme of dryland farming relating to land development, moisture conservation and water harvesting structures was by and large implemented in most of the States by Soil Conservation Wing either within or outside the Agriculture Department.
2. The existing organisational set-up for implementing soil and moisture conservation programme was considered to be sufficient in six States, while in 11 States it was insufficient.
3. The existing arrangements for imparting training in watershed management programme especially in improved agronomic practices to make optimum use of soil and moisture conservation in the watershed areas was inadequate except in some of the States. Proper technological backup from the research organisations at the grossroot level was lacking in most of the States.
4. In ten States, the criteria for selection of watersheds could not be done/followed on the basis of rainfall, and type of soil due to complexities, delay and shortage of staff.
5. In 11 States sub-project approach to project implementation was not strictly adhered to. However, in 7 states project plan was formulated on sub-watershed basis.
6. The extent of subsidy on individual works under the State Sector programme varied among the states. It was also observed that it was less than the rate of subsidy provided under Central Sector programme in almost all the States except a few. It was reported that the differential rates of subsidy on the same type of schemes was not conducive to evoking favourable response from the farmer.
7. The programme suffered in 11 States due to inadequate and late release of funds. The position in all the states under State Sector programme was the same in all the states.
8. The programme of distribution of seed-cum-fertiliser drill in different states could not be followed as per the guidelines due to the local problems encountered. The seed-cum-fertiliser drill recommended was not found suitable under specific local conditions.
9. As a result of land development and water harvesting measures, in some of the states, additional area was brought under cultivation. In Maharashtra, 12,000

hectares of denuded private land was brought under mango and cashewnut plantation. In Tamil Nadu 79,000 hectares and in Karnataka 5.93 lakhs hectares were brought under cultivation.

10. In some of the States, new commercial crops like sunflower, castor, groundnut, chillies and grapes were introduced in traditional millet areas under dryland farming programme. Long duration varieties were substituted by short duration high yielding crops and more than one crop was raised on the same plot.
11. The major problems faced in implementation of the programme in different states were: untrained staff for extension work, financial constraints impeding timely implementation of land development, lack of cooperation between soil conservation and agricultural Extension staff, and lack of technological back-up from Research Institutions.
12. Although Watershed development programme was implemented since 1983-84, majority of the beneficiaries became aware of different components of the programme during 1985 onwards.
13. A good number of the beneficiaries in a few states reported no benefits derived out of the programmes either due to lack of rainfall or faulty execution of the programme.
14. For the selected assisted households having less than two hectares of land each, average value of kharif produce increased by 24 per cent. For other selected households proportion of increase in value of kharif produce recorded an upward trend with increase in holding size. The average value of rabi produce per hectare increased over the same period in respect of households having less than one hectare land. In Tamil Nadu, the value of rabi produce per hectare recorded downward trend due to failure of rain.
15. Maximum number of the households reported execution of soil and water conservation measures on their land. Ratio of those having received loan and subsidy as percentage of total number in the respective holding size group, showed an upward trend for the first three holding size groups.
16. It was observed that the programme provided only marginal increase in farm employment opportunities to the selected households having less than one hectare cultivated land. For other groups no improvement in situation was reported.

17. The soil and moisture conservation programme had resulted in increasing productivity of land. There was 12-16% growth in average yield of ragi and Jowar, while there was 9% growth in yield of blackgram and soyabean over the same period.
18. Average value of farm land acquired per assisted household, showed an upward trend with increase in holding size. 28% of the households reported that they had irrigation sources for cultivated holding of less than one hectare each.
19. About 46% of households reported quality of work executed as very good and 42% as satisfactory, whereas 11% reported quality of work as unsatisfactory.
20. About 63% of the assisted households reported increase of yield per hectare following the implementation of dryland farming programme.
21. Only about 7% of the assisted households faced harvesting and threshing problems after the commencement of the programme.

6. Major Suggestions

1. The scope of the state level Coordination Committee should be widened for inclusion of all the dryland farming programme in the state. Where there is no Coordination Committee at any level, the district level coordination committee should be formed with Collector as Chairman to ensure effective coordination among all participating agencies.
2. Involvement of Agencies like Animal Husbandry, Sericulture and Fisheries in dryland farming programme, wherever necessary, needs to be strengthened.
3. In order to encourage participation of the people in the programme successfully there should be uniformity in the rate of subsidy for the same type of schemes, whether under Central or State sectors.
4. Funds should be provided timely for implementation of dryland farming programme effectively. There is also need to form a uniform pattern of financial assistance to various watershed development programmes in the State.
5. As far as possible, the dryland farming programme should be taken up on the lines of special area development programmes like Drought Prone Areas Programme, Desert Development Programme, etc. and special funds be placed at the disposal for this purpose.

6. A separate cadre free from other departmental activities should be created for implementation of dryland farming programme. This cadre should also look after agronomic aspects of the programme. Karnataka State model of implementing watershed development programme through District Watershed Team having full time core staff should be set up in all the States.
7. Cost of major land development works on private land under all schemes may be met fully by the Government in the first instance but later on it should be recovered through easy instalments.
8. There is need to tone up the existing credit and distribution system in such watershed areas where land development works were completed.
9. Crop Insurance alongwith improved agronomic practices should be introduced as an incentive to cover the risks of crop failure in dryland areas.
10. Reporting system under dryland farming programme needs to be streamlined for proper documentation of benefits flowing out of the programme.