AN ACCOUNT OF PROGRESS MADE BY INTENSIVE AGRICULTURAL
DISTRICT PROGRAMMES IN RAIPUR DISTRICT AND
EXPERIENCES OVER A DECADE.

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CHAPTER XIII.

AN ACCOUNT OF PROGRESS MADE BY INTENSIVE AGRICULTURAL DISTRICT PROGRAMMES IN RAIPUR DISTRICT AND

EXPERIENCES OVER A DECADE.

The programme has completed 10 years of operation by 1970-71. During this decade efforts have been made to achieve the immediate or short term goals of rapid increase in the level of agricultural production through technical, financial, material and extension
Scale: 1 CM = 10 inches Rainfall and 10 maunds paddy.

Rainfall

yield per acre.

100

30

80

90

60

40

30

20

10


Figure: 11

Correlation Between yield Rates and Average Rainfall in Raipur District.
resources. In the long run the programme aimed at modernisation and commercialisation of agriculture through improved technology. It has been observed that neither of the goals has been fulfilled by the package programme except in zone I where some farmers have achieved promising results due to adequate irrigation facilities. The yield rates vary with the average rainfall in the district as agriculture, mainly depends on rainfall. Out of the 10 years of operation, 6 years have been abnormal with low yield rates. The years 1965-66 and 1966-67, have been the worst drought years in the history of agriculture.

Table LXXVII.

<table>
<thead>
<tr>
<th>Years</th>
<th>Rainfall</th>
<th>Yield/Maunds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960-61</td>
<td>85</td>
<td>16.35</td>
</tr>
<tr>
<td>1961-62</td>
<td>100</td>
<td>15.87</td>
</tr>
<tr>
<td>1962-63</td>
<td>50</td>
<td>12.94</td>
</tr>
<tr>
<td>1963-64</td>
<td>75</td>
<td>17.05</td>
</tr>
<tr>
<td>1964-65</td>
<td>56</td>
<td>17.65</td>
</tr>
<tr>
<td>1965-66</td>
<td>20</td>
<td>5.93</td>
</tr>
<tr>
<td>1966-67</td>
<td>20</td>
<td>6.20</td>
</tr>
<tr>
<td>1967-68</td>
<td>40</td>
<td>13.00</td>
</tr>
<tr>
<td>1968-69</td>
<td>57</td>
<td>15.30</td>
</tr>
<tr>
<td>1969-70</td>
<td>55</td>
<td>17.90</td>
</tr>
<tr>
<td>1970-71</td>
<td>61</td>
<td>18.20</td>
</tr>
</tbody>
</table>

Coefficient of correlation = 0.7

Information based on official records received from package office.
As can be seen, there is a positive correlation of high degree between the yield per acre and average rainfall.

Coverage of programme:

The whole district has been covered under the package programme. The participation of the farmers has been enlisted by preparing farm plans which have been used as an education method to acquaint the farmers with new technology and as a base for the loan advancement. There are more than 2.46 lakhs agricultural families in the district of which only 35 per cent families have been covered under farm plans. In the initial years, the farm planning approach received satisfactory response owing to the curiosity of the farmers, but later on the enthusiasm faded away and the number of defaulters increased progressively. The severe drought years aggravated the situation. Moreover, there has been a good gap between the farm plans prepared and the number of farm plans actually financed. Only 68 per cent of the prepared farm plans were financed.

Consumption of fertilisers:
The package programme has not introduced any new input in the agriculture but it has tried to work-out the optimum doses of known inputs. From this point of view, the doses of fertilisers have been most disputable as the optimum doses have not yet been worked out, in the context of local conditions. In Raipur district, the difference between the recommended doses and actual doses of fertilisers is very high which indicates that the recommended doses are not realistic and locally adaptive. Even the advanced and progressive farmers have not used the recommended doses of fertilisers. However, the total consumption of fertilisers has gone up which indicates that the farmers are becoming fertilisers minded.

Table LXIII.

DISTRIBUTION OF FERTILISERS IN DIFFERENT YEARS (tonnes)

<table>
<thead>
<tr>
<th>Years</th>
<th>Nitrogenous</th>
<th>Phosphatic</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960-61</td>
<td>5100</td>
<td>450</td>
<td>5550</td>
</tr>
<tr>
<td>1961-62</td>
<td>8172</td>
<td>2100</td>
<td>10272</td>
</tr>
<tr>
<td>1962-63</td>
<td>8,500</td>
<td>348</td>
<td>11,851</td>
</tr>
<tr>
<td>1963-64</td>
<td>7,702</td>
<td>4,538</td>
<td>12,740</td>
</tr>
<tr>
<td>1964-65</td>
<td>12,600</td>
<td>11,471</td>
<td>24,071</td>
</tr>
<tr>
<td>1965-66</td>
<td>13,900</td>
<td>4082</td>
<td>17,982</td>
</tr>
<tr>
<td>1966-67</td>
<td>14,612</td>
<td>4,262</td>
<td>18,874</td>
</tr>
<tr>
<td>1967-68</td>
<td>28,000</td>
<td>13,000</td>
<td>41,000</td>
</tr>
</tbody>
</table>

Table continues.
Figure 12

Distribution of Fertilizers
in Raipur District.

Scale: 1 cm. = 5000 Tonnes.
The quantity of fertilisers distributed is still inadequate to saturate the whole paddy area which is little over 17 lakh acres. The private sector has also entered the field of fertilisers supply.

Improved seeds:

The high yielding variety programme has achieved success to some extent in the zone I owing to better irrigation facilities. The paddy variety Safari-17 is becoming popular in the district. Among other high yielding varieties, I.R.-8 has given satisfactory results, but now its use is limited to 6 thousand acres of area. Jaya, Kansa, and Jasma varieties are in observational stage. The total area under high yielding varieties is 1,50,000 acres of which Safari-17 has covered 1.50 lakh. The quality of Safari-17 possesses adaptability to local conditions.
and cultivation practices and possesses the quality of better marketability while other varieties involve complicated problems of plant protection, water management, and require keen supervision and heavy doses of fertilisers which the farmers cannot afford to.

Table LXIX.

**Distribution of Improved Seeds and Area Covered.**

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantity of paddy seed</th>
<th>Area covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>1966-67</td>
<td>2,271</td>
<td>27,000</td>
</tr>
<tr>
<td>1967-68</td>
<td>2,496</td>
<td>30,750</td>
</tr>
<tr>
<td>1968-69</td>
<td>10,507</td>
<td>40,500</td>
</tr>
<tr>
<td>1969-70</td>
<td>6,957</td>
<td>17,900</td>
</tr>
<tr>
<td>1970-71</td>
<td>7,040</td>
<td>1,05,405</td>
</tr>
</tbody>
</table>

Information based on the official records received from the Package Office Raipur.

As can be seen, only 1,05,405 acres of land out of total paddy area of 17 lakh acres, or 9 per cent of the total area has been covered under high yielding variety programme. The average yield of high
yielding varieties per acre is 25 maunds per acre in comparison to 15 maunds of local varieties, nearly 70 per cent higher than the local varieties.

Plant protection measures:

The plant protection has become an important factor in the improved agricultural practices since the incidence of pests and diseases has become common. The package programme has taken several measures including prophylactic measures, treatment of soils, and seeds with chemicals etc. Pest surveillance service has been started to gather enough information during Rabi season. Forecast warnings are broadcasted from Radio. Pesticides, insecticides, fungicides, weedicides, herbicides are distributed to the farmers in adequate quantities. But the plant protection measures as are not common in the district. Only few progressive farmers have been adopting the plant protection measures.

Irrigation potential:

The most limiting factor to the success of the package programme is the inadequate irrigation facilities. With the introduction of rural electrification, the irrigation facilities have increased to some extent. Adequate credit has to be made available for the electric pumps, oil engines and wells. The available irrigation facilities are protective and liable to fail in the years of scarcity. The total irrigated area in
the district is 17 per cent only. A programme of installing more than one thousand electric pumps has been undertaken by the electricity Board. There is also a plan for the extension of electric lines. But there is very little scope for the underground water supply. Hence, most of the electric pumps have been installed at the banks of the rivers or nullas. The success of tube-wells is also doubtful as the 75 per cent boring bores dug, so far, resulted in failure.

The water use and water management problems have not been tackled properly. The field channels are not properly built which involves waste of water. The distribution system of canal water is defective and often neglects the remote villages. The introduction of double cropping pattern has made the water use and water management more important.

Soil testing:

In order to determine the optimum doses of fertilisers, a soil testing laboratory was established in 1966. But the functioning of this laboratory is far from satisfactory. Only 50 per cent of the total soil samples were returned to the farmers after due recommendations. The farmers did not follow the recommendations made by the soil testing laboratory.
### Table LIX

**Progress Made by Soil Testing Laboratory.**

<table>
<thead>
<tr>
<th>Years</th>
<th>Samples received</th>
<th>Samples analysed</th>
<th>Recommendation returned</th>
<th>Per cent returned samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1965-66</td>
<td>1,200</td>
<td>1,200</td>
<td>1,200</td>
<td>100</td>
</tr>
<tr>
<td>1966-67</td>
<td>8,406</td>
<td>8,774</td>
<td>6,774</td>
<td>80</td>
</tr>
<tr>
<td>1967-68</td>
<td>3,615</td>
<td>3,064</td>
<td>2,404</td>
<td>59</td>
</tr>
<tr>
<td>1968-69</td>
<td>19,224</td>
<td>7,411</td>
<td>5,922</td>
<td>28</td>
</tr>
<tr>
<td>1969-70</td>
<td>21,222</td>
<td>7,805</td>
<td>6,301</td>
<td>30</td>
</tr>
<tr>
<td>1970-71</td>
<td>25,402</td>
<td>6,502</td>
<td>7,483</td>
<td>32</td>
</tr>
</tbody>
</table>

Information received from the soil testing laboratory.

**Improved Agricultural Implements Workshop:**

There is an implements workshop at district headquarters for testing and developing improved agricultural implements. The workshop has developed and tested the following implements:

1. Swastic seed drill,
2. Paddy threshing roller,
3. Raipur hoe,
4. Nongonari plough,
5. Chaufuli planter,
6-Burmees Satoon type puddler.
7-Kulbhaskar Rahat.

Of these implements, paddy thrasher has become common in the district, and most of the implements have been used for demonstrations at block headquarters which are held every year in Kharif season. At Raipur, there is only one firm which is manufacturing agricultural implements. There are few dealers in the town who supply the implements to the cultivators. The Raipur Bank of Apex Marketing Federation and marketing societies are also dealing in agricultural implements and pumping sets.

The agricultural implements need further improvements and adjustments according to local cultural practices.

The information unit:

At district headquarters, there is an information unit to disseminate the information regarding the new technology and new practices. This unit has served as an agency of propaganda or publicity of package programme rather than an extension agency to educate the farmers in new practices. The information unit is publishing a monthly magazine in Hindi "Raipur Krishi" which is useful to the literate farmers. Apart
from this magazine, some booklets, leaflets and pamphlets are also distributed among the farmers. The station at Raipur is rendering useful services by broadcasting "Dehati Radio Gosthi" programme and other useful and informative programmes in Chhattisgarhi dialect. There is one agricultural college at Raipur which can play a crucial role in solving various problems but no effective liaison has been established between agricultural college and district package office.

The inadequate facilities of transportation and communication in remote villages and mass illiteracy are two major obstacles in the effective dissemination of useful information at proper time. The information literature is prepared for the village level workers and extension officers who are unable to further disseminate it at proper time due to large area of operation and heavy work load. Most of the important leaflets and booklets are never read by the extension officers with interest as they are always busy in filling in complicated proformas or boring table work. The excessive paper work has marred the enthusiasm of the workers and affected the field work adversely.
The package programme has completed 10 years of its operation. In general, the programme has not kept its promise, specially in reaching all the farmers and providing an strong economic base to the rural economy. Basically, the programme aimed at the transformation of the rural economy from deficit to surplus; from subsistence level to business level; from consumption purpose to marketing purpose; from extensive cultivation cultivation to intensive cropping. But none of these objectives has been fulfilled. The short term objective of raising the yield levels and income levels of the masses has not been achieved. The heavy doses of fertilisers and high yielding varieties of paddy have produced comparatively better results in some of the villages of zone I, owing to irrigation facilities. But the average yield of paddy per acre in the district is still 10 maunds, only two maunds higher than the yield per acre in 1960-61. Moreover the difference between the yield rates of participant and non-participant farmers has not very high.

For the last few years the difference between the yield rates has shown decreasing trend owing to the fact that the non-participant farmers are also using some of the improved agricultural practices. On the whole the difference between the yield rates of
participants and non-participants remained 22.4 per cent only. Owing to the low yield levels, the input-output relationship has not been remunerative to participant farmers. Had the biological technology not developed and introduced in the district, the package programme would have been suspended in its initial stage as it was suspended in Tandara (Maharashtra) and Pali (Rajasthan) due to unsatisfactory progress. 97

In 1968-69, the district was divided into three zones on the basis of the irrigation facilities and the socio-economic conditions of the people. The zone I possessed adequate irrigation facilities, transport and communication facilities, and progressive cultivators. The zone II is mainly a tribal zone with light soils and poor irrigation facilities. The zone III is highly risky zone as the rainfall is erratic and scanty. The package programme has concentrated its attention on the development of zone I, since the zone II is backward and gives no response, and the zone third has been abandoned.

97- Cf. "In both the programmes (Package programme and Intensive agricultural area programme), the progress did not remain satisfactory specially regarding paddy crops, which was expected of it owing to the lack of fertiliser responsiveness of the varieties of seed used" remarked by the "Bharatiya Krishi"-towards self-sufficiency, Hindi, (Delhi: Publications Division, January 1971) 97, pp. 6-7
declared as dangerous area owing to erratic nature of rainfall. It is due to this reason, that most of the stage II villages have been selected from the zone I.

The economic disparities between the less privileged and privileged class of people have become visible. Only medium and large farmers have received the bulk of the benefits of the programme and the masses are still leading a sub-marginal standard of living. There has emerged a new entrepreneurial class of innovative of progressive farmers which is dominating the village affairs.

The problem of landless labourers has not been tackled properly. Hence the disparities between the landowners and landless labourers have become more acute. There has been a very little increase in the wage rates and the working days which do not provide adequate employment to the workers. The development works i.e. building of roads, Malla bunding, digging of tanks and canals, development of cottage industries and supplementary enterprises etc., have to be developed in the villages to provide adequate employment to the agricultural labourers.
The excessive emphasis on credit factor has made the programme exclusively a loan oriented programme. The farmers have been overburdened with loans, the repayment of which created various problems. The co-operative banks do not provide consumption loans for which they have to depend on the indigenous bankers who charge exorbitant rates of interest. The complicated procedures of loan advancement cause irritating delays and involve unnecessary expenses. To sum up, the co-operatives have created more problems than they have solved.

Subjective changes:

The package programme aimed at an institutional and attitudinal change in farmers' attitude and in the village atmosphere. A change in farmers' attitude, understanding, desires and priorities was intended to have a serious departure from the traditional agriculture. In Raipur district more than 90 per cent of the people live in villages in a rigid atmosphere with their own idiosyncrasies. The antiquated customs, dead beliefs, superstitions, spiritism, whims etc. dominate the village life. The mass illiteracy and pauperism has compelled the farmers to lead a life of austerity with sub-marginal standard of
living. Most of the farmers and the labourers are hardly capable of meeting their bare necessities. The package programme struggled against the rigid constitution of village life to bring about a major break-through in the status-quo. There are few farmers who adopted the improved practices with little hesitation. There are others who have been reluctant to change their own methods of cultivation. Charles S Linabloom has observed that:

"There are peasants who are not ready and able to use new inputs. There are others who during the past few years have been asking for credit, denied them, who badger the most fortunate neighbours for seeds, superior to those they can get through the state seed farms, who even without credit are buying all the over-priced fertilisers that are available to them and who are eager to get the new technical knowledge that the village-level worker cannot because he lacks both time and training, give them." 96

The farmers have been grouped into four classes according to the responsiveness to the improved technology—innovative, early adopting, late adopting, and laggard. The innovative or progressive farmers adopted the new practices enthusiastically and frequently asked the extension officers regarding the new technology.

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The early adopting farmers, generally, followed the innovative farmers and the late adopting farmers took time in adopting the new agricultural practices. The laggards did not adopt the package of practices due to their small holdings, scarce resources etc. The laggards were found to be allergic to change. Most of the farmers are not ready to change their outlook voluntarily, unless some external forces do not compel them. The two severe drought years with several scarcity years have compelled the farmers to increase the food production either by purchasing more land or by adopting improved agricultural practices. In addition to this, the taste for luxuries and comforts has induced the farmers to increase the output. The attraction for city life is also developing in roadside villages. Most of the farmers have become fertiliser minded but they are adopting the recommended doses of fertilisers due to inadequate irrigation facilities and scarce resources.

Are the farmers becoming business minded?

The package programme aimed at modernisation and commercialisation of agriculture. Its main objective was to establish agro-industries and to develop agri-business in the rural areas. Unfortunately,
in Raipur district, none of these objectives has been fulfilled, as the agriculture has been a mode of living to most of the farmers rather than a business. The size of holding is very small. It is unrealistic to think about commercialisation of agriculture for next two decades. At present agriculture is a deficit economy to the farmers. Even the heavy doses investment in agriculture cannot lead it towards commercialisation unless the size of holding is made economic. Land is a scarce resource factor and the supply of labour is more than its demand which contributes little to the output and consumes the whole of its surplus. For commercialisation, agriculture has to make a surplus economy.

Changing pattern of agriculture:

In the roadside villages, the pattern of agriculture has changed to a great extent owing to the emerging needs of business. The pattern of wants and needs is changing with the introduction of city life in the villages. The use of small machines, electric and oil pumps, implements and chemicals has increased the knowledge of the farmers to some extent. The establishment of middle and Higher Secondary Schools in the villages has increased the number of educated persons in the comparatively advanced villages. The changing pattern of expenditure has reflected in the demand of luxuries and comfort i.e.
transistors, cycles, watches, costly clothings, cosmetics, ornaments etc. But the expenditure on production items like purchasing of land, land improvement, construction of wells, implements, machines has not increased considerably.

In the interior villages, there has been no change in the traditional mode of expenditure. The farmers still spend the bulk of their income on food articles, very little on clothings and houses, and almost negligible on education, health and land improvement. Apart from this, a considerable part of income is spent on gambling and drinking. At the time of Madai and Melas, people drink and dance days together and spend their income extravagantly. The progressive farmers maintain a better standard of living. These farmers hold a reputable social status in the villages. The extension officers receive satisfactory response from these farmers and generally concentrate their attention on these farmers. With the result that the nature of benefits has become centripetal rather than centrifugal.