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Oilseeds occupy an important place in the economy of the State. They are the main source of edible oil and their production affects the domestic availability of oil to a great extent. The continued stagnation in oilseeds production on the one hand and the continuously increasing demand for edible oils on the other, have led to an ever widening gap between their supply and demand. The overall deficit of edible oil in the country fluctuates from 3 lakh tonnes in good years to 8 lakh tonnes per year in bad years¹. This gap is filled up by imports or by soaring prices. India imported 10.74 lakh M.tonnes of edible oils at the cost of 516 crore rupees during the oil year 1980-81 as against 11.49 lakh M.tonnes of edible oils during the oil year 1979-80². The chief and the most glaring reason for the sorry state of affairs is the unsatisfactory performance on the oilseeds production and productivity front both of which have remained virtually stagnant or increased only at a snail's pace all these years. Our oilseeds yield continued to remain among the lowest in the world.

There are numerous physical, technological, economical and institutional constraints responsible for no or insignificant increase in area and yield rates of oilseeds. Lack of high

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1. National Dairy Development Board : Restructuring Edible oil and oilseeds Production and Marketing, Anand, Oct.1977, p.(iii).
 2. The oils and oilseeds journal. Oct.-Dec.1981, No.4,5,6, Vol.XXXIV, pp.31.

yielding varieties suitable for dry land conditions in which oilseeds are usually grown, risk of crop failure due to vagaries of monsoon rains, lack of institutional credit facilities, unremunerative prices and lack of an institutional mechanism for integrating production, processing and marketing of oilseeds are some of the major factors responsible for the stagnation of the oilseeds economy.

Now that the country has attained self-sufficiency in foodgrains, the oilseeds production and productivity should receive the top most priority in our agricultural development programmes. Not only should oilseeds research and development projects and programmes be fully backed and supported by liberal financial allocations but all efforts must be made to mobilise, streamline and gear all our resource man power as well as material, for achieving self-sufficiency in oilseeds production in the shortest possible time. In this context it is of utmost importance that a comprehensive, balanced and integrated national edible oils policy, with both short and long term perspectives, covering in its ambit all the facets and ramifications of the oilseeds economy, viz. oilseeds cultivation and productivity, processing, storage, marketing, distribution, pricing, credit, buffer stock, export and import policies, etc. be evolved and translated into action as early as possible. For this purpose, it would be very essential to set up an appropriate institutional frame-work for eliciting the

considered views and constructive suggestions of the concerned interests connected with the oilseeds economy, namely, farmers, trade, industry, consumers, bankers, agricultural research and development institutions and agencies, oil technologists, public sector agencies and organisations etc. in the evolution and formulation of such a national policy.

The realization of the facts that increase in oilseeds production will definitely influence the state economy on one hand, and the level of per capita consumption of protein and oil on the other, and attempt has been made to analyse the growth in oilseeds area, production and average-yield in five agro-economic regions of Uttar Pradesh. Now after making a detailed analysis of growth in oilseeds area, production and average-yield, regional yield variations, contributions of area and yield towards growth in production and the main constraints responsible for slow or no growth in major oilseeds in the state in the previous chapters, the following issues were raised for discussion :

1. What was the rate of growth of production and average-yield of major oilseeds in different regions of the state ?
2. Was there any significant differences in the yield rates of various oilseeds during Pre and Post-High Yielding Varieties Programme Periods in different regions of the State ?
3. What were the contributions of area and average-yield towards increase or decrease in oilseeds production during Pre and Post-High Yielding Varieties Programme Periods ?

4. What were the main constraints responsible for slow or no growth in area, production and average-yield of major oilseed crops in different regions of the State ?

Taking into account the growth, it was observed that growth rates for production and average-yield of major oilseed crops differed significantly during different periods of time and regions as well. Production of til, which is a Kharif oilseed crop, increased significantly in Central region during 1950-51 to 1979-80 at the rate of 1.76 per cent per annum which was also found maximum among five regions of the state. Western Region came next followed by Hill and Eastern Regions with 1.55, 0.79 and 0.05 per cent per annum growth rates respectively. Production of til declined significantly in Bundelkhand Region at the rate of 3.65 per cent per annum. Production of groundnut increased significantly in the state during this period. Bundelkhand Region showed maximum significant growth at the rate of 12.46 per cent per annum followed by Hill Region with 6.36 per cent per annum significant growth. Production of rapeseed-mustard, which is a main edible oilseed crop, increased significantly in all the regions of the state. Central and Bundelkhand Regions showed impressive annual growth at the rate of 6.25 and 5.48 per cent respectively. Linseed, which is a non-edible oilseed crop showed declining growth rates in all the regions but for Western Region where it registered a significant growth of 3.94 per cent per annum.

Castor is also another non-edible oilseed crop and like linseed all the regions showed a declining rate of growth. This shows that there is a tendency to grow edible oilseeds instead of non-edible ones by the growers. This may be due to the fact that edible oilseeds are in large demand these days and growers also get better selling prices for them.

In spite of the fact that production of groundnut and rapeseed-mustard crops increased in all the regions and that of til in some regions, productivity of all the oilseed crops but for rapeseed-mustard declined in almost all the regions. Even for rapeseed-mustard, its productivity increased only in Western, Hill and Central Regions at the rate of 1.70, 1.43, and 0.89 per cent per annum respectively. R.K. Pandey and Shanti Sarup³ also revealed the same trend from their study of performance and prospects of major oilseed crops.

Significant differences in growth in production were observed in different regions during Pre and Post-High Yielding Varieties Programme Periods in major oilseed crops. It was observed that production of til declined more rapidly during Post period as compared to pre period in Central, Bundelkhand, Eastern and Hill Regions. Production of groundnut declined significantly during Post-period whereas Pre-period showed a significant growth at the rate of 7.71 per cent per annum in the state. All the regions but for Eastern Region showed more

3. Pandey, R.K. and Sarup Shanti, 1982. An economic study of performance and prospects of major oilseed crops. Indian J. of Agril. Econo. XXXVII(3) : 394-395.

growth during later period. Rate of growth came down considerably in Western and Central Regions during post-period. Rapeseed-mustard production increased significantly at the rate of 4.09 per cent per annum during post-period in the state. Western and Central Regions witnessed significant rates which were higher than the state. Eastern and Hill Regions showed declining rate of growth during this period. Production of linseed increased rapidly during post-period in the state as well as in Western, Central and Bundelkhand Regions. The highest significant growth was recorded in later region at the rate of 7.54 per cent per annum. Production in Western Region increased despite decline in its acreage, whereas in other two regions it was due to acreage hike. Production of castor declined more significantly during post-period as compared to pre-period in all the regions except Western Region.

Thus, the growth in production of total oilseeds declined during post period due to sharp decline in til, groundnut and castor production. It is, therefore, evident that despite significant growth rates in area and production of rapeseed-mustard and linseed in Western and Central Regions, total oilseeds production could not be increased during Post-High Yielding Varieties Period. This shows that significant differences were obtained during the two points of time in almost all the regions of the state. In fact production, in general decreased at much faster rate in all the major oilseed crops, but for rapeseed-mustard, in almost all the regions. The findings reported by

Y.K. Alagh and P.S. Sharma⁴ also supported the same conclusions from their studies whereas R.K. Pandey and Shanti Sarup remarked that due to high fluctuations in productivity, the production of rapeseed-mustard and linseed exhibited high variability in the state.

A detailed analysis of yield rates of major oilseed crops reveals that a declining trend was observed in all the oilseed crops, but for rapeseed-mustard in different regions of Uttar Pradesh. Sharp deviations were witnessed in the yield rates of til, groundnut, linseed and castor during Post-High Yielding Varieties Programme Period which were statistically significant. Rapeseed-mustard yield in Western, Central and Hill Regions showed significant improvement during Post-High Yielding Varieties Programme Period over Pre-High Yielding Varieties Period.

Therefore, it may be concluded that yield trend of major oilseed crops, in general, deteriorated during Post-High Yielding Varieties Programme Period. Different reasons may be attributed to its decline. Firstly, marked decline in Kharif oilseeds acreage, which was diverted to paddy crop and secondly, slow growth in their irrigated areas, were responsible.

As regards relative contributions of area and yield for the change in the level of major oilseed's output, the analysis reveals that acreage contributed for more than 60 per cent production growth during pre period in Central, Eastern &

4. Alagh, Y.K. and Sharma, P.S. 1980. Growth of crop production: 1960-61 to 1978-79 - Is it Decelerating? Indian J. Agril. Econ. XXXV(2): 104-105.

Hill Regions for til crop. Decline in production during post period was contributed by more than 50 per cent decline in yield in Western, Central, Bundelkhand and Eastern Regions. Production of groundnut declined in Western and Central Regions due to more than 60 per cent decline in yield during post-period. Yield and area contributions declined more sharply during later period as compared to pre-period and area contributions were mainly responsible for any improvement in groundnut production during pre-period. Contributions due to yield remain neglected for increase in rapeseed-mustard production too and more than 90 per cent increase in its production was contributed by area during post-period. In some regions, marked decline in yield, restricted the production growth, despite huge area contributions. More than 100 per cent increase in linseed production was contributed by area growth in Western, Central and Bundelkhand Regions during post-period. All the regions showed marked improvement in yield contributions during post-period in comparison to pre-period. Castor production declined in all the regions of the state which was contributed by more than 30 per cent decline in yield during post-period.

Thus, it becomes evident from the analysis that sharp decline in yield was mainly responsible for the no growth in oilseed production. Yield, in fact, has not improved but has declined during last 15 years.

An analysis of constraints responsible for the unsatisfactory production of oilseeds reveals the fact that growing oilseed crops mostly under rainfed conditions is the burning constraint. The uncertain and erratic nature of monsoon and limited irrigational facilities, compell the farmers to grow these crops under rainfed conditions in all the regions. Lack of irrigational facilities also posses a problem of inadequate application of fertilizer since they require more water if applied in the soil. Non-availability of good quality seeds of improved varieties and lack of varieties for mixed cropping are also sharing their luck in restricting the oilseed production to the target. Poor germination of the seeds due to quality lacking enhances the cost and reduces the production of oilseeds. Varieties lacking in pests and disease resistance posses great problem every year resulting in poor seed quality and reduced production to the grower. Chemical control of these pests and diseases are very costly and the majority of the farmers with very low land base can not afford to bear its burdon. Therefore, it is very necessary to develop resistant varieties to control diseases and pests occurrence on the crop. Unsatisfactory post harvest techniques have also affected the oilseeds production in the state. Storage of seeds before maturity and after maturity causes great loss to the growers resulting in poor oil percentage and sometimes decay of seeds due to fungus.

It may thus, be concluded that oilseed crops are mostly grown under unassured irrigational facilities and rainfed conditions due to which they are mostly dependent on the vagaries of the monsoon. As a result of this the oilseed area and production were subjected to sharp seasonal fluctuations.

Test of hypotheses :

As to the hypothesis out-lined in Chapter II, we have seen that the hypothesis No.1 which states :

(i) "There has been decelerated rate of growth in area, production and average-yield of major oilseed crops, particularly after the introduction of High Yielding Varieties Programme in the State", is confirmed for all the oilseed crops but for rapeseed-mustard as discussed in Chapter-V. Next hypothesis postulated in Chapter III, which states.

(ii) "Increase or decrease in production of major oilseed crops was largely contributed by significant increases or decreases in acreage and yield", is accepted for all the oilseed crops as justified by discussions made in Chapter VII.

3rd hypothesis postulates

(iii) "There are significant differences in the average yields of different economic regions of Uttar Pradesh" is also confirmed on the basis of discussions made in Chapter VI. It is clear from these discussions that every region is significantly different from the rest in respect of climate and soil fertility.

4th hypothesis which states

(iv) "The growth rates in area, production and average-yield vary in different regions of the state", is also accepted on the basis of results and discussions made in Chapter Vth.
