

CHAPTER - XIII

SUMMARY AND CONCLUSION

Once there was a time when India was one of the chief oil seed producers in the world. But in Course of time India failed to produce oil seed proportionately with its growth of population. As a result India had to import 18 lakh tonnes of edible oil in the year 1987-88.

Notwithstanding the projected target of edible oil is 49 lakh tonnes for the 1990-91. Yet there is a doubt to meet the demand. To meet the deficial the index on per-capita oil consumption is 6.5 kg per annum. The projected population in the 1990-91 will be 850 million and on the basis of above index the requirement will be 58.80 lakh tonnes. Therefore, the deficiet will be approx 9 lakh tonnes.

West Bengal is one of the share holders of this deficit. We know that land is a limiting factor in West Bengal and the farmers of West Bengal are fragmented in various agricultural practices with various rituals on method of cultivation and Crop selection. They are following such traditional practice for long years. For this reason this is not possible to increase the yield rate of oil seed and also the extension of land for oil seed cultivation.

Of the total land used for oil seed cultivation in India, West Bengal possesses only 1.5% and the state produces only 3.2% of the edible oil produced in India. During the year 1990-91 there is deficit of edible oil which amounts to 3.5 lakh tonnes. My research work is on how to meet this deficeit.

Since 1947 we are thinking over the problem to meet the deficit of edible oil. But it remained static till 1966. From 1967 ICAR paid attention to this problem and in 1973 they appointed a Project Director for the same. In the year 1979 research work on groundnut at national level started at Junagarh.

During the Sixth Five year plan and later Govt. adapted 20 point programme on the oil seed production.

For the first year of the Seventh Five year Plan West Bengal made a radical change in the field of agriculture, but it was concentrated only on paddy. Later on due to awarances of the state agricultural department the production of edible oilseeds increased from 2.36 lakh tons in 1984-85 to 5.44 lakh tons by 1989-90. Still the deficit was 4 lakh tons.

On the basis of the above context I have considered the geographical situation and the geological background of West Bengal in Chapter III. Here I have been discussing the geomorphology and the slope of the land by which the surface topography, availability of agricultural land, growth of density and population is governed.

Bengal delta has taken a dominant part in the field of surface topography. We find varied relief setting of West Bengal from the range of the Himalayas to the Bay of Bengal which is made of the alluvials from the flow of the rivers which have come from Chotanagpur plateaue and the Himalayas.

In the IVth Chapter I have discussed regarding the climate of West Bengal. Agroclimatic zones of West Bengal have been determined on the basis of distribution of rainfall and temperature with the geomorphological characteristics.

The chief theme of the Vth Chapter is about the soil of West Bengal, which is guided by geology, geomorphology and climate. The classification of soil which we find in West Bengal is mainly characterised by the allivials of varied quality and quantity and age and its various mixtures.

In the VIth Chapter, the vegetation on the basis of soil and climate has been discussed. The forest resource has also been considered, as various oil seeds from tree origin, which can meet the deficiteit of edible oil in West Bengal.

In the VIIth Chapter I have considered the cultivation of various oilseeds of national and international standard according to agro-climatic zone condition.

All these oil seeds have been classified in three categories, crop, tree and other.

I have also made that classification of oilseeds, its yield rate, oil content etc.

In the VIIIth Chapter I have discussed the oilseed scenerio and the comparative study of various oilseed production in national and international level.

In the IXth Chapter my discussions are regarding the oil seed and edible oil production in India, cultivation of various oilseeds in different states, its main constrants, its agricultural methods, standard of seeds, agricultural practice, use of fertiliser, crop insurance, market, various administrative problems, problems of the farmers, trading problem etc.

The discussion has also included the minor oilseeds from tree origin, their chemical analysis, edibility, the geographical distribution of the trees and its possibilities of explorability in West Bengal. Besides, it has considered the other sources of edible oil, the present position of oil press technology, solvent extraction and chemical analysis and modernisation of oil mills.

In the 10th Chapter the light has been thrown on the district-wise oil seed production in West Bengal for the last five years with a comparative study of national and eastern region. Besides that the views and target of the technology mission on oilseed department of agriculture, Govt. of West Bengal, their various datas, analysis and projects and their target till the end of this decade have been analysed along with the expected budget. But it is found that the deficiency will remain yet the total achievement is performed.

In the XIth Chapter, in Cobb Douglos method I have analysed the gap on yield reta in West Bengal. I have tried to find out the variation on yield rate where I surveyed 150 agricultural farms of different characters. In this context I presume that the lack of awareness, administrative lapse, traditional agricultural system, want of market, lack of economic support etc. are responsible for the gap.

In the XIIth Chapter I have discussed on the consumption of edible oil and how high rate of fat and oil consumption creates health hazards in Indian climatic condition, our food habit, cooking practice and the non-visible sources of fat and oil in the common pulses cereals and foodstoffs commonly used in West Bengal.

I have surveyed in 35 towns of West Bengal among three different income groups and their consumption of fat and oil in summer and winter.

The main constraints in the way to accelerate oil seed production in the State of West Bengal are :

Preponderance of rainfed cultivation.

Inability/hesitation on the part of the farmers to use modern inputs due to high risk for yields and prices.

High cost and inadequate availability of certified seeds.

Susceptibility of oil seed crops to pest and diseases which causes substantial losses.

Inadequate use of improved agricultural implements for proper placement of seeds and fertilisers.

Problems of price support particularly in time of bumper production.

Measures:

- Increasing productivity of oilseed Crops through adoption of improved agronomic practices, such as vertical replacement, use of quality seeds, application of fertiliser in recommended dose, needbased timely plant production measures, irrigation and providing protective irrigation to rainfed crops wherever possible.

Proper marketing system.

Proper price policy.

Genetic improvement in yield potential of seeds, drought resistance, immunity from pests and diseases and shorter duration of cultivation period.

Intercropping - Linseed Ground Nut with sunflower, potato with mustard, Sugarcane with soyabean, mustard etc.

Relay cropping, paddy - Linseed, Sorghum - Safflower.

Extension of Safflower, Mustard Sunflower to dry land.

Replacement of low yielding seeds.

Introduction of hybrid Sunflower of short duration in suitable districts.

Popularisation of groundnut varieties responsive to irrigation and early maturity. Introduction of protoplasts, fusion, technology for genetic improvement.

Encourage large scale organised seed industry for foundation seeds and hybrids.

Encouragement of Sesame, Sunflower and Soyabean Cultivation.

Guarantee, procurement and price support.

From the technological point of view, the following measures are proposed for adoption:

Shifting of rice milling from hullers to shellers.

Modernise and improved hullers to produce bran containing more oil and less silica.

Encourage low cost stabilisers to inhibit lipase.

Encourage solvent extraction of mustard and other oil cakes to extract oil fully from oilseeds.

Optimise fatty matter in soaps without losing performance to reduce consumption of fats.

Better use of non edible oil for new and useful petro-chemical.

Permit new technologies such as inter stratification in the vanas-pati industry to improve product quality and nutritional value.

Permit in Corporation of colour and flavour in table margarine as a low cost substitute for butter.

Allow flavouring of oils through blending of different edible oil with a view to improving acceptability organoleptically and nutritionally.

Produce Single cell oil by genetic manipulation and fermentation.

Distribution of plant protection equipment, improved farm implements, sprinkler setts etc.

Increasing production of Rhizobium Culture for use as per need.

Organising seed village.

Demonstration of improved technology in farmer's field.

Distribution of input kits to weaker section.

The area covered under oilseeds cultivation to be increased on to have more land under cultivation of oilseeds or other oil bearing materials.

Choice of oil seed districts. Most of the districts in the State grow one or more oilseeds Crops to meet the local demand. All the districts are not suitable for each and every type of oilseeds cultivation. To give special thrust when resources are limited, it is necessary to classify the districts according to yield and risk rate.

Rice bran is a good source of edible oil. During the year 1989 West Bengal produced 106 lakh tons of rice, which was 14.9% of the national production. But out of which only 0.20 lakh tons was used for R.B.O. production. Efforts should be made to increase the rice bran oil production with the help of improved technology.

West Bengal is having a little quantity of edible oil from the tree origin. With the help of cooperative and other good management the oil bearing seeds of Mahuya, Karanga, Undi, Kusum, Sal etc. may be collected and with the help of improved technology these tree origin oil may be used as edible oil and can reduce the deficit of edible oil upto 10%. Forest Department is also advised to join with the movement for better plant protection, plantation and exploitation of such type of trees to meet the deficit of the state.

In case of marketing of edible oil in the state of West Bengal, the disproportionate railway freight rate between oil seeds and oil is also a major factor working against the oil milling industry in the state of West Bengal and the Central Transport subsidy is not adequate for hilly regions of West Bengal for the growth of the industry.

Whatever measure may be adopted for increasing the production of edible oil in West Bengal, there is a traditional practice of using mustard oil as the primal fundamental cooking medium.

As for climatic and physiographic condition of West Bengal, the growth of population is 2.5% per year. Besides West Bengal has to

share its oil production with other neighbouring states. Excepting conventional cooking medium, there is a need to popularise non-conventional cooking mediums. The government and other business organisations should make a publicity in this respect.

From the survey at national level and state level it has been found that a major section of high and middle income group are consuming a huge amount of fat and edible oil from the visible and non-visible sources. This mal distribution may come down after awaring the public regarding the less consumption of fat and edible oil and with the help of this effort some advantages also may be found to reduce the gap.

Proposed target in attaining self sufficiency by 1990-91

Increase oilseed production from

	Lakh Tonnes
a) Additional area under the Oilseed crop	0.75
b) Increasing the production	0.70
c) Modern crop technology	0.80
d) Crop substitution	1.50
e) Additional irrigated area	0.25
f) Improving small irrigation system	0.50
g) Better Dry Farming	0.20
h) Existing	4.30
Total	9.00

Additional production

a) Recovery of more oil from oil seeds	0.35
b) Better extraction	0.85
c) Rice bran oil	0.60
Total	1.80

Other Sources

a) Tree origine	0.20
Grand Total	11.00