

## **CHAPTER - II**

### **REVIEW OF STUDIES IN GROUNDNUT OIL ECONOMY AND AGRO BASED INDUSTRIES IN INDIA**

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## CHAPTER II

### REVIEW OF STUDIES IN GROUNDNUT OIL ECONOMY AND AGRO BASED INDUSTRIES IN INDIA

#### 2.1 INTRODUCTION -

Oilseeds are one of the important groups of cash crops in Indian agriculture. In 1991 oilseeds were cultivated on 24 metric hectares of land out of the total 190 mha. of gross cultivated area thus accounting for about 12.5 percent of the area in the country. The production of nine oilseeds including groundnut in 1991 was 18.5 million metric tonnes. Which amounts to a value of 13,700 crores rupees. Among the oilseeds, the most important crop of groundnut which is grown in A.P. Saurashtra area of Gujarat, parts of Tamil Nadu, eastern part of Karnataka Orissa and Maharashtra.

The research work done so far in the field of agro-based industries especially in the groundnut oil manufacturing unit has been very limited. The study of such agro-processing and manufacturing unit that is groundnut oil unit has throw-up in more details in this dissertation.

#### 2.2 THE IMPORTANCE OF OILSEEDS CROPS AND EDIBLE OIL -

Oilseeds crops are important as they are only vegetable sources of fat in the country. Edible oil prices have been an important issue of public concern for the last

25 years. The production of oilseeds has been growing rapidly from its low level of about 9 mmt. in the early 1970 the demand had grown faster till 1990-91. However now it is believed that in the year 1995-96 we are on the verge of achieving self sufficiency. Edible oil is regarded as an important of every man's diet and source of fats in human nutrition.

Even more important is the fact that Indian cooking styles require regular use of visible fat. Edible oil as well as vanaspati have been classified as essential commodities. A large section of the local middle class urban population, edible oils, have becomes an important commodity of consumption. Prices of edible oils therefore have come to assume a degree of sensitivity.

### 2.3 PRODUCTION TRENDS IN THE COUNTRY

Of all the oilseeds the more important oilseeds are groundnuts (5 to 7.5 millian tons) mustard ( 4 to 6 mt) Soybean (1.5 to 2.8 mt) and Coconut ( 6 to7 billian nuts) Safflower and Sunflower together account for about 1 millian tons. It is thus clear that groundnut account for well over 50% of the total domestic oilseeds production. Much of the oilseeds production in U.P. Bihar, Haryana and Panjab comes from oilseeds crop grown as mixed crop with wheat. The important crop produc ing states for the economy are thus Gujarath, A. P., Tamil

Nadu , Rajasthan , M.P., Maharashtra and Karnataka. These state together account for about 70 percent of the total domestic production.

Of the groudnut production 20 to 30 percent comes from Gujarath. Of this Gujarath crop 90 percent used to come from kharif groundnut production. Now Andra Pradesh, Tamil Nadu and Karnataka dominate the kharif as well as rabi groudnut production contributing more than 50 percent of the total groudnut production. Orissa is also becoming a major state for groundnut production in recent years It's share has increased to arround 9.5 percent of the total groundnut production. It is to be noted that 47 percent area of 3.5 lakhs hectare under groundnut in the state is from rabi summer groudnut. This picture has been changing since the beginning of 1980's and rabi production. Particularlly of groudnut was showing a larger share in the overall oilseeds production. The maximum yield obtained nation-wide was about 972 kg in 1981-82 and 1132 kg in 1990-91.

#### **2.3:1 PRODUCTION TRENDS IN MAHARASHTRA**

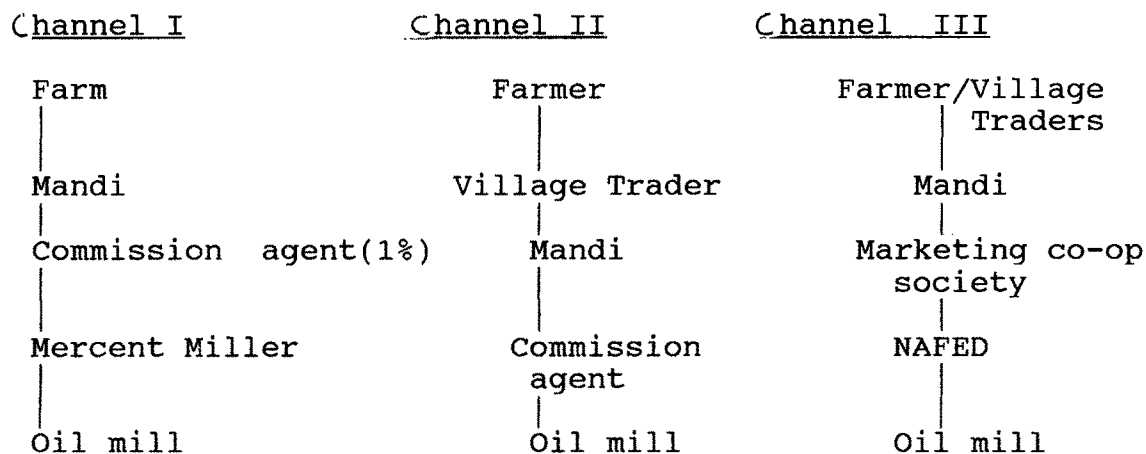
The area under oilseeds in Maharashtra has been increasing from 1.3 million hectares to 2.8 mill. hectares in the last 20 years. The irrigated area under oilseeds has widely fluctuated from year to year the maximum irrigated area was in 1983-84 and reached a level of 197 thousand hectares. Production of oilseeds in Maharashtra fluctuat€S widely. It was at a minimum

level of three lakhs tonnes in 1972-73 and increased to high of 1.9 million tonnes in 1990-91. In the recent past the production of oilseeds in Maharashtra has remained around 1.8 million tonnes, Groundnut in Maharashtra contributes only to 10 percent of the total groundnut production of the country.

### 2.3:2 TRADE CHANNELS-

The oilseeds commodities produced at the farm level reach the processing centres through the trade channels. The trade channels functioning in various oilseeds in states differ from each other depending upon the state and the seed. In the category of marginal farmers prefer to sell the produce through the village level trader, Large producers and producers in the category of rich farmers depends more upon the traders situated in nearby towns of mandis. The different elements of channel in groundnut seed in case of Maharashtra are shown in table 2.1

#### 2.1 Channels of Marketing of groundnut



## 2.4 THE OIL INDUSTRY IN INDIA-

Much of oilseeds industry is in the unorganised sector. The unorganised units operate intermittently, using casual labour without employing technically qualified staff for control on quality and equipments and for testing the seeds or the oil-expulsion by mechanical pressure can be done using different kinds of equipment. Traditionally in the country animal driven ghanis perform the task of mechanical expulsion of oil. The estimate number of ghani as given by livestock census in 1977. There are a total 131600 traditional ghani and 10,000 power ghanis. Out of this in Maharashtra a traditional number of Ghani in the year 1956, was 15617. This number has come-down over the years 1977 upto 1426.

The power ghani is run by 2HP motor. While the basic design of the improved ghani was not changed much of the wooden materials was replaced with iron. The table No. 2.a shows the performance of KVIC Assisted ghanis-

Table no. 2a Performance of KVIC Assisted ghanis

Organisation Items	1984-85	1990-91
1 Organisation		
Co-op Soci(Nos)	4690	4600
Registered Institution(Nos)	1104	1400
Individual (Nos)	12388	16000
2 Ghanis		
Bullock Driven Improved ghanis (Nos)	11746	10000
Power ghanis (Nos)	11633	15000

3 Production		
Oil & Cake (in Rs Lakhs)	18157.16	27000
4 Employment (Nos)		
Full time	33198	46500
Part time	34742	40800
5 Earnings		
(Rs. in lakhs)	1712.36	2700

#### 2.4:1 OIL MILLING-

The discussion is largely concerned with the oil mills using screw type expeller technology. It may be noted that the nature of the raw-material itself forces seasonality, in the working of oil mills. Several oil mills particularly the large scale ones have acquired facilities for seed cleaning and preparation etc. The precise nature for the operations necessary for processing oilseeds and relevant equipment are listed in 2.b.

Table 2.b Nature of operation & necessary equipment

Operation	Brief-Description	Equipment
1 Cleaning and removal of foreign matter	Evident	Manual cleaning
2 Seed preparation	heating by steam for facilitating expression	Hammer mills
3 Flaking	Preparing thin flakes from the seeds for easier with solvent	Flakers
4 Crushing	Removing oil from kernels by mechanical pressure	Expellers

5	Solvent Extraction of cake	Removal of oil from kernels by dissolving oils in solvent	Solvent extraction plants
6	Refining	Neutra lising free  fetty acids removing colouring matter	Refinery  unit
7	Filtering	Removal of suspended materials	filter presses

#### 2.4:2OIL RECOVERIES -

It is believed generally that recoveries of oil made by oil mills are insufficient. Groundnut seeds . Contain about 45 percent oil depending upon the variety for the groundnut processing plants from the 100kg on groundnut pods an average of 27.5 kg comes down as husk and 72.5 percent is the average weight of kernels. An average recovery of oil is 25.6 kg which is 36.5 percent by weight of the kernel. The balance 45kg of cakes contain the 6.12 kg of oil in it. Thus percentage of oil in the cake is about 13 percent on an averagae. This is regarded as inefficient. It is believed that the larger the quantum of oils (as an 45 percent of oil) extracted in the expeller units the more efficient is the extraction process.

Percentages of oils in the cake and recoveries in Ghanis and oil mills shown in following charts.



Chart No1

Material Balance or oil recoveries in Ghanis

G.Nut Pods

Decortication

Refraction & husk  
27.5%

kernels  
72.5%

Ghanis

Oil 21.75%

Cake 50.75%

filtered sale

Animal feed

transferred  
to plant

Chart No2 Material Balance & oil recovering in oil mills

G Nuts Pods 100kg

Husk and  
refraction  
27.5%

Kernels  
72.5%

Expeller oil  
26.5%

oil cake 45%

loss 1.0%

filtration

Filtered oil  
26.0%

Loss  
0.5%

Solvent extraction  
plant

Segn.oil  
4.0%

de-oiled cake  
41.0%

Acid oil and  
losses 0.4%

Refinery

Refined oil 3.6%

sale

## 2.5 IMPORTANCE OF AGRO-BASED INDUSTRIES IN INDIA-

Rural development has been receiving increasing attention in recent years from the central government and as well as state government. In view of its importance of the national reconstruction and development. Agro-based industries play a vital role in the development of rural economy. On which the national economy depends. In view of the improvement role played by agro-based industries in providing employment in rural areas and in bringing about an important in rural economy. In general the government of India has laid a special emphasis on these industries in recent years.

The most important long term economic problems facing by the country, is unemployment particularly disguised unemployment. This problem is becoming increasingly acute day by day. In spite of the plan effort to tackle it. The back log of unemployment which was 5 millions at the beginning of first five year plan. It increased to 15 millions in 1969-70 & now it was estimated the 40.35 millions in 1985-86. The increasing unemployment has been mainly due to the increasing labour force (working) unmatched by a similar increase in employment opportunities.

This fact highlights the vital importance not only of checking population growth but also of expanding employment opportunities in rural areas by means of rapid agro-based industries sector.

The development of agro-industries has assumed crucial importance in the economic planning & progress of the country. The over crowding of population & congestion of industries in few regions & cities have given rise to numerous problems, some of which such as housing, transport, water-supply drainage & slums, have become very acute and have adversely affected the quality of urban life. In light of these problems and in view of the fact the country is rich in various kinds of cash-crops and other material required for industries, the importance of agro-industries in the economy of the country can't be over emphasized.

Agro-based industries are linked with agricultural activity and consequently an inherent tendency towards decentralisation. The development network of small scale industries & agro-based industries and in some states may be expected to not only result in rapid industrial growth but also to reduce, inequitable distribution of both income and economic opportunities in different part of the country among different sections of the population.

The balanced economic growth through the development of agro-based industries is not merely an economic problem.

The technological revolution industrialization and high level of productivity attract more and more people from

agriculture and there by from the rural community. Two main factors according to the ILO (International Labour Organisation) Investigation for movement from agricultural at the level of relative incomes the opportunities for non agricultural employment. There is a great pressure of population on land and this pressure will increase with the advanced of agro technology and higher levels of productivity. It is therefore necessary to ensure that the agro-based industries and activities at various types and also the amenities of agriculture centre of an area comprising a more villages as to ensure that the surplus rural population is not uprooted from its location. The rural population will then be able to enjoy both the benefits of village life particularly a healthy atmosphere and amenities of urban life.

It is in this content that the agro-based industries assume permanent significance. They are the corner-stone of the economies of developing countries like India. It is necessary therefore that at least an important part of the development effort should by pass the big cities and directly concerned with the creation of an agro-based industrial structure in rural and small town areas.

## **2.6 CONCEPT OF AGRO-BASED INDUSTRIES -**

Conceptually the term agro-based industries implies proximity and affinity between agriculture and

industries. In other words agro-based industries based on agriculture for not only the better output which serves as it's input, but also all market for the farmers output which serve's as input agriculture such as agricultueal eequipments fertilizer. The planning commission has set forth criteria for to distinguish agro-based industries. which are --

- 1) Those which encourage greater input into agriculture.
- 2) Those which lead better processing and convesation of agriculttural commodities.
- 3) Those which insure high returns for porcessed goods
- 4) Those which increase agricultural production.

The national council of applied economic research has defined agro-based industries as those which use either agricultural raw material or make things (commodity) that farmer needs for their agricultural production. They includes not only seed fertilizers or other equipments like plangh oil engineen, power motors, tractors, bullock carts protection chemicals but also the repair sarvicing of farm implements.

Agro-industrial integration can be defined as an organic link between agricultural and the industires that we use agricultural raw material on the one hands and the industries that manufacture agricultural inputs and agriculture that uses from on the other.

The first is called as agro based industry and second is called agricultural based industry that produces agricultural inputs.

- 1) There must be spirit of inter-dependence between agriculture and industry.
- 2) Such industries must be use raw materials provided by agriculture and their output must have a market among the rural population.
- 3) Surplus rural manpower must be absorbed by these industries.
- 4) Imporved technology can be adopted in order to increase productivity.
- 5) Such industries should as far as possible use the individual technical know-how and conserve the froeign exchange by avoiding the import of machinery

## 2.7 TYPES OF AGRO-BASED INDUSTRIES IN INDIA -

Agro-based may be classified into four categories.

- 1) **AGRO PRODUCE PROCESSING UNITS:-** Those industry which merely process agricultural produce. They do not manufacture any new products they merely process only raw materials. So that it can be preserved or transported at lower costs. i.e. rice mill, groundnuts oil.
- 2) **AGRO PRODUCE MANUFACTURING UNITS:-** These units manufacture entirely new produce based on agriculture produce, as the main raw material. The finished products

of goods or entirely different from the original raw material for example, sugar factory, cotton textile industries.

3) **AGRO-INPUTS MANUFACTURING UNITS** :- Those industrial units which produce goods either for the mechanization for agriculture or a increasing a productivity of agriculture. Those units are directly linked with the agricultural sector, or they support at various stages, eg, chemical , fertilizer, seeds, industries, oil engine pumpset etc.

4) **AGRO-SERVICING SECTOR**:- Agro service centre are agro work-shop and equipment service centre which are engaged in repairing and servicing all types of agricultural equipment.

#### **2.8 BENEFITS AND SALIENT FEATURES OF AGRO-BASED INDUSTRIES:-**

The most features of the development of agro-based industries in developing countries like India is that industries integrate agriculture sector with industry, which is prerequisite for the prosperity of developing countries. The strategy of economic growth has to be such that it integrates the rural and urban sectors without any regional imbalance. This may be expected to be achieved to a great extent by locating agro-based industries in rural area of developing countries.

Another important aspect is that agro based industries, provides new opportunities of

employment and relatively small capital cost or small capital ratio. They also serve as a means for providing better employment opportunities to labour during the off seasons. These industries provide almost 2/3 of employment in developing countries. These industries are not only labour intensive but hold out a promise of relatively high propensity to save capital as compared to small industries and large industries.

Another important characterisation of agro-based industries is that they require a smaller proportion of imported equipment and materials, than the large industrial unit. An important element of the capital structure of agro based industries reduce the need foreign capital or foreign exchange which can be used to fulfill the requirement of other economic development sectors.

Another aspect of agro-based industries is that the share in the total production of all industries is nearly 50%. These industries also represent about 23% in terms of total value added in our country. Further agro-based industries operate a catalytic agent for the development of infrastructure sector which would bridge the gap between rural and urban economy.

An important aspect of agro-based industrial development is a capital formation. These industries do not have access to institutional finance.



They are started with the small savings of the family group and with investment which could not have normally gone into production activities.

Apart from the above aspects the agro-based industries help the agriculturists in following ways -

1) The establishment of agro-based industries will solve the problem of exploitation of farming community by traders and middleman.

2) Most of the agriculture commodities are bulky in weight and occupy a large space consequently the transportation costs are higher. If they are processed at the raw material source the transportation costs can be minimized and the farmers can get a fair price.

3) Some of the agricultural commodities are perishables it is better to process them at the raw material source in order to avoid wastage.

## **2.9 POLICY OF THE GOVERNMENT OF INDIA ON AGRO-BASED INDUSTRIES :-**

The Government of India has not considered agro-based industries as a separate, segment. for the allotment of funds in its five years plans. The rural agro-based industries are induced in village and small industries and urban agro-based industries are included in medium and large scale industries. However, village industries including agro-based industries have been accorded a

central place in the rural development programme envisaged in our F.Y. plans in view of their ability to offer large employment opportunities.

Both the protective and positive aspects of the policy were emphasised in the plans for the development of village industries, some steps such as differential direct subsidisation preference for village and small industrial products in govt. preference etc. were the important measures adopted. Agro-based industries have assumed crucial importance in the economic planning and progress of the developing countries where economy is by and large peasant oriented due to defects in the spatial and structural aspects.

The whole concept of Agro industrial production and marketing of the products lies around the urban interation of external demand for the manufactured products from the semi-urban and urban areas. But due to lack of proper assessment of consumers needs, product design, marketability price added and the industrial support are adversely affected to a large extent. A good amount of managerial competence is therefore required to ensure that the agro industry does not suffer any difficulties as well as loss. Rural development without agro-based industries is neither a new concept nor a novel programme. But its importance is increasing day by day. The main reason is the mounting problems centred around our lakhs of villages even with so muchh historic on their development .

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