CHAPTER -I

IMPACT OF AGRO-BASED INDUSTRIES ON
REGIONAL DEVELOPMENT IN SAURASHTRA
(GUJARAT)

I. A. Introduction

India, with traditional and agrarian economy, has made rapid strides in the agricultural sector since its Independence in 1947. In the last two decades (1970-1990) agricultural production has substantially increased on account of adaptation of modern farming techniques with high yielding variety of seeds, irrigation and increased use of fertilizer. Though the performance has shown considerable improvement in recent years, the agricultural production still remains dependent on variability of monsoon rain. Agriculture plays a pivotal role in the Indian economy contributing 33% of its total net domestic production. Agriculture and allied activities is mainstay of the livelihood of three-fourths of country’s population. Though the country has achieved self sufficiency in general and a good degree of stability in food grain production, the requirement of food security through proper distribution and purchasing power, has created an urgent need for providing diversified activities, based on agriculture and rural economy.

A large number of unemployed and under-employed people may have to find jobs in activities other than direct activity of land and the growing of crops. This is because man-land ratio in many parts of the country is already high such that engaging more
workers on land except for special occupations may not be very productive. As a result, labour forces are moving towards urban areas for better employment opportunities and much of the agricultural production remains in the hands of middlemen because of ineffective organizational set up and unplanned rural development. There is a need for creation of non-farm employment opportunities in rural areas to reduce the pressure of population on land and also to provide a wider base for the rural economy. There is an urgent need for integrating organizational, technological with modern industrial and agricultural enterprises which alone can generate new and attractive employment opportunities in villages and can provide substantially desirable prices for surplus agricultural produce. This in turn may have to be based on the processing of agricultural raw materials, by products and waste materials. Agro-industrial integration is one of the right steps in this direction.

I.B. Conceptual Framework

I.B.1. Defining Agro Based Industries (ABI)

Agro-industrial integration can be defined as “an organic link between agriculture and industries that uses agricultural raw materials on one hand, and manufactures agricultural in-puts and agriculture that uses them on the other hand”. (V. Venkaiah, 1985). Agro based industries may be defined as “Those industries which are engaged in either processing of products of raw materials or manufacturing them to finished products on the basis of primary and secondary products of agriculture and forest” (N. Rangaswamy, 1988). According to James E. Austin (1981) “An agro based
industry is an enterprise that processes agricultural raw material, including ground and tree crops as well as live stock products”. In other words, an integration of ABI ordinarily results in an integrated development of both agricultural and industrial sectors. Their mutual development has its own spread and multiplier’s effect on rural economy into a dynamic industrialized economy.

The Famine Enquiry Commission (1944) said that agro based industries are those which not only assist in the industrialization of the state but also are involved in supplying the farms with agricultural inputs, besides handling the products of the farms. The National Council of Applied Economic Research (1965) has defined “Agro based industries as those which use agricultural raw materials for their industrial needs. They include seeds, fertilizer, implements, plant protective chemicals etc. These include only items, but also repair and servicing of farm implements and machinery”. Agro based industries can be categorized at different level of transformative processes as shown in Table No I.1. In general, capital investment, transformed technological complexity increase in proportion with the degree of transformation. The purpose of transforming raw material or food is to create usable form, to increase storability, to create more easily transportable form, and to enhance palatability or nutritional quality

Agro based industries are unique because of three characteristics of their raw materials: (a) seasonality, (b) perishability and (c) variability. (James E. Austin) But all agro based industries do not share these characteristics equally
I.B.1.1. Seasonality

Agro industries are biological and their supply of raw material is seasonal. It is available at the end of the harvest or livestock - reproduction cycle. Although raw material supply is usually available only during one or two brief periods during the year, the demand for the finished product is relatively constant throughout the year.

I.B.1.2. Perishability

The raw materials used in agro-industries are biological and raw materials are perishable and quite fragile. For this reason, agro-industrial products require greater speed for processing and care in handling and storage, which can also affect the nutritional quality of food products by reducing the damage or deterioration of quality of raw materials.

I.B.1.3. Variability

Agro industries have variability in the quantity and quality of raw materials. Quantity is uncertain because of fluctuations in weather, in soil condition etc. Quality varies because of standardization of raw materials remain elusive even though there have been advancement in animal and plant genetics. These variations exert additional pressure on agro-industrial units in terms operations related to production, scheduling, and quality control.
TABLE NO. I.1
Categories of Agroindustry by Level of Transformative Process

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<td>Processing Activity</td>
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<td>Illustrative Products</td>
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<td>Fresh Fruits</td>
<td>Cereal grains</td>
<td>Dairy products</td>
<td>Instant foods</td>
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<td>Fresh vegetables</td>
<td>Meats</td>
<td>Fruits and Vegetables</td>
<td>Textured vegetables products</td>
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<td>Eggs</td>
<td>Spices</td>
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<td>Animal feeds</td>
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<td>Jute</td>
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<td>Cotton</td>
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<td>Lumber</td>
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<td>Rubber</td>
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Continuing these three, other characteristics also should be emphasized although they are not unique to agro-industries. The raw material in agro industries is usually the major cost component. Thus Procurement Operations fundamentally shape the economics of enterprises.

I.B.2 Types of Agro-Based Industries

Agricultural products and processed foods, including marine products, have been recognized as a major thrust area for development as they contribute significantly to foreign exchange earnings and help the country to reduce the problems of balance of payment. The food processing industry in India comprises of three groups. The first group consists of primary food processing units mainly rice mill, dal mill, oil mills etc. The second group consists of unorganized cottage industries including of traditional food units, processing units of fruits, vegetables and spices. The last group is the organized sector of food processing units with further division into the following sub sectors

(a) Primary food processing
(b) Fruit and vegetables processing
(c) Dairy and live stock products
(d) Fish and fish products and
(e) Consumer goods industry (processed foods)
The Annual Survey of industries (ASI) is the principle source of industrial statistics in India. It covers all factories registered under section 2 m (I) and 2 m (ii) of the factories Act 1948. The factories are classified into two sectors i.e. the census and the non census or sample sectors. The factories employing 100 or more workers constitute the census sector. The remaining factories constitute the sample sector. Along with this, the NIC of 1987 is being followed from ASI 1989-90. All the factories in ASI frame are accordingly classified in their appropriate industrial groups on the basis of the value of the principle product manufactured by them.

The project ideas from Network Consultancy Services Pvt. Ltd., Smt. Amin Savitaben presented at the National Seminar on food and Agro based industries at Hyderabad in 1991 classified ABI into seven broad categories as follows

(a) Marine and animal products
(b) Cereal and confectionery products
(c) Biotechnology products
(d) Dairy products
(e) Fruit and vegetable products
(f) Edible oils and non conventional source
(g) Miscellaneous items
The Central Food Technological Research Institute, Mysore had given a list of major processed product groups which they classified as ABI and food processing industries into nine groups as follows:

(a) Animal Products
(b) Beverage products
(c) Cereal products
(d) Confectionery and convenience food
(e) Equipment and machinery
(f) Fruit and vegetable products
(g) Microbial and fomentation technology
(h) Plantation and spice products
(i) Protein and speciality foods

All the classifications given by different government and non government agencies for food processing and agro based industries come under three broad groups i.e. (1) primary food processing, (2) unorganized cottage industries and (3) organized food processing units. In Saurashtra region the major three agro- based are taken i.e. cotton, groundnut and sugarcane based.
I.B.3. Agro-Based Industries and Development:

I.B.3.1. Door towards Agriculture Resources

Developing countries like India, cannot fully use its agroonomic resources without the development of agro-industries. Mechanical processing saves consumer’s time and effort and as economies develop these savings develop the concerned region and become more important to consumers. Thus the demand and necessity for agro-processing services increase, when the agricultural production increases. Agro-based industries are not merely reactionary, they also generate new demand in backward linkages to the farm for more or different agricultural output e.g. when backward linkage occurs they generally increase farm employment. Agro processing plants can open new growth of crop to farmers and by doing so, create additional farm revenue (Austin E.J). In some instances this has permitted farmers on subsistence level to increase their income by entering the commercial market. In other cases it has enabled new land which is unsuitable for traditional crops to be brought under cultivation of new crops.

I.B.3.2. A Milestone of the Manufacturing Sector

The importance of agro-based industries in the manufacturing sector of developing countries is often not fully realized. In most of the countries food and fiber processing units constitute the foundation of the nation’s industrial base. Nicaragua’s and Philippine’s agro-based industries are responsible for 69 percent of the value added in the industrial sector. Agro-industries are also important to the developing countries for
further industrialization. Chenery and Hoffman have documented that countries diversify in subsequent stages into non food and fiber products, frequently as part of strategy of substitution. The initial stages of industrialization draw on the countries natural agricultural endowment. A large percentage of the commercial sector is engaged in distributing agro industrial products Agro industries similarly contribute to financial sector and other service industries. Finally, industries manufacturing materials for agro industry such as agro chemicals and farm machinery depend on the demand for agricultural produce and this demand in turn depends on a viable food processing industry.

I.B.3.3. An Export Generator

The most important natural resource of many developing countries is agriculture. Agricultural produce has an international demand because production capacity frequently exceeds local consumption. Hence there is an opportunity for export. A nation must process the raw material into a form which is suitable for export even with minimal processing, such as drying grain, ginning cotton. By adding economic value to the produce, it can generate foreign exchange. The value added in agro industrial products tends to exceed that of other manufactured exports because other exports frequently rely on imported components whereas agro industries tend to increase the domestic percentage of value added by increasing the degree of processing of agricultural raw material.
I.B.3.4. The Nutrition Dimension

It has been estimated that over more than one billion people in developing countries are undernourished. By generating income and providing employment to low income workers, agro industries can improve diet of people and if agro industries stimulate increased food production for the domestic economy, they can furnish a country with a better chance for people to survive. The food processing industry is also important to the nutritional well being of the urban poor because of their dependence on commercial food channels. The income of the farmers from cash crops may or may not be large enough to improve family's diets. In any case the nutrition of low income, landless workers or urban consumers may suffer from such a rise in the price of staple food. Alternatively higher prices in the international market can lead to an increase in the export of staple food and a decrease in the domestic supply. Finally, some forms of processing can decrease nutritional value of food products.

I.C. Agro-Based System Analysis

Agro industrial sector is by nature intersectoral. The framework for the sectoral aspects of agro industrial projects is appropriate for two reasons. First, the nature of the raw material distinguishes agro industries from other industries that are not subject to the pressures and vicissitudes of agronomic forces. Secondly, processing differentiates agro industrial project from agricultural projects that focus primarily on production. Agriculture and industry must be seen integrated if an appropriate framework for agro
Figure NO: I.1
Flow chart for Agro-Industry

Source: Agro industrial project analysis 1981, Washington D.C.

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industrial analysis is to be developed. Agro business has needs, as these are involving individuals and institutions engaged in the productions, processing, transportation, storage, financing, marketing and regulation composed of operations, supporters and coordinators. The operating organizations are the farmers, transporters, warehouses, processors, and distributors who handle the physical commodity as it flows from the farm to market place. The supporting institutions are the farm suppliers, financial entities, and research centres that contribute to the system's operators. The coordinators are governments, contractors, markets and industrial associations that integrate the various stages at the food and fibre system.

L.D. Salient Features of Agro-Based Industries

The need for creation of non farm based employment opportunities in rural areas is to reduce the pressure of population on land and also to provide a wide, base for the rural economy. The scope and prospects of development of rural industries, particularly agro based industries are bright because in some parts of rural economy is undergoing a rapid transformation. Those are the application of scientific methods of farming and the use of modern techniques and implements, use of pesticides and insecticides and extension of infrastructural facilities including power, transports etc. The strategy of rural development is based on the potential for developing smaller and more dispersed agro based industries. These should not be neglected because this will include a whole range of units related to supply or servicing of simple agricultural implements, processing of agricultural products i.e. crops and utilization of all by products.

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The significance lies in linkage in relation to both forward and backward, in the process of regional development. The role of agro based industries in terms of development of economy can be considered as follows. The agro based industries have created income and employment opportunities in the rural base. These also have created opportunity for the utilization of wastes products. Secondly, ABI have effectively made use of local resources in integrating agriculture with industry. Thirdly, ABI have reduced regional disparities in socio economic progress and have promoted rural industrial entrepreneurship. Fourthly, ABI have solved the problem of exploitation of farming community by traders and middlemen. Fifthly, most of the agricultural commodities are bulky in weight and they occupy large space. Consequently, the transportation costs are high. If farmers process raw materials at the source, the transportation cost can be minimized and farmers can get a fair price. Some agricultural commodities, such as sugarcane, vegetables, fruits etc. are perishable, so it is better to process at the source of raw material in order to avoid wastage and cost of transportation.

Apart from the above aspects, the ABI will give big push to agriculture, because they absorb the agricultural produce and supply inputs to agricultural sector indirectly by increasing backward linkages to farm sector. ABI can play a critical role in the development because of their relationship to agricultural production in rural areas and marketing in urban places. Infrastructural facilities, like roads can allow processing plants to procure raw material and develop region’s agricultural resources more fully.
I.E. Importance of ABI in India, Gujarat and Saurashtra

Viewing in a historical prospective agro based industries are pioneering types in the initial stage of economic development of developing countries like India. In the initial stage, such industries are usually dispersed in rural areas using simple techniques of productions. These are labour intensive industries based on local raw materials. There is an urgent need to develop ABI to reduce the problems of pressure of population on land, under-employment, unemployment in rural areas on one hand and over crowding, environmental problems in urban areas on the other hand. The development of ABI will check people from migration from rural areas to urban nodes.

Looking at the needs of our rural masses the Central Government has created a new Ministry of food processing in July, 1988. In 1991 the government have taken initiative for various reforms through the new industrial policy. All the food processing industries (except beer, potable alcohol and wines) have been declined and most of food processing industries, which were hitherto considered as elite’s industries, have been given the status of priority industry. Automatic approval for foreign investment upto 51 percent of equity has been allowed except for those which are reserved for small scale industries and for which industrial license is required. Not only this, large number of processed food items have been exempted from excise duty, the customs duty on various plants and equipment has also been reduced.
Agro-based industry, engaged in the first stage of processing of agricultural products and wastes, should be given a special status. Such agro based industries, located anywhere in Gujarat, should be eligible for package of incentives to accelerate the industrial growth in the state. The new package offers capital investment subsidy, sale tax benefits, incentives to pioneer unit incentives, prestigious unit incentives and special incentives for setting up 100 percent export oriented unit. In the era of globalization, the private and public, and cooperative sectors also play their significant roles in the development of ABI. Research Organization, Ministry of food processing industries of the State Government and the Planning Commission have joined hands in evolving a comprehensive policy for agro based industries. So in developing countries like India which is very much dependent on agriculture, with fast growing population, higher degree of unemployment and underemployment, ABI have an important scope for developing manpower in agricultural regions. The Union Government has granted various facilities and duty concessions in successive budgets to food processing/ agro based industrial sector. After announcing the effective policy of ABI, foreign entrepreneurs are interested towards Indian economy.

Gujarat has everything going for it to play a major role in the agro and food processing industry. The state government seems to have realized this fact and has identified it as thrust area having enormous potential. Despite being one of the fastest growing state in the country, its agro and food processing industry is, however, teetering on the brink of uncertainty. A detailed study recently conducted by A F Ferguson and Company under the aegis of Confederation of Indian Industry (CII) recommended a vibrant agrarian
economy through agro-industrialization by deriving competitive advantages from its unique position in many commodities. (September 2000)

The major ABI in Saurashtra region are cotton ginning, pressing and spinning, edible oil refining based on oil seeds, sugarcane based, fruit and vegetable based industries etc. These have developed with increased production in agriculture. Because of developed facilities in forms of technical, educational, industrial training, development of GIDC sheds, marketing yard etc. entrepreneurs have readily developed infrastructural facilities for setting up industrial units in Saurashtra region of Gujarat. A close look at the data (Table No IV.8) regarding the pattern of ABI units in Saurashtra by district shows there has been the highest concentration of ABI in Rajkot (43.39%) followed by Bhavnagar (16.84%) and Junagarh (12.88%). The total industries in Saurashtra region cover 27.05% of the Gujarat’s total industries.

I.F. Major Problems and Prospects of ABI in Saurashtra Region of Gujarat

Agro processing industries contribute to the rural society with dynamic economic institutions and linkages which motivate farmers for better productivity, leadership, entrepreneurship and cooperative qualities in the rural society. This brings about changes in cultural attitude also. The development of agro processing is essential for the creation of employment in the rural areas and the resultant emergence of positive rural-urban linkages. But ABI in Saurashtra face several constraints. Those are as follows. There is a lack of adequate infrastructural facilities i.e. road transportation.
facilities etc., non availability of right quality of raw materials in required quantity at world market prices over a long period of the year. The existing units are using obsolete technology of processing old managerial techniques and are operating at lower uneconomic scales. About 70 percent of processing units are in cottage and small scale sector and are suffering from marketing problem on account of resources, skilled and quality labour. The high cost of packaging material of ABI is related to irregular supply, high incidence of taxes and excise duties, poor transportation and handling facilities and absence of quality on line, large capacity of packaging machinery etc. The major problem is inadequate supply of water facility and of high rate of electricity charges.

The ABI sector has high prospects for development of rural economy as well as regional development. The other areas of development which may be contributed to rapid growth of population in urban and rural areas with increased better standard of living with higher purchasing power. ABI can be developed in urban areas also as working couples with less time depend on fast food in urban areas due to increasing difficulty in getting servants. People avoid to prepared food at home but they go frequently to restaurants for fast food. Apart from this, ABI has capacity for saving post harvest losses in rural areas if it is set up at the origin of raw material. 35% to 40% loss of raw material can be reduced. Moreover, it has high potentiality for providing employment and raising the income levels of rural population at a relatively small capital cost, ABI has tremendous capacity to increase forward and backward linkages for developing regions.
This industry requires a much smaller proportion of imported equipment, material and institutional finance. They can be started with the small savings of the family. Moreover, non farm activities can reduce the flow of migrants into the urban areas. This will reduce the pressure on urban infrastructure (Islam 1987). Besides the domestic market opportunities, there also exists opportunities in the area of export.

I.G. Objectives of the study

The greatest challenge that India is facing is the problem of poverty. The problem is mainly of poverty of rural areas where 70 % of the population lives. The cause behind this is low resource base of very large number of farmers. The study intends to throw light from geographical prospective to understand the development of ABI and its impact on regional development in general. The objectives of the study are to understand how ABI can increase the income and employment and overall development of Saurashtra region.

The main objectives of the study are as follows:

1. To analyse the factors that are related to the spatial distribution of major three agro-based industries in Saurashtra region over a period of time (1970-71 to 1990-91)

2. To examine the growth of agro based industries in terms of units and number of workers in Saurashtra region.

3. To investigate forward and backward linkages of major agro based industries.
4. To study the association of regional development with agro based industries.

5. To highlight the main problems being faced by existing ABI and to suggest remedial measures for development.

I.H. Relevance of the Study

The relevance of this study is to understand the regional development in relation to agro based industries. The prospects of this industry is undoubtedly bright because majority of farmers in Saurashtra region depends on agricultural activities so there is a need to develop ABI activities so that people get jobs in their villages to improve their standard of living. It is important to study agro based industries as they have a vital role to generate substantial employment, earnings and foreign exchange of the country. It has also the capacity to value addition and reduction of post harvest losses in the agricultural sector. Besides the opportunities of domestic market and in the area of export it can contribute to open up rural society with the development of dynamic economic institutions and India's industrial policy. Industries will motivate farmers for better production, which will help to develop leadership, entrepreneurship and formation of cooperatives to work together in rural society. This study can also be useful for the Government for micro and macro level regional planning for developing economic activities. The study is also useful for agricultural entrepreneur, exporters, for their future plan. Study also gives remedial measures and suggestion for spatial distribution of ABI for an overall regional planning of Saurashtra.
1.1. Review of Literature

From the literature survey conducted for this study it is noted that there are few doctoral studies based on agro processing industries and those studies mainly deal with performance, financial aspects, locational aspects, size, structure and socio-economic aspects. Agro based industries are mainly in the small scale sector. Most of this research work in this field has been done from the point of view of economist and sociologist.

In the year 1965, the study of Staley and Morse identified eight types of factors favoring small scale industries and they placed them in three distinct categories i.e. locational advantage, processing advantage and marketing advantage. Along with this Mo in 1980 tried to classify Korea and Taiwanese industries under these three categories of advantage and found that locational and processing advantages are most important for prevalence of small scale industries. But in case of Korean and Taiwan he did not find marketing advantage factor to be so much important.

In 1988, Little presented different opinion. He found out that, considerable differences in size of employment, structure of six Indian states even though they are subject to same macro economic and industrial policies. Continuing this many others researchers made their studies in the large framework of the nation and came to conclusion that, the role of small scale industries in a developing economy is not at all peripheral or marginal but crucial and vital. They have emphasized the need for developing it with...
the right, status in the industrial structure and adequate share in the developmental plans. The studies made by Christopher (1974), Ramakrishnan. P. (1975), Sharma (1979), Sharma. K.L (1980) revealed that the main problem of the small entrepreneurs, are related to capital shortage, scarcity of raw material, labour and marketing.

Sundaram and Tendulkar (1988) in their study analysed, the size, structure of Indian manufacturing sector for the year 1974-75. Their study was constrained by inadequate number of industries in unorganized sector employing five or more workers. So they combined population census of 1971 and census of small industrial units of 1972.

Regional development is defined by many scholars differently according to the purpose of the study, because there is no such specific definition which gives a proper meaning of a region. The idea of the region has been much used and abused over the years and there have been numerous controversies and disagreements over its meaning. There are two divergent views: one idea is linked with natural region, while other is of subjective view. According to Hartshorne, regions are descriptive tools, defined according to particular criteria, for a particular purpose. Along with this so many other scholars have given different types of definitions according to purpose of the study.

Friedman defines regional development, which is concerned with the incidence of economic growth. It is ultimately the result of the location of economic activities in response to differential regional attractions. Shifts in the location pattern have direct
links with income, employment and welfare. Since spatial organization is a function of activity and interaction patterns, regional development is simply an expression of these patterns.

The regional development is the study dealing with the material well being of the people in a region. Material well being of the region or a country can be identified with the increase in the real production, availability of infrastructural facilities, amenities and services, better employment opportunities, practice and adaptation of new and modern technology and increased rate of investment, consumption. Any change for betterment in these parameters indicates regional development.

So far as agro based industries is concerned, Austin categorized agro based industries into three stages on the basis of degree of processing in 1981. He mentioned that higher degree of processing is accompanied by higher capital investment, technological complexity, management requirement and it is characterized by higher value added. Apart from this, Austin also suggested that raw materials are usually the major cost component in agro based industries which are characterized by seasonility, perishability and variability. Backward linkages, concentration of raw material and size of market can be used as important factors in planing size and structure of agro based industry.

The work of V.Venkiah (1987) dealt with manifold aspects of the rural economy and further he gave importance of this industry at a macro level. He also gave a comparison
between agro based industries and non agro based industries and it is known that agro based industries are more labour intensive and are oriented to rural development.

Srivastava (1989) observed that Indian agro based industry is divided into mineral mechanical, mechanical, mechanical-chemical and chemical, signifying higher degree of processing of order. He also observed some movement of agro industries from mechanical based to chemical based processing, but still mechanical processing dominates.

Y.G. Reddy (1996) in his study on rural industrialization examines the process of rural industrialization and its potential in the drought prone regions and agriculturally prosperous region. Further he also studied the growth of the rural industries in different agro climatic regions considering the intensity of drought process.

Unni Jeeno observed that agricultural prosperity and non farm employment are two inter linked sectors. According to him growth of agricultural production and productivity may create a surplus which may be invested in non farm enterprises. He argues that both the generation of agricultural surplus and changing pattern of consumption demand lead to an increase in the demand for labour in the non farm sector.
Bhattacharya S.N. (1985) studied economic growth and its problems in five backward districts of North Bengal, and concluded that in order to achieve higher economic growth, the potential exists for developing smaller and more disbursed agro related industries. These should be systematically identified for each local area and to be exploited to the fullest extent. Puttaswamaiah favored the establishment of those industries, which are local resource based. He also pointed out that the aim should be to create more opportunities per unit of output and investment.

This study pointed out the industrialization which leads to an increase in agricultural productivity as a consequence of change in structure and the intensive use of given resources in association with industrialization and high agricultural productivity, leading to better living standard.

Apart from this some models of dualism have been analyzed to know the problem correctly. We should agree with those economists, who advocate food sufficiency, importance of generating surplus for agro based industries, for labour intensive, employment for upgrading land augmenting technology, for orderly transfer of redundant population from the sector and for increasing the product market and factor contributing to agriculture.

Some other economists like Lewis, Nurks, Rostan, Mellor, Kuznets etc., have argued that transformation of agriculture is a pre-condition for the development of industrial
sector as well as for the overall development of the economy. If agricultural sector expands it provides cheap food, cheap and abundant raw material for agro based industries and will provide a vast market to industrial sector.

The Central Food and Technological Research Institute (CFTRI), Mysore also made pioneering contribution in the area of food packaging. A profile on food packaging was published by Dr. V. Prakash (1995). In his report he also covered all the updated information on the subject of food packaging specially applicable to India.

Apart from this, Gujarat and Saurashtra region have so many reports which have been published in the past. So far as agro based processing is concerned Sangais. P.J report (1991), pointed out for exporters entrepreneur and prospective entrepreneurs to help them for the location of unit. Along with this same type of report is generated and published by Gujarat Agro Industries Corporation Ltd. (GAIC in 1993), which dealt with techno-economic aspects of industry as well as govt. incentives and other tax benefits, packaging material etc.

The most comprehensive work on Saurashtra region has been done by Lakdawala. D.T. (1953). His contribution on economy of Saurashtra region is mostly based on secondary data. In his work he covers all the aspects of economic growth. Continuing this Joshi, Parmar and Joshi (1988) have contributed in changing pattern of sectoral behavior in regional economy but this study is a macro level study, which covered general aspects
of Saurashtra region and was based on secondary data. There is a seminar organized by Bhavnagar University in December, 1990. Many researchers presented their papers related to economy of Saurashtra with problems and prospects. Among them Kanzaria M.V. and Patel M.S., Sharma Usha, Shukla Rohit, Kuchhadiay D.B. and others, Faldu D.G., Sheth R.H., Vaidya T.K., Babria C.H., Shah R.J., Vaidha B.V. are some of them. All the papers were mostly based on macro level studies with secondary data.

The department of Small Industrial Service Institute (SISI in 1994-95) is also working in Saurashtra region in which the contribution of Meena Bharat Lal and Sharma Jugal Kishor is quite meaningful because their research is related to industrial development potentials in different districts of Saurashtra region. Along with this many scholars of agricultural university worked on agricultural crop and its impact on productivity.

I.J. Contribution of the Study

It appears from all the above studies that no concrete attempt has been made so far to examine the process of ABI and its potential in regional development. The need for ABI and non farm activities have been emphasized by so many authors but no study appears to have been attempted to examine the growth and locational aspects of ABI in different agro climatic regions considering its impact on regional development.

This study intends to throw light from geographical prospective to understand the impact of ABI on Saurashtra region and its developmental aspects. This study shows
the real picture of rural economy and transformation of rural economy in the light of change in lifestyle, occupation, social and cultural aspects and overall regional development in terms of facilities as a consequence of the setting up of ABI. The Saurashtra region is basically an agricultural region. The study shows the relationship between development and ABI with economic growth, because agriculture itself cannot fulfil the employment in rural areas. It can only provide partial employment. This study also throws light on geographical prospective to understand the factors related to special distribution, growth and locational aspects of agro based industry in Saurashtra. This study gives information about backward (raw material, labour, power etc.) and forward (market, transportation etc.) linkages of major agro based industry. In other words, relationship between development potential areas and agro based industry has been pointed out. For the planning strategy micro level study has been done in six villages of Saurashtra through field work i.e. oilseed based, cotton based and sugarcane based ABI. For each crop two villages have been selected to know socio-economic status of villages before and after the development of ABI in the region, and its impact on overall regional development over a period of time at a macro level. This is very important part of the study because it gives meaningful result both at micro and macro levels. The household information is also important in the study. The study shows main problems being faced by existing units and suggest that remedial measures for further development as well as prospects of development for Saurashtra region with the help of cartographic and statistical techniques.