AGRO-PROCESSING INDUSTRY IN UTTAR PRADESH

Emerging Structure and Development Potentials

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PREFACE

Over the years, the agricultural transformation through creation of forward and backward linkages with Agro-industry has been emerging as an important option to overcome from the increasing challenges of creating employment opportunities for increasing labourforce and sustaining the livelihood of households in rural areas. Most important point in the agro-processing is that a sizeable portion of raw material processed in them being rural based it has a very high employment potential with significantly lower investment. Agro-industry generates new demand on the farm sector for more and different agricultural outputs, which are more suitable for processing. On the other hand, development of these industries would relax wage goods constraints to economic growth by enhancing the supply of their products. In this context there is a need for improving the capacity of the agro-industries to harness backward linkages with agriculture and allied activities in order to efficiently convert part of the output to value added products acceptable to the domestic and international markets. This would generate employment opportunities for different types of skills through food processing, packaging, grading and distribution. At the same time this will transfer a size margin to farmers through market linkages.

In light of above highlighted importance of agro-processing industries in overall rural development in general and especially for achieving increasing employment opportunities and income level of rural people and thus to overcome the emerging challenges of unemployment and poverty in rural areas of the State the present study attempted to examine the emerging structure in, pattern and growth of agro industries, capital investment, output, production technologies, employment contribution, linkages in supply of raw material from the farmers, arrangements of marketing the final products, contribution and impact of agro processing industries in increasing income and employment of farm households, development prospects and emerging problems in operation of enterprises and kinds of measures to be initiated to strengthen the expansion of different products of agro- industries.

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I. Introduction/Objectives:

In the process of reaping advantages of establishing agro-based industries for achieving increasing employment and livelihood opportunities in rural areas it would be necessary to adopt a comprehensive long term approach towards the development of various food processing activities. Such planning exercise should be aimed firstly to examine the overall situation and pattern of existing industrial enterprises and then attempt should made to identify most niche based product groups of enterprises which possess certain location specific advantages in its sustainable development. This would not only provide a strong base and alternative option for creation of additional employment opportunities and avenues of income for rural households owning very small size of cultivated land and landless labourers within the rural areas itself but it would help in reduction in the rate of rural-urban migration of population.

Considering the importance of agro-processing industries in the development perspectives of overall rural development in general and realizing the expected role of expanding this sector for achieving increasing employment opportunities and income level and thus to overcome the emerging challenges of unemployment and poverty in rural areas of the State the present study attempted to examine the following issues:

- The emerging structure, pattern and growth of different product groups of food processing industries across the district, regional and state level in U.P.
- Size of capital investment and its sources of financing, output, generation of value added, production technologies, employment pattern, turnover and the contribution of different product line of industries in all groups of industries.
- The linkages established by industries for obtaining raw material from the farmers and other suppliers, procurement pattern, accessibility situation, prevailing practices of prices determination of different raw materials being supplied from different sources and the arrangements of marketing the final products.
- The development prospects and problems in operation of enterprises and required measures to be initiated to strengthen the expansion of different groups of industries.

- Evaluation of policy measures and incentives introduced by the central and state Governments and other institutions and agencies such as Khadi Gramodhyog Board / commission, APEDA etc for agro-processing industry and their usefulness in terms of the expansion and growth of different product groups of agro- based industries.
- Contribution and impact of expansion of agro processing industries in increasing income and employment of farm households.
- Assessment of the extent of wastage of farm produces vis-à-vis levels of processing for different horticulture and vegetable products.

II. Methodology and the sample design: The study has been based on both secondary and primary data. The primary data was collected among a sample of different product groups of 250 registered and 257 un-registered industries and 720 diversified and 360 non-diversified farm households across the nine agro-climatic regions of the state. Collection of primary data from both units and farm households was carried out with the help of structured interview schedule. The secondary data for the years 200-01 and 2006-07 was obtained from the ASI documents and other sources of State and Central Government.

III. Findings/Conclusions: Main findings of the present study are as follows;

1. Structure and Growth:

- A bulk of 42586 agro-processing units, out of a total of 44740 units were alone concentrated in un-organized sector with using low productive technology and know-how in their production processes.
- Share of agro-based industries in total industries was 26 per cent in the state. Among them, grain milling and animal feeds, sugar and other food groups of units were the dominant product group of agro-based industries accounting for over 17 per cent share in total existing industrial sector in the state.
- Share of agro-industrial sector in total employment was 23 percent. In output and gross value added its share accounted 21 percent and 9 percent respectively.
- Per unit invested capital and output in agro-processing industries was Rs.861 lakh and Rs 12865 lakh respectively as against Rs 779 lakh and Rs 1549 lakh at Rs.1211 lakh in non-agro- processing industries respectively.

- During 2000 to 2007, the **C**apital investment in this sector has increased over 94 percent and the growth of output increased 104 percent while employment grown at 21 percent.
- Contribution of agro-industries in capital investment, value of output, gross value added, net value added and employment in total industrial sectors has been remarkably increasing while the same has been narrowing down for non-agro-industries during the recent past.
- Over 68 percent of sample units were registered under Small Scale Industries Act. In terms of the legal ownership of Industries, 79 percent of them were operating under a signal ownership.
- **E**asy access to the availability of basic raw material and access to marketing facilities were the major factors for expansion of units at present location of 78 percent and 73 percent entrepreneurs respectively.
- Agro-processing industries were headed mainly by the young person's largely possessing rural background. 32 percent entrepreneurs had below primary education while 44 percent entrepreneurs had secondary education.
- 69 entrepreneurs moved from other economic activities to join present unit and 30 percent entrepreneurs were either un-employed or students.
- Nearly 63 percent of them were earning less than Rs 1 lakh per annual before joining / staring the present unit.

3. Pattern of Capital Investment and Profitability Pattern:

- Initial capital investment per agro-unit was Rs 47.96 lakh. Even the same for un-registered units accounted only Rs.3 lakh.
- **S**hare of machinery and other equipments in total invested capital was as high as 68 percent while per unit capital investment of un-registered and registered units was Rs. 84 thousand as against Rs 66 lakh respectively.
- 82.26 percent capital investment was financed from own sources by the owners of the present units.
- The fixed capital per unit increased from Rs. 43 lakh in 2005 to Rs. 64 lakh during 2011 accounting an annual increase of 10 percent over the years. But it has been growing at higher rate for un-registered units than registered units.
- Value of output per unit was Rs 136.87 lakh; Rs 148.38 lakh for registered and Rs 17.40 lakh for un-registered units but it has been increasing more remarkably for un-registered units than the registered units.

4. Structure of Employment: The agro processing industries of both the categories were seen employing different skilled and unskilled as paid workers and unpaid family workers as well as men and women workers in different stages of production functions.

- The size of employment per unit has increased from 17 workers in 2005 to 20 workers in 2011.
- Share of un-skilled workers constituted over 49 percent as against 8 percent office workers and 18 percent skilled workers in total workforce. But workforce per unit has been increasing in both the groups of units.
- Employment has been growing at the rate of 4 percent per annum but it has been increasing more sharply in un-registered units than in registered units.

5.Technology Adaptation: 53 percent of agro-units, comprising 54 percent registered and 52 percent un-registered units were using second hand machines in production processes due to reasons as high purchase cost, lacking finances, less supply and not accessibility in local markets of modern machines.

- Mechanized and semi-mechanizes form of technologies were commonly adopted in cleaning and washing of raw materials in a majority of 53 percent units, consisting 72 percent registered and 34 percent un-registered units. The grading of raw material according to its quality and size was carried out manually in 44 percent units.
- In marketing of final goods, over half of both registered and un-registered units have been undertaking the grading, leveling and packaging of agro-products manually.
- Only18 percent registered and 6 percent un-registered units were using mechanized technologies in marking and storing of agro-products respectively.
- The quality control devices for produces were maintained by only 28 organized segments of units for their products.
- Facility of Cold Storage was available to 73 percent units, consisting 76 percent registered and 70 percent un-registered units.

6. Supply of raw material and Marketing Arrangements: Both the types of units were procuring raw materials mainly from wholesalers and directly from famers. However, its supply was higher from former sources than the latter one but un-organized units were getting its supply mainly from the farmers.

- Value of raw material per unit as obtained from farmer under the pre-arranged system was Rs. 36.60 lakh and under un-arranged basis was Rs 30.84.
- Majority of 78 percent units were facing problems in un- timely and inadequate supply of raw materials while the quality of supply of raw materials from different sources was reported good or satisfactory by 86 percent registered and 89 percent un-registered units.
- Prevailing market forced and the extent of supply and demand conditions were determining the procurement prices of a majority types of raw materials in the markets. The prices of raw materials supplied under pre-arranged basis were mutually fixed by suppliers and units themselves.

7. Marketing System: None of the sample agro-processing unit was involved in direct export of their products while a 96 percent output was sold to the wholesalers.

- Over 84 percent units, largely un-registered units were facing one or the other form of marketing problem.
- Lacking marketing network in local areas, getting un-reasonable prices for products, high taxes, over interference of local officials while selling products through different channels and late payment of produces from the part of buying were the main problems of marketing goods.

8. Impact of Financial Incentives and Subsidies: The state Government had established Directorate of Industries, Uttar Pradesh Small Industries Corporation (UPSIC); Pradeshiya Industrial and Investment Corporation of Uttar Pradesh Limited Uttar Pradesh Financial Corporation (UPFC); Uttar Pradesh State Industrial Development Corporation (UPSIDC) for managing different industrial promotion measures and schemes to promote industrial activities in the state.

- The role of different institutions in offering subsidized financial incentives for promoting agro-processing industries has been indicated very weak in the state. Only 24 percent of the sample industrial units have availed financial facility from different financial institutions.
- Nearly 63 percent and 32 percent units had obtained financial assistance for working capital and purchasing machinery and other equipments respectively.
- Commercial banks had been the main source of financing 92 percent agro-industries. The contribution of state owned financial institutions has been in offering incentives to only 8 percent registered agro-industries.

- A majority of 49 percent units were provided financial assistance of less than Rs 5 lakh.
- As the consequences of lacking initiatives from the Government owned financial institutions in offering financial assistance, the agro- units were bearing a very high production cost by way of paying a very high rate of interest against the financial assistance received from the Banks.
- Out of 124 Units who availed financial assistance, only 10 percent and 8 percent entrepreneurs reported that it helped in reduction in fixed cost of production and making liquidity available at low cost.
- Another, 27 percent units were benefited in increasing the size of employment.
- And 24 units were found the opportunity in increasing output.
- Providing financial assistance in any form has been positively enhancing both the size of output and income per worker.
- Growth in value of gross output per worker as well net income per worker for units who availed financial assistance was higher as compared to units those had not availed any financial assistance. Even, the net income per worker for latter category of units has declined from Rs 0.15 thousand to Rs.0.13 thousand as against the increase from Rs 0.11 thousand to Rs 0.90 for former category of units.

9. Contribution Agro-industries in Generation of Income and Employment of Farmers: Impact of expansion of agro units in creation of income and opportunity for people in particular areas where concerned units are located has been examined through taking a sample of 1080 farm households, consisting 720 diversified and 360 non-diversified farm households from the nearby areas of different agro-units in 18 sample districts.

- Average family size of sample farm households was of 6.14 members and average age of the owners of farms was 45.20 years.
- 87 percent diversified and 2 percent un-diversified farm households owned land of below 2.5 acres which shows scarcity in availability of land with farm households has been restricting them for initiating diversification in farming system.

- 38 percent and 31 percent farmers had secondary and elementary level of education while only 15 percent farmers mainly who owned land of below 2.5 acres were illiterate.
- 96 percent farmers had agriculture as their principle occupation and its share in total income of farm households was 72 percent. Average size of cultivated land per farm household accounted only 3.26 acres.
- Value of output of farm produces per household was Rs 199 thousand and 77 percent of it was sold out by the farm households.
- Value of net returns per acre together of all crops was Rs.13 thousand which varied highest at Rs.39 thousand for vegetables/ spices to lowest at Rs. 8 thousand for cereals.
- Per hectare returns in growing different crops accounted relatively much higher for diversified households as compared to non- diversified households accounting for Rs. 13 thousand and Rs 8 thousands respectively because the former groups were selling a larger part of their different agricultural produces than the latter groups of farmers.
- **V**alue of per household sale of agricultural produces was Rs 15.42 lakh which varied between Rs. 69 lakh for commercial crops to Rs 105 for floriculture.
- Supply of a highest proportion of 35 percent agricultural produces was carried out to the processing units followed by 32 percent to the contractors and 30 percent directly in the markets.
- Commercials crops were largely being purchased by the processers while the fruits were procured by the pre-harvest contractors from the farmers and largest proportion of vegetables and oilseed were sold out in the markets.
- Directly selling to processers was as the most preferable arrangement for a highest proportion of 45 percent farmers and their proportion were positively increasing according to increase of farm sizes.
- A majority of 61 percent farmers were satisfied with their present marketing arrangements for disposal of their produces.
- Non availability of adequate prices and inadequate demand of their produces in the markets were the main problems farmers**.**
- Diversified farmers were mainly reaping greater opportunities than the non-diversified farmers in terms of deriving higher income through supplying different agro-produces to the processers.

- Supply of agricultural produces to the processors has positively impacted in increasing income of 86 percent diversified farmers as against only 15 percent un-diversified farmers
- However, its gain in increasing income was largely gone in favor of medium farm category of diversified farmers and least to highest farm category of diversified farmers.
- The farming was generally undertaken though employing family unpaid workforce while only the larger farmers were employing both family workforce and hired workforce.
- The share of hired workforce in total workers accounted 72 percent but the same was over 75 percent for diversified farms as against 55 percent for undiversified farms.
- As a result of supply of agricultural produces to the processers, the increase in employment of diversified farmers has been to the extent of 69 percent for larger farmers followed 13 percent for farmers owned 10 to 20 acres lands while it has increased lowest at 0.69 percent for farmers owned below 5 acres of land sizes.
- Impact of establishment of agro-processing in nearby areas of sample villages and the supply of agricultural produces to concerned units has also increasingly motivated to the farmers by way of shifting land from the cultivation of traditional food crops to the commercial crops as per the requirement of located agro-industries in nearby villages.

11. Emerging Problems and Perspectives of Development: Inadequacy in the supply of raw material from different sources and poorly developed marketing facilities, lacking financial facilities for running the units, irregular supply of power, access to only poor quality of raw materials, shortage of skilled labour were the important factor limiting the scope of development of this sector.

- 86 percent entrepreneurs recommended for making regularity in power supply in industrial areas.
- 66 percent entrepreneurs recommended for minimizing the cost of various machines though providing incentives in its purchases.
- .Providing financial support in capital investment, procurement of raw material and transportation of goods at selling, initiating protection policy to

reduce competition in selling goods, reduction in the rate of various taxes especially VAT and development of efficient marketing channels and proper marketing arrangements for selling industrial produces were the remaining recommendations of the entrepreneurs of sample units.

- 40 percent entrepreneurs were planning for undertaking expansion in their unit by one matter or the other.
- The nature of expansion of 25 percent units and 23 percent units would be in terms of installation of additional machinery and carrying out product specific diversification respectively.
- Financial investment in such expansion would be carried out mainly through borrowings from the commercial banks and friends/ relatives.
- Perceptions of 71 percent entrepreneurs were that future growth of this sector will depend on maintaining regular supply of power.
- Initiating measures for timely supply of raw material has been noted as the second most factor for achieving increasing growth of this sector by 60 percent entrepreneurs,
- The measures of introduction of easy process in lending finances from the part of different financial institutions was the perception of another 50 percent of entrepreneurs for achieving further growth in this sector.

Suggestions for Policy Recommendation: Based of the finding of present study, personal discussions held with the entrepreneurs of different products of agro-units and general observations of the study team during survey work the study forward following recommendations for policy action:

- Timely supply of raw materials in require quantity should be ensured through establishing raw material banks in specific to particular product group of industries in areas where they are largely concentrated.
- Development of marketing facilities in clustered of villages is necessary for realization of better prices of farm produces and motivating farmers for adopting changing copping system.
- The rate of value added tax imposed by the State Government should be reduced.
- The interference of Government Officials in different stages of operation of the units should be strictly avoided so that the industry can operate efficiently.

- The State Government should ensure regularity in supply of power in industrial areas.
- The State Government should introduced policies for providing subsidised financial incentives in the form of capital subsidy cum loan at starting of the units especially in industrially backward districts.
- Introduction of a scheme as entrepreneurship training and apprenticeship for IIT diploma holders seems necessary for improving capacity building for both young generation willing to start agro-units and skilled labours respectively.
- The transportation subsidy on procurement of raw materials from different destinations should be introduced for minimising the cost of production.
- The provision of social security for all categories of workers at enterprise level should be made mandatory to attract rural-urban migration.
- There is a need for skill development programme for un-skilled labour from the labour dept to increase the supply of skilled labourforce.
- Retirement benefits scheme for workers can control the movement of workers from one to the other units as they leave parent unit after acquiring different occupation specific basic skill and training.
- Free hand is given to unit to remove nuisance creating workers in unit.
- ITIs should be strengthened to impart skill formation among human resources as per the requirement of units located in particular areas.
- Vocational training courses in the form of apprentice scheme for skill formation among the students of ITI should be imparted through large units.
- Labour laws should be withdrawn on matters of removing non-productive and problem creating labours.
- There is a need to improve law and order situation in industrial areas.
- In failure, sickness of unit's govt should provide its claim out of assets available / remained with unit to owners.
- Multiple formalities of banks in extending loan should be reduced.
- Technology up gradation in certain matters of production processes which cannot reduce employment is required to make products more competitive.
- Product specific industrial clusters should be promoted though providing various infrastructural facilities and developing market linkages in the suggested clusters.

CHAPTER- I

INTRODUCTION;

Status of Agro –Industry, its Problems and Constraints

Agro-processing industries refer to those activities that transform agricultural commodities into different forms that add value to the product. "Agro-based industries are those industries which have either direct or indirect links with agriculture (Bhattacharya 1980). Agro-processing industries, especially food manufacturing, tobacco and textile processing dominate the commercial industrial sector. In this sense the agro- processing could be defined as set of techno economic activities carried out for conservation and handling of agricultural produce and to make it usable as food, feed, fiber, fuel or industrial raw material. Hence, the scope of the agro-processing industry encompasses all operations from the stage of harvest till the material reaches the end users in the desired form, packaging, quantity, quality and price. Ancient Indian scriptures contain vivid account of the post harvest and processing practices for preservation and processing of agricultural produce for food and medicinal uses. But, inadequate attention to the agro-processing sector in the past put both the producer and the consumer at a disadvantage and it also hurt the economy of the Country. (Kachru 2008)

Over the years, the agricultural transformation through creation of forward and backward linkages with industry has been emerging as an important option to overcome the increasing challenges of creating employment opportunities for increasing labourforce and sustaining the livelihood of households in rural areas. Most important point in the agro-processing is that a sizeable portion of raw material processed in them being rural based it has a very high employment potential with significantly lower investment. Further the agro-industry generates new demand on the farm sector for more and different agricultural outputs, which are more suitable for processing (Srivastava, 1989). On the other hand, development of these industries would relax wage goods constraints to economic growth by enhancing the supply of their products (Desai and Naboodiri, 1992) In this context there is a need for improving the capacity of the agro-industries to harness backward linkages with agriculture and allied activities in order to efficiently convert part of the output to

value added products acceptable to the domestic and international markets. This would generate employment opportunities for different types of skills through food processing, packaging, grading and distribution. At the same time this will transfer a size margin to farmers through market linkages.

Similarly, there is a need to establish and strengthened the vertical and horizontal, backward and forward linkages among the farmers, processors and R&D organizations to improve economic efficiency and realize the economies of scale. Since the week integration of the farmers and processors keeps the farmers oblivious of the quality and quantity of the processors and hence the farmer's emphasis remains concentrated on quantity of production. It is expected that the promotion of vertical and horizontal integration among marketing co-operatives, farmer's organizations, SHGs and food chain stores would be vital to improve value addition chain.

In the process of reaping advantages of establishing agro-based industries for achieving increasingly creation of employment and livelihood opportunities it would be necessary to adopt a comprehensive long term approach towards the development of various food processing activities. Such planning exercise should be aimed firstly to examine the overall situation and pattern of existing industrial enterprises and then attempt should made to identify most niche based product groups of enterprises which possess certain location specific advantages in its sustainable development. This would not only provide a strong base and alternative option for creation of additional employment opportunities and avenues of income for rural households owning very small size of cultivated land and landless labourers within the rural areas itself but it would help in reduction in the rate of rural-urban migration of population.

India is the second largest producer of food in the world. Whether it is canned food, processed food, food grains, dairy products, frozen food, fish, meat, poultry, the Indian agro industry has a huge potential, the significance and growth of which will never cease. It ranked second position in the production of fruits and vegetables in the world. In 2008-09, India's export of fresh fruits and vegetables was estimated at US $ 0.79 billion and processed fruits and vegetables it stood at US $ 0.68 billion. Also India has been recognized as the land of spices contributing to about 25 percent of the world production. Likewise India is number one milk producing country in the world

with an estimated production of 105 million tones in comparison to world production of 693 million tones during 2007-08.About 35 percent milk produced in India is processed. In 2008-09, export of dairy products was estimated at US $ 0.21 billion. In terms of the grain processing, in the country accounted for 8.73 percent of the world oilseed production during the year 2007-08,. On the export front, export of oil meals, oilseeds, minor oils and castor oil during the financial year 2007-08 was reported at 62.3 lakh tones.

Significance for Development of Agro-Processing Industry: The agro-processing industry in India plays a vital role in the national economic development and has potential to meet the local needs and export requirements. The supporting infrastructure for this industry in terms of electricity supply, through the government-funded rural electrification programme, and road and telecommunication network, is well established. There are also well established skills training programmes in manufacturing (tool making, welding), for rural artisans and users. However, the sector currently faces many challenges emanating from the poor performance of the national economy, uncertainties that exist over access to both local and foreign finances, limited research, limited technical advice, limited marketing information and lack of reliable markets.

The agro industry helps in processing agricultural products such as field crops, tree crops, livestock and fisheries and converting them to edible and other usable forms. The private sector is yet to actualize the full potential of the agro industry. The global market is mammoth for sugar, coffee, tea and processed foods such as sauce, jelly, honey, etc. The market for processed meat, spices and fruits is equally gigantic. Only with mass production coupled with modern technology and intensive marketing can the domestic market as well as the export market be exploited to the fullest extent. It is therefore imperative that food manufacturers understand changing consumer preferences, technology, with modernization, innovation and incorporation of latest trends and technology in the entire food chain as well as agro-production, the total production capacity of agro products in India and the world is likely to double by the next decade. Also the Fruit Processing Ministry has set up a vision, strategy and action plan in 2005to giving boost to growth of food processing sector. The objective target is to increase the level of processing of perishable food from 6 percent to 20

percent, value addition from 20 percent to 35 percent and share in global food trade from 1.6 percent to 3 percent. The level of processing of fruits and vegetables is envisaged to increase to 15 percent by 2015.

The agro industry is regarded as an extended arm of agriculture. The development of the agro industry can help stabilize and make agriculture more lucrative and create employment opportunities both at the production and marketing stages. The broad-based development of the agro-products industry will improve both the social and physical infrastructure of India. Since it would cause diversification and commercialization of agriculture, it will thus enhance the incomes of farmers and create food surpluses.

The agro-industry mainly comprises of the post-harvest activities of processing and preserving agricultural products for intermediate or final consumption. It is a well-recognized fact across the world, particularly in the context of industrial development that the importance of agro-industries is relative to agriculture increases as economies develop. It should be emphasized that 'food' is not just produce. Food also encompasses a wide variety of processed products. It is in this sense that the agro-industry is an important and vital part of the manufacturing sector in developing countries and the means for building industrial capacities.

However, a bulk of agro- processing industries falls in the category of tiny and small scale units operating largely in un-organized sector with low science and technology input and heavily weighted in favor of low value-added products though the contribution of such household based food processing activities have been playing a dominating role in the rural economic system in almost all the regions of the country since long. The study by (Chadha and Sahu, 2003) reveal that the small scale and un-organized sectors, having only local presence without much access to technology network, accounts for 99.4 percent of the units, 86.8 percent of employment and 36.4 percent of output of the industry. However, little information is available in matters related to the mode of establishing and growth structure, potential and sustainability aspects, nature and extent of participation of different communities, possibilities of expansion of certain enterprises which possess location specific comparative advantage and opportunities for their development, kinds of factors influencing the

efficiency and growth pattern of different rural industrial activities. Moreover, information is not readily available regarding the extent and level of contribution of various rural industries in the total income of rural households and its expected contribution to be derived in future in the perspectives of regional development.

On the other, the small-scale farming in India rarely provides sufficient means of survival in many rural areas. It is therefore imperative to explore alternative income generating opportunities to support poor families who can no longer fend for themselves from the land-based activities alone. Recent research demonstrates that rural households depend on a diverse portfolio of activities and income sources. Some households are looking towards activities such as food processing as a means to enhance the livelihood they can achieve from a limited area of land (Simalenga, 1996). In this context the small-scale food processing activities represent a potential source of livelihood for rural poor. The overall potential of agro-processing is huge as it can:

Increase the value of crops of poor farmers and thus yield higher returns;
Expand marketing opportunities;
Improve livelihoods of people;
Extend shelf-life of commodities;
Improve palatability of commodities;
Enhance food security;
Overcome seasonality and perish ability constraints; and
Empower women who are often involved in agro-processing.

Similarly, agro processing offers great scope for conversion of farm produce to consumer commodities and in the process reduces wastage, increase shelf- life resulting in value addition and higher income transfer to the farmers from different classes of consumers, as the processed commodities has wider market (Chengappa 2004).Agro-industries have also been viewed as a safety valve that needs to be built within rural areas to absorb surplus labour and provide relief to the problem of large scale disguised unemployment. At the same time Srivastava (1989) points out that the agro-industry provides the crucial farm industry linkages which helps accelerate agricultural development by creating backward linkages (supply of credit, inputs and other production enhancement services 0 and forward linkages (processing and

marketing), adding value to the farmers produce, generating employment opportunities, and increasing the net income of farmers. This in turn motives the farmers for better productivity and further opens up possibilities of industrial development. Also, the agro- industry generates new demand on the farm sector for more and different agricultural outputs which are more suitable for processing. At the same time it can open up new crop and livestock opportunities to the farmers and thus increase the farm income and employment (Austin ,1981).

However the unique characteristics of agro-processing industry are that industry displays a characteristics of seasonality, perish ability and variability. Therefore, agro industries have to procure raw materials only in the season while the processing operations continue for a longer period and the demand for the products is round the year. (Srivastawa 1981).

Problems and Constraints in Development

However, in spite of various initiatives carried out for achieving increasing expansion of agro-processing industries in the country and at state level as well there are certain problems which limiting the growth of this sector. These problems emerge starting from the initiation of establishment of the unit. If these are established the problems existed in its operation, mainly in matters of from the systems framework right from the input supply to the farmers and production of raw material to output processing and marketing (Kulkarni and and Srivastava 1985). However in our country as a whole and in particular to a majority of the regions of the country a major problems in development of agro-processing has been related with the inadequacy and suitability of required raw material on one hand and the seasonal nature of the operations of this sector in unorganized manner. The wastage in the handling during post harvest and in marketing has also been noted another problem associated to the growth of this sector. A study by Srivastava (1989) points out that 30 percent of our fruits and vegetables lost in the process of handling and marketing. Similarly, the findings of Chadha (1989) are that the non- availability or paucity of processing varieties of fruits and vegetables on one hand and short period of raw material availability and excessive costs of raw material are the important constraints for development of agro-processing industries. In addition to this, the country is in a situation to utilize only 1.5 percent of the fruits and vegetable in processing of its products. Similar situation has been noted

in bringing under processing of other agro-based non-food commodities (Srivastava 1989). Similarly, it indicated by Chengappa (2004) that India is the second largest producers of fruits and vegetables, but only two percent of the produce is processed. Even, the overall value addition to food is only 7 percent as compared with 23 percent in China, 45 percent in the Philippines and 88 percent in UK. The special report of Food Processing Ministry (2010) itself indicted that the food processing sector is facing several challenges. Despite the fact that India ranks first in the production of milk, pulses and tea and second in production of fruits and vegetables in the world and it being a major food producer, India's share in world food trade is less than 2 percent. The level of processing in India is also quite low at around 6 percent compared to 60-80 percent in developed countries.

By and large, a major problem is that the Agro- processing industry has been concentrated in the un-organized sector with low science and technology and little or no standardization and grading. A substantial portion of production takes place in the cottage and small sector and technology is often absolute (Srivastava 1989)and gives sub- optimal yields, energy over- utilization, lack of scale economies in production, and increased marketing costs (Govt. of India 1989). The problems related to Marketing of agro-products, and financial and fiscal requirement at different stages of the operation of units have been recognized some of the serious constraints in operating this sector. The cost of packaging is still very high and has been increasing consistently (APEDA 1989). Similarly, the processed/ packed food products have been considered luxury items, and therefore, they have been subjected to high tax incidence at various stages of processing. The incidence of taxes has been estimated in the range of 30 percent to 60 percent of ex factory costs (Govt. of India 1989)

Even, as far as the Uttar Pradesh is concerned, it has certain advantages and opportunities which positively favor the expansion of various agro-processing industries in its different regions. However, despite several initiatives undertaken at policy level to transform the given advantages in achieving the expansion of certain agro-processing industries the achievement level in this regard has been recognized far below the level of its expectations. Although, the share of UP in total countries output generated from agro-processing is quite significant and in fact, it is

consistently increasing over the years. However, some of the main constraints arising in the growth of agro-processing industries in the state are as follows:

(i) A very low level of investment in agriculture sector itself is the most critical constraints in restricting the growth of agriculture sector and surplus food production to be used in food processing industries. It is distressing to note that the per capita Plan outlay in Uttar Pradesh is the lowest among all states. A more disturbing fact is also that the public investment in agriculture in different Five Year Plans has decreased in the State.

(ii) Unwanted heavy controls on levy, movement and stocking of sugar and molasses, stagnant recovery rates maintained in sugar production, the practices of growing traditional sugarcane crops and certain other factor might be adversely affecting the growth of sugar and khandsari industries.

(iii) Lacking initiatives to identify the area specific potential product group of agro-processing industries which possess certain backward and forward development and then to introduce industry specific development measures favoring its healthy and sustainable growth.

(iv) The agro-processing based on the products of potato, fruits and vegetables is usually undertaken in unorganized sector in rural areas where the facilities of transportation, marketing and cold storage are hardly available. So inaccessibility to these facilities and inadequacy of R&D facilities have been increasingly restricting the growth of this sector in rural areas.

(v) The important constraints have also been recognized in terms of lacking vertical and horizontal, backward and forward linkages among the farmers the processors and R&D organizations to tide over the impediments, to improve upon the economic efficiency and in better realizing the economies of scale in agro-processing sector.

(vi) Moreover, the factors hampering overall industrial growth, not in specific to agro-processing industries in Uttar Pradesh include: low competitiveness due to unexploited economies of scale, poor incentives and law and order situation, inadequate infrastructure and choice of location

CHAPTER- II

POLICY DEVELOPMENT AND GROWTH OF AGRO-PROCESSING

Since the beginning of the initiation of the development planning in the country a broad understanding among the political thinkers as well as policy makers has been that the agro-industries needs to be expended within rural areas to absorb surplus labour and provide relief to the problem of large scale disguised unemployment. In this context, many Indian official reports and other important writings make a plea for agro-industries in the context of rural-urban migration. Absence of employment opportunities within the village, it is suggested, is the main push factor responsible for the rapid movement of youth towards cities. Emergence of slums in metropolitan towns of the country and arrival of unattached young without gainful employment is the direct and inevitable consequence. These developments have a variety of social, law and order, and political implications (Rao 1979).

Soon after India's independence the Congress Party constituted the Economic Programmes Committee to provide a broad direction to the Congress Governments at the Centre and State levels. The Committee, headed by Jawaharlal Nehru, reported that industries producing articles of food and clothing and other consumer goods should constitute the decentralized sector of Indian economy and should, as far as possible, be developed and run on a cooperative basis. Such industries should for most of the part be run on cottage and small scale basis. (*All India Congress Committee, Economic Programme Committee: Report 1948).* This was a large area earmarked for rural, cooperative and small scale industries. The general direction indicated for state intervention was for imposing restrictions on large scale manufacturing of most consumer goods while extending support to traditional systems of production

During the period, 1952 to 1954, the All India Khadi and Village Industries Board and a Board each to promote silk, coir, and handicraft, handloom and small scale industries were instituted. These Boards were required to recommend general policies

and prepare action plans for promoting activities in their respective areas through preference in Government purchase and distribution of raw materials, fiscal and monetary concessions, and supportive administrative policies. There was, however, no special category of industries called agro-industries.

The First Five Year Plan made a distinction between village industries, small industries and crafts. Village industries were defined in terms of activities which are, in the main, an integral part of the village economy. The small industries and crafts were distinguished on the basis of (i) traditional skills and crafts, and (ii) the ones which have recent origin and have an intimate connection with the corresponding large scale industries. (*First Five Year Plan).*

In addition to stressing the role of heavy industry, the Second Plan also assigned a special place to rural, cottage and small industries. It envisaged that the expanding demand for consumer goods sector would be met from outside the large units. This would reduce pressure on the capital and the limited savings of the economy and the strategy would fit in well with the need to expand employment opportunities. The objectives of the Second Plan programmes and the Industrial Policy Resolution, 1956, were to create :immediate and permanent employment on a large scale at a relatively small capital cost, meet a substantial part of the increased demand for consumer goods and simple producers' goods, facilitate mobilization which might otherwise remain inadequately utilized and bring about integration of the development of these industries with the rural economy, on the one hand, and large scale industry, on the other. They also offer a method of ensuring more equitable distribution of the national income and avoiding some of the problems that un-planned urbanization tends to create. With improvements in techniques and organization, these industries offer possibilities of growing into an efficient and progressive decentralized sector of the economy, providing opportunities of wore and income all over the country.31n of resources of capital and skill, (Second Five Year Plan, pp 429-458).

The Planning Commission during its second plan identified consequently 40 rural areas for intensive development of small industries. The primary objectives of its programme were to: (a) Bring about a cooperative agro-industrial economy; and create employment opportunities to enable a higher standard of living; and (b)

Mobilize rural communities and seek diversification of rural economy in a manner that contributes to the welfare of the landless and the weaker sections of village communities.

Rural industrialization was then seen to have two components, namely (i) location, and (ii) linkages with large industries as ancillaries. The Rural Industries Programmes were to cover all kinds of small industries and processing industries based on agriculture. It was recognized that:
With the increase in the production of cereals, pulses and a number of cash crops like sugarcane and oilseeds visualized in the Third Plan, there will be considerable scope for the expansion of processing industries in rural areas.

With a view to providing fuller employment and strengthening and diversifying the rural economy, it will be desirable to develop these industries to the maximum extent in the decentralized and small scale sector and on a cooperative basis. (Third Plan pp 442-443)

Different varieties of the decentralized sector (cottage, rural, small or agro-processing) continued to enjoy a special place in the successive Five Year Plans. The inherent strength and weakness of the policies towards small and village industries were now better appreciated. The cottage industries and products of the rural crafts have found a good market among the Indian urban elite; a large part of the consumer goods market has, however, been captured by the organized and large enterprises.(Goel 1984)

Moreover, the 'sixties witnessed the beginning of the green revolution in some parts of India. In the Punjab, Haryana and western Uttar Pradesh, agricultural output per hectare rose markedly due to the enhanced canal and well irrigation, widespread adoption of new and improved seed varieties, enlarged inputs of chemical fertilizers and use of pesticides. While managerial practices are important, it is an undisputed fact that the green revolution was a direct consequence of high levels of agro inputs per unit of land. The enlarged inputs were not obtained from the farm itself or from traditional sources. The switchover to electricity, diesel and pump sets was almost dramatic; the high-yielding seeds were brought in from research centres; and tractors

and agricultural implements, supplied by national and international sources. The green revolution brought Indian agriculture in close contact with industry, the nature of agro-industry relationships extending themselves to supply of industrial inputs instead of agriculture playing the raw material supply function only. The prosperity of farmers was also bound to generate new consumer demands produced by industry. The demand for a variety of industrial inputs had to be satisfied, if agricultural development was to be optimized. With a view to reducing problems of procurement of industrial inputs for agriculture, the State Governments were advised by the Centre to set up Agro-industrial Corporations (Ministry of Food and Agriculture 1964-65). However, the official efforts at promoting village, rural and agro-industries were grossly inadequate compared to the magnitude of the task involved. They were only too thinly spread both in relative and absolute terms. (Goel 1994)

The eighties witnessed a strong plea for promotion of agro-industries in India. The orientation and the context of the assertion, however, has been vastly different from the arguments of Gandhi, Karve, Mahalanobis and Jaya Prakash Narayan. Agro-industries of the 'eighties are essentially understood in terms of food processing industries. (Goel 1994) The arguments, briefly put, are as:

One, in spite of a very low per capita income, India has an estimated population of around 80-100 million constituting the middle upper class that supports a reasonably high consumption standard. This offers a large market for modern durables and agro-based products, especially semi-processed and convenience foods.

Two, in addition to the large internal market there exists a huge unexploited potential in the international market, where India has competitive edge over many other supplier countries.(*Ruth Rama, 1988)*

Three, growth of food processing industries would provide expanding demand for farm produce, vegetables, fruits and other greens that would help improve agricultural incomes.

Four, the industry would give consumers in having access to vegetables, fruits and other farm products throughout the year and, equally important at low and stable prices. This would, of course, mean better returns and incentives to Indian farmers.

Five, establishment of modern plants with sophisticated technology would help reduce crop wastage due to seasonal gluts and the perishable nature of farm products.

Six, urban centres are witnessing a substantial change in the intensity of woman employment. In families with both husband and wife doing formal jobs, as per modern life-style, there is a growing potential for consumption of convenience and semi-processed foods.

And seven, the demand for processed food is likely to be enhanced because of the growing problem of obtaining full-time household assistance.

The case for establishing food processing industries rests on the premise that there exists a large potential for products of the industry at home and abroad. (*Baldev Singh, 1988)* It is a matter of more than coincidence that the initiation of the interest (in India) in promoting agro industries has been simultaneous with the efforts made by some transnational corporations to seek entry into the Indian food and soft drink market (Rama 1990).

The period of eighties witnessed a keen interest in investments in the area of food processing and soft drinks. The TNCs visibility in this area is indeed a marked one. For instance, Pepsi entered into collaboration with Punjab Agro Industries Corporation and the Tatas to establish processing facilities for tomato juice and paste along with soft drink concentrates. Though a failure, General Foods of US also entered India during this period. Kellogg has evinced interest in production of breakfast foods. Nestle, known for its interest in coffee, has started marketing "Maggie" convenience foods, ketchup, chocolates, etc; Hindustan Lever, the first entrant to the hydrogenated edible oil industry in India, handed over the Dalda production and marketing to its sister company, Lipton. The Levers, however, have acquired control over another large manufacturer of soap and oil products, TOMCO. They have also taken over Kissan, a company known nation-wide for jams and

squashes, and are reported to have acquired rice-milling facilities. Brooke Bond, an associate of the Levers, has entered marketing of masalas. Among the new entrants to the edible oil industry are ITC and Britannia. Parle, the market leader in the soft drinks segment, which had fought tooth and nail against the entry of Pepsi, was obliged to abandon its fight with TNCs and join hands with Coca-Cola. It appears that the withdrawal of restrictions on the use of foreign brand names has speeded up the process of domination of the Indian consumer goods market by transnational corporations (UNCTAD 1978, p ix). The entry of the U.S. based TNCs has coincided with the Indian policy to give high priority to private foreign direct investments and revision of the licensing policies to permit entry of large Indian companies and TNCs into the food processing industry. . (UNIDO 1983)

The establishment of the new Ministry of Food Processing Industries (MFPI) at the Centre is an indication of the Government's thinking. For the purpose of achieving growth of agro-processing industry in the country the Ministry of food processing was set up in July 1988 to give an impetus to development of food processing sector in the country. The ministry is concerned with formulation and implementation of the policies and plans for the food processing industries within the overall national priorities and objectives. The ministry acts as a catalyst for bringing in greater investment into this sector, guiding and helping the industry, and creating a conducive environment for healthy growth of the food processing industry. The ministry continue to perform its assigned task and act as a prime force for creating strong and effective food processing sector with a view to create increased job opportunities in rural areas, enabling the farmers to reap benefit from modern technology, create surplus for exports and stimulating demand for processed food. In the post liberalization era the role of the ministry has undergone substantial change.

The ministry further reorganized itself to act as a catalyst for getting larger investments in food processing sector, increasing exports and creating a general atmosphere for healthy growth of the food processing industries. The Ministry has also been running an awareness campaign targeted at end consumers to assure them on the safety and quality standards of the processed food products. A concerted campaign towards promotion of processed food products has been found necessary to

remove inhibitions of large number of consumers in the country regarding quality and safety issues.

In addition to the campaign, which has received an encouraging response from people, the ministry has been instrumental in ensuring passing of Food Safety & Standards Bill, 2006 and creation of a Food Safety and Standards Authority of India (FSSAI) in 2008. The creation of FSSAI, working under the ministry of health and family welfare, is aimed at creating a regime which would ensure adherence to global standards of safety for the industry, likely to further increase the confidence of the consumers and lead to greater market size for the Industry. The ministry has also been trying to promote backward linkages and supply chain infrastructure for food processing units.

The Ministry has thus come out with revised schemes for the 11th Five Year Plan which was more integrated and in particular address supply chain issues. The Scheme for Mega Food Parks, the flagship programme of the ministry, is now based on cluster approach and follows "Hub and Spoke" model for ensuring adequate supply of raw materials for food processing units to be located in the Mega Food Parks. The objective of the scheme is to provide nitrated and complete cold chain and preservation infrastructure facilities without any break, from the farm gate to the consumers, Pre-cooling facilities at production sites, reefer vans, and mobile cooling units also need to be assisted under the Integrated Cold Chain projects. Integrated cold chain and preservation infrastructure can be set up by individuals or groups of entrepreneurs with business interest in cold chain solutions and also by those who manage supply chain. They will enable linking groups of producers to the processers and market through well equipped supply chain and cold chain.

Moreover, the main objectives of the Ministry of Food Processing Industries are:

- to take the lead and act as a prime force in creating a strong and effective food processing Ministry is that the food industry has adequate market potential within India and a large sector;
- to successfully create a mode of operation and management in the food processing sector that would ensure increased incomes accruing directly to the producers, who are in the main concentrated in the rural areas;

- to create increased job opportunities in the rural areas with specific reference to women and unemployed youths by development of primary produce through a network of processing units in the various sectors;
- to bring the power of modern technology and marketing techniques in the aid of the farmers;
- to take the initiative in mobilizing cost effective technologies for storage, processing and marketing of agricultural produce;
- to think in terms of organizational restructuring of the domestic market so that overall demand is stimulated which, in turn, will lead to the growth of the food processing sector; and
- to ensure that adequate surpluses are created consistent with price and quality to further exports and earn valuable foreign exchange for the country by providing critical inputs to the industry to foster production for exports.46. The general thrust of the attempts is to remove entry level restrictions.

The MFPI is obliged to create increased job opportunities in the rural areas with specific reference to women, and unemployed youth by development of primary produce through a network of processing units. The MFPI is expected to promote modern technology and marketing techniques in aid of the farmers. The desirability of the modernization policy would depend on an evaluation whether the new technology would cause liquidation of the existing enterprises or it can be absorbed by smaller establishments to achieve higher productivity.47 Modern technology could help raise the average productivity in food processing, but to expect modern food processing industries to create a substantial rural job opportunities may not be realistic.

Furthermore, during the Eleventh Five Year Plan periods, especially after the Annual plan period of 2006 – 07, the policies initiated for development of agro-processing industries in the country were as follows;

Policy Measures in Budget 2006-07;

- With a view to giving a fillip to the Food processing industry condensed milk, ice cream, preparation of meat, fish and poultry, pectin, pasta and yeast have been fully exempted from excise duty.
- Excise duty on Aerated drinks has been cut down to 16 percent.

- Excise duty on ready-to-eat packaged foods and instant food mixes, like dosa and idli mixes was reduced from 16 per cent to 5 per cent.
- Excise duty on packaging paper was reduced from 16 per cent to 12 per cent.
- Customs duty on packaging machines reduced from 15 per cent to 5 per cent.
- The food processing industry will be treated as a priority sector for bank credit.
- NABARD created a separate window with a corpus of Rs. 1,000 crore for refinancing loans to the sector, especially for agro-processing infrastructure and market development.
- Government set up the National Institute of Food Technology Entrepreneurship and Management (NIFTEM).
- The Paddy Processing Research Centre at Thanjavur was proposed to be developed into a national-level institute.
- Rs.150 crore earmarked for NHM for terminal markets.

Policy Measures in Budget 2007-08;

- Excise Duty on Biscuits (with retail price not exceeding Rs.50/kg) has been reduced to 0 percent from 8 percent.
- Excise Duty on all types of food mixes including instant mixes has been reduced to 0 percent from 8 percent.
- Customs Duty on Food Processing Machinery has been reduced from 7.5 percent to 5 percent.
- Customs Duty on Sunflower Oil (Crude) has been reduced from 65 percent to 50 percent.
- Customs Duty on Sunflower Oil (Refined) has been reduced from 75 percent to 60 percent.
- CVD on crude and refined edible oils reduced by 4 percent.
- Pass Through status to be granted to venture capital funds only in respect to investments in venture capital undertaking in dairy industry; poultry industry.

Policy Measures in Budget 2008-09;

- Customs duty on bactrofuges reduced to nil (this will help increase the shelf life of milk and benefit dairy industry)

- Reduction in general CENVAT rate on all goods from 6 per cent to 14 per cent.
- Excise duty exemption on tea and coffee pre-mixes, milk containing edible nuts with sugar or other ingredients and puffed rice (goods of mass consumption) from 16 per cent.
- Excise duty reduced on specified packaging material from 16 per cent to 8 per cent (OTS cans, aseptic bags and aseptic packaging paper)
- Excise duty on certain varieties of packing paper reduced from 12 per cent to 8 per cent.
- Excise duty reduced on breakfast cereals 16 per cent to 8 per cent.

- To further encourage cold chain facilities, refrigeration equipment (consisting of compressors, condensers, evaporators etc.) above two-tone refrigeration utilizing power of 50 KW and above, exempted on end-use basis.

Policy Measures in Budget 2009-10;

- In respect of the R & D sector, the benefit on 150 per cent weighed deduction under Clause (1) of sub-section (2 AB) of Section35 of Income Tax Act will now cover food processing industry also
- Fringe Benefit tax on food processing is abolished.
- Under Section 80-IA-IIA, deduction is allowed on the profit deriving from the business of processing, preservation and packaging of fruits and vegetables only. This will now be extended to all new food processing units based on all perishables like milk, poultry, meat products and not just fruit and vegetable products only.
- Extension of investment-linked tax incentives to businesses of setting up and operating cold chains; warehousing facilities for storing agricultural produce.

Policy Measures in Budget 2010-11;

- The second element of the strategy relates to reduction of significant wastages in storage as well as in the operations of the existing food supply chains in the country. This needs to be addressed. As the Prime Minister has said recently, “We need greater competition and therefore need to take a firm view on opening up of the retail trade.” It will help in bringing

down the considerable difference between the farm gate prices, wholesale prices and retail prices.

- The fourth element of the strategy aims at lending a further impetus to the development of food processing sector by providing state-of –the are infrastructure. In addition to the ten mega food park projects already being set up, the Government has decided to set up five more such parks.
- As a part of the farm to market initiative, External Commercial Borrowings will henceforth be available for cold storage or cold room facility, including for farm level pre-cooling, for preservation or storage of agricultural and agro produce, marine products and meat. Changes in the definition of infrastructure under the ECB policy are being made.
- In supporting the strategy outlined for development of agriculture earlier in my speech, I propose to address a few key areas that call for focused attention. These are:
    i. A strong supply chain for perishable farm produce to reach consumption and processing centers promptly;
    ii. Infrastructure and technology to convert such produce into value added products; and
    iii. Infusion of technology to augment agricultural production.
- Similar attention needs to be paid to related sectors such as apiary, horticulture, dairy, poultry, meat, marine and aquaculture.

Policies for Development of Food processing Industry in Uttar Pradesh

In addition to the initiation of various policies by the Central Government, the state of Uttar Pradesh also continued to have been initiating variety of promotional measures for overall industrial development in general and in specific to Agro-based processing industries under its overall industrial policy. Important existing policies for development of agro-based industries in the state are as follows:

1. Encouragement of fruits, vegetables, mushroom, milk, flower, meat, poultry, fish, grains and oilseeds based industries.
2. Incentives under the trade tax exemption and deferment schemes.
3. Exemption from 5 percent capping provision in trade tax for 12 categories of industries with investment above 25 million rupees.

4. MODVAT
5. Assistance from State Equity Fund.
6. Resolve to establish a Venture Capital Fund for this sector.
7. Development of infrastructure like coal chain.
8. Development of Model Industrial Areas
9. Establishment of a joint working group under the Chairmanship of Agricultural Production Commissioner for solution of problems related to this sector.

In addition to the introduction of above policy measures the state has also identified several potential zones in specific to the expansion of certain identified agro-processing product groups of industries. Among them the important ones are:

(i) Onion flacks, onion powder and garlic power in Mainpuri, Agra and Etawah areas.
(ii) Fruits and vegetables based industries in Western region and Lucknow, Varanasi and Allahabad.
(iii) Flowers in Western region and Lucknow.
(iv) Caned mushroom in Western region.
(v) Oleos resin in Ghaziabad, Agra, Jhansi, Kanpur and Deoria
(vi) Table margarine and bakery in Ghaziabad, Pilibhit, Sitapur and
(vii) Azadira extract in Saharanpur and Varanasi.

On the whole it revealed that several measures have been initiated in the past in the form of introduction of various Incentives and subsidies for industrial development in general and agro-processing industries in particular in India. These measures have generally flowed from the policy objectives of acceleration of industrial growth, promotion of small scale industry and spatial dispersal of industries besides, of course, export promotion. In this context, the entire food processing sector was deregulated and no license is required except in the case of alcoholic beverages. Automatic approval for foreign investment up to 100percent equity in food processing industries is available except in few cases (Alagh (1995 and Padmanabhan (2001). The excise duty on food processing items was removed in 1991 and again imposed in

1997. This was again removed in 2001. The concept of food parks, agri-export zones (AEZ), human resource development have been initiated besides several incentives.

The concept of agro-export Zone was started in the exim policy 2001-02 by the Government of India to look at agricultural produce in a comprehensive manner-right from farm to the palate- so as to be able to deliver an appropriately priced and attractively package quality product for sale in the international market. So far, 48 such Zones were formed in India. The role of state is considered vital. Hence the centre has urged the state governments to allow exemption for these sectors from sales tax and other local taxes. It has also been advised the States to review Agricultural Produce Market Act and offered assistance for setting up regional commodity exchanges, auction houses and terminal markets (Joseph, 2003).

Accordingly, fiscal incentives like tax concessions, reliefs and rebates, and financial incentives like capital subsidy and concessional rates of interest have been allowed to new and small units and to units located in backward areas. But in the context of a policy on incentives and subsidies for industrial development in an industrially and subsidies for industrial development in an industrially backward state like Uttar Pradesh, the question of locational disadvantages and therefore, incentives and subsidies to mitigate them, becomes

CHAPTER- III

OBJECTIVES AND THE METHODOLOGY

In the above highlighted background it was proposed to be carrying out a detail study on different issues related to Agro-processing Industries in the state of Uttar Pradesh where the agriculture and allied activities form the base of the economy and provide a major source of employment of labourforce and the generation of income for households in rural areas. Uttar Pradesh is well-known for its agricultural potential in the country wherein different food grains, pulses and various high value crops such as sugarcane, fruits vegetables etc. are grown around the year in all the cropping seasons in different regions of the state. The state ranks on the top in terms of production of wheat, sugarcane, maize, vegetables, and potato and livestock products, including milk among the major states in the country. In terms of rice production, the state holds second position after West Bengal. The varied agro-climatic conditions available in different regions provide favorable condition for boosting up the production of various food and non-food items. The real advantages of all these can be reaped through expansion of various agro-processing industries in the state. Among other favorable conditions for the expansion of agro-processing industries in the state mention may be made of the following

(a) Large consumer base within the state and the neighboring states, especially Delhi.

(b) An opportunity to tie-up fruit and vegetable sector with 'safal'

(c) Strong base of diary products and its linkages with different institutions/corporate sectors which are extensively involve in manufacturing of dairy products.

(d) Availability of adequate raw material from farm sector.

(e) Accessibility of rural areas with marketing centers.

The strong agricultural base of the economy and comparative advantages available in different regions of the state of Uttar Pradesh indicate that promoting the expansion of

various potential and niche based food processing industries among the clusters of different surplus food and non-food growing villages and among the villages to the close proximity to rural towns could possibly be a meaningful approach for creating additional employment opportunities for increasing labourforce and increasing income of farm households in rural areas.

3.1. The Objectives of the Study;

Considering the importance of agro-processing industries in the development perspectives of overall rural development in general and realizing the expected role of expanding this sector for achieving increasing employment opportunities and income level to overcome the emerging challenges of unemployment and poverty in rural areas of the State the present study attempted to examine the following issues :

(i) The emerging structure, pattern and growth of different product groups of food processing industries across the district, regional and state level in U.P.

(ii) Size of capital investment and its sources of financing, output, and generation of value added, production technologies, employment pattern, turnover and the contribution of different product line of industries in all groups of industries.

(iii) The linkages established by industries for obtaining raw material from the farmers and other suppliers, procurement pattern, accessibility situation, prevailing practices of prices determination of different raw materials being supplied from different sources and the arrangements of marketing the final products.

(iv) The development prospects and problems in operation of enterprises and required measures to be initiated to strengthen the expansion of different groups of industries.

(v) Evaluation of policy measures and incentives introduced by the central and state Governments and other institutions and agencies such as Khadi Gramodhyog Board / commission, APEDA etc for agro-processing industry and their usefulness in terms of the expansion and growth of different product groups of agro- based industries.

(vi). Contribution and impact of expansion of agro processing industries in increasing income and employment of farm households.

(vii). Assessment of the extent of wastage of farm produce vis-à-vis levels of processing for different horticulture and vegetable products.

3.2. Methodology and the sample design;

The study has been based on both secondary and primary data. The primary data was collected among a sample of different product groups of both registered and non-registered industries and diversified and non-diversified groups of farm households across the nine agro-climatic regions of the state. In all the study identified two districts from each agro- zone which were dominating in terms of the concentration of highest number of Agro Processing Industries in among tall the districts in particular Agro-Zone. collect primary data covering two districts from each of the 4 agro-climatic zones of the State. The total agro processing registered units in the eight agro-zones were 2402 and thus, the study covered a 10 percent sample among the existing different categories of registered agro- processing units and an equal number of non-registered units in each of the eight sample districts. In view of ensuring a reasonable representation of different agro-zones in overall sample of different product groups of agro-industries the study tried to covered at least 20 units, comprising 10 registered and 10 non-registered units from each of the agro-climatic zone. In this manner the study could be in a position to cover a total size of sample of 507 units, consisting 250registered and 257 non-registered units. In addition, the study identified a sample of two main raw material growing villages and draw a sample of 20 diversified and 10 diversified different categories of farm households from each village in each of the 18 sample districts to assess the impact of agro – processing on the creation of employment opportunities and income of farmers and the level of wastage of different farm produce vis – a-viz level of processing for different horticulture and vegetable products. The collection of primary data was carried out with the help of structured interview schedule. The secondary data for the

Table-3.1

Distribution of units by product group from different Agro-Zone

Zone/ products	Tarai & Bhabar		Western Plain Zone		Mid Western Zone		South Western Zone		Central Zone		Bundelkhand Zone		South East Zone		Eastern Zone		Vindhyan Zone		
District	**saharanpur**	**Bijnour**	**Muzzafar pur**	**Meerut**	**Rampur**	**Barielly**	**Mainpuri**	**Agra**	**Khiri Lakhimpur**	**Kanpur Nagar**	**Banda**	**Jaloun**	**Behraich**	**Gorakhpur**	**Chandauli**	**Barabanki**	**Soumbhadra**	**Mirzapur**	**Total**
151	2	-	-	6	1	3	4	3	9	5	2	2	2	-	1	3	1	-	44
Registered	1	-	-	3	-	2	1	2	5	3	1	1	1	-	-	2	1	-	23
Un-Registered	1	-	-	3	1	1	3	1	4	2	1	1	1	-	1	1	-	-	21
152	2	-	4	2	2	-	2	2	3	2	-	-	-	-	-	-	-	-	19
Registered	1	-	2	1	1	-	1	1	1	1	-	-	-	-	-	-	-	-	9
Un-Registered	1	-	2	1	1	-	1	1	2	1	-	-	-	-	-	-	-	-	10
153	13	*11*	6	2	19	5	11	11	24	52	2	2	5	13	17	14	2	7	216
Registered	6	*6*	2	2	11	1	7	4	10	26	2	-	4	5	8	7	-	4	105
Un-Registered	7	5	4	-	8	4	4	7	14	26	-	2	1	8	9	7	2	3	111
154	13	*35*	22	16	14	22	2	3	51	3	-	2	6	7	6	6	-	-	208
Registered	7	*17*	7	12	5	13	1	2	23	3	-	1	1	5	3	3	-	-	103
Un-Registered	6	*18*	15	4	9	9	1	1	28	-	-	1	5	2	3	3	-	-	105
155	1	*1*	2	6	-	2	-	2	4	-	-	-	-	2	-	-	-	-	20
Registered	1	-	2	2	-	1	-	1	2	-	-	-	-	1	-	-	-	-	10
Un-Registered	-	*1*	-	4	-	1	-	1	2	-	-	-	-	1	-	-	-	-	10
All units	31	*47*	34	32	36	32	19	21	91	62	4	6	13	22	24	23	3	7	507
Registered	16	*23*	13	20	15	17	10	10	41	33	3	2	6	11	11	12	1	4	250
Un-registered	15	*24*	21	12	19	15	9	11	50	29	1	4	7	11	13	11	2	3	257

years 200-01 and 2006-07 was obtained from the ASI documents and other sources of State and Central Government. The details regarding the existing number and other required information about non- registered agro-processing units was collected from the Directorate of Industries, Khadi Board and other state Government departments. The details of the sample of different product groups of units covered in the study are as follows;

3.3. Major Variables for Data Collection and its Analysis;

The required secondary data related to size, numbers of units production structure, capital investment pattern, output, value added by different product groups of agro-industries and other relevant information was collected from the department of industry and different ISI reports. The information regarding the industrial policies which were initiated during the past was obtained from different documents of the industry department, Ministry of Food Processing and different financial and industrial promotion institutions. The required primary data from different product groups of sample units and farm households was collected through a set of structural questionnaires. Thereafter the entry of both secondary and primary data was carried out through developing different sets of SPS and formats and accordingly the data analysis was carried out with the help of computer.

3.4. Relevance of the Study;

Since the agriculture based economy of the state have significant advantages for developing various agro-processing industries both at household and non-household level. Unfortunately the state has been lagging far behind to other states in terms of the development of various agro-industries due to one or the other reasons. Presently, little information is readily available in matter related to the mode of establishing and growth structure, potential and sustainability aspect, nature and extent of participation of different communities, possibility of expansion of certain enterprises which possess location specific comparative advantages and opportunities for their development, kinds of factors influencing the efficiency and growth pattern of different industrial activities in the state of Uttar Pradesh. Analyzing the above important variables in

detail the proposed study shall recommend a concrete approach for developing a comprehensive plan for expansion of different agro based industries in the state. This exercise would not only provide a strong base and alternative option for creation of additional employment opportunities and avenues of income for rural households but it would help in reduction in the rate of rural-urban migration of population.

CHAPTER - IV
STRUCTURE AND GROWTH OF AGRO- INDUSTRIES

As indicated already in the last chapter that the Uttar Pradesh is well-known agriculturally potential and rich state in the country wherein different food grains, pulses and various high value crops such as sugarcane, fruits, vegetables, etc. are grown at a very higher size around the years in all the cropping seasons in almost the part/regions of the state. Even, over the years the trends in shift of arable land from the production of traditional crops to the high valued commercial crops has been greatly influenced to the farmers in the state. In this manner the farmers are well aware about maximizing their profit through changing cropping pattern on their available land. The varied agro-climatic condition available in different regions provides certain favorable advantages for boosting up the production of various food and non-food items. The real advantages of all these can be reaped through expansion of various agro-processing industries in the state.

As far as the expansion pattern of different product groups of agro-processing industries in the state is concerned it has been recognized that a bulk of them are concentrated in un-organized sector with using low productive technology and know-how in their production processes. It is indicated by the fact that during 2002-03, unregistered manufacturing industries as a whole contributed about 6.23 percent to the GDP of Uttar Pradesh as against 5.85 percent share of unregistered manufacturing industries in India's GDP. As per the estimates of Uttar Pradesh Development Report, there are 42586 small scale agro- processing and cottage industries with a total investment of Rs. 700 crores. In terms of registered units, according to latest Annual survey of industries of 2006-07 there are only 2154 registered agro-processing industries located in different districts of the states. In view of promotion of agro processing industries the state has identified few potential areas for initiating expansion of different agro-processing industries. Important among them are included as; onion flacks, onion powder, garlic powder in Manipuri, Agra and Etawah district; fruits and vegetables based in Western region and Lucknow, Varanasi and Allahabad, flowers in western region and Lucknow; canned mushroom in the Western region; oleo resin in Gaziabad, Agra, Jhansi and Deoria; table margarine and bakery in Gaziabad, Pilibhit, Sitapur and azadira extract in Saharanpur and Varanasi.

4.1. Contribution of Agro-Industries; The general pattern of industrialization in Uttar Pradesh has taken place in an organic manner, especially in small –scale sector. However such has not been appeared in matter of the development of Agro-processing industries. It has reflected by the fact that in spite of 42 identified clusters in the state, which is next to

Table-4.1

Share of Agro-Based Industries in All Industrial sector in their Size, Capital Investment, Output Value added, Income and Employment in U.P. in 2006-07

(Value in lakh Rs and others in actual Number)

SI. No.	Indicators	Agro-based Industries	Non-Agro Based Industries	All Industries
1	Number of units	2401 (25.81)	6900 (74.18)	9301 (100.00)
2	Total Invested Capital	2068416 (28.56)	5174094 (71.44)	7242510 (100.00)
3	Total Output	3088882 (21.44)	11321180 (78.56)	14410062 (100.00)
4	Gross Value Added	220472 (9.39)	2126420 (90.61)	2346892 (100.00)
5	Net Income	148603 (7.66)	1792062 (92.34)	1940665 (100.00)
6	Employment	156525 (22.64)	534751 (77.36)	691279 (100.00)

Source; Annual Survey of Industry, Economics and Statics Division, State Planning Institute, Lucknow ; 2006-07

only Maharastra (66) and Gujarat (46) there are hardly any clusters based on Agro processing industries in the state. Despite this, the state has high comparative advantage in several agro processing products such as sugar, distilling, rectifying and blending of spirit where its share in all India production has been noted quite significant

Similarly, at the state level, the share of agro-based industries to overall industries operating in the state is as high as nearly 26 per cent. Among them the industries operating in the product group of grain milling and animal feeds, sugar and other food groups are the dominant product group of agro-based industries accounting for over 17 per cent share in total existing industrial sector in the state. Among the Agro-processing units the share of these dominant product groups of units accounted as

high as 84 percent. However, the respective share of dairy based agro-industries is lowest at 4 percent.

In terms of the capital investment, the share of agro-industrial sector in overall industrial sector in the state has been noted at 29 percent through it varied significantly for different products of agro-industries; accounting highest from 74 percent for manufacture of sugar and other food items to lowest at 4 percent for dairy products. The contribution of this sector in total industrial sector in generation of output and gross value added accounted for 21 percent and 9 percent respectively. In both the respects the contribution of manufacture of sugar and other food products is noted very remarkable. The share of agro-industries in the net income generated from all industrial sector together accounted for only 8 percent. Because, the industries involved in the processing of vegetables, animal oils and fats, dairy products, grain milling and animal feeds are operating in total loss with a negative contribution ranging from 74 percent to 33 percent in all agro-processing sector.

The significance of agro-processing industries is also revealed by the fact that it makes a sizeable contribution in the creation of employment opportunities in the state. It is evident by the fact that the contribution of this sector in all industrial sector in matters of creation of employment is noted relatively much higher than its contribution in gross output, gross value added and net income value additions. A total of 1.56 lakh workforce is employed in different agro-processing industries in the State. The share is employment of agro-processing industries to overall industrial sector accounted nearly 23 per cent. Again the industrial activities in the product line of sugar and other food products have been contributing a dominating role in providing employment. The share of concerned products in total industrial employment has been reported nearly 19 per cent while the corresponding share of remaining agro-processing industries ranged lowest from 1.41 per cent for dairy products to highest at 4.08 per cent for grain milling and animal feeds. In the different product groups of Agro-industries, the share of employment in manufacture

Table – 4.2
Share of Different product groups of Agro Industries in Capital Investment, output, value added and Employment during 2006-07

(Value in lakh Rs and employment in numbers)

Industry code	Industry classification	No. of units	Total Invested Capital	Total Output	Net Value Added	Employ-ment
151	Manufacture of vegetables , animal oils and fats	184 (7.66)	117581 (5.68)	444300 (14.38)	-47477 (-32.61)	11467 (7.33)
152	Manufacture of dairy products	94 (3.91)	85826 (4.15)	380048 (12.30)	-66940 (-45.97)	7756 (4.96)
153	Manufacture of grain mill products and animal feeds	1021 (42.52)	157330 (7.61)	349005 (11.29)	-107767 (74.01)	20039 (12.80)
154	Manufacture of sugar and other food items	997 (41.52)	1539767 (74.44)	1679587 (54.37)	265659 (182.45)	104197 (66.57)
155	Distilling, rectifying and blending of spirits	106 (4.41)	167911 (8.12)	311711 (10.09)	102099 (70.12)	13067 (8.34)
	All Agro-based Industries	2401 (100.00)	2068416 (100.00)	30888882 (100.00)	148603 (100.00)	156525 (100.00)
	All Industries	9301	7242510	14410062	19440665	691279

Source; Annual Survey of Industry, Economics and Statics Division, State Planning Institute, Lucknow ; 2006-07

of sugar and other food products accounted as high as nearly 67 percent as against only 5 percent in manufacture of dairy products followed by 7 percent in manufacture of vegetables, animal oils and fats.

4.2. Size of Agro-Processing Industries; Further an assessment has been carried out to look into the size of different product groups of agro- industries through establishing indicators like per unit capital investment, value of output, net value added and employment. In this regard the findings are that size of most of the product groups of agro-industries seems to be almost similar to that of non-agro industries as per different indicators in the state. Even the size of capital investment and value of output per unit has been estimated relatively higher in favor of agro- industries than the case of non-agro industries. Per unit total value of invested capital output in agro-processing industries is estimated at Rs.861 lakh and Rs 12865 lakh respectively as against Rs 779 lakh and Rs 1549 lakh at Rs.1211 lakh in non-agro- processing industries respectively. Even the differences in size of per unit employment among both categories of industries are not very large indicating that it averages 74 workers in no-ago-industries as against 65 workers in agro-industries.

Similarly, looking into the size structure of different agro-industries the analysis reflects that and in per unitfor sugar and other food products, closely followed by Rs.1027 lakh for distilling, rectifying and blending of spirit and a lowest value of merely Rs.92 lakh for grain milling products and animal feeds. The industries in the product groups of sugar and other food items were large as compared to other agro-processing industries as the per unit value of fixed capital for former group of industries accounted to Rs.515 lakh as against Rs.295 lakh together for all agro-processing industries. It has been noted as lower at Rs.36 lakh for grain milling products and animal feeds.

In case of different product group of agro industries, the size of capital investment as well as value of output per unit have been noted significantly much higher in almost the

Table – 4.3
Per unit size of capital investment, output, net value added and employment

(Value in lakh Rs and employment in numbers)

Industry code	Industry classification	No. of units	Total Invested Capital	Total Output	Net Value Added	Employ-ment
151	Manufacture of vegetables, animal oils and fats	184 (7.66)	639	2415	-258	62
152	Manufacture of dairy products	94 (3.91)	913	4043	-712	83
153	Manufacture of grain mill products and animal feeds	1021 (42.52)	154	342	-105	20
154	Manufacture of sugar and other food items	997 (41.52)	1544	1685	266	105
155	Distilling, rectifying and blending of spirits	106 (4.41)	1584	2941	963	123
	All Agro-based Industries	2401 (100.00)	861	12865	62	65
	All Industries	9301	779	1549	2090	74

Source; Based on calculations drawn from table-2.1

product groups of agro –industries except in manufacturing of vegetables, animal oils and fats as compared to non-agro- industries as a whole. But the size of net income generated from all the Agro- industries has been reported remarkably at lower level than non-agro industries as a whole. On the other hand, the employment elasticity is noted higher in manufacturing of dairy products, sugar and other sugar related products and drilling, rectifying and blending of spirit as compared to non-agro industries.

As far as the size structure of different agro- industries itself reveals that the size of capital per unit is noted highest at Rs 1584 lakh for distilling, rectifying and blending of spirit units followed by Rs 1544 lakh for units engaged in manufacturing of suger and other food products and lowest at Rs.154 lakh for grain milling products, starches & animal feeds manufacturing units. Similarly the size of output per unit varies lowest from Rs 342 lakh again for grain milling products, starches and animal feeds to highest at Rs 4043 lakh for units engaged in manufacturing of dairy Products. The figures of value added per unit varies lowest from a negative of Rs 712 lakh for the units of dairy products to a highest range of Rs 963 lakh for distilling, rectifying and blinding of spirits. On the other hand, the size of employment per agro- industry accounted highest from 105 workers in suger and suger based products to lowest at 20 workers in manufacture of grain mill products and animal feeds.

Thus, based on this small exercise it can be summarize that the challenges are in terms of the ways and means of improving the capacity of the agro-processing industries and to harness forward and backward linkages in agriculture and allied activities in order to achieve their contribution in generation of income and creation of additional employment for increasing rural labourforce. It may also be mentioned that a larger proportion of agro-processing industries are operating in loss despite generating sizeable output with low science and technology inputs but they are heavily weighted in favor of low value added products. This has resulted the low productivity and low employment generation in this sector. One needs to investigate the kind of operational problems this segment of industries area facing and the type of institutional support and assistance would help in improving the productivity of the large number of agro-processing industries located in rural areas.

4.3. Pattern and Concentration of Agro industries;

a. A regional analysis;

Based on certain geographical and agricultural potentiality, the state of Uttar Pradesh has been categorized into nine agro climatic zones. Looking into the structure of different

Table-4.4
Region wise different industrial groups of Agro-processing units

Sl. No	District & Agro Regions	NIC Group and Product group of industries					Total Registered Units
		151	152	153	154	155	
		Meat, fish, Fruits vegetables, oils &fats	Dairy products	Grain milling products, starches and animal feeds	Other food products	Beverages	
1.	Tarai and Bhabar	8 (4.35)	4 (4.26)	105 (10.28)	237 (23.77)	7 (6.60)	371 (15.45)
2.	Western Plain Zone	30 (16.30)	32 (34.04)	37 (3.62)	187 (18.76)	37 (34.91)	323 (13.45)
3.	Mid-Western Plain	16 (8.69)	9 (9.57)	122 (11.94)	180 ((18.05)	11 (10.38)	338 (14.07)
4.	South Western Plain Zone	41 (22.28)	20 (21.28)	109 (10.67)	20 (2.00)	8 (7.55)	198 (8.24)
5.	Central Zone	61 (33.15)	23 (24.47)	371 (36.34)	263 (26.37)	22 (20.75)	740 (30.80)
6.	Bundelkhand	5 (2.72)	1 (1.06)	9 (0.88)	3 (0.30)	2 (1.89)	20 (0.83)
7.	North East Zone	8 (4.34)	1 (1.06)	91 (8.91)	59 (5.91)	7 (6.60)	166 (6.91)
8.	Eastern Zone	15 (8.15)	4 (4.25)	161 (15.77)	47 (4.71)	12 (11.32)	239 ((9.95)
9.	Vindhyan Zone	-	-	7 (0.69)	-	-	7 (0.29)
	All U.P.	184 (100.00)	94 (100.00)	1021 (100.00)	997 (100.00)	106 (100.00)	2402 (100.00)

agro industries across the agro regions of the state it revealed that the expansion of these industries has highly attracted by the situation of agricultural development and to some extent on factors such as backward and forward development linkages in specific to different ago regions. As is evident by the fact that out of 2402 agro units, a bulk of nearly 31 percent of them are alone located in central agro- region which is relatively well developed region in all aspects among the different agro regions of the state. And a second majority of little over 15 percent units were located in agriculturally fast developing Tarai and bhabar agro region. However, only a few numbers of units are located in agriculturally most backward agro-region of Vidhyan and Bundelkhand. Further, the analysis reflects that the agro industries in the product group of grain milling, starches and animal feeds are found highly dominating among different agro industries which concentration is however, noted highly visible in central region (36 percent) followed by 16 percent are located in eastern region. The second majority of 42 percent units are involved in the processing of other food

products. Their concentration is noted highest again in Central region followed by in Tarai bhaber

b. Concentration of units across the districts;

The district level data shows that the agro-processing industries are evenly located in different districts of the state. However, the agro industries in the product line of Meat, fish, Fruits, vegetables, oils and fats are largely concentrated in Agra followed by Kanpur Nagar and Kanpur Dehat while the concentration of dairy units constitutes highest at 10 percent in Buland Shahar closely followed by 9 percent again in Agra. The Grain milling products, starches and animal feeds units which were most dominating product groups of agro - industiries in the state are largely confined in district Rampur followed by Shahjanpur and Pilibhit. But, the concentration of other food products is seen in Bijnor (184 units) followed by Kheri Lakhimpur (94 units) and Muzzafer Nagar (88 units). The units confined in the production of beverages are highest in Gautam Budh Nagar and Muzzafar Nagar.

Table-4.5
Concentration of Agro industries across the districts in UP

District &Agro Regions	NIC Group and Puduct group of industries					
	151	**152**	**153**	**154**	**155**	Total Units
	Meat, fish, fruits vegetables, oils &fats	Dairy products	Grain milling products, starches and animal feeds	Other food products	Beverages	
1. Tarai and Bhabar						
(i) Saharanpur	4	4	45	43	3	99
(ii) Bijnor	-	-	9	184	3	196
(iii) Pilibhit	4	-	60	10	1	75
(iv) Shrarasti	-	-	1	-	-	1
Zone Total	**8**	**4**	**105**	**237**	**7**	**371**
2. Western Plain						
(i) Muzaffar Nagar	5	4	6	88	7	110
(ii) Meerut	3	6	15	43	6	73
(iii) Baghpat	-	-	-	7	0	7
(iv) Gaziabad	13	0	5	23	12	61
(v) Gautambudh Nagar	2	5	5	21	10	43
(vi) Buland Shahar	7	9	6	5	2	29
Zone Total	**30**	**32**	**37**	**187**	**37**	**323**
3. Mid-Western Plain						
(i) Bareilly	3	4	35	58	6	106
(ii) Moradabad	2	3	12	56	2	75
(iii) Jyotibaphule Nagar	2	1	1	53	0	57
(iv) Rampur	5	-	73	7	3	88
(v) Badaun	4	1	1	6	-	12
Zone Total	**16**	**9**	**122**	**180**	**11**	**338**
4. South Western Plain						
(i) Agra	17	8	6	5	4	40
(ii) Firozabad	-	2	1	1	-	4
(iii) Aligarh	6	4	6	3	1	20
(iv) Hathras	-	-	-	1	-	1
(v) Mathura	13	3	9	4	1	30
(vi) Mainpur	-	-	52	1	-	53
(vii) Etah	1	2	10	3	-	16
(viii) Mahamaya Nagar	4	1	25	2	2	34
Zone Total	**41**	**20**	**109**	**20**	**8**	**198**

5. Central Zone							
(i)	Sahjanpur	5	-	61	33	1	100
(ii)	Kanpur Nagar	16	7	51	60	5	139
(iii)	Kanpur Dehat	15	1	29	-	2	47
(iv)	Etawa	2	-	45	-	-	47
(v)	Auraiya	-	-	20	-	-	20
(vi)	Farrukhabad	-	-	2	3	-	5
(vii)	Kannauj	-	-	-	1	-	1
(viii)	Lucknow	2	6	16	19	3	46
(ix)	Unnao	6	-	13	3	3	25
(x)	Raibareilly	1	1	7	3	2	14
(xi)	Sitapur	5	1	23	30	-	59
(xii)	Hardoi	3	1	19	7	-	30
(xiii)	Khiri	-	-	43	94	3	140
(xiv)	Fatehpur	3	-	32	2	1	38
(xv)	Allahabad	3	5	5	6	2	21
(xvi)	Kaushambi	-	1	5	2	-	8
Zone Total		**61**	**23**	**371**	**263**	**22**	**740**
6. Bundelkhand							
(i)	Jhanshi	-	1	2	-	-	3
(ii)	Lalitpur	1	-	-	-	-	1
(iii)	Jalaun	3	-	1	3	1	8
(iv)	Hamirpur	1	-	-	-	-	1
(v)	Mahoba	-	-	1	-	-	1
(vi)	Banda	-	-	4	-	1	5
(vii)	J.P.Nagar	-	-	1	-	-	1
Zone Total		**5**	**1**	**9**	**3**	**2**	**20**
7. North East Zone							
(i)	Gorakhpur	1	1	18	24	2	46
(ii)	Maharajganj	-	-	15	4	-	19
(iii)	Deoria	-	-	7	5	-	12
(iv)	Kushi Nagar	-	-	1	9	1	11
(v)	Basti	1	-	1	3	-	5
(vi)	Sant Kabir Nagar	1	-	4	5	-	10
(vii)	Siddharth Nagar	-	-	-	-	1	1
(viii)	Gonda	2	-	12	2	2	18
(ix)	Behraich	2	-	24	5	0	31
(x)	Balrampur	1	-	9	2	1	13
Zone Total		**8**	**1**	**91**	**59**	**7**	**166**

8.	**Eastern Zone**						
(i)	Azamgarh	-	-	2	2	-	4
(ii)	Mau	-	-	2	1	1	4
(iii)	Balia	-	-	1	1	-	2
(iv)	Pratapgarh	-	-	2	-	-	2
(v)	Faizabad	2	1	22	9	2	36
(vi)	Ambedkar Nagar	1	-	26	-	-	27
(vii)	Barabanki	3	1	28	8	1	41
(viii)	Sultanpur	1	1	18	7	0	27
(ix)	Varanasi	2	-	6	13	5	26
(x)	Chandauli	2	1	43	1	-	47
(xi)	Jaunpur	4	-	7	3	2	16
(xii)	Ghazipur	-	-	3	1	1	5
(xiii)	Sant Ravidas Nagar	-	-	1	1	-	2
Zone Total		**15**	**4**	**161**	**47**	**12**	**239**
9.	**Vindhyan Zone**						
(i)	Mirzapur	-	-	6	-	-	6
(ii)	Sonebhadra	-	-	1	-	-	1
Zone Total		**-**	**-**	**7**	**-**	**-**	**7**
All U.P.		**184 (7.54)**	**94 (3.91)**	**1021 (42.51)**	**997 (41.51)**	**106 (4.41)**	**2402 (100.00)**

4.4. Regional Concentration in Pattern of Capital Investment, Output, Value Added and Employment;

The pattern in the share of capital investment, gross value of output, net value added and employment in agro-industries across different agro-regions has been visualized, by and large in accordance to the share of industrial units in all agro-industries together in particular agro-region. This has reflected by the fact that a major share of capital investment of agro – industrial sector has gone mainly in agriculturally well developed

Table 4.6
Regional Concentration on the Pattern of Capital Investment, Output, Value Added and Employment

(Value in lakh Rs)

AGRO ZONE	Invested Capital		Gross Output		Net Value Added		Employment	
	2000-01	2006-07	2000-01	2006-07	2000-01	2006-07	2000-01	2006-07
Tarai and bhabar	175330 (16.67)	325366 (15.98)	207605 (13.90)	395027 (12.94)	38771 (16.23)	64864 (41.89)	25837 (19.96)	30313 (19.40)
Western plain	181828 (17.29)	583303 (26.68)	298543 (19.99)	93813 (30.52)	38933 (16.30)	44430 (28.70)	23989 (18.54)	33690 (21.56)
Mid western	126376 (12.04)	157778 (7.76)	165012 (11.05)	251174 (8.23)	20113 (8.42)	21410 (13.82)	15777 (12.77)	22172 (14.19)
South western plain	76362 (7.26)	111463 (5.47)	133799 (8.96)	284205 (9.32)	38072 (15.94)	15890 (10.28)	7529 (5.82)	10345 (6.63)
Central zone	255195 (24.26)	543492 (26.70)	441546 (29.56)	706538 (23.14)	95658 (24.98)	11127 (7.18)	34678 (26.80)	35731 (22.87)
Bundelkhand zone	11662 (1.10)	305 (0.01)	7449 (0.50)	942 (0.03)	1403 (0.58)	-2821 (-1.82)	676 (0.52)	105 (0.07)
North East zone	180008 (17.12)	209411 (10.28)	132027 (8.84)	234973 (7.70)	27885 (11.67)	16615 (10.72)	14640 (11.31)	14517 (9.29)
Eastern zone	44236 (4.20)	144478 (7.10)	106162 (7.11)	244927 (8.02)	13914 (5.82)	-19663(-12.70)	6231 (4.81)	9343 (5.98)
Vindhayan zone	536 (0.06)	499 (0.02)	1352 (0.09)	3115 (0.10)	111 (0.04)	2998 (1.93)	57 (0.05)	15 (0.01)
Total	1051532 (100.00)	2036095 (100.00)	1493494 (100.00)	3052716 (100.00)	238861 (100.00)	154850(100.00)	129414 (100.00)	156231 (100.00)

Tarai bhaber, western plain and central agro- zones. However, the corresponding share of investment in agro-industries has declined from 16.67 percent in 2000-01 to 15.98 percent during 2006-07. On the other hand, it has been still moving up in remaining two agro-zones. The share of capital investment in this sector noted as low as merely less than one percent points in both Bundelkhand and Vindhan agro-zones. Similarly in matters of gross value of output , its contribution reflected highest at 25 percent in Central zone followed by 16 percent in Western Plain. However, the domination of Central Zone has been narrowing down and the same has been increasing for Western Zone in the contribution of output as being generated from agro-industrial sector. The Tarai and Bhabar Agro Zone has been representing highest rank followed by Western Zone among the different Agro- Zones as far as in matters of the contribution of income being generated from exiting Agro-processing industries in the concerned zones. Even the share of income generated from this sector has increased from 16 percent during 200-01 to 42 percent during 2006-07 in Tarai Bhabar zone. A very set back has gone against the Central Zone in this context. That is in the sense that the particular zone was representing a highest rank among different

zones through contributing 23 percent net income from this sector during 200-01. Now its share has gone down to 7 percent during 2006-07.

As far as the contribution of different Agro- zone in creation of employment is concerned the study finds that the Central zone has been dominating among different zones in this regard beginning from 2000-1. Although the share in employment in concerned zone has found declined from 27 percent in 200-01 to 23 percent in 2006-07.The facts are also that the relative share in total employment creation from agro industrial sector has been positively increasing in almost the zones especially in Western, Mid-western, South western plain and eastern zones during the recent past.

4.5. Growth in Capital Investment, Output, Value Added and Employment;

Looking into the performance structure of agro-industries in terms of different indicators across the agro-zones of the state the study found that the capital investment in agro -

processing industries has been significantly increasing in almost the zones over the years. Only exception was the case of Bunelkhand and Vindhyan agro-zones the capital investment in this sector has declined during 2006-2007 over the year 2000-01. In all, the investment in agro-industrial sector has increased to the extent of over 94 percent during 2000-01 to 2006-07. Even the trend of growth in capital investment in this sector reported as high as 199 percent in Western plain followed 113 percent in Central zone during the same period.

Even, the gross value of output of agro- based industrial products has been increasing at fairly higher level than the growth of capital investment in the state. The growth of gross output in this sector has increased over 104 percent during the period 2000-01 to 2006- 07. However, among different agro-zones, the corresponding growth trend has varied highest from 112 percent in south western zone to a negative growth of 87 percent in Bundelkhand. The striking features that emerging are that in spite of achieving a fairly high growth rate in value of gross output in agro-based industrial products the net value added from this sector has shown a decreasing trend of over 35 percent at the state level during 2000-01 to 2006-07. Moreover, it can be argued that expansion of different agro-based industries has been most profitable venture in Agro-zone like Vindhyan but the level of expansion of this sector in particular zone has not

been encouraged so far. Similarly, the expansion of this sector seems to be rather profitable business in Tarai Bhabar, Western plain and Mid western zones of the state. Since, the growth in net income being derived from agro processing industries among these zones accounted varying highest from 67 percent in Tarai Bhabar to lowest at over 6 percent points in Mid Western zone. A very high negative growth in the net income from this sector has been found in Bundelkhand (301 percent) followed by Eastern zone (241 percent).

Despite decreasing trends revealed in generation of net income from undertaking different agro- industries this sector has been contributing a significant role in creation of employment opportunities in the state. It depicted by the fact that the size of employment in Agro-processing Industries has grown at the rate 21 percent during the periods 2000-01 to 2006-07. Even the corresponding growth of employment depicted as high as 40 percent in each Western plain and Mid Western zone followed by 37 percent in South Western Plain. Against of it **,** in Vandhyan zone the employment has been declining to a remarkable extent despite achieving a larger growth in net income from this sector. Similar was the case against Bundelkhand and North East zone wherein a negative growth has been visualized in both creation of employment and generation of income from Agro- processing Industries. On the other hand, in Eastern zone, despite decreasing trend revealed in income generation the employment has been remarkably increasing from this sector during the recent past.

Table 4.7
Growth in Capital Investment, Output, Value Added and Employment during 2000-01-2006-07

Agro- Zone	Invested Capital	Gross Output	Net Value Added	Employment
Tarai and bhabar	85.57	90.27	67.30	17.32
Western plain	198.80	212.12	14.11	40.43
Mid western	24.84	52.21	6.44	40.53
South western plain	45.97	112.41	-58.26	37.40
Central zone	112.97	60.01	-81.34	3.03
Bundelkhand zone	-97.38	-87.35	-301.06	-84.46
North East zone	16.33	77.97	-40.41	-0.84
Eastern zone	226.60	130.71	-241.31	49.94
Vindhayan zone	-6.90	130.39	2600.90	-73.68
Total	93.63	104.40	-35.17	20.72

4.6. Emerging Changes in Contribution of Agro-Industries; Further the study has attempted to examine the extent to which the contribution of Agro- processing vis-a viz the non-agro-industries in matters of capital investment, output, value addition and employment has been taking place in the state over a period of time i.e between the periods 2000-01 and 2006-07. In this regard the study finds that the share of agro-industries in all industries together of the state has been remarkably increasing while the same has been narrowing down for non-agro-industries during the recent past. Similar is pattern has been visualized in the contribution of Agro-industries in matters related to capital investment But contribution of non-agro industries in the overall industrial sector has been reported moving with a declining contribution of Agro- industries in matters of value of output, gross value added , net value added and employment in the state.

Table-4.8
Changes in share of Agro-Based Industries in their Size, Capital Investment, Output Value added and Income to Total Industrial Sector During 2000-01 &2006-07

(Value in Rs. Lakh and employment in Nos)

SI. No.	Indicators	Agro-Based Industries		Non-Agro Based Industries		All Industries	
		2000-01	2006-077	2000-01	2006-07	2000-01	2006-07
1	No. of Units	2002 (18.23)	2401 (25.81)	8977 (81.76)	6900 (74.18)	10979 (100)	9301 (100.00)
2	Invested Capital	1116245 (21.30)	2068416 (28.56)	4123687 (78.69)	5174094 (71.44)	5239932 (100)	7242510 (100.00)
3	Total Output	1685564 (24.49)	3088882 (21.44)	5196633 (75.50)	11321180 (78.56)	6882197 (100)	14410062 (100.00)
4	Gross Value Added	297379 (20.22)	220472 (9.39)	1173208 (79.77)	2126420 (90.61)	1470587 (100)	2346892 (100.00)
5	Net Value Added	253495 (21.73)	148603 (7.66)	913069 (78.26)	1792062 (92.34)	1166564 (100)	1940665 (100.00)
6	Employment	121176 (32.32)	156525 (22.64)	25366 (67.67)	534751 (77.36)	374837 (100)	691279 (100.00)

Further, looking at the emerging contribution of individual product groups of Agro-processing industries in the all industrial sector in the state during the periods 200-01 and 2006-07 the analysis indicates that the proportionate share of a majority of

product groups of agro- industries has considerably increased during the last seven years. However, a most set back in the context of declining trend is seen only in regard to manufacturing of vegetables, animal oils and fats. Even the contribution of units in particular product line has declined in matters of capital investment, gross value of output and net value additions though it moved up over one point percent in generation of

Table – 4.9
Product wise Changes in Share of Capital Investment, Output Value added in Agro-Based Industries during 2000-01 &2006-07

(Value in Rs. Lakh and employment in Nos)

Indry Code	Industry Classification	No. of units		Total Invested Capital		Total Output		Net Value Added		Employment	
		2000-01	2006-07	2000-01	2006-07	2000-01	2006-07	2000-01	2006-07	2000-01	2006-07
151	Manufacture of vegetables, animal oils and fats	162 (8.09)	184 (7.66)	83083 (7.44)	117581 (5.68)	346465 (20.55)	444300 (14.38)	33896 (13.37)	-47477 (-32.61)	7278 (6.01)	11467 (7.33)
152	Manufacture of dairy products	65 (3.25)	94 (3.91)	51473 (4.61)	85826 (4.15)	152496 (9.05)	380048 (12.30)	28052 (11.07)	-66940 (-45.97)	6525 (5.38)	7756 (4.96)
153	Manufacture of grain mill products and animal feeds	866 (43.26)	1021 (42.52)	79065 (7.08)	157330 (7.61)	266444 (15.81)	349005 (11.29)	22602 (8.92)	-107767 (74.01)	6408 (5.29)	20039 (12.80)
154	Manufacture of sugar and other food items	826 (41.26)	997 (41.52)	810127 (72.58)	1539767 (74.44)	789214 (46.82)	1679587 (54.37)	129700 (51.16)	265659 (182.45)	90802 (74.93)	104197 (66.57)
155	Distilling, rectifying and blending of spirits	83 (4.14)	106 (4.41)	92495 (8.29)	167911 (8.12)	130943 (7.77)	311711 (10.09)	39244 (15.48)	102099 (70.12)	10163 (8.39)	13067 (8.34)
	Total Agro Based Industries	2002 (100.00)	2401 (100.00)	1116245 (100.00)	2068416 (100.00)	1685564 (100.00)	30888882 (100.00)	253495 (100.00)	148603 (100.00)	121176 (100.00)	156525 (100.00)
	All Industries	10979	9301	5239932	7242510	6882197	14410062	1166564	19440665	374837	691279

employment during the reference periods. The declining contribution of remaining product groups of Agro- industries in all industrial sector has also been in the pattern of capital investment. Exception is the case appeared manufacturing of grain milling products and animal feeds. However, the surprising facts are that inspire of declining contribution in capital investment of most of the agro-product groups the contribution of most of the product groups specially dairy products, sugar and sugar related food products and distilling, rectifying and blending of spirits has increased at least some level in the state. More striking points that revealed are in matters of declining; infect negative contribution of most product groups of the agro-industries in particular to

manufacturing of vegetables, animal oils, fats, dairy products, grain milling and animal feeds in the value addition to the overall industrial sector of the state. Avery significant sign are that despite declining share in capital investment and gross output the share of employment in the product groups of vegetables, animal oils, fats, grain milling products and animal feeds has been increasing considerably over the years, though the non-agro industrial sector has been leading over agro sector of industries in this context.

4.7. Trends in Growth of Agro industries;

Further, looking into the expansion pattern of agro industries between the periods 2000-01 to 2006-07 it reveals that these units are growing at a faster rate as compared to other non-agro industries in the state. As the growth rate of agro industries accounted over nearly 20 percent as against 19 percent for non agro industries during this period. Even, both the rate of investment in former category of industries is growing at higher level than the latter category of industries. But the reversal is the situation prevailing in terms of the rate of the growth in value of output, net value added and employment generation among these two categories of industries.

Further, it revealed that all the agro-product groups of industries together has shown a remarkable growth trend in the past. Among them, a highest growth rate has achieved by manufacture of dairy products (45 percent) followed by distilling rectifying and blinding of spirits (24 percent) though it remained lowest at 14 percent for manufacture of

Table-4.10
Trends in growth of agro Industries, invested capital, output and value added in U.P. during 2001-2007

Industry Code	Industry Classification	Trends in Growth				
		Units	Total Invested Capital	Total Output	Net value added	Employ-ment
151	Manufacture of vegetables, animal oil and fats	13.58	41.52	28.24	-28.61	57.56
152	Manufacture of dairy products	44.62	66.74	99.47	-58.09	18.87
153	Manufacture of grain mill products and animal feeds	17.90	98.99	30.99	-79.03	212.72
154	Manufacture of sugar and other food items	20.70	89.82	112.82	104.83	14.75
155	Distilling, rectifying and blending of spirits	24.09	81.53	137.89	160.16	28.57
	Total Agro-based Industries	19.93	85.12	81.28	42.56	29.17
	All Industries	19.04	38.22	109.38	1566.48	84.42

vegetables, animal oils and fats. But the rate of growth in capital investment reaches as high as 99 percent for manufacture of grain milling products and animal feeds followed by 90 percent for manufacture of sugar and its related products to minimum of 42 percent for manufacture of vegetables, animal oils and fats. Also the product groups of Agro-processing in the line of manufacture of grain milling, animal feeds and sugar and its related products are performing better than non-agro industrial sector as far as growth in capital investment in the state is concerned. Even the gross value of output has grown over hundred percent for manufacture of sugar, sugar based products and distilling rectifying and blinding of spirits during this periods. It may also be pointed out that the gross value of output has been growing at a faster rate in manufacturing of dairy products and sugar and sugar related products than the whole industrial sector taken together in the

state. However, the striking features which emerging are in terms of declining growth in the income being generated through manufacturing of vegetables, animal oils, dairy products, grain milling products and animal feeds. In spite the facts that the Agro-processing industries in the product line of manufacturing sugar and sugar based products distilling, rectifying and blending of spirits have been achieving over hundred percent growth in deriving net incomes. A very encouraging sign are further indicated in terms of achieving remarkable growth trend of all the product groups of agro-industries especially units which are engaged in manufacture of grain milling products, animal feeds, vegetables, animal oils and fats.

CHAPTER- V

BACKGROUND CHARACTERISTICS OF AGRO-INDUSTRIES

In continuation and the support of the analysis on expansion pattern and different indicators of the performance shown in regard to different product group of Agro based industries in the last chapter the study further attempts to present the background characteristics in matters of expansion pattern and its origin, ownership, factor motivated in establishment and pattern and background of entrepreneurs of different product groups of registered and un-registered agro-industries. This part of analysis is based on primary data obtained among a sample of 507 agro- processing industries, comprising 250 registered and 257 un-registered different product groups of agro-processing industries covered from a sample of 18 districts spread over in nine agro-climatic zones of Uttar Pradesh.

The existing agro-industries in the state may be broadly categorized according to their type and size structure. The fist category of them is as village industries which owned and run at household level mainly in rural areas. They form very little capital investment and a high level of manual labour, mainly family labour and are operating without registration with any authority. The second category of agro-processing units are operating as small scale industries with medium level of capital investment and semi automation and are registered with Small Scale Industries Act. The third category of units comprises large industry involving large investment and a high level of automation and is registered under the factory Act.

5.1. Background of the Agro-Industries;

i. Expansion Pattern; The expansion pattern of Agro-industries based on the analysis of a sample of 507 units covered in the present study reveals that a majority of a little over one third of agro- processing industries, consisting 30 percent registered and 37 percent un-registered industries in sample districts together were started during the periods 2001-05 while a second majority of 28 percent both categories of units were started during 1992-2000. Only, 16 percent units comprising 21 percent registered and 11 percent un-

Table 5.1

Distribution of units by year of establishment

Product Group	Year of establishment				
	Before 1991	1992-2000	2001-2005	2006 Above	Total
Manufacture of vegetables, animals oils and fats	9 (20.45)	14 (31.82)	16 (36.36)	5 (11.36)	44 (100.00)
Registered	7 (30.43)	7 (30.43)	6 (26.09)	3 (13.04)	23 (100.00)
Un-Registered	2 (9.52)	7 (33.33)	10 (47.62)	2 (9.52)	21 (100.00)
Manufacture of dairy products	3 (15.79)	5 (26.32)	4 (21.05)	7 (36.84)	19 (100.00)
Registered	2 (22.22)	3 (33.33)	2 (22.22)	2 (22.22)	9 (100.00)
Un-Registered	1 (10.00)	2 (20.00)	2 (20.00)	5 (50.00)	10 (100.00)
Manufacture of grain mill products and animals feeds	45 (20.83)	52 (24.07)	71 (32.87)	48 (22.22)	216 (100.00)
Registered	25 (23.81)	26 (24.76)	30 (28.57)	24 (22.86)	105 (100.00)
Un-Registered	20 (18.02)	26 (23.42)	41 (36.94)	24 (21.62)	111 (100.00)
Manufacture of sugar and other food items	25 (12.02)	57 (27.40)	70 (33.65)	56 (26.92)	208 (100.00)
Registered	19 (18.45)	29 (28.16)	33 (32.04)	22 (21.36)	103 (100.00)
Un-Registered	6 (5.71)	28 (26.67)	37 (35.24)	34 (32.38)	105 (100.00)
Distilling rectifying and blending of Spirits	-	4 (20.00)	8 (40.00)	8 (40.00)	20 (100.00)
Registered	-	4 (40.00)	4 (40.00)	2 (20.00)	10 (100.00)
Un-Registered	-	-	4 (40.00)	6 (60.00)	10 (100.00)
All groups	82 (16.17)	132 (26.04)	169 (33.33)	124 (24.46)	507 (100.00)
Registered	53 (21.20)	69 (27.60)	75 (30.00)	53 (21.20)	250 (100.00)
Un-Registered	29 (11.28)	63 (24.52)	94 (36.58)	71 (27.63)	257 (100.00)

registered units were quite old which came in to existence nearly two decades ago. Among different product groups of agro- industries, the old units started before 1991 accounted highest among registered industries in the product line of the processing of vegetables, animal oil, fats and dairy products. However a majority of both registered and un-registered agro-industries were established nearly a decade ago after 2001.

ii. Mode of Registration; Agro-processing Industries are registered under different Acts for the purpose of their proper operation through obtaining various basic facilities to run the unit and certain financial incentives and subsidies from different Government

Table 5.2
Distribution of registered units Registered under different Act

Product Group	Factory Act	SSI Act	Khadi board/commission	Shops & establishment Act	Total
Manufacture of vegetables, animals oils and fats	1 (4.36)	18 (78.26)	_	4 (17.39)	23 (100.00)
Manufacture of dairy products	_	8 (88.89)	_	1 (11.11)	9 (100.00)
Manufacture of grain mill products and animals feeds	15 (14.28)	64 (60.95)	4 (3.81)	22 (20.95)	105 (100.00)
Manufacture of sugar and other food items	9 (8.74)	75 (72.82)	4 (3.88)	15 (14.56)	103 (100.000)
Distilling rectifying and blending of Spirits	1 (10.00)	5 (50.00)	_	4 (40.00)	10 (100.00)
All Units	26 (10.40)	170 (68.00)	8 (3.20)	46 (18.40)	250 (100.00)

departments and financial institutions. Looking into the mode of registration of agro-industries the analysis presented in table 3.2 depicts that a significantly large proportion of over 68 percent units were registered under Small Scale Industries Act (SSI. The proportion of such units accounted as high as 89 percent for those are engaged in manufacturing of dairy products followed by 78 percent for units in manufacturing of vegetables, animal oils and facts. The units registered under Factory Act, those are relatively larger in size as compared to other units registered under other acts are only 10 percent. Majority of them are in the product groups of grain milling, animal feeds and sugar and sugar based products. Another, a second majority of over 18 percent agro-processing units are registered under shops and Establishment Act. Among them, a majority of 40 percent followed by 21 percent are engaged in distilling, rectifying and blending of spirits and manufacturing of grain milling products and animal feeds respectively.

iii. Ownership of Industries; Looking into the legal ownership situation of Agro-industries it depicted that both registered and un-registered industries are registered under single ownership but the proportion of such industries is remarkably higher among the un-registered industries as compared to registered industries in each of the product groups of Agro- Industries. However, a sufficient proportion of industries registered under the Shops and Establishment Act are also observed operating as the family enterprises. In all, the proportion of Agro- industries operating under a signal ownership are highest at over 79 percent. Among them the proportion of un-registered industries accounted 86 percent as against 72 percent for registered industries. Further, it noted that only the registered units are operating as private and public limited company and co-operative society. Although the share of such industries altogether accounted only 3 percent in the total units covered in the study. Also, ownership of almost the product group of non-registered Agro- Industries, excepting the case of sugar and sugar based manufacturing industries has not been indicated as family enterprise while such was not in case of registered Agro industries.

Table 5.3
Legal Ownership Status of the Industries

Product Group	Single ownership	Family enterprise	Partner-ship	Private Limited	Co-operative	Public Limited	Total
Manufacture of vegetables, animals oils and fats	41 (93.19)	1 (2.27)	1 (2.27)	1 (2.27)	-	-	44 (100.00)
Registered	21 (91.30)	-	1 (4.35)	1 (4.35)	-	-	23 (100.00)
Un-Registered	20 (95.24)	1 (4.76)	-	-	-	-	21 (100.00)
Manufacture of dairy products	19 (100.00)	-	-	-	-	-	19 (100.00)
Registered	9 (100.00)	-	-	-	-	-	9 (100.00)
Un-Registered	10 (100.00)	-	-	-	-	-	10 (100.00)
Manufacture of grain mill products and animals feeds	168 (77.78)	18 (8.33)	20 (9.26)	7 (3.24)	-	3 (1.39)	216 (100.00)
Registered	65 (61.90)	10 (9.52)	20 (19.05)	7 (6.67)	-	3 (2.86)	105 (100.00)
Un-Registered	103 (92.72)	8 (7.28)	-	-	-	-	111 (100.00)
Manufacture of sugar and other food items	155 (74.52)	30 (14.42)	20 (9.62)	2 (0.96)	1 (0.48)	-	208 (100.00)

Registered	76 (73.79)	14 (13.59)	10 (9.71)	2 (1.94)	1 (0.97)	-	203 (100.00)
Un-Registered	79 (75.24)	16 (15.24)	10 (9.52)	-	-	-	105 (100.00)
Distilling rectifying and blending of Spirits	20 (100.00)	-	-	-	-	-	20 (100.00)
Registered	10 (100.00)	-	-	-	-	-	10 (100.00)
Un-Registered	10 (100.00)	-	-	-	-	-	10 (100.00)
ALL Units	403 (79.49)	49 (9.66)	41 (8.09)	10 (1.97)	1 (0.20)	3 (0.59)	507 (100.00)
Registered	181 (72.40)	24 (9.60)	31 (12.40)	10 (4.00)	1 (0.40)	3 (1.20)	250 (100.00)
Un-Registered	222 (86.38)	25 (9.73)	10 (3.89)	-	-	-	257 (100.00)

Table 5.4
Origin of the establishment of Industry

Product Group	Started unit					
	Self started/ Purchased	Father	Grand Father	Tradi-tional	Others	Total
Manufacture of vegetables, animals oils and fats						
Total	34(77.27)	10(22.73)	-	-	-	44(100.00)
Registered	18(78.26)	5(21.74)	-	-	-	23(100.00)
Un-Registered	16(76.19)	5(23.81)	-	-	-	21(100.00)
Manufacture of dairy products						
Total	16(84.21)	3(15.79)	-	-	-	19(100.00)
Registered	8(88.89)	1(11.11)	-	-	-	9(100.00)
Un-Registered	8(80.00)	2(20.00)	-	-	-	10(100.00)
Manufacture of grain mill products and animals feeds						
Total	161(74.54)	44(20.37)	4(1.85)	-	7(3.24)	216(100.00)
Registered	75(71.43)	19(18.10)	4(3.81)	-	7(6.66)	105(100.00)
Un-Registered	86(77.48)	25(22.52)	-	-	-	111(100.00)
Manufacture of sugar and other food items						
Total	182(87.50)	20(9.62)	-	-	6(2.88)	208(100.00)
Registered	85(82.52)	14(13.59)	-	-	4(3.88)	103(100.00)
Un-Registered	97(92.38)	6(5.71)	-	-	2(1.91)	105(100.00)
Distilling rectifying and blending of Spirits						
Total	20(100.00)	-	-	-	-	20(100.00)
Registered	10(100.00)	-	-	-	-	10(100.00)
Un-Registered	10(100.00)	-	-	-	-	10(100.00)
All Units	413(81.46)	77(15.19)	4(0.79)	_	13(2.56)	507(100.00)
Registered	196(78.40)	39(15.60)	4(1.60)	_	11(4.40)	250(100.00)
Un-Registered	217(84.44)	88(14.78)	_	_	2(0.78)	257(100.00)

iv. Origin of the Industry; As far as the origin of different agro-industries is concerned a overwhelming majority of over 81 percent industries have been noted first generation agro- industries which are either started or purchased by the present entrepreneurs of respective industries.. However, among them the share of un-registered industries revealed relatively higher than the case of registered industries. Other second majorities of 15 percent Agro- industries comprising 16 percent registered and 15 percent un-registered industries are second generation industries which are established by the father of the present entrepreneurs. Only 3 percent and one percent units are established by other relatives and grand father of the present entrepreneurs.

However, among the first generation industries a very high proportion of cent percent followed by 88 percent of them are confined in the product group of distilling rectifying and blending of Spirits and manufacture of sugar and other food items respectively. Even a very remarkable number of over 92 percent sugar and sugar related food manufacturing non-registered industries are first generation units. Similarly, the second generation industries are highest among the manufacturing of vegetables, animal oils and fats (23 percent) followed by 20 percent among manufacture of grain milling and animal feeds. The study however, did not find any traditional agro-based industries operating in any sample district. (Table-5.4)

v. Factor Effected Expansion of the Industry; Further, the study incorporated the responses of the head/ entrepreneurs of different product groups of Agro-Industries regarding the kinds of factors influenced them to establish their unit in particular location. In this context the study found that the location specific advantaged in terms of easy access to the availability of basic raw material as required for processing and access to marketing facilities happen to be the major factors which motivated the expansion of different agro-industries at the present location. Though, it seems that the entrepreneurs had multiple comparative location specific advantages in their mind in choosing present location for establishment of their agro-units. It reflected by the fact that the numbers of total responses of the heads/ entrepreneurs of all industries together in favor of different factors motivated them for expansion of unit in present location are noted much higher

Table -5.5

Factor affected the establishment of unit at this location

Product Group	Location							
	Easy access to raw	Access to manpower	Easy access to Government financing	Access to Local Market	Tax incentives and	Personal Factor	others	Total units
Manufacture of vegetables, animals oils and	35 (79.55)	2 (4.55)	2 (4.55)	37 (84.00)	-	16 (36.36)	4 (9.09)	44 (100.00)
Registered	21 (91.30)	2 (8.70)	2 (8.70)	22 (95.65)	-	5 (21.74)	2 (8.70)	23 (100.00)
Un-Registered	14 (66.67)	-	-	15 (71.43)	-	11 (52.38)	2 (9.52)	21 (100.00)
Manufacture of dairy products	17 (89.47)	2 (10.53)	-	18 (94.74)	-	6 (31.58)	1 (5.26)	19 (100.00)
Registered	8 (88.88)	1 (11.11)	-	9 (100.00)	-	3 (33.33)	1 (11.11)	9 (100.0
Un-Registered	9 (90.00)	1 (10.00)	-	9 (90.00)	-	3 (30.00)	-	10 (100.00)
Manufacture of grain mill products and	145 (87.13)	39 (18.06)	8 (3.70)	135 (62.52)	5 (2.31)	92 (42.59)	37 (17.13)	216 (100.00)
Registered	83 (79.05)	30 (28.57)	7 (6.66)	73 (69.52)	4 (3.80)	41 (39.04)	12 (11.42)	105 (100.00)
Un-Registered	62 (55.8	9 (8.10)	1 (0.90)	62 (55.85)	1 (0.90)	51 (45.94)	25 (22.52)	111 (100.0
Manufacture of sugar and other food items	179 (86.05)	55 (26.44)	5 (2.40)	163 (78.36)	3 (1.44)	58 (27.88)	43 (20.67)	208 (100.00)
Registered	89 (86.40)	34 (33.00)	4 (3.88)	80 (77.66)	1 (0.97)	30 (29.12)	13 (12.62)	103 (100.00)
Un-registered	90 (85.71)	21 (20.00)	1 (0.95)	83 (79.04)	2 (1.90)	28 (26.66)	10 (9.52)	105 (100.00)
Distilling rectifying and blending of	20 (100.00)	12 (60.00)	3 (15.00)	18 (90.00)	_	3 (15.00)	3 (15.00)	20 (100.00)
Registered	10 (100.00)	2 (20.00)	2 (20.00)	9 (90.00)	_	2 (20.00)	2 (20.00)	10 (100.00)
Un-Registered	10 (100.00)	10 (100.00)	1 (10.00)	9 (90.00)	_	1 (10.00)	1 (10.00)	10 (100.00)
All Units	396 (78.10)	1100 (21.69)	18 (3.55)	371 (73.17)	8 (1.57)	175 (34.51)	88 (17.35)	507 (100.00)
Registered	211 (84.40)	69 (27.60)	15 (6.00)	193 (77.20)	5 (2.00)	81 (32.40)	30 (12.00)	250
Un-Registered	185 (71.98)	41 (15.95)	3 (1.16)	178 (69.26)	3 (1.16)	94 (36.57)	38 (14.78)	257

than the total number of industries covered in the sample. In detail, the proportion of heads/ entrepreneurs those influenced by easy access to raw material and access to marketing facilities for expansion of their unit in present location were accounted 78 percent and 73 percent respectively. In matters of both the influencing factors the

proportion of registered units was relatively higher than the case of non-registered units.

Even, the personal factor in terms of being local residence of the heads/ entrepreneurs has also influenced the expansion of a significant numbers of 35 percent industries consisting 35 percent registered and 32 percent un-registered industries in the present location. The striking features which emerging are that different industrial promotional measures offered in the form of financial incentives by the Government and different financial instituted has influenced the expansion of only around 4 percent agro-industries. However, among them the proportion of registered industries reflected significantly much higher at 6 percent as against 1 percent non- registered industries.

5.2. Background of the Entrepreneurs;

In this section the study has analysis about the socio-economic background related to age characteristics, origin of residence, educational background, caste, activity status and details of involvement in different economic activities before joining the present unit and nature of involvement in the operation of the entrepreneurs of different product groups of registered and un-registered agro- industries.

i. Age Profile of the Entrepreneurs; Looking into the age characteristics of the entrepreneurs of the different agro-industries it indicated that this sector has been headed by the very young persons. Since, the average age of entrepreneurs of all industries to gather has been estimated of 45 years, though it estimated relatively higher at 46 years for the entrepreneurs of registered units as against 44 years for entrepreneurs of un-registered units. Even, a very significant proportion of 30 percent of them are in the age group of below 40 years. Among the different product groups of units the average age of entrepreneurs ranges lowest from 38 years for distilling, rectifying and blending of spirits to highest at 50 years for manufacturing of grain milling products and animal feeds.

Table -5.6
Age Characteristics of the entrepreneurs

Product Group	Age (years)					
	Below 20	20-40	40-60	60+ Above	Total	Aver-age
Manufacture of vegetables, animals oils and fats (Total)	-	13(29.55)	27(61.36)	4(9.09)	449100.00)	45
Registered	-	5(21.74)	149(60.87)	49(17.39)	23(100.00)	47
Un-Registered	-	8(38.09)	13(61.91)	-	21(100.00)	43
Manufacture of dairy products (Total)	-	8(42.11)	9(47.37)	2(4.44)	19(100.00)	44
Registered	-	4(44.44)	3(33.33)	2(22.23)	9(100.00)	45
Un-Registered	-	4(40.00)	6(60.00)	-	10(100.00)	43
Manufacture of grain mill products and animals feeds (Total)	-	69(31.94)	126(58.33)	21(9.73)	216(100.00)	50
Registered	-	32(30.48)	60(57.14)	13(12.38)	105(100.00)	49
Un-Registered	-	37(33.33)	66(59.46)	8(7.21)	111(100.00)	51
Manufacture of sugar and other food items (Total)	-	51(24.52)	127(61.06)	30(14.42)	208(100.00)	49
Registered	-	21(20.39)	63(61.17)	19(18.44)	103(100.00)	49
Un-Registered	-	30(28.57)	64(60.95)	11(10.48)	105(100.00)	49
Distilling rectifying and blending of Spirits (Total)	-	12(60.00)	8(40.00)	-	20(100.00)	38
Registered	-	4(40.00)	6(60.00)	-	10(100.00)	41
Un-Registered	-	8(80.00)	2(20.00)	-	10(100.00)	36
All Units	-	153(30.17)	297(58.58)	57(11.24)	507(100.00)	45
Registered	-	66((26.40)	146(58.40)	38((15.20)	250(100.00)	46
Un-Registered	-	87((33.85)	151(58.75)	19((7.39)	257(100.00)	44

ii. Native Place of the Entrepreneurs; The residential pattern of the entrepreneurs indicated that a majority of over 54 percent Agro-industries are established by the entrepreneurs possessing rural background. Even, among them the proportion of entrepreneurs heading un-registered small units has been found over 61 percent. Among the different product groups of un-registered small scale agro-industries the proportion of

Table -5.7
Distribution of Entrepreneur by their Native place

Product Group	Native place				
	Rural within state	Rural outside state	Urban within state	Urban outside state	All
Manufacture of vegetables, animals oils and fats	27(61.36)	-	17(38.64)	-	44(100.00)
Registered	13(56.52)	-	10(43.48)	-	23(100.00)
Un-Registered	14(66.67)	-	7(33.33)	-	21(100.00)
Manufacture of dairy products	4(21.05)	-	15(78.75)	-	19(100.00)
Registered	1(11.11)	-	8(88..89)	-	9(100.000
Un-Registered	3(30.00)	-	7(70.00)	-	10(100.00)
Manufacture of grain mill products and animals feeds	120(55.56)	1(0.46)	92(42.59)	3(2.86)	216(100.00)
Registered	49(46.67)	1(0.95)	52(49.52)	3(2.86)	105(100.00)
Un-Registered	71(63.96)	-	40(36.04)	-	111(100.00)
Manufacture of sugar and other food items	123(59.13)	-	85(40.87)	-	208(100.00)
Registered	53(51.56)	-	50(48.54)	-	103(100.00)
Un-Registered	70(66.67)	-	35(33.33)	-	105(100.00)
Distilling rectifying and blending of Spirits	-	-	20(100.00)	-	20(100.00)
Registered	-	-	10(100.00)	-	10(100.00)
Un-Registered	-	-	10(100.00)	-	10(100.00)
All Units	274(54.04)	1(0.20)	229(45.17)	3(0.59)	507(100.00)
Registered	116(46.40)	1(0.40)	130(52.60)	3(1.20)	250(100.00)
Un-Registered	158(61.48)	-	99(38.52)	-	257(100.00)

concerned background of entrepreneurs accounted as high as 67 percent each in manufacturing of vegetables, animal oils and facts and manufacture of sugar and sugar related products followed by 64 percent in manufacture of grain mill products and animal feeds. Even among the entrepreneurs with rural background of registered units reaches as high as 57 percent for manufacturing of vegetables, animal oils and fats. This pattern reflects the arguments that a reasonably better accessibility of different raw material for processing in agro-industries in rural areas over the urban counterpart the rural communities feel additional advantage over the urban communities in expansion of available raw material based agro-processing industries especially small and tiny agro-units which expansion require a little capital investment in nearby towns or within rural areas itself. On the other hand, the large scale agro- industries especially the product group of distilling rectifying and blinding

of spirits and dairy based products which require larger capital investment in its expansion are seen mainly established by the entrepreneurs of urban origin. As the proportion of entrepreneurs with urban background heading registered Agro processing units in the line of the distilling rectifying and blinding of spirits and manufacturing of dairy products accounted as high as over cent percent 89 percent respectively.

iii. Educational Background of the Entrepreneurs; Assessing into the educational background of the entrepreneurs it reflects that the different groups of Agro-processing Industries especially small scale industries do not require any more skill and professional education. Expansion of this sector can be successfully carried out by the individual having even primary education or the secondary education. It is well reflected from analysis presented in table 3.8 that nearly 32 percent entrepreneurs in Agro-processing industries are processing below primary level of education. Even, such category of entrepreneurs in small scale un-registered agro-units accounted over 42 percent. However, a majority of 44 percent entrepreneurs are having secondary level of education while only 1 percent entrepreneurs, mainly the entrepreneurs of large scale registered units have obtained technical/ professional level of education..

Table -5.8
Distribution of Entrepreneurs by their Educational Background

Product Group	Education Qualification						
	Illiterate	Literate	Primary	Secondary	Grad-uation	Technical/ Professional education	Total
Manufacture of vegetables, animals oils and fats	-	-	14(31.82)	21(47.73)	9(20.45)	-	44 (100.00)
Registered	-	-	5(21.74)	13(56.52)	5(21.740	-	23(100.00)
Un-Registered	-	-	9(42.86)	8(38.09)	4(19.05)	-	21(100.00)
Manufacture of dairy products	-	-	4(21.05)	12(63.16)	2(10.53)	**1(5.26)**	19(100.00)
Registered	-	-	2(22.22)	5(55.56)	2(22.22)	-	9(100.00)
Un-Registered	-	-	2(20.00)	7(70.00)	-	**1(10.00)**	10(100.00)
Manufacture of grain mill products and animals feeds	-	8((3.70)	57(26.39)	96(44.45)	55(25.46)	-	216(100.00)
Registered	-	19(0.95)	21(20.00)	38(36.19)	45(42.86)	-	105(100.00)
Un-Registered	-	7(6.31)	36(32.43)	58(52.25)	10(9.01)	-	111(100.00)
Manufacture of sugar and other food items	5(2.40)	8(3.85)	67(32.21)	84(40.38)	40(19.23)	4(1.920	208(100.00)
Registered	-	3(2.91)	25(24.27)	43(41.75)	28(27.18)	4(1.92)	103(100.00)
Un-Registered	5(4.76)	5(4.76)	42(40.00)	41(39.05)	12(11.43)	-	105(100.00)
Distilling rectifying and blending of Spirits	-	-	-	9(45.00)	10(50.00)	1(5.00)	20(100.00)
Registered	-	-	-	6(60.00)	3(30.00)	1(10.00)	10(100.00)
Un-Registered	-	-	-	3(30.00)	7(70.00)	-	10(100.00)
All Units	5(0.99)	1693.16)	142(28.01)	222(43.79)	116(22.88)	6(1.18)	507(100.00)
Registered	-	4(1.60)	53(21.26)	105(42.00)	83(32.20)	5(2.00)	250(100.00)
Un-Registered	5(1.95)	12(4.67)	89(34.63)	117(45.53)	33(12.84)	1(0.38)	257(100.00)

iv. Caste of the Entrepreneurs; The caste composition of the entrepreneur's reveals that the small scale un-registered agro industries are mainly headed by the Muslim and backward community persons while the domination of general castes of entrepreneurs is well reflected in heading registered large agro-industries. Even, the proportion of SC/ST entrepreneurs engaged in un-registered agro-industries seems to

be relatively higher than those are engaged in registered agro-industries. Among the different product groups of Agro-industries, the domination of General cast entrepreneurs has been noted highest at 65 percent in Distilling, rectifying and blinding of spirit while in registered unit their share reaches to the extend of 50 percent in same product group to 48 percent in manufacturing of vegetables, animal oils and fats. In terms of the proportionate share of

Table -5.9
Distribution of Entrepreneur by their Caste

Product Group	Caste of Entrepreneur					
	General	Sc/St	Backward	Muslims	Others	Total
Manufacture of vegetables, animals oils and fats	18(40.91)	2(4.55)	16(36.36)	8(18.18)	-	44(100.00)
Registered	11(47.83)	1(4.35)	8(34.78)	3(13.04)	-	23(100.00)
Un-Registered	7(33.33)	1(4.76)	8(34.78)	5(23.81)	-	21(100.00)
Manufacture of dairy products	7(36.84)	-	7(36.84)	5(26.32)	-	19(100.00)
Registered	4(44.45)	-	3(33.33)	2(22.22)	-	9(100.00)
Un-Registered	3(30.00)	-	4(40.00)	3(30.00)	-	10(100.00)
Manufacture of grain mill products and animals feeds	71(32.87)	14(6.48)	85(39.35)	45(20.83)	1(0.46)	216(100.00)
Registered	46(43.81)	2(1.91)	35(33.33)	21(20.00)	1(0.95)	105(100.00)
Un-Registered	25(22.52)	12(10.81)	50(45.05)	24(21.62)	-	111(100.00)
Manufacture of sugar and other food items	49(23.56)	21(10.10)	65(31.25)	72(34.62)	1(0.48)	208(100.00)
Registered	41(39.81)	7(6.80)	34(33.01)	20(19.42)	1(0.97)	103(100.00)
Un-Registered	8(7.62)	14(13.33)	31(29.52)	52(49.52)	-	105(100.00)
Distilling rectifying and blending of Spirits	13 (65.00)	1 (5.00)	3 (15.00)	3 (15.00)	-	20 (100.00)
Registered	5 (50.00)	1 (10.00)	3 (30.00)	1 (10.00)	-	10 (100.00)
Un-Registered	8 (80.00)	-	-	2 (20.00)	-	10 (100.00)
All Units	158 (31.16)	38 (7.49)	176 (34.73)	133 (26.23)	2 (0.39)	507 (100.00)
Registered	107 (42.80)	11 (4.40)	83 (33.20)	47 (18.80)	2 (0.80)	250 (100.00)
Un-Registered	51 (19.84)	27 (10.50)	93 (36.18)	86 (33.48)	-	257 (100.00)

different casts of entrepreneurs in various small scale un-registered agro- industries is concerned the study found that it again follows quite high at 80 percent for General castes in distilling, rectifying and blinding of spirits, for backward castes at over 45 percent in manufacture of grain mill products and animal feeds and for Muslims at 50 percent in manufacturing of sugar and sugar based food products.

v. Activity of Entrepreneur before stating / joining Present units; The study in the context of the status of past activity of the entrepreneurs of different Agro- industries reveals that a fairly high proportion of over 69 entrepreneurs were actively engaged in various economic activities before joining or the starting of present industry. However, such entrepreneurs reflected relatively higher among those started/ joined small scale un-registered industries (71 percent) as compared to those started/ joined large scale registered industry (67 percent). As far as the shifting / opting pattern of entrepreneurs from their past economic activity to the present product groups of agro-industries is concerned the study found that a highest proportion of entrepreneurs opted to join/ start manufacturing of sugar and sugar related food products (77 percent) though expansion / joining either registered (73 percent) or the un-registered small scale units (81 percent). Another second majority of 70 percent entrepreneurs opted to start/ join the manufacturing of vegetables, animal feeds and fats. Among them, the proportion of entrepreneurs who joined/ started un-registered agro- industries accounted marginally higher at 71 percent as against 70 percent entrepreneurs those joined/ started registered industries. However the joining or starting present Agro- industry happen to be the first economic activity of nearly 30 percent entrepreneurs as they were either un-employed or students earlier to joining / starting the present unit. Among them, a majority of nearly 50 percent entrepreneurs opted to join/ start small scale un-registered Agro-industry in the product groups of dairy, distilling, rectifying and blinding of spirits.

Table -5.10
Activity of Entrepreneur before stating / joining this units

Product Group	Activity				
	Student	Un-employed	Working	Others	All
Manufacture of vegetables, animals oils and fats	11 (25.00)	-	31 (70. 45)	2 (4.55)	44 (100.00)
Registered	6 (26.09)	-	16 (69.56)	1 (4.35)	23 (100.00)
Un-Registered	5 (23.81)	-	15 (71.43)	1 (4.76)	21 (100.00)
Manufacture of dairy products	7 (36.85)	1 (5.26)	11 (57.89)	-	19 (100.00)
Registered	3 (33.33)	-	6 (66.67)	-	9 (100.00)
Un-Registered	4 (40.00)	1 (10.00)	5 (50.00)	-	10 (100.00)
Manufacture of grain mill products and animals feeds	48 (22.22)	27 (12.50)	138 (63.89)	3 (1.39)	216 (100.00)
Registered	26 (24.76)	11 (10.48)	66 (62.86)	2 (1.90)	105 (100.00)
Un-Registered	22 (19.82	16 (14.41)	72 (64.86)	1 (0.90)	111 (100.00)
Manufacture of sugar and other food items	27 (12.98)	19 (9.13)	160 (76.93)	2 (0.96)	208 (100.00)
Registered	18 (17.48)	10 (9.71)	75 (72.81)	-	103 (100.00)
Un-Registered	9 (8.57)	9 (8.57)	85 (80.95)	2 (1.91)	105 (100.00)
Distilling rectifying and blending of Spirits	8 (40.00)	2 (10.00)	10 (50.00)	-	20 (100.00)
Registered	4 (40.00)	1 (10.00)	5 (50.00)	-	10 (100.00)
Un-Registered	4 (40.00)	1 (10.00)	5 (50.00)	-	10 (100.00)
All Industries	101 (19.93)	49 (9.66)	350 (69.03)	7 (1.38)	507 (100.00)
Registered	57 (22.80)	22 (8.80)	168 (67.20)	3 (1.20)	250 (100.00)
Un-Registered	44 (17.12)	27 (10.50)	182 (70.82)	4 (1.56)	257 (100.00)

vi. Status and Type of Past Activity; As far as the background of entrepreneurs of Agro-processing industries in terms of their status of working before starting / joining

present industry is concerned the study found that they were engaged in different economic sectors both in wage- paid employment and self employed. However, the proportion of entrepreneurs working as self employed were relatively higher than the wage earners either they joined/ started small scale un-registered industry or the large scale registered industry. But, a larger proportion of entrepreneurs who were self employed before starting the present industry accounted as higher as 74 percent who started / joined the units related to manufacturing of vegetables, animal oils and fats flowed by 61 percent sugar and sugar related food products while a lowest proportion of 36 percent were among those who started / joined dairy units. Among the entrepreneurs who were wage/ salary earners a sufficient number of them have started / joined small scale unregistered ago- industries mainly manufacturing of dairy products.

As far as the past activity of the present entrepreneurs is concerned a highest proportion of a little over one third of them were engaged in trading and transport sector followed by 29 percent in service sector and a lowest proportion of 12 percent in manufacturing sector. Among the entrepreneurs with business background a highest proportion of 58 percent had started / joined registered units in the product groups of grain milling and animal feeds followed 50 percent in manufacturing of dairy products. The proportion of entrepreneurs who were confined in service sector earlier are also again highest among those joined/started small scale un-registered dairy units. Similarly, the proportion of entrepreneurs who were earlier engaged in farming sector were highest among those started, joined small scale unregistered units related to manufacturing of sugar and sugar based food products.

Table -5.11
Distribution of Entrepreneurs by Status of Working and Type of Past Activity

Product Group	Details of working Entrepreneur							
	Status of working			Type of activity				
	Wage/ Salary earner	Self employed	Total	Agri.	Manufac-turing	Business	Services	Total
Manufacture of vegetables, animals oils and fats	8(25.80)	23(74.20)	31(100.00)	10(32.25)	-	13(41.95)	8(25.80)	31(100.00)
Registered	3(18.75)	13(81.25)	16(100.00)	6(37.50)	-	7(43.75)	3(18.75)	16(100.00)
Un-Registered	5(33.33)	10(66.67)	15(100.00)	4(26.66)	-	6(40.00)	5(33.34)	15(100.00)
Manufacture of dairy products	7(63.63)	4(36.37)	11(100.00)	-	-	5(45.45)	6(54.55)	11(100.00)
Registered	3(50.00)	3(50.00)	6(100.00)	-	-	3(50.00)	3(50.00)	6(100.00)
Un-Registered	4(80.00)	1(20.00)	5(100.00)	-	-	2(40.00)	3(60.00)	5(100.00)
Manufacture of grain mill products and animals feeds	49(35.50)	89 (64.50)	138(100.00)	26(18.84)	13(9.42)	57(41.30)	42(30.44)	138(100.00)
Registered	16(24.24)	50(75.76)	66(100.00)	8(12.12)	5(7.57)	38(57.57)	15(22.74)	66(100.00)
Un-Registered	33(45.83)	39(54.17)	72(100.00)	18(25.00)	8(11.11)	19(26.39)	27(37.50)	72(100.00)
Manufacture of sugar and other food items	62(38.75)	98(61.25)	160(100.00)	54(33.75)	29(18.12)	37(23.13)	40(25.00)	160(100.00)
Registered	25(33.33)	50(66.67)	75(100.00)	21(28.00)	8(10.66)	24(32.00)	22(29.34)	75(100.00)
Un-Registered	37(43.52)	48(56.48)	85(100.00)	33(38.82)	21(24.70)	13(15.29)	18(21.19)	85(100.00)
Distilling rectifying and blending of	4(40.00)	6(60.00)	10(100.00)	-	-	6	4	10
Registered	2(40.00)	3(60.00)	5(100.00)	-	-	3(60.00)	2(40.00)	5(100.00)
Un-Registered	2(40.00)	3(60.00)	5(100.00)	-	-	3(60.00)	2(40.00)	5(100.00)
All Industries	130(3714)	220(62.88)	350(100.00)	90((25.71)	42((12.00)	118((33.71)	100(28.57)	350(100.00)
Registered	49((29.17)	119((70.83)	168(100.00)	35(20.83)	13(7.74)	75((44.64)	45((26.79)	168(100.00)
Un-Registered	81(44.51)	101(55.49)	182(100.00)	55(30.22)	29(15.93)	43(23.63)	55(30.22)	182(100.00)

vii. Duration of Working in Present Industry; The pattern of the involvement of the entrepreneurs in terms of the duration of starting / joining the agro-processing industry reveals that a fairly high proportion of nearly one third percentage of them have been involved with their present industry since 2001. However, the proportion of

such entrepreneurs reported as high as 48 percent in small scale unregistered product line in

manufacturing of vegetables, animal feeds and fats followed by distilling, rectifying and blinding of spirits. Another, a second majority of 27 percent entrepreneurs are reported working in present units for last two decades though their proportion reported relatively higher in registered industries as compared in un-registered industries. Only about 15 percent entrepreneurs consisting 18 percent of registered and 12 percent un-registered industries were indicted working in their present units before 1991. On the other hand the newly entered entrepreneurs in agro- processing industry after the span of 2006 accounted nearly 26 percent. In all, it revealed that a fairly high proportion of 65 percent of present entrepreneurs in small scale industries as against the entrepreneurs of 52 percent in registered industries have been working in their present units for last five years or so. (Table 5.12)

viii. Extent of Involvement of Entrepreneurs in the Industry; Further, the study examined the pattern of involvement of entrepreneurs in operating and handling of different agro-industries. In this context the study finds that a overwhelming majority of 91 percent owners of this sector have performing the operation of their respective industry as a full time entrepreneur. However, the proportion of such entrepreneurs reported appreciably high in small scale un-registered industries than in large scale registered industries. Even, among different product lines of agro-processing industries the proportion of concerned entrepreneurs indicated as high as cent percent in both registered and un-registered dairy products of industries and registered distilling, rectifying and blinding of spirits followed by 97 percent small scale un-registered sugar and sugar related food products. The operation and functioning of remaining only 6 percent and 4 percent agro-industries are managed by through engaging managers and partners of concerned industries themselves respectively (Table 3.13).

Table -5.12

Distribution of Entrepreneurs by their Duration of Working in Present Unit

Product Group	Duration				
	1991	1992-2000	2001-2005	2006 &After	**Total**
Manufacture of vegetables, animals oils and fats	10(22.72)	13(29.55)	16(36.36)	5(11.36)	44(100.00)
Registered	7(30.43)	7(30.43)	6(26.09)	3(13.04)	23(100.00)
Un-Registered	3((14.29)	6(28.57)	10(47.62)	2(9.52)	21(100.00)
Manufacture of dairy products	3(15.79)	5(26.31)	4(21.05)	7(36.84)	19(100.00)
Registered	2(22.22)	3(33.33)	2(22.22)	2(22.22)	9(100.00)
Un-Registered	1(10.00)	2(20.00)	2(20.00)	5(50.00)	10(100.00)
Manufacture of grain mill products and animals feeds	39((18.05)	57((26.39)	67(31.02)	53(24.54)	216(100.00)
Registered	20(19.05)	31(29.52)	27(25.71)	27(25.71)	105(100.00)
Un-Registered	19(17.11)	26(23.42)	40(36.04)	26(23.42)	111(100.00)
Manufacture of sugar and other food items	21(10.10)	57(27.40)	72(34.62)	58(27.88)	208(100.00)
Registered	15(14.56)	30(29.13)	34(33.01)	24(23.30)	103(100.00)
Un-Registered	6(5.71)	27(25.71)	38(36.19)	34(32.38)	105(100.00)
Distilling rectifying and blending of Spirits	-	4(20.00)	8(40.00)	8(40.00)	20(100.00)
Registered	-	4(40.00)	4(40.00)	2(20.00)	10(100.00)
Un-Registered	-	-	4(40.00)	6(60.00)	10(100.00)
All Industries	74(14.60)	136(26.82)	167(32.94)	131(25.84)	507(100.00)
Registered	44(17.60)	75(30.00)	73(29.20)	58(23.20)	250(100.00)
Un-Registered	30(11.67)	61(23.74)	94(36.58)	73(28.40)	257(100.00)

Table -5.13
Type of Involvement of Entrepreneurs in Running the Unit

Product Group	Full time working as owner	Partner	Manager	All
Manufacture of vegetables, animals oils and fats	41(93.18)	1(2.27)	2(4.55)	44(100.00)
Registered	22(95.65)	1(4.35)		23(100.00)
Un-Registered	19(90.47)	-	2(9.530	21(100.00)
Manufacture of dairy products	19(100.00)	-	-	19(100.00)
Registered	9(100.00)	-	-	9(100.00)
Un-Registered	10(100.00)	-	-	10(100.00)
Manufacture of grain mill products and animals feeds	185(85.64)	12(5.56)	19(8.80)	216(100.00)
Registered	78(74.28)	12(11.43)	15(14.29)	105(100.00)
Un-Registered	107(96.39)	-	4(3.61)	111(100.00)
Manufacture of sugar and other food items	197(94.72)	5(2.40)	6(2.88)	208(100.00)
Registered	95(92.23)	30(2.91)	5(4.86)	103(100.00)
Un-Registered	102(97..14)	2(1.91)	1(0.95)	105(100.00)
Distilling rectifying and blending of Spirits	19(95.00)	-	1(5.00)	20(100.00)
Registered	10(100.00)	-	-	10(100.00)
Un-Registered	9(90.00)	-	1(10.00)	10(100.00)
All Industries	461(90.92)	18(3.55)	28(5.53)	507(100.00)
Registered	214(75.61)	16(6.40)	20(8.00)	250(100.00)
Un-Registered	247(96.10)	2(0.78)	8(3.12)	257(100.00)

vii. Earnings in Last Activity and Reasons for its Leaving; Looking into the structure of earning in the last activities of the present entrepreneurs of different Ago-industries it depicted that a majority were deriving a very low income from their concerned economic activity which forced them start / join their preferential product group of agro- industry.

Table -5.14

Distribution of Working Entrepreneur by their Earnings in last Activity

Product Group	No. of entrepreneurs in different Earning groups (Annual Rs in lakh.)					
	Below-1	1-2	2-4	4+	Total	Average income
Manufacture of vegetables, animals oils and fats	26 (83.80)	5 (16.30)	-	-	31 (100.00)	60129
Registered	12 (75.00)	4 (25.00)	-	-	16 (100.00)	72188
Un-Registered	14 (93.33)	1 (6.67)	-	-	15 (100.00)	47267
Manufacture of dairy products	10 (90.91)	1 (9.09)	-	-	11 (100.00)	48763
Registered	5 (83.33)	1 (16.67)	-	-	6 (100.00)	58000
Un-Registered	5 (100.00)	-	-	-	5 (100.00)	37680
Manufacture of grain mill products and animals feeds	80 (57.97)	44 (31.88)	12 (8.70)	2 (1.45)	138 (100.00)	117170
Registered	17 (25.76)	36 (54.54)	11 (16.67)	2 (3.03)	66 (100.00)	165288
Un-Registered	63 (87.50)	8 (11.11)	1 (1.39)	-	72 (100.00)	73061
Manufacture of sugar and other food items	98 (61.25)	42 (26.25)	13 (8.13)	7 (4.37)	160 (100.00)	150275
Registered	31 (41.33)	26 (34.67)	12 (16.00)	6 (8.00)	75 (100.00)	236485
Un-Registered	67 (78.82)	16 (18.82)	1 (1.18)	1 (1.18)	85 (100.00)	74207
Distilling rectifying and blending of Spirits	6 (60.00)	4 (40.00)	-	-	10 (100.00)	89700
Registered	2 (40.00)	3 (60.00)	-	-	5 (100.00)	97400
Un-Registered	4 (80.00)	1 (20.00)	-	-	5 (100.00)	82000
All Industries	220 (62.86)	96 (27.43)	25 (7.14)	9 (2.57)	350 (100.00)	124317
Registered	67 (39.88)	70 (41.67)	23 (13.69)	8 (4.76)	168 (100.00)	182354
Un-Registered	153 (84.07)	26 (14.28)	2 (1.10)	1 (0.55)	182 (100.00)	70744

Table -5.15
Reason of Entrepreneur for leaving last activity

Product Group	Inadequate income	Shifted from wage/salary earners	Retired from service	Lack of raw material	Problem of marketing	Others(loss, disputes,, electricity problem)	total
Manufacture of vegetables, animals oils and fats	16 (76.19)	2 (9.52)	-	-	1 (4.76)	2 (9.52)	21 (100.00)
Registered	9 (90.00)	1 (10.00)	-	-	-	-	10 (100.00)
Un-Registered	7 (63.64)	1 (9.09)	-	-	1 (9.09)	2 (18.18)	11 (100.00)
Manufacture of dairy products	9 (81.82)	1 (9.09)	-	-	-	1 (9.09)	11 (100.00)
Registered	6 (100.00)	-	-	-	-	-	6 (100.00)
Un-Registered	3 (60.00)	1 (20.00)	-	-	-	1 (20.00)	5 (100.00)
Manufacture of grain mill products and animals feeds	71 (63.96)	20 (18.02)	2 (1.80)	6 (5.41)	1 (0.90)	11 (9.91)	111 (100. 00)
Registered	36 (61.02)	5 (8.47)	2 (3.39)	6 (10.17)	1 (1.69)	9 (15.25)	59 (100.00)
Un-Registered	35 (67.31)	15 (28.85)	-	-	-	2 (3.84)	52 (100.00)
Manufacture of sugar and other food items	71 (67.62)	22 (20.95)	1 (0.95)	-	1 (0.95)	10 (9.52)	105 (100.00)
Registered	35 (63.64)	11 (20.00)	-	-	1 (1.82)	8 (14.54)	55 (100.00)
Un-Registered	36 (72.00)	11 (22.00)	1 (2.00)	-	-	2 (4.00)	50 (100.00)
Distilling rectifying and blending of Spirits	6 (60.00)	2 (20.00)	-	-	-	2 (20.00)	10 (100.00)
Registered	2 (40.00)	1 (20.00)	-	-	-	2 (40.00)	5 (100.00)
Un-Registered	4 (80.00)	1 (20.00)	-	-	-	-	5 (100.00)
All Industries	173 (67.05)	47 (18.22)	3 (1.16)	6 (2.33)	3 (1.16)	26 (10.08)	258 (100.00)
Registered	88 (65.19)	18 (13.33)	2 (1.48)	6 (4.45)	2 (1.48)	19 (14.07)	135 (100.00)
Un-Registered	85 (69.11)	29 (23.58)	1 (0.81)	-	1 (0.81)	7 (5.69)	123 (100.00)

This has been well supported further by the fact that the annual average income of all the working entrepreneurs in their last activities together accounted for only Rs. 1.82 lakh Even, it was as low as Rs. 70 thousand for entrepreneurs who joined / stared small scale unregistered Agro- industries. But, , the amount of annual income for entrepreneurs who joined large scale registered agro- industries varied in the highest range of Rs. 2.36 lakh to lowest of Rs. 49 lakh in the units related product groups of sugar and sugar based products and dairy products. The same was averages as low as Rs.37 thousand for

entrepreneurs who joined/ started small scale sugar and sugar based products of industries.

In terms of the distribution of entrepreneurs according of different product groups of agro-industries according to their past income ranges the study found that nearly 63 percent of them were earning less than Rs one lakh per annual before joining / staring the present unit. Among them the proportion of entrepreneurs joined/ small scale industries were remarkably much higher at 84 percent as compared to 40 percent entrepreneurs who joined / started large scale registered industries. Only 3 percent entrepreneurs comprising 5 percent among large scale and 1 percent among small scale industries were falling in the highest income range of above 4 lakh before joining / starting respective industry.

viii. Reasons for Leaving the Last Activity; Incorporating the reasons of the present entrepreneurs of different agro-industries behind joining/ starting present industry it further reflected that the availability of inadequate income through undertaking last economic activity had been a reason of a fairly remarkable number of over 67 percent entrepreneurs behind the expansion/ join the present agro- industry. However, such entrepreneurs accounted relatively higher which joined/ started small scale un-registered agro industries than the large scale registered industries. Even the entrepreneurs reporting such factor as the reason were noted highest at cent percent among those joined / started registered units related to dairy products followed by 90 percent in manufacturing of vegetables, animal oils and fats. Another second majority of 18 percent of entrepreneurs opted to start the agro-industries after leaving paid employment in other manufacturing units. The proportion of such entrepreneurs revealed relatively higher at 24 percent for who started small scale industry than 13 percent entrepreneurs who started large units. Another, nearly 16 percent of entrepreneurs were already involved in other categories of manufacturing activities before initiating the expansion of present agro-industries. The emerging problems in supply of adequate raw materials, lacking proper facilities of marketing the produce and electricity, disputes among partners and unprecedented loss in income in operating previous manufacturing industries were cited as the of main reasons cited by them in shifting towards the expansion of present industries

CHAPTER- VI

PATTERN OF INVESTMENT, PROFITABILITY AND EMPLOYMENT

Based on secondary data obtained from the ASI reports for different periods the well established fact which emerged in preceding analysis was that Agro- processing sector as a whole and some of the product groups of Agro- industries have been contributing a significant role as far as in the economy as well as overall industrial sector of the state. More specifically, in spite of a very low level of per unit capital investment in Agro-processing Industries as compared in non-agro- industries the contribution of former categories of industries has been witnessed remarkable than the case of latter categories of industries in all industrial sector taken together in matters of creation in employment, gross value of output and gross value additions in the state.

6.1. Initial Capital Investment at Expansion of the Unit; Further, the analysis based on data obtained among a sample of different product groups of Agro-industries in respect of the pattern of initial capital investment carried out on their establishment it reflected that the expansion of Agro-industry require a very low amount of Rs 47.96 lakh capital investment. Even the initial investment for expansion of small scale unit has been estimated only a little over Rs.3 lakh. Similarly, in case of small agro-industry, the initial capital investment has been noted as low as Rs. 1.34 lakh for manufacturing of Dairy products closely followed by Rs. 1.80 lakh for manufacturing of grain milling products and animal feeds. But the initial capital investment for expansion of a large scale Agro-industry require over Rs. 94 lakh . Even the corresponding amount of initial capital investment averaged as larger as Rs.193.69 lakh for manufacturing of sugar and sugar related food products followed by Rs. 31.69 lakh for manufacturing of grain milling products and animal feeds while a lowest amount of initial capital investment of Rs. 5.86 lakh has been reported for expansion of agro-industry in the product group of manufacturing vegetables, animal oils and fats.

Moreover, the study indicates that the initial capital investment in a bulk of over 69 percent agro-industries was less than Rs. 5 lakh. Among them the proportion of small

scale un-registered industries was as larger as 91 percent as against 46 percent large scale registered industries. The agro industries which initial investment accounted in the highest capital investment group of above Rs. 20 lakh were noted only 11 percent. Among them a majority of 21 percent were noted from registered industries. Such industries were mainly among the product groups of grain milling, animal feeds and sugar and sugar based products. In this manner the overall analysis in respect to the pattern of capital investment further makes a strong argument that the establishment of different product groups of agro- industries does not require larger capital investment at its initial stages.

Dealing with the share of different components of capitals in the overall capital investment the analysis presented in table 4.16 reveals that the setting of agro-industries requires larger capital investment in acquiring machinery and other equipments at the initial stages of the expansion. Since, in the estimated per unit capital investment of Rs 47.96 lakh the share of machinery and other equipments together has been registered as high as 68 percent. The second component of capital investment has been noted as working capital which share accounted for 19 percent while the respective share noted only 12 percent for land and building. However, per unit capital investment in setting of small scale agro- unit require only Rs. 84 thousand as against Rs 66 lakh in case of large agro- industry for machinery and equipments. A highest amount of investment in this component has been noted for the establishment of units in the product group of sugar and sugar based food products and lowest for manufacturing of dairy products. Similar is the case of the requirement of per unit of working capital, which however stands highest at Rs. 14.98 lakh for setting up of units in the product group of grain milling and animal feeds followed by Rs. 14.07 lakh for sugar and sugar based products and lowest at Rs. 39 thousand for dairy products. Even the per unit amount of capital investment in land and building accounted only Rs. 1.58 lakh for setting small scale unit as against Rs 10.62 lakh for large scale unit.

Table -6.1
Initial Capital Investment of unit at establishment

Product Group	Number of Units by Initial Gross Investment in (Rs. Lakh)							
	Below - 50	1-5	5-10	10-15	15-20	20+	All	Average per unit
Manufacture of vegetables, animals oils and fats	8 (18.18)	26 (59.10)	8 (18.18)	1 (2.27)	-	1 (2.27)	44 (100.00)	4.26
Registered	3 (13.04)	13 (56.55)	5 (21.73)	1 (4.34)	-	1 (4.34)	23 (100.00)	5.86
Un-registered	5 (23.86)	13 (61.90)	3 (14.30)	-	-	-	21 (100.00)	2.51
Manufacture of dairy products	11 (57.90)	8 (41.10)	-	-	-	-	19 (100.00)	1.57
Registered	4 (44.44)	5 (55.56)	-	-	-	-	9(100.00)	2.00
Un-registered	7 (70.00)	3 (30.000	-	-	-	-	10 (100.00)	1.34
Manufacture of grain mill products and animals feeds	38 (17.60)	109 (50.46)	18 (8.33)	6(2.77)	11 (5.09)	34 (15.75)	216 (100.00)	16.33
Registered	7 (6.66)	32 (30.47)	15 (14.28)	6(5.74)	11 (10.47)	34 (32.38)	105 (100.00)	31.69
Un-registered	31 (27.94)	77 (69.36)	3 (2.70)	-	-	-	111 (100.00)	1.80
Manufacture of sugar and other food items	12 (5.76)	129 (62.01)	27 (12.98)	14 (6.77)	8 (3.84)	18 (8.64)	208 (100.00)	98.36
Registered	4 (3.88)	45 (43.70)	21 (20.39)	13 (12.62)	4 (3.88)	16 (15.53)	103 (100.00)	193.69
Un-registered	8 (7.61)	84 (80.00)	6 (5.74)	1 (0.95)	4 (3.80)	2 (1.90)	105 (100.00)	5.10
Distilling rectifying & blending of Spirits	-	7 (35.00)	9 (45.00)	3 (15.00)	-	1 (5.00)	20 (100.00)	5.47
Registered	-	2	4	3	-	1	10	7.15
Un-registered	-	5 (50.00)	5 (50.00)	-	-	-	10 (100.00)	3.79
All units	69 (13.60)	279 (55.02)	62 (12.22)	24 (4.73)	19 (3.74)	54 (10.65)	507 (100.00)	47.96
Registered	18 (7.20)	97 (38.80)	45 (18.00)	23 (9.20)	15 (6.00)	52 (20.80)	250 (100.00)	94.10
Un-registered	51 (19.84)	182 (70.81)	17 (6.61)	1 (0.38)	4 (1.58)	2 (0.78)	257 (100.00)	3.16

Table -6.2
Initial investment on different heads of Capital (Per unit in Rs.)

Product Group	Land	Building	Machinery	Other equipments	Working Capital	All
Manufacture of vegetables, animals oils and fats	116843 (27.44)	95750 (22.49)	85811 (20.15)	8911 (2.09)	118500 (27.83)	425815 (100.00)
Registered	142226 (24.28)	129000 (22.02)	107530 (18.35)	11191 (1.91)	195935 (33.44)	585882 (100.00)
Un-registered	89043 (35.55)	59333 (23.68)	62023 (24.26)	6414 (2.56)	33690 (13.45)	250503 (100.00)
Manufacture of dairy products	38890 (24.80)	52350 (33.38)	21700 (13.84)	4550 (2.90)	39350 (25.08)	156840 (100.00)
Registered	46000 (22.96)	66889 (33.38)	28933 14.34)	5667 (2.83)	52889 (26.39)	200378 (100.00)
Un-registered	36380 (27.20)	44500 (33.27)	17360 (12.98)	4000 (2.99)	31500 (23.55)	133740 (100.00)
Manufacture of grain mill products and animals feeds	264026 (16.16)	317326 (19.43)	280501 (17.17)	37523 (2.30)	733928 (44.94)	1633304 (100.00)
Registered	475499 (15.00)	591242 (18.66)	532275 (16.79)	72232 (2.28)	1498000 (47.27)	3169248 (100.00)
Un-registered	63984 (35.47)	58216 (32.27)	42336 (23.47)	4690 (2.60)	11158 (6.19)	180384 (100.00)
Manufacture of sugar and other food items	249028 (2.53)	536259 (5.45)	7596280 (77.23)	47512 (0.48)	1407235 (14.31)	9836314 (100.00)
Registered	383342 (1.98)	995176 (5.14)	15228389 (78.62)	79922 (0.48)	2682381 (13.85)	19369210 (100.00)
Un-registered	117272 (23.00)	102714 (20.14)	108511 (21.28)	15571 (3.05)	165854 32.53)	509922 (100.00)
Distilling rectifying and blending of Spirits	150250 (27.47)	159850 (29.23)	138685 (25.36)	53841 (9.85)	44270 (8.09)	546896 (100.00)
Registered	250500 (35.03)	178000 (24.89)	164730 (23.03)	62425 (8.73)	59500 (8.32)	715155 (100.00)
Un-registered	50000 (13.21)	141700 (37.42)	112640 (29.75)	45256 (11.95)	29040 (8.32)	378636 (100.00)
All units	232251 (4.85)	371876 (7.75)	3249700 (67.76)	38555 (0.81)	903589 (36.63)	4795971 (100.00)
Registered	382408 (4.07)	679730 (7.23)	6515176 (69.30)	66996 (0.71)	1756611 (18.69)	9400921 (100.00)
Un-registered	86185 (27.23)	72408 (22.88)	73167 (23.12)	10889 (3.44)	73801 (23.32)	316450 (100.00)

As far as the sources of finances for meeting initial capital investment in expansion of agro-industries was concerned the study reflected that a major part of 82.26 percent capital investment in the expansion of sample agro industries was financed from own sources by the owners of the present units. However, the share of corresponding head in total capital investment was recorded relatively higher at 88 percent in case of the small

Table -6.3;
Initial Capital Investment by Source of Finance

Product Group	Share of Different Sources in Financing Capital Investment				
	Own /family saving	Lone from Bank/ Institutional loan	Borrowing from others	Subsidy	All Sources
Manufacture of vegetables, animals oils and fats	51.62	4.00	44.38	0.00	100.00
Registered	34.20	5.58	60.22	0.00	100.00
Un-registered	96.24	0.00	3.76	0.00	100.00
Manufacture of dairy products	96.81	0.00	3.19	0.00	100.00
Registered	94.45	0.00	5.55	0.00	100.00
Un-registered	100.00	0.00	0.00	0.00	100.00
Manufacture of grain mill products and animals feeds	70.01	28.40	1.27	0.32	100.00
Registered	68.57	30.03	1.07	0.39	100.00
Un-registered	94.06	1.36	4.52	0.00	100.00
Manufacture of sugar and other food items	84.53	13.94	0.26	1.27	100.00
Registered	84.56	14.04	0.13	2.49	100.00
Un-registered	83.44	9.78	5.56	0.00	100.00
Distilling rectifying and blending of Spirits	96.53	2.56	0.27	0.54	100.00
Registered	96.78	1.95	0.44	0.83	100.00
Un-registered	96.03	3.97	0.00	0.00	100.00
All Units	82.26	15.89	0.74	1.11	100.00
Registered	82.05	16.22	0.60	1.13	100.00
Un-registered	87.74	6.65	4.83	0.00	100.00

scale industries as against 82 percent for large scale industries. Even the share of own sources of financing the capital investment has been registered a high as 97 percent for the expansion of units in the product groups of each distilling, rectifying and blending of spirits and dairy products. Even the particular source in the total capital investment happened to be 100 percent in the expansion small scale un-registered units which are confined in dairy products. Financing from banks and different financial institution has been noted as the second most sources for financing the capital investment as required in the establishment of different product groups of agro-industries in general and the industries in product groups of grain milling and

animal feeds in particular. The contribution of financial subsidy offered by different financial institutions at the initial stages of the establishment of agro- industrial sector has been noted merely a little over 1 percent in the total capital investment. Even, none of the agro –industries in the product groups of vegetables, animal feeds and fats and dairy products had availed any financial subsidy but they were offered financial incentives as loan through commercial banks at the time of starting the units. As usual, this financial subsidy in expansion of unit was availed by only the registered agro-industries. Thus, the overall analysis depicted the fact that the expansion of agro-industries in the state has been promoted mainly through undertaking capital investment from their own financial sources and its borrowings from friends and relatives while a very little contribution in this regard has been noted from the part of different financial institutions.

In terms of the distribution of units according to the main financial sources for capital investment in setting up their industry it indicated that own/ family savings has been a main source of financing initial capital investment of a highest proportion of 57 percent units. Though, among them the proportion of small scale units has been relatively higher than the large scale units. Obviously, the fact in this context was that significantly a larger proportion of latter category units than the former one had availed financial assistance in the form of loan from different financial institutions and commercial banks for this purpose. Among the units which capital investment was financed from own sources of the entrepreneurs accounted highest among the product groups of dairy (95 percent) followed by 85 percent distilling, rectifying and blending of spirits. Another

Table -6.4
Percentage distribution of units by Source of Financing in Initial Investment

Product Group	No. of units financed by financial Institution					
	Own/family savings	Loan from bank & Financial Institutions	Khadi board	Borro-wing	DIC/ PMRY	All Units
Manufacture of vegetables, animals oils and fats	59.10	6.80	-	34.10	-	100.00
Registered	60.90	8.70	-	30.40	-	100.00
Un-registered	57.14	4.76	-	38.10	-	100.00
Manufacture of dairy products	94.73	-	-	5.27	-	100.00
Registered	88.89	-	-	11.11	-	100.00
Un-registered	100.00	-	-	-	-	100.00
Manufacture of grain mill products and animals feeds	51.86	26.38	0.46	21.30	-	100.00
Registered	35.23	45.72	0.95	18.10	-	100.00
Un-registered	67.56	8.10	-	24.34	-	100.00
Manufacture of sugar and other food items	56.26	16.34	-	26.92	0.48	100.00
Registered	60.20	23.30	-	16.50	0.96	100.00
Un-registered	52.38	9.56	-	37.94		100.00
Distilling rectifying and blending of Spirits	85.00	10.00	-	5.00	-	100.00
Registered	80.00	10.00	-	10.00	-	100.00
Un-registered	90.00	10.00	-	-	-	100.00
All Units	57.20	18.93	0.20	23.47	0.20	100.00
Registered	51.60	30.00	0.40	18.00	-	100.00
Un-registered	64.65	8.47	-	28.80	-	100.00

second source of financing initial investment has been borrowings from friends and relatives for over 23 percent units comprising 29 percent small scale and 18 percent large scale agro-units. In which a highest proportion of units comprised in the product line of manufacturing vegetables, animal oils and fats (34 percent) followed by 21 percent grain milling products and animal feeds. There were also less than one percent units which initial financial capital investment was financed by Khadi Board and DIC under the PMRY Scheme.

6.2. Changes in Capital Investment; Further the study has attempted to make an assessment into the extent of changes occurring in the pattern of capital investment among different categories and product groups of agro-industries during the recent past. The concerned exercise has been carried out for the period's 2005-20011.In this context the study finds that the productive capital per agro industry has increased from 1 Rs. 119 lakh in 2005 to Rs. 189 lakh during 2011.In case of large and small units it increased from Rs228 laklh to Rs. 363 lakh for former category of units and from Rs. 12 lakh to Rs. 20 lakh for later category of units during the same periods. Significantly a very high jump in per unit capital investment from Rs 43 lakh in 2005 to Rs. 146 lakh in 20011 has been seen in response to units which are involved in manufacturing of vegetables, animal oils and fats. Even the overall analysis depicted that the productive capital per unit has been remarkably increasing in case of all the product groups of agro-industries at least to a some extent over the years.

In terms of fixed capital, the average increase per unit has been reported from Rs. 43 lakh in 2005 to Rs. 64 lakh during 2011. By and large the increase in per unit fixed capital follows at similar pattern for different product groups of agro-industries. On the other hand, per unit value of fixed capital of large agro -units has been many fold higher than the case of small scale units both initially during 2005and during 2011 periods and again it has been increasing faster in response to former category of units than the latter. The size of working capital per unit has been reported relatively larger than the per unit value of fixed capital for large units while reversal was the case for small scale units

Table -6.5
Per Unit Initial and Present Invested Capital

Product Group	Invested Capital (Rs. in lakh)											
	2005						2011					
	Fixed Capital	Land and Building	Machinery and Equipment	Others	Working Capital	Total	Fixed Capital	Land and Building	Machinery and Equipment	Others	Workinng Capital	Total
Manufacture of vegetables, animals oils and fats	7.47	4.98	2.43	0.06	35.51	42.98	9.50	7.06	2.37	0.07	136.79	146.29
Registered	11.68	7.54	4.06	0.08	65.97	77.65	14.80	10.69	4.03	0.08	258.60	273.39
Un-registered	2.85	2.18	0.63	0.04	2.14	4.99	3.68	3.07	0.56	0.05	3.39	7.07
Manufacture of dairy products	2.28	1.98	0.27	0.03	11.24	13.51	3.19	2.87	0.28	0.04	20.11	23.31
Registered	3.63	3.07	0.22	0.34	12.99	16.31	5.04	4.70	0.29	0.05	22.85	27.90
Un-registered	1.33	1.00	0.31	0.02	9.66	10.99	1.54	1.23	0.27	0.03	17.64	19.18
Manufacture of grain mill products and animals feeds	17.76	14.19	3.37	0.20	105.08	122.84	23.61	19.78	3.82	0.01	107.97	131.71
Registered	33.68	26.87	6.43	0.38	215.37	249.05	68.82	37.57	7.38	0.26	220.93	266.13
Un-registered	2.70	2.19	0.48	0.03	0.76	3.46	3.44	2.95	0.45	0.04	1.12	4.56
Manufacture of sugar and other food items	83.11	9.65	73.23	0.23	67.43	150.54	126.58	23.17	103.07	0.34	162.75	289.93
Registered	164.06	16.99	146.66	0.41	116.37	280.43	212.93	4.35	207.95	0.63	293.42	545.52
Un-registered	3.69	2.44	1.20	0.05	19.41	23.10	4.63	3.22	1.36	0.05	34.57	39.21
Distilling rectifying and blending of Spirits	6.58	4.64	1.80	0.14	2.15	8.73	8.23	6.27	1.80	0.16	2.75	10.98
Registered	7.62	5.71	1.80	0.11	2.06	9.68	9.24	7.22	1.90	0.12	3.09	12.33
Un-registered	5.49	3.58	1.80	0.16	2.24	7.78	7.24	5.33	1.70	0.21	2.40	9.64
All units	42.65	10.69	31.77	0.19	76.02	118.67	63.55	18.90	44.44	0.21	125.50	189.06
Registered	83.24	19.32	63.58	0.34	145.02	228.26	124.75	35.14	89.23	0.38	238.42	363.18
Un-registered	3.17	2.30	0.83	0.04	8.90	12.07	4.02	3.10	0.87	0.05	15.67	19.69

Table -6.6
Distribution of units by amount of capital Investment

Product Group	Amount of capital Investment (Rs. in lakh)											
	2005						2011					
	Below-20	20-40	40-80	80+	All units	Average	Below-20	20-40	40-80	80+	All units	Average
Manufacture of vegetables, animals oils and fats	35 (79.55)	5 (11.36)	-	4 (9.09)	44 (100.00)	42.98	31 (70.45)	6 (13.34)	3 (6.82)	4 (9.09)	44 (100.00)	146.29
Registered	14 (68.86)	5 (21.74)	-	4 (17.40)	23 (100.00)	77.65	11 (47.83)	5 (21.74)	3 (13.04)	4 (17.39)	23 (100.00)	273.39
Un-registered	21 (100.00)	-	-	-	21 (100.00)	4.99	20 (95.24)	1 (4.76)	-	-	21 (100.00)	7.07
Manufacture of dairy products	17 (89.47)	2 (10.53)	-	-	19 (100.00)	13.51	10 (52.63)	8 (42.11)	1 (5.26)	-	19 (100.00)	23.31
Registered	9 (100.00)	-	-	-	9 (100.00)	16.31	4 (44.44)	5 (55.56)	-	-	9 (100.00)	27.90
Un-registered	8 (80.00)	2 (20.00)	-	-	10 (100.00)	10.99	6 (60.00)	3 (30.00)	1 (10.00)	-	10 (100.00)	19.18
Manufacture of grain mill products and animals feeds	147 (68.06)	8 (3.70)	6 (2.78)	55 (25.46)	216 (100.00)	122.84	136 (62.96)	13 (6.02)	7 (3.24)	60 (27.78)	216 (100.00)	131.71
Registered	38 (36.19)	7 (6.67)	6 (5.71)	54 (51.43)	105 (100.00)	249.05	29 (27.62)	12 (11.43)	6 (5.71)	58 (55.24)	105 (100.00)	266.13
Un-registered	109 (98.20)	1 (0.90)	-	1 (0.90)	111 (100.00)	3.46	107 (96.40)	1 (0.90)	1 (0.90)	2 (1.80)	111 (100.00)	4.56
Manufacture of sugar and other food items	133 (63.94)	45 (21.63)	12 (5.77)	18 (8.66)	208 (100.00)	150.54	74 (35.58)	89 (42.79)	21 (10.09)	24 (11.54)	208 (100.00)	289.93
Registered	47 (45.63)	30 (29.13)	9 (8.74)	17 (16.50)	103 (100.00)	280.43	23 (22.33)	43 (41.75)	15 (14.56)	22 (21.36)	103 (100.00)	545.52
Un-registered	86 (81.90)	15 (14.89)	3 (2.86)	1 (0.95)	105 (100.00)	23.10	51 (48.57)	46 (43.82)	6 (5.71)	2 (1.90)	105 (100.00)	39.21
Distilling rectifying and blending of Spirits	20 (100.00)	-	-	-	20 (100.00)	8.73	20 (100.00)	-	-	-	20 (100.00)	10.98
Registered	10 (100.00)	-	-	-	10 (100.00)	9.68	10 (100.00)	-	-	-	10 (100.00)	12.33
Un-registered	10 (100.00)	-	-	-	10 (100.00)	7.78	10 (100.00)	-	-	-	10 (100.00)	9.64
All Units	352 (69.42)	60 (11.83)	18 (3.56)	77 (15.19)	507 (100.00)	118.67	271 (53.45)	116 (22.88)	32 (6.31)	88 (17.36)	507 (100.00)	189.06
Registered	118 (47.20)	42 (16.80)	15 (6.00)	75 (30.00)	250 (100.00)	228.26	77 (30.80)	65 (26.00)	24 (9.60)	84 (33.60)	250 (100.00)	363.18
Un-registered	234 (91.05)	18 (7.00)	3 (1.17)	2 (0.78)	257 (100.00)	12.07	194 (75.49)	51 (19.84)	8 (3.11)	4 (1.56)	257 (100.00)	19.69

Further the study has examined at to the extent the size structure of agro- industries in terms of their capital investment on its different segments has been changing over the

years. In this context the study found that initially during 2005 a larger proportion of over 69 percent units were in the lowest capital investment group of below Rs. 20 lakh and only 15 percent of them were in the highest capital investment range of above Rs. 80 lakh. But this proportion of units has narrowed down to 53 percent in lowest capital investment group while it has increased to 17 percent in highest capital investment group. On the other hand the pattern of upward increasing trend in the proportion of units from lowest capital investment range to higher capital investment groups was noted relatively higher in case of un-organized units than the organized units. Even the jump of units into highest capital investment group of above Rs 80 lakh registered higher for former groups of units than the latter one. But, the proportion of the latter groups of units was still remarkably much higher than the former groups of units in the highest capital investment range. Altogether, average capital investment per unit has been appreciably increasing in both the categories of industries, accounting the increase from Rs 228 lakh to Rs. 363 lakh for organized units and from Rs12 lakh to Rs. 20 lakh for un-organized units during 2005 to 2011. Among the different product groups of industries, the increasing trends in value of productive capital has been noted highest for units engaged in manufacturing of vegetables, animal oils and fats followed by manufacturing of sugar and sugar related food products.

In absolute terms the productive capital has been increasing at the rate of nearly 10 percent over the years. But rate of growth has been reflected relatively higher for un-organized units as compared to organized units. Even the concerned growth trend has been estimated as higher as 40 percent for units manufacturing vegetables, animal oils and fats followed by 17 percent for units manufacturing sugar and sugar related food products. However, the lowest growth trend of nearly 2 percent was accounted for units manufacturing grain mill products and animal feeds. Among the different components of productive capital investment the growth trend was noted highest at 77 percent in land and building followed by 65 percent in working capital and 40 percent in machinery and equipments during 2005 and 20011.

Table -6.7
Trends in Growth of Capital investment during 2005-2011

Product Group	Heads of capital Investment					
	Fixed capital	Land/building	Machinery equipment	Others	Working capital	Productive capital
Manufacture of vegetables, animals oils and fats	27.08	41.63	-2.32	8.47	285.25	240.38
Registered	26.62	41.82	-1.00	-1.67	291.99	252.06
Un-registered	29.13	40.92	-11.64	28.94	58.15	41.59
Manufacture of dairy products	40.44	45.27	4.61	43.36	79.00	72.50
Registered	51.79	53.26	32.93	43.41	75.95	71.03
Un-registered	14.98	23.19	-13.46	43.26	82.69	74.47
Manufacture of grain mill products and animals feeds	33.69	39.39	13.49	-26.50	27.47	6.79
Registered	34.22	39.80	14.75	-31.49	2.57	6.86
Un-registered	27.38	34.65	-6.59	39.22	47.73	31.85
Manufacture of sugar and other food items	53.03	140.19	41.56	48.87	141.38	92.60
Registered	29.27	155.99	41.79	52.63	152.14	94.52
Un-registered	25.93	32.17	13.67	14.89	78.07	69.76
Distilling rectifying and blending of Spirits	25.18	35.13	-0.07	20.38	27.56	25.77
Registered	21.24	26.46	5.74	3.92	49.91	27.35
Un-registered	30.60	48.95	-5.88	31.74	7.01	23.80
All	49.01	76.76	39.88	13.49	65.09	59.13
Registered	49.88	81.90	40.35	11.92	64.40	59.10
Un-registered	1168.37	34.73	5.01	26.28	76.05	63.13

6.3. Cost of production; It has generally believed been that agro-processing industries largely engage unskilled labourforce rather than the machines and other instruments in different stages of its production processes. It is therefore the study earlier found a very high share of working capital especially its wage and salary component after the purchase of raw materials in the total value of productive capital investment in both organized and un-organized units. In continuation of highlighted findings the study further examines at the share of different heads in the total cost of production of agro-industries and its changes over the period of time. In this context the study found that the cost of production per unit of all components together increased from Rs 70.62 lakh during 2005 to Rs 123.36 during 2011.Among the

different cost components the share of raw material cost has been remarkably very high followed by wages and salary in the total cost of production. However, the share of cost of raw material has declined from 83 percent in 2005 to 79 percent in 2011 on the cost of in combined share of wages and salary, fuel and power and transportation. The share of wages and salary has increased from 6.57 percent in 2005 to 7.64 percent in 2011. Among the different product groups and scale of agro-industries, per unit cost of production seems to be largely governed by the per unit size of production. Since, it constituted relatively much larger for organized units over the un-organized units. Similarly, the same has been estimated higher for units such as sugar and sugar related food products followed by grain milling products and animal feeds which representing high volume of per unit output than the remaining products of units.

Table -6.8
Average cost of production per unit

(in lakh Rs)

Product Group	Head of cost													
	Head of cost 2005							Head of cost 2011						
	Raw Material	Wages and salaries	Fuel and power	Transport & storage	Office expenses	others	Total	Raw Material	Wages and salaries	Fuel and power	Transport & storage	Office expenses	others	Total
Mfgs of vegetables, animals oils and fats	33.47 (88.85)	1.10 (2.92)	2.51 (6.67)	0.05 (0.13)	0.09 (0.24)	0.45 (1.19)	37.67 (100.00)	51.73 (87.46)	5.14 (8.69)	1.37 (2.31)	0.11 (0.19)	0.12 (0.20)	0.69 (1.17)	59.15 (100.00)
Registered	62.89 (90.10)	1.59 (2.28)	4.29 (6.15)	0.09 (0.13)	0.16 (0.23)	0.80 (1.15)	69.80 (100.00)	79.12 (72.23)	9.00 (8.22)	1.82 (1.66)	0.19 (0.17)	0.21 (0.19)	1.20 (1.10)	109.54 (100.00)
Un-registered	1.24 (50.00)	0.57 (22.98)	0.58 (23.39)	0.01 (0.40)	0.01 (0.40)	0.07 (2.82)	2.48 (100.00)	2.02 (51.01)	0.92 (23.23)	0.88 (22.22)	0.01 (0.25)	0.01 (0.25)	0.12 (3.03)	3.96 (100.00)
Mfgs of dairy products	10.64 (87.93)	1.16 (9.59)	0.18 (1.49)	0.02 (0.16)	0.02 (0.16)	0.07 (0.58)	12.10 (100.00)	18.24 (78.38)	4.64 (19.93)	0.23 (0.99)	0.03 (0.12)	0.03 (0.12)	0.10 (0.42)	23.27 (100.00)
Registered	12.32 (87.25)	1.50 (10.62)	0.17 (1.20)	0.02 (0.14)	0.02 (0.14)	0.08 (0.57)	14.12 (100.00)	19.80 (68.94)	8.48 (29.53)	0.24 (0.84)	0.04 (0.13)	0.03 (0.10)	0.13 (0.45)	28.72 (100.00)
Un-registered	9.13 (88.90)	0.86 (8.37)	0.20 (1.95)	0.01 (0.10)	0.02 (0.19)	0.06 (0.58)	10.27 (100.00)	16.83 (91.57)	1.19 (6.47)	0.23 (1.25)	0.02 (0.11)	0.03 (0.16)	0.08 (0.44)	18.38 (100.00)
Manufacture of grain mill products and animals feeds	83.58 (91.16)	2.81 (3.07)	2.62 (2.86)	0.49 (0.53)	0.03 (0.03)	2.15 (2.35)	91.68 (100.00)	105.76 (88.76)	6.60 (5.54)	3.34 (2.80)	0.76 (0.64)	0.04 (0.03)	2.65 (2.22)	119.15 (100.00)
Registered	171.41 (91.59)	5.41 (2.89)	4.92 (2.63)	1.00 (0.53)	0.05 (0.03)	4.36 (2.33)	187.15 (100.00)	216.36 (89.36)	12.57 (5.19)	6.21 (2.56)	1.57 (0.65)	0.07 (0.03)	5.35 (2.21)	242.13 (100.00)
Un-registered	0.49 (36.03)	0.35 (25.74)	0.44 (32.35)	0.00	0.01 (0.74)	0.06 (4.41)	1.36 (100.00)	1.13 (40.21)	0.96 (34.16)	0.62 (22.06)	0.00	0.01 (0.36)	0.09 (3.20)	2.81 (100.00)
Mfgs of sugar and other food items	43.66 (64.61)	7.93 (11.74)	4.63 (6.85)	0.11 (0.16)	1.36 (2.01)	18.53 (27.42)	67.57 (100.00)	113.16 (70.66)	14.27 (8.91)	16.49 (10.30)	0.16 (0.09)	2.04 (1.27)	14.03 (8.76)	160.15 (100.00)
Registered	77.92 (63.80)	13.09 (10.72)	8.47 (6.93)	0.17 (0.14)	2.73 (2.24)	19.75 (16.17)	122.14 (100.00)	212.74 (70.83)	23.16 (7.71)	32.05 (10.67)	0.26 (0.09)	4.10 (1.37)	28.03 (9.33)	300.33 (100.00)
Un-registered	10.06 (71.60)	2.87 (20.43)	0.86 (6.12)	0.05 (0.36)	0.01 (0.07)	0.21 (1.49)	14.05 (100.00)	15.47 (68.33)	5.55 (24.51)	1.23 (5.43)	0.07 (0.30)	0.03 (0.13)	0.30 (1.33)	22.64 (100.00)
Distilling rectifying and blending of Spirits	0.98 (31.92)	1.25 (40.72)	0.51 (16.61)	0.11 (3.58)	0.03 (0.98)	0.20 (6.51)	3.07 (100.00)	3.03 (39.10)	3.47 (44.77)	0.76 (9.89)	0.14 (1.81)	0.05 (0.65)	0.30 (3.87)	7.75 (100.00)
Registered	1.45 (33.96)	1.82 (42.62)	0.59 (13.82)	0.14 (3.28)	0.03 (0.70)	0.26 (6.09)	4.27 (100.00)	4.56 (40.53)	5.26 (46.76)	0.82 (7.29)	0.17 (1.51)	0.04 (0.36)	0.40 (3.56)	11.25 (100.00)
Un-registered	0.50 (26.60)	0.68 (36.17)	0.44 (23.40)	0.08 (4.26)	0.03 (1.60)	0.14 (7.45)	1.88 (100.00)	1.51 (35.52)	1.68 (39.53)	0.70 (16.48)	0.18 (4.24)	0.05 (1.18)	0.21 (4.94)	4.25 (100.00)
All units	58.86 (83.35)	4.64 (6.57)	3.26 (4.62)	0.26 (0.37)	0.58 (0.82)	5.02 (7.11)	70.62 (100.00)	97.35 (78.91)	9.43 (7.64)	8.34 (6.76)	0.41 (0.33)	0.87 (0.71)	6.96 (5.64)	123.36 (100.00)
Registered	110.39 (81.15)	7.94 (5.84)	5.98 (4.40)	0.50 (0.37)	1.16 (0.85)	10.05 (73.88)	136.03 (100.00)	188.35 (79.48)	16.67 (7.03)	16.02 (6.76)	0.79 (0.33)	1.74 (0.73)	13.92 (5.87)	236.99 (100.00)
Un-Registered	4.80 (68.57)	1.43 (20.43)	0.61 (8.71)	0.02 (0.29)	0.01 (0.14)	0.03 (0.43)	7.00 (100.00)	7.69 (65.90)	2.87 (24.59)	0.88 (7.54)	0.03 (0.26)	0.20 (0.17)	0.18 (1.54)	11.67 (100.00)

6.4. Size of Output; The size of the value of output of agro-products constitutes the total value of final products and by products. In this manner the study found the agro-processing industries are generating a very sizeable amount of gross output if one

considers the level of capital investment per unit carried out in this sector. Remarkable differences are further visualized in gross value of output being generated by undertaking agro-processing between organized units and un-organized units and among the different product groups of industries. Gross value of output per unit has been estimated at Rs 136.87 lakh which comes as larger as Rs 148.38 lakh for organized units as against only Rs 17.40 lakh for un-organized units. Among the different product groups of organized industries it reaches to the extent of Rs.183.08 lakh for manufacturing of sugar and sugar food products to lowest at Rs 57.46 lakh for manufacturing of vetatales, animal oils and fats. Similarly, in case of un-organized units, the same ranged between Rs 36.21 lakh again for manufacturing of sugar and sugar based food products to Rs. 2.91 lakh for manufacturing of grain mill products and animal feeds.

Further looking into the changes acquired in generation of output per unit between the periods 2005to 2011, the analysis shows that the value of output per unit of both organized and un-organized has remarkably increased during this span, although the un-organized units had shown relatively better performance than their organized counterpart of units. Since, the value of output per unit for former categories of units increased 80 percent as against 26 percent for latter categories of units. Extents of variations have been appearing in this context among different product groups of industries on one hand and among different categories of units on the other. In case of organized units, the size of output per unit increased highest from 213 percent for units engaged in distilling, rectifying and blinding of spirits to lowest at 39 percent for manufacturing of grain milling products and animal feeds. Also, among un-organized units a highest increase of 141 percent in this regard was again visualized for distilling, rectifying and blinding of spirits and lowest at 51 percent for manufacturing of vegetables, animal oils and fats.

Table -6.9
Distribution of units by size of output

Product Group	Size of output (Rs.in lakh)											
	2005						2011					
	< 25	25-50	50-100	100+	All units	Average per unit	< 25	25-50	50-100	100+	All units	Average per unit
Manufacture of vegetables, animals oils and fats	36 (81.82)	5 (11.36)	1 (2.27)	2 (4.55)	44 (100.00)	38.18	32 (72.73)	7 (15.90)	3 (6.82)	2 (4.55)	44 (100.00)	57.46
Registered	15 (65.22)	5 (21.74)	1 (4.34)	2 (8.70)	23 (100.00)	70.47	11 (47.83)	7 (30.43)	3 (13.05)	2 (8.69)	23 (100.00)	106.04
Un-registered	21 (100.00)	-	-	-	21 (100.00)	2.83	21 (100.00)	-	-	-	21 (100.00)	4.26
Manufacture of dairy products	18 (94.74)	1 (5.26)	-	-	19 (100.00)	12.28	13 (68.42)	5 (26.32)	1 (5.26)	-	19 (100.00)	21.63
Registered	8 (88.89)	1 (11.11)	-	-	9 (100.00)	14.24	6 (66.67)	2 (22.22)	1 (11.11)	-	9 (100.00)	24.51
Un-registered	10 (100.00)	-	-	-	10 (100.00)	10.52	7 (70.00)	3 (30.00)	-	-	10 (100.00)	19.04
Manufacture of grain mill products and animals feeds	158 (73.15)	4 (1.85)	5 (2.31)	49 (22.69)	216 (100.00)	93.24	150 (69.44)	9 (4.17)	8 (3.70)	49 (22.69)	216 (100.00)	130.38
Registered	47 (44.76)	4 (3.81)	5 (4.76)	49 (46.67)	105 (100.00)	190.45	39 (37.14)	9 (8.57)	8 (7.62)	49 (46.67)	105 (100.00)	265.14
Un-registered	111 (100.00)	-	-	-	111 (100.00)	1.38	111 (100.00)	-	-	-	111 (100.00)	2.91
Manufacture of sugar and other food items	160 (76.92)	24 (11.54)	7 (3.37)	17 (8.17)	208 (100.00)	95.28	103 (49.52)	75 (36.06)	13 (6.25)	17 (8.17)	208 (100.00)	183.08
Registered	65 (63.11)	15 (14.56)	7 (6.79)	16 (15.54)	103 (100.00)	170.62	37 (35.92)	39 (37.86)	11 (10.68)	16 (15.54)	103 (100.00)	332.82
Un-registered	95 (90.48)	9 (8.57)	-	1 (0.95)	105 (100.00)	21.38	66 (62.86)	36 (34.29)	2 (1.90)	1 (0.95)	105 (100.00)	36.21
Distilling rectifying and blending of	20 (100.00)	-	-	-	20 (100.00)	3.67	20 (100.00)	-	-		20 (100.00)	10.64
Registered	10 (100.00)	-	-	-	10 (100.00)	4.98	10 (100.00)	-	-	-	10 (100.00)	15.59
Un-registered	10 (100.00)	-	-	-	10 (100.00)	2.37	10 (100.00)	-	-	-	10 (100.00)	5.70
ALL UNITS	392 (77.32)	34 (6.71)	13 (2.56)	68 (13.41)	507 (100.00)	82.75	318 (62.72)	96 (18.93)	25 (4.93)	68 (13.42)	507 (100.00)	136.87
Registered	145 (58.00)	25 (10.00)	13 (5.20)	67 (26.80)	250 (100.00)	117.50	103 (41.20)	57 (22.80)	23 (9.20)	67 (26.80)	250 (100.00)	148.38
Un-registered	247 (96.11)	9 (3.51)	-	1 (10.38)	257 (100.00)	9.65	215 (83.66)	39 (15.18)	2 (0.78)	1 (0.38)	257 (100.00)	17.40

6.5. Structure of Employment; The agro processing industries of both the categories were seen employing different skilled and unskilled as paid workers and unpaid family workers as well as men and women workers in different stages of production

functions. However, the labourforce in this sector has been highly dominated by male workforce. Even the share of men workers has been on the increase on the cost of declining share of women workers in the total workforce over the years. The remarkable signs are that the size of employment per unit in this sector both organized and un-organized industries have been increasing during the recent past. The size of employment per unit has increased from 17 workers in 2005 to 20 workers in 2011.However, it been significantly varying across the different product groups of industries in both un-organized and organized as well. On the other hand, per unit employment in organized units reported as high as 32 workers as against 9 workers in un-organized units. Even the pace of increase in per unit employment has been noted remarkably much higher in favour of former categories of units than the latter categories of units during 2005 and 2011.

As indicated earlier the Agro-processing units have been hiring differential categories of office and production workforce for its production process. However, the share of production workers especially un-skilled workers has been seen remarkably much higher than the office workers in total workforce employed in this sector. The share of un-skilled workers constituted over 49 percent as against 8 percent office workers and 18 percent skilled workers in the total workforce employed in this sector. However, the size of different categories of workforce per unit has been increased significantly both in organized and un-organized during the reference periods. Exception was only in the case of declining size of family workforce per unit in both the categories of units.

In detail, over the years, the tendency of agro-units in employing semi-skilled has been remarkably boosting up while it had been narrowing down for hiring un-paid family workers. It has been reflected by the fact that the size of semi-skilled workers has increased to the extent of 30 percent as against a negative growth of over 1 percent in unpaid family workers in this sector during 2005 to 2011.Alltogather, the size of

Table -6.10

Changes in Size of Employment by sex

Product Group	2005				2011			
	Men	**Women**	**Total**	**Per unit**	**Men**	**Women**	**Total**	**Per unit**
Manufacture of vegetables, animals oils and fats	358 (98.08)	7 (1.92)	365 (100.00)	8.30	583 (97.65)	14 (2.35)	597 (100.00)	13.57
Registered	300 (99.01)	3 (0.99)	303 (100.00)	13.17	523 (98.49)	8 (1.51)	531 (100.00)	23.09
Un-registered	58 (93.55)	4 (6.45)	62 (100.00)	2.95	60 (90.91)	6 (9.09)	66 (100.00)	3.14
Manufacture of dairy products	129 (100.00)	-	129 (100.00)	6.79	275 (100.00)	-	275 (100.00)	14.47
Registered	94 (100.00)	-	94 (100.00)	10.44	230 (100.00)	-	230 (100.00)	25.55
Un-registered	35 (100.00)	-	35 (100.00)	3.50	45 (100.00)	-	45 (100.00)	4.50
Manufacture of grain mill products and animals feeds	2573 (93.22)	187 (6.78)	2760 (100.00)	12.78	3175 (93.74)	212 (6.26)	3387 (100.00)	15.68
Registered	2234 (92.39)	184 (7.61)	2418 (100.00)	23.03	2772 (93.02)	208 (6.98)	2980 (100.00)	28.38
Un-registered	339 (99.12)	3 (0.88)	342 (100.00)	3.08	403 (99.02)	4 (0.98)	407 (100.00)	3.67
154 Manufacture of sugar and other food items	5142 (98.07)	101 (1.93)	5243 (100.00)	25.21	5657 (97.87)	123 (2.13)	5780 (100.00)	27.79
Registered	3761 (98.56)	55 (1.44)	3816 (100. 00)	37.05	3968 (97.93)	84 (2.07)	4052 (100.00)	39.34
Un-registered	1381 (96.78)	46 (3.22)	1427 (100.00)	13.59	1689 (97.74)	39 (2.26)	1728 (100.00)	16.46
155 Distilling rectifying and blending of Spirits	147 (99.32)	1 (0.68)	148 (100.00)	11.85	285 (99.65)	1 (0.35)	286 (100.00)	14.30
Registered	98 (100.00)	-	98 (100.00)	9.08	223 (100.00)	-	223 (100.00)	22.30
Un-registered	49 (98.00)	1 (2.00)	50 (100.00)	5.00	62 (98.41)	1 (1.59)	63 (100 .00)	6.30
All units	8349 (96.58)	296 (3.42)	8645 (100.00)	17.05	9975 (96.61)	350 (3.39)	10325 (100.00)	20.36
Registered	6487 (96.40)	242 (3.60)	6729 (100.00)	26.92	7716 (96.26)	300 (3.74)	8016 (100.00)	32.06
Un-registered	1862 (97.18)	54 (2.82)	1916 (100.00)	7.46	2259 (97.83)	50 (2.17)	2309 (100.00)	8.98

Table -6.11

Category of Employment by its size

Product Group	2005						2011					
	Office workers	Produ-ction worker	Skilled	Un-skilled	Family workers	All	Office workers	Producti on worker	Skilled	Un-skilled	Family workers	All
Manufacture of vegetables, animals oils & fats	12 (3.29)	52 (14.24)	23 (6.34)	212 (58.08)	66 (18.08)	365 (100.00)	23 (3.85)	61 (10.22)	64 (10.72)	**385 (64.49)**	**64 (10.72)**	**597 (100.00)**
Registered	12 (3.96)	37 (12.21)	21 (6.93)	202 (66.67)	31 (10.23)	303 (100.00)	21 (3.95)	45 (8.47)	61 (11.49)	**374 (70.43)**	**30 (5.65)**	**531 (100.00)**
Un-registered	0	15 (24.19)	2 (3.23)	10 (16.13)	35 (56.45)	62 (100.00)	2 (3.03)	16 (24.24)	3 (4.55)	11 (16.66)	34 (51.52)	66 (100.00)
Manufacture of dairy products	1 (0.78)	10 (7.75)	20 (15.50)	71 (55.04)	27 (20.93)	129 (100.00)	10 (3.64)	13 (4.73)	30 (10.90)	193 (70.18)	29 (10.55)	275 (100.00)
Registered	1 (1.06)	8 (8.51)	13 (13.83)	60 (63.83)	12 (12.77)	94 (100.00)	9 (3.91)	11 (4.78)	22 (9.56)	175 (76.09)	13 (5.66)	230 (100.00)
Un-registered	0	2 (5.71)	7 (20.00)	11 (31.43)	15 (42.86)	35 (100.00)	1 (2.22)	2 (4.44)	8 (17.78)	18 (40.00)	16 (35.56)	45 (100.00)
Manufacture of grain mill products and animals feeds	225 (8.15)	357 (12.93)	449 (16.27)	1371 (49.67)	358 (12.97)	2760 (100.00)	288 (8.50)	414 (12.22)	586 (17.30)	1764 (52.08)	335 (9.89)	3387 (100.00)
Registered	221 (9.14)	266 (11.00)	404 (16.71)	1334 (55.17)	193 (7.98)	2418 (100.00)	282 (9.46)	305 (10.23)	509 (17.08)	1712 (57.45)	172 (5.77)	2980 (100.00)
Un-registered	4 (1.17)	91 (26.61)	45 (13.16)	37 (10.82)	165 (48.25)	342 (100.00)	6 (1.47)	109 (26.78)	77 (18.92)	52 (12.78)	163 (40.05)	407 (100.00)
Manufacture of sugar and other food items	349 (6.66)	1137 (21.69)	890 (16.98)	2520 (48.06)	347 (6.62)	5243 (100.00)	418 (7.23)	1216 (21.04)	1118 (19.34)	2669 (46.18)	359 (6.21)	5780 (100.00)
Registered	302 (7.91)	953 (24.97)	667 (17.48)	1718 (45.02)	176 (4.61)	3816 (100.00)	341 (8.42)	991 (24.46)	781 (19.27)	1759 (43.41)	180 (4.44)	4052 (100.00)
Un-registered	47 (3.29)	184 (12.89)	223 (15.63)	802 (56.20)	171 (11.98)	1427 (100.00)	77 (4.46)	225 (13.02)	337 (19.50)	910 (52.66)	179 (10.36)	1728 (100.00)
Distilling rectifying and blending of Spirits	6 (4.05)	12 (8.11)	25 (16.89)	81 (54.73)	24 (16.22)	148 (100.00)	16 (5.59)	26 (9.09)	30 (10.49)	190 (99.43)	24 (8.39)	286 (100.00)
Registered	3 (3.06)	10 (10.20)	12 (12.24)	60 (61.22)	13 (13.27)	98 (100.00)	13 (5.83)	21 (9.42)	16 (7.17)	160 (71.75)	13 (5.83)	223 (100.00)
Un-Registered	03 (6.00)	02 (4.00)	13 (26.00)	21 (42.00)	11 (22.00)	50 (100.00)	03 (4.76)	05 (7.94)	14 (22.22)	30 (47.62)	11 (17.46)	63 (100.00)
All-units	593 (6.86)	1568 (18.14)	1407 (16.28)	4255 (49.22)	822 (9.51)	8645 (100.00)	755 (7.31)	1730 (16.76)	1828 (17.70)	5201 (50.37)	811 (7.85)	10325 (100.00)
Registered	539 (8.01)	1274 (18.93)	1117 (16.60)	3374 (50.14)	425 (6.32)	6729 (100.00)	666 (8.31)	1373 (17.13)	1389 (17.33)	4180 (52.15)	408 (5.09)	8016 (100.00)
Un-Registered	54 (2.82)	294 (15.34)	290 (15.14)	881 (45.98)	397 (20.72)	1916 (100.00)	89 (3.85)	357 (15.46)	439 (19.01)	1021 (44.22)	403 (17.45)	2309 (100.00)

Table -6.12
Trends in Growth of Employment by Category of Workers

Product Group	Office workers	Skilled workers	Semi-skilled workers	Un-skilled workers	Unpaid Family workers	All workers
Manufacture of vegetables, animals oils and fats	91.67	17.30	178.26	81.60	-3.03	63.56
Registered	75.00	21.62	190.48	85.14	-3.33	75.24
Un-registered	100.00	28.57	50.00	10.00	-2.86	6.45
Manufacture of dairy products	9.00	30.00	50.00	171.83	7.41	113.18
Registered	8.00	37.50	69.23	191.67	8.33	144.68
Un-registered	0.00	0.50	14.28	63.64	6.66	28.57
Manufacture of grain mill products and animals feeds	28.00	15.97	30.51	28.66	6.42	22.72
Registered	27.60	14.66	25.99	28.33	-10.88	23.24
Un-registered	50.00	19.78	71.11	40.54	-1.21	19.00
Manufacture of sugar and other food items	19.77	6.95	25.62	5.91	3.46	10.24
Registered	12.91	3.99	17.09	2.39	2.27	6.18
Un-registered	63.83	22.28	51.12	13.47	4.68	21.09
Distilling rectifying and blending of Spirits	166.67	116.67	20.00	134.57	10.00	93.24
Registered	333.33	110.00	33.33	166.67	0	127.55
Un-registered	0	150.00	7.69	42.86	0	26.00
All units	27.32	10.33	29.92	22.23	-1.34	19.43
Registered	23.56	7.77	24.35	23.88	-4.00	19.13
Un-registered	64.81	21.43	51.38	15.89	1.51	20.51

employment in this sector has been growing at the rate of nearly 4 percent, though the concerned increasing trend has been relatively much higher in response to un-organized units than the case of organized units. Among different product groups of units, the rate of increase in total size of employment was reflected highest at 113 percent in manufacturing of dairy products followed by 93 percent in distilling, rectifying and blinding of spirits and lowest at 10 percent in manufacturing of sugar and sugar related food products during 2005 and 2011. However, the units engaged in manufacturing of sugar and sugar based food products were already dominating in employing a bulk of different categories of workforce among different agro-based units.

CHAPTER-VII

TECHNOLOGAL STRUCTURE AND LINKAGES IN SUPPLY OF RAW MATERIALS AND MARKETING

The present chapter deals with the adaptation of technological advancement beginning from undertaking the processing of basic raw materials and different stages of the production of agro-products to its marketing. In addition a detail analysis has also been presented in matters of linkages persisting in supply arrangements of required raw materials with different raw material supplying channels and in marketing of final products under different arrangements.

7.1. Adaptation of Technology; The pattern of technologies in production process has been examined in many ways. Foremost in this context is the use of second and first hand machinery and other instruments in undertaking the production of goods. Since, the first point is the poor performance in producing goods and loss of output through using second hand already used machines and other instruments than using new machines. Looking our data it reflected that a very high proportion of agro-units are relying to use second hand/ already used machines and other instrument because of their economic inability to install new and important efficient machines and other instruments. Over 53 percent of agro-units comprising 54 percent organized and 52 percent un-organized units were reported to have been using already used second hand machines and other instruments indifferent stages of production processes. Among organized units, such units reported even as high as cent percent which were engaged in distilling, rectifying and blinding of spirits followed by 77 percent units manufacturing dairy products and lowest proportion of 43 percent were manufacturing sugar and sugar related food products. Among un-organized units the figure of such units varied highest from 90 percent to lowest at 43 percent which were manufacturing dairy products and grain milling products and animal feeds respectively. Remaining 28 percent and 19 percent units were seen using domestically manufactured and imported mechines and instruments respectively. Surprisingly such units accounted relatively higher among un-organized industries than the organized industries. Even, the already used machines in the units were mainly domestically machines while only less than one percent units were using used imported machines.

Table-7.1
Number of Units Using Old and New Machinery

Product Group	Old & new machinery							
	Already used machine	Imported	Domestic	Domestic Imported	Used Imported	Used Domestic	Mix	Total
Manufacture of vegetables, animals oils and fats	26 (59.09)	4 (9.09)	14 (31.82)	44 (100.00)	-	44 (100.00)	-	44 (100.00)
Registered	15 (65.22)	1 (4.35)	7 (30.43)	23 (100.00)	-	23 (100.00)	-	23 (100.00)
Un-registered	11 (52.38)	3 (14.28)	7 (33.34)	21 (100.00)	-	21 (100.00)	-	21 (100.00)
Manufacture of dairy products	16 (84.21)	-	3 (15.79)	19 (100.00)	-	19 (100.00)	-	19 (100.00)
Registered	7 (77.78)-	-	2 (22.22)	9 (100.00)	-	9 (100.00)	-	9 (100.00)
Un-registered	9 (90.00)	-	1 (10.00)	10 (100.00)	-	10 (100.00)	-	10 (100.00)
Manufacture of grain mill products and animals feeds	108 (50.00)	62 (28.70)	46 (21.30)	216 (100.00)	2 (0.93)	210 (97.22)	4 (1.85)	216 (100.00)
Registered	60 (57.14)	25 (23.81)	20 (19.05)	105 (100.00)	2 (1.90)	99 (94.29)	4 (3.81)	105 (100.00)
Un-registered	48 (43.24)	37 (33.33)	26 (23.43)	111 (100.00)	-	111 (100.00)	-	111 (100.00)
Manufacture of sugar and other food items	101 (48.56)	28 (13.46)	79 (37.98)	208 (100.00)	-	205 (98.56)	3 (1.44)	208 (100.00)
Registered	44 (42.72)	17 (16.50)	42 (40.78)	103 (100.00)	-	102 (99.03)	1 (0.97)	103 (100.00)
Un-registered	57 (54.29)	11 (10.48)	37 (35.23)	105 (100.00)	-	103 (98.10)	2 (1.90)	105 (100.00)
Distilling rectifying and blending of Spirits	18 (90.00)	-	2 (10.00)	20 (100.00)	-	20 (100.00)	-	20 (100.00)
Registered	10 (100.00)	-	-	10 (100.00)	-	10 (100.00)	-	10 (100.00)
Un-registered	8 (80.00)	-	2 (20.00)	10 (100.00)	-	10 (100.00)	-	10 (100.00)
All units	269 (53.06)	94 (18.54)	144 (28.40)	507 (100.00)	2 (0.39)	498 (98.23)	7 (1.38)	507 (100.00)
Registered	136 (54.40)	43 (17.20)	71 (28.40)	250 (100.00)	2 (0.80)	243 (97.20)	5 (2.00)	250 (100.00)
Un-registered	133 (51.75)	51 (19.84)	73 (28.41)	257 (100.00)	-	255 (99.22)	2 (0.78)	257 (100.00)

Further, enquiring among the entrepreneurs of different categories and product groups of units regarding the accessibility pattern of modern / high proactive machines and other instrument at accessible distances in local areas it reflected that a majority of over 63 percent entrepreneurs did not have the knowledge of the accessibility of such machines and instruments in the country. Even such entrepreneurs were as larger as 73 percent which were engaged in manufacturing of vegetables, animal oils and fats and lowest of 37 percent in manufacturing of dairy products. Despite having

awareness regarding the accessibility of modern machines and instruments within the country none of the entrepreneurs of agro-units had installed them in their units mainly due to reasons as high purchase cost, lacking of finances, less supply and not accessibility in local markets. However, relatively high purchase cost and lack of finances were observed as the important reasons restricting the entrepreneurs of different agro-products to install modern machines and instrument in their industry.

In terms of the adaptation of technology in processing of raw materials the study found that the mechanized and semi-mechanizes form of technologies were commonly been adopted in cleaning and washing of basic raw materials in a majority of 53 percent units. However, the proportion of such units accounted as high as 72 percent in organized segment as against only 34 percent units in un-organized segment. Among the different product groups of organized units, a very high proportion of over 59 percent units in manufacturing of vegetables, animal oils and fats were still manually cleaning and washing of raw material. Such units in un-organized segment were even as high as over 90 percent in same product group followed by 68 percent in manufacturing of grain milling products and animal feeds. The grading of raw material according to its quality and size also seen carried out in a significant proportion of 44 percent units. Again, the proportions of such units were noted relatively larger among un-organized industries than among organized industries. The proportion of such units confined in manufacturing of vegetables, animal oils and fats accounted to the extent of 95 percent among un-organized sector and 74 percent among organized sector.

Table-7.2
Availability and Reason of not Using of Modern Machines/Equipment

Product Group	Modern machine available		Reason for not using modern machines					
	Yes	No	Lack of finance	Adequacy of available machine	Non-availability in nearby markets	High purchase cost	Others (specify)	Total
Manufacture of vegetables, animals oils and	32 (72.73)	12 (27.27)	14 (43.75)	13 (40.63)	6 (18.75)	14 (43.75)	-	32 (100.00)
Registered	17 (73.91)	6 (26.09)	7 (41.18)	8 (47.06)	4 (23.53)	6 (35.29)	-	17 (100.00)
Un-registered	15 (71.43)	6 (28.57)	7 (46.67)	5 (33.33)	2 (13.33)	8 (53.33)	-	15 (100.00)
Manufacture of dairy products	7 (36.84)	12 (63.16)	3 (42.86)	1 (14.29)	2 (28.57)	6 (85.71)	-	7 (100.00)
Registered	2 (22.22)	7 (77.78)	-	1 (50.00)	1 (50.00)	2 (100.00)	-	2 (100.00)
Un-registered	5 (50.00)	5 (50.00)	3 (60.00)	-	1 (20.00)	3 (60.00)	-	5 (100.00)
Manufacture of grain mill products and	140 (64.81)	76 (35.19)	69 (49.29)	47 (33.57)	15 (10.71)	81 (57.86)	6 (4.29)	140 (100.00)
Registered	67 (63.81)	38 (36.19)	36 (53.73)	18 (26.87)	11 (16.42)	48 (71.64)	4 (5.97)	67 (100.00)
Un-registered	73 (65.77)	38 (34.23)	33 (45.21)	29 (39.73)	4 (5.48)	33 (45.21)	2 (2.74)	73 (100.00)
Manufacture of sugar and other food items	130 (62.50)	78 (37.50)	63 (48.46)	41 (31.54)	24 (18.46)	79 (60.77)	4 (3.08)	130 (100.00)
Registered	69 (66.99)	34 (33.01)	24 (34.78)	20 (28.99)	17 (24.64)	49 (71.01)	-	69 (100.00)
Un-registered	61 (58.10)	44 (41.90)	39 (63.93)	21 (34.43)	7 (11.48)	30 (49.18)	4 (6.56)	61 (100.00)
Distilling rectifying and blending of Spirits	11 (55.00)	9 (45.00)	7 (63.64)	3 (27.27)	1 (9.09)	5 (45.45)	-	11 (100.00)
Registered	6 (60.00)	4 (40.00)	4 (66.67)	2 (33.33)	-	3 (50.00)	-	6 (100.00)
Un-registered	5 (50.00)	5 (50.00)	3 (60.00)	1 (20.00)	1 (20.00)	2 (40.00)	-	5 (100.00)
ALL UNITS	320 (63.12)	187 (36.88)	156 (48.75)	105 (32.81)	48 (15.00)	186 (58.13)	10 (3.13)	320 (100.00)
Registered	161 (64.40)	89 (35.60)	71 (44.10)	49 (30.43)	33 (20.50)	108 (67.08)	4 (2.48)	161 (100.00)
Un-registered	159 (61.87)	98 (38.13)	85 (53.46)	56 (35.22)	15 (9.43)	78 (49.06)	6 (3.77)	159 (100.00)

Table-7.3
Technology adopted in raw material processing at establishment

Product Group	Number of units adopting following technology in processing of raw material at establishment of unit							
	Cleaning				Grading			
	Manual	Mechan-ized	Semi-mechanized	ALL	Manual	Mecha-nized	Semi-mechanized	ALL
Manufacture of vegetables, animals oils and fats	26 (59.09)	3 (6.82)	15 (34.09)	44 (100.00)	37 (84.09)	-	7 (15.91)	44 (100.00)
Registered	7 (30.43)	3 (13.04)	13 (56.52)	23 (100.00)	17 (73.91)	-	6 (26.09)	23 (100.00)
Un-registered	19 (90.48)	-	2 (9.52)	21 (100.00)	20 (95.24)	-	1 (4.76)	21 (100.00)
Manufacture of dairy products	5 (26.32)	2 (10.53)	12 (63.16)	19 (100.00)	6 (31.58)	2 (10.53)	11 (57.89)	19 (100.00)
Registered	-	2 (22.22)	7 (77.78)	9 (100.00)	2 (22.22)	2 (22.22)	5 (55.56)	9 (100.00)
Un-registered	5 (50.00)	-	5 (50.00)	10 (100.00)	4 (40.00)	-	6 (60.00)	10 (100.00)
Manufacture of grain mill products and animals feeds	106 (49.07)	63 (29.17)	47 (21.76)	216 (100.00)	101 (46.76)	16 (7.41)	99 (45.83)	216 (100.00)
Registered	31 (29.52)	51 (48.57)	23 (21.91)	105 (100.00)	46 (43.81)	13 (12.38)	46 (43.81)	105 (100.00)
Un-registered	75 (67.57)	12 (10.81)	24 (21.62)	111 (100.00)	55 (59.55)	3 (2.70)	53 (47.75)	111 (100.00)
Manufacture of sugar and other food items	102 (49.04)	52 (25.00)	54 (25.96)	208 (100.00)	79 (37.98)	48 (23.08)	81 (38.94)	208 (100.00)
Registered	32 (31.07)	37 (35.92)	34 (33.01)	103 (100.00)	20 (19.42)	43 (41.75)	40 (38.83)	103 (100.00)
Un-registered	70 (66.67)	15 (14.29)	20 (19.04)	105 (100.00)	59 (56.19)	5 (4.76)	41 (39.05)	105 (100.00)
Distilling rectifying and blending of Spirits	-	12 (60.00)	8 (40.00)	20 (100.00)	-	13 (65.00)	7 (35.00)	20 (100.00)
Registered	-	8 (80.00)	2 (20.00)	10 (100.00)	-	8 (80.00)	2 (20.00)	10 (100.00)
Un-registered	-	4 (40.00)	6 (60.00)	10 (10.00)	-	5 (50.00)	5 (50.00)	10 (10.00)
All units	239 (47.14)	132 (26.04)	136 (26.82)	507 (100.00)	223 (43.98)	79 (15.58)	205 (40.43)	507 (100.00)
Registered	70 (28.00)	101 (40.40)	79 (31.60)	250 (100.00)	85 (34.00)	66 (26.40)	99 (39.60)	250 (100.00)
Un-registered	169 (65.76)	31 (12.06)	57 (22.18)	257 (100.00)	138 (53.70)	13 (5.06)	106 (41.24)	257 (100.00)

7.2. Adoption of production technologies; The general arguments have been that the processing of agro-based products takes place mainly traditional based manual technologies particularly in un-organized manufacturing sector. However, our study did hardly prove such pre-conditioned arguments. That is in the sense that most agro-based industries either fall in organized or the un-organized sector have been either adopting mechanized or the semi mechanized form of technologies in its different stages of agro-processing. It was only the accept ion case that the processing of raw

material before its processing was being carried out manually in a sizeable proportion of agro-units especially in un-organizes industries. In terms of technologies used in processing of agro-products it depicted that only nearly 2 percent units, which were mainly confined in un-organized sector and in the product groups of manufacturing vegetables, animal oils and fats and dairy products, were using traditional used manual technologies. Otherwise a very high proportion of over 74 percent units comprising 74 percent organized and 70 percent un-organized industries were using modernized mechanical technologies in different stages of the production of agro-products. Even, such categories of units were accounted as larger as over 86 percent in manufacturing of grain milling and animal feeds followed by 79 percent in manufacturing of sugar and sugar based food products. Another, 12 percent units were using semi-mechanized technologies.

It has further pointed out that a significant level of changed have been persisting in adaptation of modern mode of production technologies in this sector. This trends has been well reflected by the fact that the proportion of units using modern mechanized form of technologies have bee moved from 72 percent in 2005 to over 74 percent during 2011 though this trend has been more remarkable in case of organized segment of units and in particular of units engaged in manufacturing of sugar and sugar based food products. On the other hand, the proportion of units which were using traditional production technologies has declined from 3 percent in 2005 to 2 percent during 2011.At the same time, a remarkable declining trends in number of units which were using mechanized mixed manual technologies has been well reflected during this periods.

Table-7.4
Technology used in production processes

Product Group	At Establishment				At Present			
	Manual	Mechanized	Semi-mechanized	Manual & Mechanized	Manual	Mecha-nized	Semi-mechanized	Manual & Mechanized
Manufacture of vegetables, animals oils and fats	10 (22.73)	14 (31.82)	3 (6.82)	17 (38.63)	6 (13.64)	11 (25.00)	7 (15.91)	20 (45.45)
Registered	2 (8.69)	12 (52.18)	2 (8.70)	7 (30.43)	1 (4.35)	9 (39.13)	3 (13.04)	10 (43.48)
Un-registered	8 (39.09)	2 (9.52)	1 (4.76)	10 (47.63)	5 (23.83)	2 (9.52)	4 (19.04)	10 (47.61)
Manufacture of dairy products	3 (15.78)	3 (15.78)	4 (21.08)	9 (47.36)	4 (21.05)	1 (5.27)	4 (21.05)	10 (52.63)
Registered	-	3 (33.33)	2 (22.22)	4 (44.45)	1 (11.11)	1 (11.11)	2 (22.22)	5 (55.56)
Un-registered	3 (30.00)	-	2 (20.00)	5 (50.00)	3 (30.00)	-	2 (20.00)	5 (50.00)
Manufacture of grain mill products and animals feeds	-	179 (82.87)	20 (9.26)	17 (7.87)	-	186 (86.11)	19 (8.80)	11 (5.09)
Registered	-	90 (85.71)	13 (12.38)	2 (1.91)	-	96 (91.13)	8 (7.62)	1 (0.95)
Un-registered	-	89 (80.18)	7 (6.31)	15 (13.51)	-	90 (81.08)	11 (9.91)	10 (9.01)
Manufacture of sugar and other food items	-	164 (78.85)	15 (7.21)	29 (13.94)	-	164 (78.85)	25 (12.02)	19 (9.13)
Registered	-	76 (73.79)	10 (9.71)	17 (16.50)	-	83 (80.58)	16 (15.54)	4 (3.88)
Un-registered	-	88 (83.81)	5 (4.76)	12 (11.43)	-	81 (77.14)	9 (8.57)	15 (14.29)
Distilling rectifying and blending of Spirits	-	5 (25.00)	8 (40.00)	7 (35.00)	-	14 (70.00)	6 (30.00)	-
Registered	-	3 (30.00)	3 (30.00)	4 (40.00)	-	7 (70.00)	3 (30.00)	-
Un-registered	-	2 (20.00)	5 (50.00)	3 (30.00)	-	7 (70.00)	3 (30.00)	-
ALL UNITS	13 (2.56)	365 (71.99)	50 (9.86)	79 (15.59)	10 (1.97)	376 (74.16)	61 (12.03)	60 (11.84)
Registered	2 (0.80)	184 (73.60)	30 (12.00)	34 (13.60)	2 (0.80)	196 (78.40)	32 (12.80)	20 (8.00)
Un-registered	11 (4.28)	181 (70.43)	20 (7.78)	45 (17.51)	8 (3.11)	180 (70.04)	29 (11.28)	40 (15.57)

7.3. Adoption of technologies in marketing; It is expected that most agro-products require proper grading according to their different size and quality, leveling over the products and finally product wise packaging before its delivery to the wholesalers and retailers of specific products. It is therefore, an enquiry has been carried out about the type of technology that the different categories and product groups of agro-processing

industries has been adopting in different stages of marketing of their products. The analysis in this revealed that a sizeable number of both organized and un-organized have been undertaking the grading, leveling and packaging of agro-products manually. More specifically, the proportion of units undertaking grading manually accounted for nearly 55 percent, though such units were relatively higher among un-organized than organized one. In terms of leveling on the products and packaging of products the manual technology was also being adopted in three fourth and over 55 percent of units respectively. Again such units were highly concentrated in un-organized sector and in the product groups of manufacturing gain milling products and animal feeds and sugar and sugar related food products. The advanced mechanized form of technologies were seen being applied only by 21 percent units in performing grading, 21 percent units leveling and 19 percent units in packaging of products. Almost similar proportion of units were noted using semi mechanized technologies in grading leveling and packaging from organized sector though the proportion of units using semi as well as mechanized form of technologies in all the three matters were fairly higher among organized units than the case of un-organized units.

A look at the pattern of using different technologies of units in matters of marking over the final products and its storing the study again revealed that in both the matters a majority of units were depending on the traditional form of manual technologies. However, the proportion of units using concerned technology in marking on the final products were recorded higher among which were confined in organized sector than the units confined in un-organized sector. But reversal was the situation emerging in the proportion of units using manual technology in storing the products among these two groups. Only a little over 18 percent and 6 percent were observed using mechanized form of technologies in marking and storing of agro-products respectively. By and large, units

Table-7.5
Technology Adoption at Different Stages Of Marketing

Product Group	Grading			Leveling			Packaging			All units
	Manual	Mechanized	Semi-mechanized	Manual	Mechanized	Semi-mechanized	Manual	Mechanized	Semi-mechanized	
Manufacture of vegetables, animals oils and fats	26 (59.09)	7 (15.91)	11 (25.00)	25 (56.82)	10 (22.73)	9 (20.45)	26 (59.09)	8 (18.18)	10 (22.73)	44 (100.00)
Registered	9 (39.13)	6 (26.09)	8 (34.78)	13 (56.52)	6 (26.09)	4 (17.39)	10 (43.48)	6 (26.09)	7 (30.43)	23 (100.00)
Un-registered	17 (80.95)	1 (4.76)	3 (14.29)	12 (57.14)	4 (19.05)	5 (23.81)	16 (76.19)	2 (9.52)	3 (14.29)	21 (100.00)
Manufacture of dairy products	5 (26.32)	2 (10.53)	12 (63.16)	9 (47.37)	6 (31.58)	5 (26.32)	2 (10.53)	4 (21.05)	13 (68.42)	19 (100.00)
Registered	4 (44.44)	1 (11.11)	4 (44.44)	3 (33.33)	4 (44.44)	3 (33.33)	1 (11.11)	2 (22.22)	6 (66.67)	9 (100.00)
Un-registered	1 (10.00)	1 (10.00)	8 (80.00)	6 (60.00)	2 (20.00)	2 (20.00)	1 (10.00)	2 (20.00)	7 (70.00)	10 (100.00)
Manufacture of grain mill products and animals	95 (43.98)	68 (31.48)	53 (24.54)	141 (65.28)	35 (16.20)	40 (18.52)	133 (61.57)	44 (20.37)	39 (18.06)	216 (100.00)
Registered	25 (23.81)	50 (47.62)	30 (28.57)	62 (59.05)	20 (19.05)	23 (21.90)	63 (60.00)	28 (26.67)	14 (13.33)	105 (100.00)
Un-registered	70 (63.06)	18 (16.22)	23 (20.72)	79 (71.17)	15 (13.51)	17 (15.52)	70 (63.06)	16 (14.41)	25 (22.52)	111 (100.00)
Manufacture of sugar and other food	144 (69.23)	24 (11.54)	40 (19.23)	146 (70.19)	19 (9.13)	43 (20.67)	136 (65.38)	35 (16.83)	37 (17.79)	208 (100.00)
Registered	62 (60.19)	16 (15.33)	25 (24.27)	65 (63.11)	15 (14.56)	23 (22.33)	62 (60.19)	26 (25.24)	15 (14.56)	103 (100.00)
Un-registered	82 (78.09)	8 (7.62)	15 (14.29)	81 (77.14)	4 (3.80)	20 (19.04)	74 (70.48)	9 (8.57)	22 (20.95)	105 (100.00)
Distilling rectifying and blending	12 (60.00)	3 (15.00)	5 (25.00)	8 (40.00)	4 (20.00)	8 (40.00)	7 (35.00)	4 (20.00)	9 (45.00)	20 (100.00)
Registered	5 (50.00)	2 (20.00)	3 (30.00)	3 (30.00)	3 (30.00)	4 (40.00)	2 (20.00)	2 (20.00)	6 (60.00)	10 (100.00)
Un-registered	7 (70.00)	1 (10.00)	2 (20.00)	5 (50.00)	1 (10.00)	4 (40.00)	5 (50.00)	2 (20.00)	3 (30.00)	10 (100.00)
ALL UNITS	282 (55.62)	104 (20.51)	121 (23.87)	329 (64.89)	74 (14.60)	105 (20.71)	304 (59.96)	95 (18.74)	108 (21.30)	507 (100.00)
Registered	105 (42.00)	75 (30.00)	70 (28.00)	146 (58.40)	48 (19.20)	57 (22.80)	138 (55.20)	64 (25.60)	48 (19.20)	250 (100.000
Un-registered	177 (68.87)	29 (11.28)	51 (19.84)	183 (71.21)	26 (10.12)	48 (18.68)	166 (64.59)	31 (12.06)	60 (23.35)	257 100.00)

Table-7.6
Technology Adoption in Marking and storing of products before Marketing

Product Group	Markin			Storing			All units
	Manual	Mechanized	Semi-mechanized	Manual	Mechanized	Semi-mechanized	
Manufacture of vegetables, animals oils and fats	10 (22.73)	10 (22.73)	24 (54.54)	40 (90.90)	2 (4.55)	2 (4.55)	44 (100.00)
Registered	7 (30.43)	1 (4.35)	15 (65.22)	21 (91.30)	2 (8.70)	-	23 (100.00)
Un-registered	3 (14.29)	9 (42.86)	9 (42.86)	19 (90.48)	-	2 (9.52)	21 (100.00)
Manufacture of dairy products	8 (42.11)	6 (31.58)	5 (26.31)	6 (31.58)	5 (26.31)	8 (42.11)	19 (100.00)
Registered	3 (33.33)	4 (44.44)	2 (22.22)	2 (22.22)	3 (33.33)	4 (44.44)	9 (100.00)
Un-registered	5 (50.00)	2 (20.00)	3 (30.00)	4 (40.00)	2 (20.00)	4 (40.00)	10 (100.00)
Manufacture of grain mill products and animals feeds	162 (75.00)	42 (19.44)	12 (5.56)	172 (79.63)	9 (4.17)	35 (16.20)	216 (100.00)
Registered	90 (85.71)	12 (11.43)	3 (2.86)	82 (78.10)	7 (6.67)	16 (15.24)	105 (100.00)
Un-registered	72 (64.86)	30 (27.03)	9 (8.11)	90 (81.08)	2 (1.80)	19 (17.12)	111 (100.000
Manufacture of sugar and other food items	164 (78.85)	32 (15.38)	12 (5.77)	176 (84.62)	11 (5.29)	21 (10.10)	208 (100.00)
Registered	63 (61.17)	15 (14.56)	25 (24.270	86 (83.50)	8 (7.77)	9 (8.74)	103 (100.00)
Un-registered	71 (67.61)	15 (14.29)	19 (18.10)	90 (85.71)	3 (2.86)	12 (11.43)	105 (100.00)
Distilling rectifying and blending of Spirits	3 (15.00)	4 (40.00)	13 (65.00)	13 (65.00)	2 (10.00)	5 (25.00)	20 (100.00)
Registered	1 (10.00)	3 (30.00)	6 (60.00)	6 (60.00)	1 (10.00)	3 (30.00)	10 (100.00)
Un-registered	2 (20.00)	1 (10.00)	7 (70.00)	7 (70.00)	1 (10.00)	2 (20.00)	10 (100.00)
ALL UNITS	317 (62.52)	92 (18.14)	98 (19.33)	407 (80.28)	29 (5.72)	71 (14.00)	507 (100.00)
Registered	164 (65.60)	35 (14.00)	51 (20.40)	197 (78.80)	21 (8.40)	32 (12.80)	250 (100.00)
Un-registered	153 (59.53)	57 (22.18)	47 (18.29)	210 (81.71)	8 (3.11)	39 (15.18)	257 (100.00)

involved in manufacturing of sugar and sugar based food products and grain milling products were noted largely using traditional technologies in both marking and storing of final products.

7.4. Maintenance of Quality Control; There are associate challenges which the agro-processing units have been facing in the dynamically changing competitive landscape of product marketing. Some of these challenges, especially in the context of the developing countries or emerging economies are the changing tastes and preferences of consumers around world due to demographic and socio-economic shifts, development of differential types of global restrictions in regard to agri-product business and formulation of strategies for global issues like WTO etc. It has generally been argued that in developing countries most agro-product handler's maintained average personal hygiene practices which limit its scope of marketing in global markets. In this context it has been recognized necessary to maintain the effective quality control devices at the plant level itself so as the agro-products can find a favorable treatment in its marketing in competitive markets. Considering these facts in mind the present part of the study looks in to the pattern of maintaining quality control devices in agro-processing industries. The study found only a few units, mainly organizes segment of units have the facility of quality control devices for their products. Even, none of the units which are manufacturing vegetable, animal oil, fats and dairy products had such facility. However, out of 30 units those were using quality control practices, 78 percent of them had this facility within their unit level and remaining was utilizing the same from other sources.

7.5. Facility of Cold Storage; In order to reduce the value of loss of agro-processing produces especially perishable products it becomes necessary to maintain their quality through utilizing the facility of cold storage. Even, most of the raw materials used in agro-processing units also require the facility of cold storage to sustain its quality till it undergo for processing. It in this view we have attempted to examine the accessibility and utilization pattern of concerned technology by different groups of agro-industries. In this regard it depicted that a fairly large proportion of over 73 percent units consisting 76 percent organized and 70 percent un-organized units had access to this facility. Even,

Table-7.7
Maintenance of Quality Control

Product Group	Number of Units				
	Maintaining Quality Control devices			If Yes	
	Yes	No	Total	Available with in unit	Not Available with in unit
Manufacture of vegetables, animals oils and fats	-	44 (100.00)	44 (100.00)	-	-
Registered	-	23 (100.00)	23 (100.00)	-	-
Un-registered	-	21 (100.00)	21 (100.00)	-	-
Manufacture of dairy products	-	19 (100.00)	19 (100.00)	-	-
Registered	-	9 (100.00)	9 (100.00)	-	-
Un-registered	-	10 (100.00)	10 (100.00)	-	-
Manufacture of grain mill products and animals feeds	15 (6.94)	201 (93.06)	216 (100.00)	11 (73.33)	4 (26.67)
Registered	15 (14.29)	90 (85.71)	105 (100.00)	11 (73.33)	4 (26.670
Un-registered	-	111 (100.00)	111 (100.00)	-	-
Manufacture of sugar and other food items	13 (6.25)	195 (93.75)	208 (100.00)	10 (76.92)	3 (23.08)
Registered	13 (12.62)	90 (87.38)	103 (100.00)	10 (76.92)	3 (23.08)
Un-registered	-	105 (100.00)	105 (100.00)	-	-
Distilling rectifying and blending of Spirits	4 (20.00)	16 (80.00)	20 (100.00)	4 (100.00)	-
Registered	2 (20.00)	8 (80.00)	10 (100.00)	2 (100.00)	-
Un-registered	2 (20.00)	8 (80.00)	10 (100.00)	2 (100.00)	-
All Unit	32 (6.31)	475 (93.69)	507 (100.00)	25 (78.13)	7 (21.87)
Registered	30 (12.00)	220 (88.00)	250 (100.00)	23 (76.67)	7 (23.33)
Un-registered	2 (0.78)	255 (99.22)	257 (100.00)	2 (100.00)	-

Table-7.8
Facility of Cold Storage

Product Group	Number of Units										
	Availability		Distance(in Km)			Problem facility		Types of Problem			
	Yes	No	< 5	5-10	10+	Yes	No	Transportation	High Cost	Lacking proper preservation device	All unit
Manufacture of vegetables, animals oils and fats	26 (59.09)	18 (40.91)	13 (72.22)	3 (16.67)	2 (11.11)	8 (44.44)	10 (55.56)	5 (62.50)	3 (37.50)	-	44 (100.00)
Registered	15 (65.22)	8 (34.78)	7 (87.50)	1 (12.50)	-	5 (62.50)	3 (37.50)	3 (60.00)	2 (40.00)	-	23 (100.00
Un-Registered	11 (52.38)	10 (47.62)	6 (60.00)	2 (20.00)	2 (20.00)	3 (30.00)	7 (70.00)	2 (66.67)	1 (33.33)	-	21 (100.00
Manufacture of dairy products	15 (78.95)	4 (21.05)	3 (75.00)	1 (25.00)	-	3 (75.00)	1 (25.00)	2 (66.67)	-	1 (33.33)	19 (100.00
Registered	8 (88.89)	1 (11.11)	1 (100.00)	-	-	1 (100.00)	-	1 (100.00)	-	-	9 (100.00
Un-Registered	7 (70.00)	3 (30.00)	2 (66.67)	1 (33.33)	-	2 (66.67)	1 (33.33)	1 (50.00)	-	1 (50.00)	10 (100.00
Manufacture of grain mill products and animals feeds	151 (69.91)	56 (30.09)	27 (41.54)	27 (41.54)	11 (16.92)	38 (58.46)	27 (41.54)	27 (71.05)	7 (18.42)	4 (10.53)	216 (100.00
Registered	75 (71.43)	30 (28.57)	12 (40.00)	12 (40.00)	6 (20.00)	20 (66.67)	10 (33.33)	13 (65.00)	4 (20.00)	3 (15.00)	105 (100.00
Un-Registered	76 (68.47)	35 (31.53)	15 (42.86)	15 (42.86)	5 (14.28)	18 (51.43)	17 (48.57)	14 (77.78)	3 (16.67)	1 (5.55)	111 (100.00
Manufacture of sugar and other food items	164 (78.85)	44 (21.15)	14 (31.82)	22 (50.00)	8 (18.18)	30 (68.18)	14 (31.82)	25 (83.33)	3 (10.00)	2 (6.67)	208 (100.00
Registered	83 (80.58)	20 (19.42)	6 (30.00)	10 (50.00)	4 (20.00)	13 (65.00)	7 (35.00)	9 (69.23)	3 (23.08)	1 (7.69)	103 (100.00
Un-Registered	81 (77.14)	24 (22.86)	8 (33.33)	12 (50.00)	4 (16.67)	17 (70.83)	7 (29.17)	16 (94.12)	-	1 (5.88)	105 (100.00
Distilling rectifying and blending of Spirits	15 (75.00)	5 (25.00)	1 (20.00)	2 (40.00)	2 (40.00)	2 (40.00)	3 (60.00)	2 (100.00)	-	-	20 (100.00
Registered	9 (90.00)	1 (10.00)	-	1 (100.00)	-	1 (100.00)	-	1 (100.00)	-	-	10 (100.00
Un-Registered	6 (60.00)	4 (40.00)	1 (25.00)	1 (25.00)	2 (50.00)	1 (25.00)	3 (75.00)	1 (100.00)	-	-	10(100.00
All unit	371 ((73.18)	136 (26.82)	58 (42.65)	55 (40.44)	23 (16.91)	81 (59.56)	55 (40.44)	61 (75.31)	13 (13.05)	7 (8.64)	507 (100.00
Registered	190 (76.00)	60 (24.00)	26 (43.33)	24 (40.00)	10 (16.67)	40 (67.67)	20 (33.33)	27 (67.50)	9 (22.50)	4 (10.00)	250 (100.00
Un-Registered	181 (70.43)	76 (29.57)	32 (42.11)	31 (40.79)	13 (17.11)	41 (53.95)	35 (46.05)	34 (82.93)	4 (9.76)	3 (7.32)	257 (100.00

such units accounted as larger as 79 percent each in the product line of manufacturing dairy products, sugar and related food products. However, a significant proportion of 57 percent units were covering a distance a above 5 kms to utilize concerned facility

but, nearly 43 percent units had this facility after covering less than 5 km from their units. It further found that nearly 60 percent units reported facing some short of critical problems in using this facility, though such units accounted fairly larger among organized units than the un-organized units. Even, among the different product line of units the figure of such units accounted as high as 75 percent which were confined in manufacturing of dairy products. Transportation of goods from the places to the location of nearest available facility of cold storage has been cited as the major problem by a remarkable proportion of over 75 percent agro-units which are mainly confined in un-organized sector and in manufacturing of sugar and sugar related food products. Involvement of a high cost in availing cold storage facility and lacking proper preservation devices with a maximum numbers of cold stages have been reported other serious problems in using concerned facility by 13 percent and 9 percent units respectively.

7.6. Linkages in Procurement of Raw Materials; The theoretical analysis related to decision making of entrepreneurs to locate unit in particular location and special dispersal of industrial activities different location has been traditionally carried out on the basis of relatively simple framework; natural endowment of a location as represented by the availability of basic raw materials, and nearest to market are presumed to determine the special distribution of industrial activity. In particular to agro-processing units, easy accessibility of required basic raw material largely determine the decision of entrepreneur for choosing particular location for setting of particular available based unit. It is presumed that after deciding particular location for setting of a unit the entrepreneurs identify best possible option which maximizes higher profit for arrangement of the supply of required raw material. The arrangement of raw material supply could be made with farm households or wholesalers or with both. But this arrangement would be more beneficial to units in procuring raw material from the farmers than the wholesalers. In matters of procuring raw material through former channel the arrangement may be based on pre-harvest or post harvest system while in case of its supply from latter channel it would be unarranged basis.

In our study it depicted that the entrepreneurs of agro-units have been obtaining their raw material requirement through both the channels though its supply on un-arranged basis accounted fairly higher than pre-arranged basis.

Table-7.9
Procurement of raw materials per unit by its sources

Product Group	Farmers	Wholesalers/ contractors	Total
Manufacture of vegetables, animals oils and fats	4.17 (0.81)	0.97 (0.83)	5.15 (100.00)
Registered	5.86 (75.71)	1.87 (24.16)	7.74 (100.00)
Un-registered	2.33 (100.00)	-	2.33 (100.00)
Manufacture of dairy products	4.30 (100.00)	-	4.30 (100.00)
Registered	3.79 (100.00)	-	3.79 (100.00)
Un-registered	4.76 (100.00)	-	4.76 (100.00)
Manufacture of grain mill products and animals feeds	33.64 (99.91)	0.03 (0.01)	33.67 (100.00)
Registered	68.97 (100.00)	-	68.97 (100.00)
Un-registered	0.22 (78.57)	0.06 (21.43)	0.28 (100.00)
Manufacture of sugar and other food items	38.70 (30.25)	89.22 (69.75)	127.92 (100.00)
Registered	51.55 (22.25)	180.17 (77.75)	231.72 (100.00)
Un-registered	26.11 (100.00)	-	26.11 (100.00)
Distilling rectifying and blending of Spirits	-	0.43 (100.00)	0.43 (100.00)
Registered	-	0.54 (100.00)	0.54 (100.00)
Un-registered	-	0.32 (100.00)	0.32 (100.00)
All Unit	30.73 (45.56)	36.72 (54.44)	67.45 (100.00)
Registered	50.88 (40.60)	74.42 (59.40)	125.31 (100.00)
Un-registered	11.13 (99.64)	0.04 (0.36)	11.17 (100.00)

In this context it revealed that the agro-processing units have been procuring basic raw materials both from wholesalers and directly from famers as well. However, in total size of its supply the share of procurement from wholesalers was reported higher

than its share from the farmers especially in case of organized sector of units. On the other hand, the un-organized units were seen mainly relying upon its procurement directly from the farmers. Also none of units among both organized and un-organized in the product groups of dairy, organized units involved in manufacturing grain milling and animal feeds were not procuring raw materials from wholesalers.

Further it indicated that the agro-processing industries concentrated in different locations have been maintaining favorable linkages with the farmers of nearby villages for obtaining required basic raw materials on the basis of pre-arranged terms and conditions of its supply. Since, the value of raw material per unit as obtained from farmer under the pre-arranged system was Rs. 36.60 lakh as against Rs 30.84 which obtained under un-arranged basis. However, the linkages of units with farmers in terms of supply of raw materials under pre-arranged basis were only maintained by organized sector of agro-units and which were confined in manufacturing of sugar and sugar based food products. Under the pre-arranged supply of raw material, the farmers were directly delivering a fixed quantity of sugarcane to a set of fixed numbers of sugar and sugar based food manufacturing unit located in surrounding areas of their villages for past several years. These product groups of units were also procuring any shortfall of raw materials from the wholesalers under un-arranged basis. Otherwise a major supply of basic raw material requirement of both organized and un-organized agro-industries was met out from wholesalers without any prior -arrangements. It may be mentioned here that as per the provision of State Government the farmers of sugarcane in a particular catchment areas of the sugar industries have to supply their entire sugarcane to the concerned sugar industry.

Table-7.10

Procurement of Raw Material per unit under Pre and un -Arranged basis

(Value in Rs. lakh)

Product group	Pre Arranged				Un Arranged		
	Pre-harvest	On farm	Delivery at the unit	Total	Farmers	Others	Total
Manufacture of vegetables, animals oils and fats	-	-	-	-	4.17 (0.81)	0.97 (0.83)	5.15 (100.00)
Registered	-	-	-	-	5.86 (75.71)	1.87 (24.16)	7.74 (100.00)
Un-Registered	-	-	-	-	2.33 (100.00)	-	2.33 (100.00)
Manufacture of dairy products	-	-	-	-	4.30 (100.00)	-	4.30 (100.00)
Registered	-	-	-	-	3.79 (100.00)	-	3.79 (100.00)
Un-Registered	-	-	-	-	4.76 (100.00)	-	7.76 (100.00)
Manufacture of grain mill products and animals feeds	-	-	-	-	33.64 (99.91)	0.03 (0.01)	33.67 (100.00)
Registered	-	-	-	-	68.97 (100.00)	-	68.97 (100.00)
Un-Registered	-	-	-	-	0.21	0.06	0.28
Manufacture of sugar and other food items	-	-	89.22 (100.00)	89.22 (100.00)	38.70 (100.00)	-	38.70 (100.00)
Registered	-	-	180.17 (100.00)	180.17 (100.00)	51.55 (100.00)	-	51.55 (100.00)
Un-Registered	-	-	-	-	26.10 (100.00)	-	26.10 (100.00)
Distilling rectifying and blending of Spirits	-	-	-	-	-	0.43 (100.00)	0.43 (100.00)
Registered	-	-	-	-	-	0.54 9100.00)	0.54 (100.00)
Un-Registered	-	-	-	-	-	0.32 (100.00)	0.32 (100.00)
All unit	-	-	36.60 (100.00)	36.60(100.00)	30.73 (99.64)	0.12 (0.36)	30.84 (100.00)
Registered	-	-	74.23 (100.00)	74.23 (100.00)	50.88 (99.63)	0.19 (0.37)	51.07 (100.00)
Un-Registered	-	-	-	-	11.13 (99.64)	0.04 (0.36)	11.17 (100.00)

As far as the supply condition of the availability of raw materials as required for processing for agro-industries was concerned the study found that a majority of nearly 78 percent units had not to face any serious problems in timely getting of required different raw materials. Even such units were reported relatively higher at 83 percent among organized industries as against 72 percent un-organized industries. Among

different product groups of units, the proportion of units who have had made secured supply of raw materials accounted highest at 95 percent among those are confined in distilling, rectifying and blending of spirits followed by 81 percent sugar and sugar related food products.

However, nearly 49 percent units were found realizing short supply of required raw materials. Such problem of non- availability of adequate supply of raw material was largely reported by un-organized units than the organized units and those were confined in manufacture of grain milling products, animal feeds, vegetable based products, animal oils and fats. The quality of supply of raw materials from different sources was reported good or satisfactory by a fairly high proportion of 86 percent organized units and 89 percent un-organizes units. Even, both the categories of all units confined in distilling, rectifying and blending of spirits had not any complain in the quality of raw materials as they all were getting good quality of raw material from different sources.

The prevailing market forced and the extent of supply and demand conditions were reported to have been determining the procurement prices of a majority types of raw materials in the markets. It reflected by the fact that a majority of 48 percent units reported the prices of raw materials supplied to them were fixed by market forces and its demand and supply conditions. However, the prices of raw materials of a second majority of nearly one fourth units, mainly those had arranged supply of raw materials from different sources were mutually fixed by suppliers and units themselves. The role of State Government in this context was reported by only 9 percent organized agro-units which were engaged only in manufacturing of sugar and sugar related food products and grain milling products and animal feeds.

Table-7.11
Regularity in Availability of raw material

Product group	Timely available		Availability in adequate quantity		Quality of supply			All units
	Yes	No	Yes	No	Good	Satisfactory	Poor	
Manufacture of vegetables, animals oils and fats	29 (65.91)	15 (34.09)	18 (40.91)	26 (59.09)	5 (11.36)	38 (86.36)	1 (2.27)	44 (100.00)
Registered	18 (78.26)	5 (21.74)	14 (60.87)	9 (39.13)	2 (8.70)	20 (86.96)	1 (4.35)	23 (100.00)
Un-Registered	11 (52.38)	10 (47.62)	4 (19.05)	17 (80.95)	3 (14.29)	18 (85.71)	-	21 (100.00)
Manufacture of dairy products	14 (73.68)	5 (26.32)	12 (63.16)	7 (36.84)	2 (10.53)	12 (63.16)	5 (26.32)	19 (100.00)
Registered	6 (66.67)	3 (33.33)	3 (33.33)	6 (66.67)	-	7 (77.78)	2 (22.22)	9 (100.00)
Un-Registered	8 (80.00)	2 (20.00)	9 (90.00)	1 (10.00)	2 (20.00)	5 (50.00)	3 (30.00)	10 (100.00)
Manufacture of grain mill products and animals feeds	164 (75.93)	52 (24.07)	83 (38.43)	133 (61.57)	47 (21.76)	140 (64.81)	29 (13.43)	216 (100.00)
Registered	86 (81.90)	19 (18.10)	50 (47.62)	55 (52.38)	17 (16.19)	68 (64.76)	20 (19.05)	105 (100.00)
Un-Registered	78 (70.27)	33 (29.73)	33 (29.73)	78 (70.27)	30 (27.03)	72 (64.86)	9 (8.11)	111 (100.00)
Manufacture of sugar and other food items	168 (80.77)	40 (19.23)	129 (62.02)	79 (37.98)	49 (23.56)	129 (62.02)	30 (14.42)	208 (100.00)
Registered	88 (85.44)	15 (14.56)	72 (69.90)	31 (30.09)	25 (24.27)	65 (63.11)	13 (12.62)	103 (100.00)
Un-Registered	80 (76.19)	25 (23.81)	57 (54.29)	48 (45.71)	24 (22.86)	64 (60.95)	17 (16.19)	105 (100.00)
Distilling rectifying and blending of Spirits	19 (95.00)	1 (5.00)	18 (90.00)	2 (10.00)	3 (15.00)	17 (85.00)	-	20 (100.00)
Registered	10 (100.00)	-	10 (100.00)	-	1 (10.00)	9 (90.00)	-	10 (100.00)
Un-Registered	9 (90.00)	1 (10.00)	8 (80.00)	2 (20.00)	2 (20.00)	8 (80.00)	-	10 (100.00)
All units	394 (77.71)	113 (22.29)	260 (51.28)	247 (48.72)	106 (20.91)	336 (66.27)	65 (12.82)	507 (100.00)
Registered	208 (83.20)	42 (16.80)	149 (59.60)	101 (40.40)	45 (18.00)	169 (67.60)	36 (14.40)	250 (100.00)
Un-Registered	186 (72.37)	71 (27.63)	111 (43.19)	146 (56.81)	61 (23.74)	167 (64.98)	29 (11.28)	257 (100.00)

Table-7.12
Fixation of prices of Raw Materials

Product group	Self	Market prices	Supplier	Mutually by supplier and unit	Govern ment	All units
Manufacture of vegetables, animals oils and fats	17 (38.64)	20 (45.45)	2 (4.55)	5 (11.36)	-	44 (100.00)
Registered	4 (17.39)	15 (65.22)	1 (4.35)	3 (13.04)	-	23 (100.00)
Un-Registered	13 (61.90)	5 (23.81)	1 (4.76)	2 (9.52)	-	21 (100.00)
Manufacture of dairy products	4 (21.05)	8 (42.11)	2 (10.53)	5 (26.32)	-	19 (100.00)
Registered	2 (22.22)	5 (55.56)	-	2 (22.22)	-	9 (100.00)
Un-Registered	2 (20.00)	3 (30.00)	2 (20.00)	3 (30.00)	-	10 (100.00)
Manufacture of grain mill products and animals feeds	62 (28.70)	120 (55.56)	7 (3.24)	14 (6.48)	13 (6.02)	216 (100.00)
Registered	18 (17.14)	61 (58.09)	2 (1.90)	11 (10.48)	13 (12.38)	105 (100.00)
Un-Registered	44 (39.64)	59 (53.15)	5 (4.50)	3 (2.70)	-	111 (100.00)
Manufacture of sugar and other food items	16 (7.69)	84 (40.38)	7 (3.37)	92 (44.23)	9 (4.33)	208 (100.00)
Registered	8 (7.77)	43 (41.75)	3 (2.91)	40 (38.83)	9 (8.74)	103 (100.00)
Un-Registered	8 (7.62)	41 (39.05)	4 (3.81)	52 (49.52)	-	105 (100.00)
Distilling rectifying and blending of Spirits	6 (30.00)	9 (45.00)	-	5 (25.00)	-	20 (100.00)
Registered	3 (30.00)	5 (50.00)	-	2 (20.00)	-	10 (100.00)
Un-Registered	3 (30.00)	4 (40.00)	-	3 (30.00)	-	10 (100.00)
All units	105 (20.71)	241 (47.53)	18 (3.55)	121 (23.87)	22 (4.34)	507 (100.00)
Registered	35 (14.00)	129 (51.60)	6 (2.40)	58 (23.20)	22 (8.80)	250 (100.00)
Un-Registered	70 (27.24)	112 (43.58)	12 (4.67)	63 (24.51)	-	257 (100.00)

It also reflected the fact that a sufficient number of over 27 percent un-organized agro-industries were themselves involved in fixation of different raw materials as they had the supply of raw materials from own sources or they were directly procuring it directly from the growers of surrounding villagers though pre-arranged basis.

Further, the study incorporates the suggestions of the entrepreneurs of agro-units regarding the types of measures to be undertaken to overcome from the emerging

problems the agro- industries have been experiencing in obtaining required material from different sources. Since the problems highlighted by the entrepreneurs were mainly in terms of untimely supply, involvement high procurement cost, availability of poor quality and inadequacy in quantity of supply of different raw materials. To over come from the **p**roblems of supply of raw materials the entrepreneurs recommended that the timely supply of raw materials in require quantity could be ensured through establishing raw material banks in specific to particular product group of industries in areas where they are largely concentrated. Assured supply of raw material could also be done though motivating farmers for undertaking diversification in their farming system by using available land under the cultivation of particular raw material as required by industrial units located in particular areas. The facility of cold storage should be made available in clusters of villages so as to retain the quality of most perceivable farm based raw material for a substantial period of time. The prices of different farm based raw materials should be fixed every year before harvesting by the State Government on the similar pattern as are fixed for sugarcane in the State.

7.7. Linkages in Marketing of Agro-products. The sample agro-processing units of different categories and product groups were hardly involved the direct export of their products. A major part of over 96 percent outputs was sold to the wholesalers. May be, a part of this produced was being exported by the wholesalers. The value of per unit sale of agro-produce through wholesalers accounted as higher Rs 518.36 lakh. Even the share of sale to through concerned channel was as larger as nearly cent percent in case of sugar and sugar based food products followed by 96 percent vegetable based products, animal oils and fat. The Government departments were seen purchasing only 3 percent agro-products from the units that too only of grain milling products, animal feeds, sugar and sugar based products. While it’s sale to consumers accounted only less than 1 percent. Surprising the share of agro-produced sold to consumers directly has been registered to the extent of 74 percent in response to distilling, rectifying and blinding of spirit products followed by 36 percent dairy products.

Table-7.13
Per unit sale of Agro- Products by its channels of marketing
(value in Rs. lakh)

	Whole sellers	Government	Co-operative Institutions	Consumers	Total
Manufacture of vegetables, animals oils and fats	54.25 (95.78)	-	-	2.39 (4.22)	56.64 (100.00)
Registered	101.98 (97.66)	-	-	2.44 (2.34)	104.42 (100.00)
Un-registered	1.96 (45.58)	-	-	2.34 (54.42)	4.30 (100.00)
Manufacture of dairy products	13.68 (63.33)	-	-	7.92 (36.67)	21.60 (100.00)
Registered	15.13 (63.57)	-	-	8.67 (36.43)	23.80 (100.00)
Un-registered	12.37 (63.08)	-	-	7.34 (37.43)	19.61 (100.00)
Manufacture of grain mill products and animals feeds	80.11 (66.56)	37.52 (31.17)	0.00	2.73 (2.27)	120.36 (100.00)
Registered	164.34 (66.96)	77.18 (31.44)	-	3.92 (1.60)	245.44 (100.00)
Un-registered	0.44 (21.46)	-	0.00	1.61 (78.54)	2.05 (100.00)
Manufacture of sugar and other food items	1167.49 (99.59)	0.07 (0.01)	-	4.75 (0.40)	1172.31 (100.00)
Registered	2321.48 (99.59)	0.15 (0.01)	-	9.49 (0.40)	2331.12 (100.00)
Un-registered	35.47 (99.74)	-	-	0.09 (0.26)	35.56 (100.00)
Distilling rectifying and blending of Spirits	0.91 (26.22)	-	-	2.56 (73.78)	3.47 (100.00)
Registered	0.81 (21.95)	-	-	2.88 (78.05)	3.69 (100.00)
Un-registered	1.01 (31.08)	-	-	2.24 (68.92)	3.25 (100.00)
All Unit	518.36 (96.33)	16.01 (2.98)	0.00	3.72 (0.69)	538.09 (100.00)
Registered	1028.66 (96.38)	32.48 (3.04)	-	6.21 (0.58)	1067.34 (100.00)
Un-registered	15.36 (92.25)	-	0.00	1.29 (7.75)	16.65 (100.00)

As far as the prevailing marketing arrangements for selling the agro-products was concerned it reflected that a bulk of it was being sold under un-arranged manner to the wholesalers, Government Departments and consumers. The proportionate value of sale through Pre-arrangement of marketing accounted only a little over 3 percent while none

Table-7.14

Per unit Sale of agro-products under different Marketing Arrangement through different channels

(value in Rs. lakh)

Product group	Pre Arranged					Un Arranged				
	Whole sellers	Sale government	Institutions	Consumers	Total	Whole sellers	Sale government	Institutions	Consumers	Total
Manufacture of vegetables, animals oils and fats	17.93 (100.00)	-	-	-	17.93 (100.00)	36.31 (93.82)	-	-	2.39 (6.18)	38.70 (100.00)
Registered	34.30 (100.00)	-	-	-	34.30 (100.00)	67.68 (96.52)	-	-	2.44 (3.48)	70.12 (100.00)
Un-Registered	-	-	-	-	-	1.95 (45.56)	-	-	2.33 (54.44)	4.28 (100.00)
Manufacture of dairy products	-	-	-	-	-	13.68 (63.33)	-	-	7.92 (36.67)	21.60 (100.00)
Registered	-	-	-	-	-	15.12 (63.56)	-	-	8.67 (36.44)	23.79 (100.00)
Un-Registered	-	-	-	-	-	12.37 (63.11)	-	-	7.23 (36.89)	19.60 (100.00)
Manufacture of grain mill products and animals feeds	3.96 (10.44)	33.96 (89.56)	-	-	37.92 (100.00)	76.15 (92.39)	3.55 (4.31)	0.00	2.72 (3.30)	82.42 (100.00)
Registered	8.07 (10.35)	69.87 (89.65)	-	-	77.94 (100.00)	156.26 (93.30)	7.31 (4.36)	-	3.91 (2.34)	167.48 (100.00)
Un-Registered	0.08 (100.00)	-	-	-	0.08 (100.00)	0.36 (18.37)	-	0.00	1.60 (81.63)	1.96 (100.00)
Manufacture of sugar and other food items	0.92 (92.93)	0.07 (7.07)	-	-	0.99 (100.00)	1166.56 (99.60)	-	-	4.74 (0.40)	1171.30 (100.00)
Registered	0.55 (79.71)	0.14 (20.29)	-	-	0.69 (100.00)	2320.93 (99.59)	-	-	9.49 (0.41)	2330.42 (100.00)
Un-Registered	1.29 (100.00)	-	-	-	1.29 (100.00)	34.17 (99.74)	-	-	0.09 (0.26)	34.26 (100.00)
Distilling rectifying and blending of	-	-	-	-	-	0.91 (26.22)	-	-	2.56 (73.78)	3.47 (100.00)
Registered	-	-	-	-	-	0.81 (21.95)	-	-	2.88 (78.05)	3.69 (100.00)
Un-Registered	-	-	-	-	-	1.01 (31.08)	-	-	2.24 (68.92)	3.25 (100.00)
All unit	3.62 (19.98)	14.50 (80.02)	-	-	18.12 (100.00)	514.73 (99.00)	1.51 (0.29)	0.00	3.71 (0.71)	519.95 (100.00)
Registered	6.77 (18.72)	29.40 (81.28)	-	-	36.17 (100.00)	1028.65 (99.10)	3.07 (0.30)	-	6.20 (0.60)	1037.92 (100.00)
Un-Registered	0.56 (100.00)	-	-	-	0.56 (100.00)	14.80 (91.98)	-	0.00	1.29 (8.02)	16.09 (100.00)

of the units engaged in distilling, rectifying and blinding of spirits and manufacturing dairy products were selling their products on pre-arranged basis. Under the pre arrangement system of marketing the share of purchases from the part of different Government Departments noted over 80 percent while remaining proportion of produces were purchased by wholesalers under the same arrangements. In matters of un-arranged system of sale, the wholesalers were noted as the main buyers of most of agro products excepting the case of distilling, rectifying and blinding of spirits from the agro-units. Even the un-organized units confined in manufacturing of grain milling products and animal feeds were largely selling their produces directly to the consumers under un-arranged basis. Thus, the overall analysis reflected that facts that most agro-products were not finding any regular arrangement for its marketing. Insteed the wholesalers have been playing an important role in purchasing agro products from the producers and its supply to different channels in the domestic markets.

The consequences of lacking any suitable marketing arrangement for selling the agro based products in sample districts a high majority of over 84 percent units were found facing one or the other form of marketing problem. Even such units were as high as nearly 90 percent among those were manufacturing grain milling products and animal feeds. Even the proportion units facing in selling their products accounted relatively higher among organized units than the un-organized units. It could be largely because a sizeable number of un-organized units were evolved in carrying out job work and such work arrangements do not require any marketing channel for selling products. The problem was mainly in terms of unlikely development of any marketing facility in local areas for over 32 percent units which are largely confined in organized sector. A second majority of 30 percent units, comprising 37 percent organized and 22 percent organized units were reported their products were not fetching reasonable prices in domestic markets. However, such categories of units were as high as 60 percent among organized units which were manufacturing dairy products. Remaining problems the agro units were facing in matters of existing high taxes, over interference of local officials while selling products through different channels and late payment of produces from the part of different agencies involved in buying their products.

Table-7.15

Problem Facing in Marketing of Produces

Product group	Kind of problems							
	Lack of Local market facility	High Taxes	Interference by govt officers	Late payment by agencies	Market value of product is low	Units facing problems		All unit
						Yes	No	
Manufacture of vegetables, animals oils and fats	6 (33.33)	3 (16.67)	4 (22.22)	10 (55.56)	12 (66.67)	18(40.91)	26(59.09)	44 (100.00)
Registered	4 (40.00)	3 (30.00)	2 (20.00)	7 (70.00)	8 (80.00)	10(43.48)	13(56.52)	23 (100.00)
Un-Registered	2 (25.00)	-	2 (25.00)	3 (37.50)	4 (50.00)	8(38.10)	13(61.90)	21 (100.00)
Manufacture of dairy products	3 (38.50)	1 (12.50)	1 (12.50)	5 (62.50)	4 (50.00)	8(42.11)	11(57.89)	19 (100.00)
Registered	2 (40.00)	1 (20.00)	1 (20.00)	3 (60.00)	3 (60.00)	5(55.56)	4(44.44)	9 (100.00)
Un-Registered	1 (33.33)	-	-	2 (66.67)	1 (33.33)	3(30.00)	7(70.00)	10 (100.00)
Manufacture of grain mill products and animals feeds	62 (31.96)	41 (21.13)	30 (15.46)	36 (18.56)	51 (26.29)	194(89.81)	22(10.19)	216 (100.00)
Registered	44 (43.14)	27 (26.47)	18 (17.65)	26 (25.49)	38 (37.25)	102(97.14)	3(2.86)	105 (100.00)
Un-Registered	48 (52.17)	14 (15.22)	12 (13.04)	10 (10.87)	13 (14.13)	92(82.88)	19(17.12)	111 (100.00)
Manufacture of sugar and other food items	63 (32.14)	26 (13.27)	39 (19.90)	35 (17.86)	59 (30.10)	196(94.23)	12(5.77)	208 (100.00)
Registered	41 (40.59)	17 (16.83)	24 (23.76)	16 (15.84)	31 (30.69)	101(98.06)	2(1.94)	103 (100.00)
Un-Registered	22 (23.16)	9 (9.47)	15 (15.79)	19 (20.00)	28 (29.47)	95(90.48)	10(9.52)	105 (100.00)
Distilling rectifying and blending of Spirits	4 (33.33)	2 (16.67)	4 (33.33)	8 (66.67)	1 (8.33)	12(60.00)	8(40.00)	20 (100.00)
Registered	3 (37.50)	2 (25.00)	2 (25.00)	5 (62.50)	1 (12.50)	8(80.00)	2(20.00)	10 (100.00)
Un-Registered	1 (25.00)	-	2 (50.00)	3 (75.00)	-	4(40.00)	6(60.00)	10 (100.00)
All units	139 (32.48)	73 (17.06)	78 (18.22)	94 (21.96)	127 (29.67)	428(84.42)	79(15.58)	507 (100.00)
Registered	94 (42.53)	50 (22.62)	47 (21.27)	57 (25.79)	81 (36.65)	221(88.40)	29(11.60)	250 (100.00)
Un-Registered	45 (21.74)	23 (11.11)	31 (14.98)	37 (17.87)	46 (22.22)	207(80.54)	50(19.46)	257 (100.00)

The entrepreneurs of agro industries provided differential types of recommendation to overcome from the emerging problems of marketing of their produces. However, the opinions of sufficient number of entrepreneurs were that the wholesalers show very much irregularity in payments which slowdowns the proper operation of the unit resulting a loss of production to a larger extent. In case of expansion of marketing

facilities in local areas could possibly be an important solution to overcome the practices of late payment against the purchase of goods by wholesalers and to achieve improvements in the overall productive efficiency of the agro-industries. The rate of value added tax imposed by the State Government was very high which increasing per unit cost of production and making products highly competitive against the similar goods arriving from other states of the country even in domestic markets leave aside in export markets. In this context it was suggested either to reduce the rates of VAT or the similar amount claimed as VAT should be refunded to the industry as loan on subsidized rates of interest. The interference of Government Officials in different stages of operation of the units should be strictly avoided so that the industry can operate efficiently.

CHAPTER-VIII

FINANCIAL INCENTIVES AND SUBSIDIES AND ITS IMPACT

8.1. Introduction; Incentives and subsides for industrial development in India have generally flowed from the policy objectives of acceleration of industrial growth, promotion of small scale industry and spatial dispersal of industries besides, of course, export promotion. Accordingly, fiscal incentives like tax concessions, reliefs and rebates, and financial incentives like capital subsidy and concessional rates of interest have been allowed to new and small units and to units located in backward areas. But in the context of a policy on incentives and subsidies for industrial development in an industrially backward state like Uttar Pradesh, the question of locational disadvantages and therefore, incentives and subsidies to mitigate them, becomes more important. That is why there has been a general emphasis on ‘‘attracting’’ industries into the state in most of the incentives. It may therefore, be worthwhile to deal with the question of industrial location and its determinants, and role that incentives can play in this process in some detail.

Fiscal and financial incentives and subsidies are provided to industries to offset their cost disadvantage that may arise due to the following reasons. One, a new industry has a high unit cost due to heavy initial investment and low unit revenue due to unestablished market. Two, the size of the units may be relatively small limiting their access to various inputs, on the one hand, and capacity to compete in the market with relatively larger sized units on the other. Three, the location of the industrial unit may be disadvantageous in terms of access and availability of inputs and proximity to the markets as well as undeveloped infrastructure.

Similar arguments could be advanced in the case of subsidisation of industries located in backward areas. There is no doubt that market mechanism by itself inevitably leads to spatial concentration of industrial activity, as the entrepreneurs naturally tend to flock to areas where they could produce at the lowest cost and / or realise highest revenue. The considerations of industrial dispersal require intervention which could be physical such as licensing, or then in the form of fiscal and financial incentives.

The central and State Government have, over a period of time, evolved various schemes of subsidies and incentives with a view to giving industrial activities some impetus and help diversification of industries in favour of the backward areas. However, most, provisions of industrial development policies and incentives introduced by Central and State Government in the past has been critically examined in the first chapter of this study. Moreover, the present chapter highlights about the provisions of general financial subsidies and incentives carried out for promotion of industrial sector in general and agro-industries in particular in the state during the past. The central Government had made a provision of providing Central Subsidy of 25 percent up to a maximum of a RS. 25 Lakh, but it was depending upon the category of the district in terms of its industrial backwardness. Another scheme of the central Government was the provision of providing Central Transport subsidy up to 75 percent of the cost of transportation of raw materials and finished goods from location to the nearest rail head for units located in remote and inaccessible areas. However, both of these schemes are not in operation presently in the state. Similarly, the state Government has initiated the provisions of state capital subsidy, interest free sales tax loan equal to sales tax paid up to Rs 40 lakhs in three years, exemption from Octroi, Generating set subsidy, state capital subsidy for export, concessions related to power and exemptions from sales tax. However, over the years most incentives and schemes are withdrawn by the State Government. Most of the old schemes are replaced by the new schemes during the recent past which details are accordingly well listed in the first chapter.

8.2. Financial Institutions and their Objectives:

The state Government has established various institutions for managing different industrial promotion measures and schemes to promote industrial activities in the state. Some of the major state Government institutions are as follows;

i. Directorate of Industries. This institution established at state level is responsible for the overall industrial development in the state. As a second tier after Directorate of Industries, the District Industries Centers have been established in each districts of the state. They have been assigned various responsibilities like promotion of different Small Scale industries, to apprise the entrepreneurs about the projects they can undertake and types of assistance that can be availed by them.Some of the subsidies and incentives of the state government are made available to the industrial units through the office of the Manager, District Industries Center.

ii. Pradeshiya Industrial and Investment Corporation of Uttar Pradesh Limited was established in the year 1972 with the objectives to offer administrative, financial and technical assistance to the large and medium scale industries. It has been providing assistance to new entrepreneurs in the identification of units and preparation of feasibility reports and helps to overcome the various problems faced by the entrepreneurs. Right from Project Identification to preparation of Feasibility Report, from extending Term Loans to Equity Participation, PICUP has grown indeed to be vibrant industrial development organization. In order to bridge the gap in working capital in initial years of the large & medium scale units State Govt. has formulated a scheme known as Audyogik Nivesh Protsahan Yojna in the year 2003. UPFC has been nominated along with PICUP as Operating Agency for implementation of the said scheme. Till now, it has supported over 1600 companies in generating direct capital investment and direct employment.

iii. Uttar Pradesh Financial Corporation (UPFC); Its office is located in Kanpur. Earlier UPFC has been granting loan up to Rs 30 lakh in case of companies and Rs 15 lakh for proprietorship and partnership companies under different schemes. Presently, it has been operating Industrial Investment Promotion Scheme known as Audhyogik Nivesh Protsahan Yojana of the State Government. Under this scheme Interest free loan is granted to eligible Mega units which have invested ` 5.00 Crore or more in fixed assets for setting up new unit in Food Processing or live stock sector or ` 10.00 Crore or more in any sector in Bundelkhand/Purvanchal districts of the State or ` 25.00 Crore or more in any sector in any other districts & the date of first sale from above new capital investment is on or after 11.3.2003.

UPFC grants the Interest free loans to the eligible Mega units as per following limits of the new capital investment made by them:

1. Food processing or Live stock units; New capital investment
   in the range of Rs. 5 to 15.00 crore.

2. Electronic units in any district; New capital investment
   in the range of Rs. 10 to 15.00 crore.

3. Purvanchal & Budelkhand Districts; New capital investment in the range of Rs. 10 to 15.00 crore.

4. Other than above in any other sector of District; New capital investment in the range of Rs. 25 to 30.00 crore.

The amount of Interest free loan granted under this scheme shall be minimum of 5 percent and maximum of 10 percent of the Annual sales of the unit but same shall not be more than the CST & UPVAT deposited by the unit in any financial year. However, this restriction shall not be applicable to the units whose date of first sale is between 11.3.2003 to 5.11.2003. The eligible mega unit shall be granted each year Interest free loan for the total period of 10 years and in the case of Pioneer unit Interest free loan shall be granted for 15 years.

iv. Uttar Pradesh State Industrial Development Corporation (UPSIDC);

Uttar Pradesh State Industrial Development Corporation, the premier industrial promotion and infrastructure development undertaking of the State Government has been the driving force behind scores of industrial ventures since 1961. Its major promotional and development activities are:

- Development of Industrial Areas equipped with the entire necessary industrial infrastructure.
- Identification and promotion of infrastructure-related and industry specific projects.
- Execution of civil construction works for govt. and public sector organisations on deposit basis.
- Acquisition of land on demand for large projects.
- Development of integrated Infrastructure Industrial Townships.

v. Uttar Pradesh Small Industries Corporation (UPSIC); Its headquarter is located in Kanpur. Its important involvement in promotion of industrial activities in the state has been in matters of arranging raw material requirements of small scale industries. It also renders marketing assistance and hire purchase facilities for the procurement of equipments.

Thus, it has been well reflected that both central and state government has been increasingly introducing variety of schemes and policy measures for achieving increasing promotion of industrial activities. More comprehensive initiatives have been undertaken for achieving increasing expansion of Agro-processing industries though establishing a separate Food Processing ministry both at central and state government level. It is therefore, the present chapter deals to analyse the level of awareness and availement pattern of different industrial incentives and promotional measures among the entrepreneurs of different product groups of agro-industries on one hand and its overall impact on the growth in size of units, output, investment, employment etc on the other hand.

8.3. Awareness of Different Industrial Incentives; It may be mention here that most of the industrial promotional measures in the form of providing financial subsidy to industrial activities in locating different industrially in the state especially in backward districts of the state have been withdrawn. The most popular scheme as Adhyogik Nivesh Protshahan Yojana has been recently introduced in the state. In all a significant proportion of 61 percent units followed by 59 percent units were well aware about the schemes like exemption on sales tax over the finished goods and the facility of capital subsidy respectively. The proportion of such units comprised highest among both registered and un-organised industries and even, falling in almost all the product groups of agro-industries. Otherwise a majority of different product groups of both organised and un-organised industries were lacking awareness about the remaining industrial promotional measures of the state. Even, nearly 93 percent of the entrepreneurs of agro- industries were not aware about the most popular industrial promotion scheme named by Adhyogik Nivesh Protshahan Yojana.

Table-8.1

Awareness of different subside /assistance from different Institute

Product Group	Type of scheme										
	Interest free ST loan	Exemption from Octroi	State capital subsidy	Subsidy for feasibility/productivity study	Price preference on govt purchase	Exemption on sales tax on finished goods	Subsidy on electricity &Power tariff	Special Exemption	Subsidy or purchase of generating system	Audyogik Nivesh Protsahan Yojna	Total Sample
Mfgs of vegetables, animals oils and fats	11 (25.00)	9 (20.45)	28 (63.64)	10 (22.73)	12 (27.27)	19 (43.18)	13 (29.55)	2 (4.55)	9 (10.00)	-	44 (100.00)
Registered	7 (30.43)	9 (39.13)	13 (56.52)	8 (34.78)	8 (34.78)	13 (56.52)	8 (34.78)	2 (8.69)	6 (26.09)	-	23 (100.00)
Un-Registered	4 (19.05)	-	15 (71.43)	2 (8.69)	4 (17.39)	6 (26.09)	5 (21.74)	-	3 (13.04)	-	21 (100.00)
Mfgs of dairy products	7 (36.84)	-	4 (21.05)	2 (10.52)	8 (42.10)	14 (73.68)	2 (10.52)	-	2 (10.52)	-	19 (100.00)
Registered	4 (44.44)	-	2 (22.22)	1 (11.11)	5 (55.56)	7 (77.78)	2 (22.22)	-	2 (22.22)	-	9 (100.00)
Un-Registered	3 (30.00)	-	2 (20.00)	1 (10.00)	3 (30.00)	7 (70.00)	-	-	-	-	10 (100.00)
Grain milling products and animals feeds	80 (37.03)	64 (29.63)	129 (59.72)	58 (26.85)	64 (29.63)	132 (61.11)	71 (32.87)	30 (13.89)	49 (22.68)	18 (8.33)	216 (100.00)
Registered	53 (50.48)	45 (42.86)	72 (68.57)	43 (40.95)	45 (42.86)	73 (69.52)	45 (42.86)	25 (23.81)	38 (36.19)	16 (15.23)	105 (100.00)
Un-Registered	27 (24.32)	19 (17.11)	57 (51.35)	15 (13.51)	19 (17.11)	59 (53.15)	26 (23.42)	5 (4.50)	11 (9.91)	2 (1.80)	111 (100.00)
Mfgs of sugar and other food items	88 (42.30)	51 (24.52)	126 (60.58)	58 (27.88)	72 (34.62)	128 (61.54)	61 (29.33)	36 (17.31)	45 (21.63)	14 (6.73)	208 (100.00)
Registered	55 (53.39)	31 (30.09)	62 (60.19)	32 (31.06)	38 (36.89)	63 (61.16)	39 (37.86)	23 (22.33)	35 (33.98)	10 (9.70)	103 (100.00)
Un-Registered	33 (31.43)	20 (19.05)	64 (60.95)	26 (24.76)	34 (32.38)	65 (61.90)	22 (20.95)	13 (12.38)	10 (9.52)	4 (3.81)	105 (100.00)
Distilling rectifying and blending of Spirits	10 (50.00)	5 (25.00)	10 (50.00)	5 (25.00)	8 (40.00)	16 (80.00)	5 (25.00)	4 (20.00)	3 (15.00)	2 (10.00)	20 (100.00)
Registered	6 (60.00)	4 (40.00)	4 (40.00)	2 (20.00)	6 (60.00)	9 (90.00)	3 (30.00)	2 (20.00)	1 (10.00)	1 (10.00)	10 (100.00)
Un-Registered	4 (40.00)	1 (10.00)	6 (60.00)	3 (30.00)	2 (20.00)	7 (70.00)	2 (20.00)	2 (20.00)	2 (20.00)	1 (10.00)	10 (100.00)
All units	196 (38.65)	129 (25.44)	297 (58.58)	133 (26.23)	164 (32.35)	309 (60.95)	152 (29.98)	72 (14.20)	108 (21.30)	34 (6.70)	507 (100.00)
Registered	125 (50.00)	89 (35.60)	153 (61.20)	86 (34.40)	102 (40.80)	165 (66.00)	97 (38.80)	52 (20.80)	82 (32.80)	27 (10.80)	250 (100.00)
Un-Registered	71 (27.62)	40 (15.56)	144 (56.03)	47 (18.28)	62 (24.12)	144 (56.03)	55 (21.40)	20 (7.78)	26 (10.11)	7 (2.72)	257 (100.00)

8.4. Financing of Industries; Further it has been well reflected the facts that the role of different institutions in offering various incentives in the form of subsidized

financial incentives for promoting agro-processing industries has been indicated very weak in the state. Since only a little over 24 percent of the sample industrial units were found to have availed the financial facility from different financial institutions. However the number of such agro-units comprised over 50 percent among registered industries as against only 8 percent un-organized industries who availed finances only from commercial banks for different purposes. Even, among organized industries, the proportion of units who availed financial facility from financial institutions were registered as high as over 52 percent which were confined in manufacturing of grain milling products and animal feeds followed by 38 percent manufacturing of sugar and sugar based food products while none of the organized units confined in manufacturing of dairy products had received any financial assistance for running their industry.

The agro- industries were observed basically requiring financial assistance to meet out the running cost of the operation of industry. As a overwhelming majority of nearly 63 percent units had obtained financial assistance for working capital while the purpose of availing financial assistance of a second majority of 32 percent units had been for purchasing machinery and other equipments. However, the purposes of obtaining financial assistance for a majority of 75 percent un-organized units was associated to meet out the cost of the installation of machinery and other equipments in their units. The commercial banks had been the main source of financing the agro-industry. As nearly 92 percent agro-industries consisting of 90 percent organized and all the un-organized industries had obtained financial assistance for different purposes from the commercial banks under the different scheme of the Government. The contribution of state owned financial institutions has been in offering incentives to only 8 percent organized agro-industries.

Table-8.2
Financing of Unit and Availment of Financial Facility

Product Group	Number of Units						Name of Institutions			
	Availing financial facility		Purpose for availing incentives							
	Yes	No	Working capital	Machinery	Land & building	Others	Banks	UPFC	KVIC	DIC
Manufacture of vegetables, animals oils and fats	7 (15.91)	37 (84.09)	3 (42.86)	3 (42.86)	1 (14.29)	-	6 (85.71)	-	**1 (14.29)**	-
Registered	7 (30.43)	16 (69.57)	3 (42.86)	3 (42.86)	1 (14.29)	-	6 (85.71)	-	**1 914.29)**	-
Un-Registered	-	21 (100.00)	-	-	-	-	-	-		-
Manufacture of dairy products	-	19 (100.00)	-	-	-	--	-	-		-
Registered	-	9 (100.00)	-	-	-	---	-	-		-
Un-Registered	-	10 (100.00)	-	-	-	-	-	-		-
Manufacture of grain mill products and animals feeds	62 (28.70)	154 (71.30)	42 (67.74)	17 (27.42)	3 (4.84)	-	55 (88.71)	5 (8.06)	1 (1.61)	1 (1.61)
Registered	55 (52.38)	50 (47.62)	41 (74.55)	13 (23.64)	1 (1.82)	-	48 (87.27)	5 (9.09)	1 (1.82)	1 (1.82)
Un-Registered	7(6.31)	104 (93.69)	1 (14.29)	4 (57.14)	2 (28.57)	-	7 (100.00)			-
Manufacture of sugar and other food items	51 (24.52)	157 (75.48)	32 (62.75)	18 (35.29)	1 (1.96)	-	49 (96.08)	1 (1.96)	1 (1.96)	-
Registered	39 (37.86)	64 (62.14)	31 (79.49)	7 (17.95)	1 (2.56)	-	37 (94.87)	1 (2.56)	1 (2.56)	-
Un-Registered	12 (11.43)	93 (88.57)	1 (8.33)	11 (91.67)		-	12 (100.00)	-	-	-
Distilling rectifying and blending of Spirits	4 (20.00)	16 (80.00)	1 (25.00)	2 (50.00)	1 (25.00)	-	4 (100.00)	-	-	-
Registered	3 (30.00)	7 (70.00)	1 (33.33)	2 (66.67)	-	-	3 (100.00)	-	-	-
Un-Registered	1 (10.00)	9 (90.00)	-	-	1	-	1 (100.00)	-	-	-
All units	124 (24.46)	383 (73.54)	78 (62.90)	40 (32.26)	6 (4.84)	-	114 (91.94)	6 (4.84)	3 (2.42)	1 (0.81)
Registered	104 (50.73)	146 (49.27)	76 (73.08)	25 (24.04)	3(2.88)	-	94 (90.38)	6(5.76)	3 (2.88)	1 (0.96)
Un-Registered	20 (7.78)	237 (92.22)	2 (10.00)	15 (75.00)	3 (15.00)	-	20 (100.00)	-	-	-

Further, looking into the patter in the size of availing financial assistance of agro-industries from different institutions the analysis reflected that a fairly large proportion of over 49 percent units were provided the financial assistance of less than Rs 5 lakh. Among them the proportion of un-organized units accounted as high as 95

percent as against 40 percent among organized units. Another second majority of 24 percent units received the assistance of Rs 5 to 20 lakh while only 21 percent organized units reported to have received above Rs 50 lakh. None of the un-organized units received the financial assistance of above Rs 20 lakh. Among organized units who availed the financial assistance of above Rs 50 lakh were mainly confined in the product groups of grain milling and animal feeds followed by sugar and sugar related food products. In totality term, availment of financial assistance per unit has been estimated at Rs.82.18 lakh which even constituted as larger as Rs 97.62 lakh for organized units as against only Rs. 1.91 lakh for un-organized units. Even, the corresponding figures of financial assistance reported quite high at Rs 189 lakh for organized units engaged in manufacturing of sugar and sugar based products.

The study further pointed out that as the consequences of lacking initiatives from the part of Government owned financial institutions in offering financial assistance to agro -industries for different purposes and increasing involvement of commercial banks in this context the agro- units has been bearing a very high production cost by way of paying a very high rate of interest against the financial assistance received from the latter sources. Due to a very high proportion of units availing financial facility from the commercial banks the average rate of interest claimed by different financial institutions together has been noted nearly 12 percent per annum. Even, the units involved in manufacturing of vegetables, animal oils and fats were noted paying a rate of interest of above 13 percent per annum. In terms of the terms of repayment of financial assistance the study found that average duration of repayment noted only the duration of 2.75 years. However it varied significantly for units engaged in manufacturing of different agro-products; accounting a highest duration of 5.50 years for units in the product line of distilling, rectifying and blending of spirits to lowest duration of 3.82 years for units engaged in manufacturing of sugar and sugar related products.

Table-8.3
Distribution of Units by Amount of Financial Assistance

Product Group	Amount of financial assistance (Rs in lakh.)						
	<5	5-20	20-30	30-50	50+	Total	Amounts per unit
Manufacture of vegetables, animals oils and fats	4 (57.14)	2 (28.57)	-	-	1 (14.29)	7 (100.00)	26.48
Registered	4 (57.14)	2 (28.57)	-	-	1 (14.29)	7 (100.00)	26.48
Un-Registered	-	-	-	-	-	-	-
Manufacture of dairy products	-	-	-	-	-	-	-
Registered	-	-	-	-	-	-	-
Un-Registered	-	-	-	-	-	-	-
Manufacture of grain mill products and animals feeds	26 (41.93)	15 (24.19)	3 (4.84)	4 (6.45)	14 (22.58)	62 (100.00)	42.09
Registered	19 (34.55)	15 (27.27)	3 (5.45)	4 (7.27)	14 (25.45)	55 (100.00)	47.37
Un-Registered	7 (100.00)	-	-	-	-	7 (100.00)	0.61
Manufacture of sugar and other food items	28 (54.90)	12 (23.53)	4 (7.84)	-	7 (13.73)	51 (100.00)	144.83
Registered	17 (53.59)	11 (28.21)	4 (10.27)	-	7 (17.95)	39 (100.00)	188.56
Un-Registered	11 (91.67)	1 (8.33)	-	-	-	12 (100.00)	2.71
Distilling rectifying and blending of Spirits	3 (75.00)	1 (25.00)	-	-	-	4 (100.00)	2.40
Registered	2 (66.67)	1 (33.33)	-	-	-	3 (100.00)	2.70
Un-Registered	1 (100.00)	-	-	-	-	1 (100.00)	1.50
All units	61 (49.19)	30 (24.19)	7 (5.65)	4 (3.23)	22 (17.74)	124 (100.00)	82.18
Registered	42 (40.38)	29 (27.88)	7 (6.73)	4 (3.85)	22 (21.15)	104 (100.00)	97.62
Un-Registered	19 (95.00)	1 (5.00)	-	-	-	20 (100.00)	1.91

Table-8.4

Terms and Conditions of Repayments of Financial Assistances

Product Group	Interest rate (percentage)				Duration of repayment (year)			
	0-5	5-10	10+	Average rate of Interest	0-5	5-10	10+	Average duration of repayment
Manufacture of vegetables, animals oils and fats	-	-	7 (100.00)	13.07	5 (71.43)	2 (28.57)	-	4.43
Registered	-	-	7 (100.00)	13.07	5 (71.43)	2 (28.57)	-	4.43
Un-Registered	-	-	-	-	-	-	-	-
Manufacture of dairy products	-	-	-	-	-	-	-	-
Registered	-	-	-	-	-	-	-	-
Un-Registered	-	-	-	-	-	-	-	-
Manufacture of grain mill products and animals feeds	1 (1.61)	10 (16.13)	51 (82.26)	11.69	58 (93.55)	4 (6.45)	-	3.82
Registered	1 (1.82)	7 (12.73)	47 (85.45)	11.87	51 (92.73)	4 (7.27)	-	3.84
Un-Registered	-	3 (42.86)	4 (57.14)	10.29	7 (100.00)	-	-	3.71
Manufacture of sugar and other food items	-	15 (29.41)	36 (70.59)	11.27	41 (80.39)	10 (19.61)	-	5.22
Registered	-	7 (17.94)	32 (82.05)	11.97	30 (76.92)	9 (23.08)	-	6.21
Un-Registered	-	8 (66.67)	4 (33.33)	9.00	11 (91.67)	1 (8.33)	-	2.00
Distilling rectifying and blending of Spirits	-	-	4 (100.00)	12.50	3 (75.00)	1 (25.00)	-	5.50
Registered	-	-	3 (100.00)	12.33	2 (75.00)	1 (25.00)	-	5.67
Un-Registered	-	-	1 (100.00)	13.0	1 (100.00)	-	-	5.00
All units	1 (0.81)	25 (20.16)	98 (79.03)	11.62	107 (86.29)	17 (13.71)	-	4.48
Registered	1 (0.96)	14 (13.46)	89 (85.58)	12.00	88 (84.62)	16 (15.38)	-	4.82
Un-Registered	-	11 (55.00)	9 (45.00)	9.65	19 (95.00)	1 (5.00)	-	2.75

8.5. Impact of incentives and financing agro-industries; The impact of incentives and financial assistances could be seen both in terms of the immediate benefit that

beneficiary units get and the ultimate result they have in terms of expansion in capital investment, capacity, output and employment. The study have, therefore, attempted in this part first a measure of the contribution of financial incentives to the capital resources of the units, and then a comparative analysis of the growth of beneficiary units and those not having availed any incentive. In addition the general perceptions of the entrepreneurs in matters of benefits derived about cost reduction, better prices higher sale and helped in other matters after availing different financial incentives. The analysis has been limited to a smaller number of units than the total number of sample units. The reason is that most subsidies and incentives have been withdrawn in the state. So the number of units availed any kind of financial assistance from any sources could be covered in the sample were only 124.

The expectations are that the industrial activities should realize some extent of favorable changes in different manners after getting the benefits of certain financial assistance. In light of these assumptions the study incorporated the perceptions of beneficial entrepreneurs of financial assistances about the extent to which the concerned assistance had befitted their unit. In this regard the findings of the study have been that the perception of a very large proportion of nearly 77 percent entrepreneurs were that they did not realized any favourable out come of the availed financial assistance in any way. Only a little over 10 percent and 8 percent entrepreneurs had the perceptions that it did help in reduction in fixed cost of production and making liquidity available at low cost. However, the help of financial assistance in former aspects has been more number of un-organized units than the organized units. But the proportion of entrepreneurs who realized a favourable impact of financial assistance in reduction of fixed cost of production was same from both the categories of units. Other 3 percent and 2 percent entrepreneurs had the perception that it helped in reduction in current cost of production and realization of availability of essential inputs.

In terms of benefits derived after getting financial assistance, the perception of a majority of 58 percent of entrepreneurs, consisting 45 percent un-organized and 61 percent organized units were that it had not benefitted them in any matter. However, nearly 27 percent entrepreneurs had realized its benefits in increasing the size of employment. Though, such units accounted relatively higher at 45 percent in un-

organized sector as against 23 percent in organized sector. Another, second majority of 24 entrepreneurs had

Table-8.5

Perceptions of Entrepreneurs Regarding the Manners the Financial Assistance were Helpful

Categories of units	Ways of helpful of financial assistance							
	Making liquidity available at low or no cost	Reduction in fixed cost of production	Ability to sale at competitive prices due to non-application of indirect tax	Reduction in current cost of production	Realization of remarkable prices with liquid profit margin	Realization of availability of essential inputs	No helped	All units
Organized	7 (6.73)	11 (10.58)	-	3 (2.88)	-	2 (1.92)	81 (77.88)	104 (100.00)
Un-organized	3 (15.00)	2 (10.00)	-	1 (5.00)	-	-	14 (78.00)	20 (100.00)
Total Units	10 (8.06)	13 (10.48)	-	4 (3.22)	-	2 (1.61)	95 (76.61)	124 (100.00)

Table-8.6

Perceptions of Entrepreneurs about the Benefits of Financial Assistance

Categories of units	Components of Befits						
	Cost reduction	Better prices Higher sale	Increase in production	Increase in employment	Would have started unit even without financial assistance	No benefits	All units
Organized	13 (12.50)	2(1.92)	21(20.19)	24(23.08)	19(18.27)	63(60.58)	104(100.00)
Un-organized	3(15.00)	-	8(40.00)	9(45.00)	11(55.00)	9(45.00)	20(100.00)
Total Units	16(12.90)	2(1.61)	29(23.39)	33(26.61)	30(24.19)	72(58.06)	124(100.00)

found its outcome in increasing the volume of output while 24 percent entrepreneurs had the understanding that they would have started unit even without receiving financial assistance.

Lastly the direct impact of financial assistance has been examined in achieving the increasing trend in value of fixed and productive capital, size of output, cost of

production, employment and productivity of workers during the periods 2005 to 2011. In this context, an exercise has been carried to measure the differences emerging in matters of all theses parameters between beneficial and non beneficial units of different financial assistances. Thus, the study found that the beneficiary units of different financial assistance have been achieving relatively higher rate of growth than the non-beneficiary units in size of capital, productive capital output, employment and value addition over the years. Even, the size of output per worker has been noted remarkable in beneficiary units than in non-beneficiary units during both the years of 2005 and 2011.

Table-8.7

Direct impact of financial assistance

Categories of units	Growth trends during 2005 to 2011						Output per worker (000 Rs)		Net income per worker (000Rs)	
	Fixed capital	Productive capital	Size of output	Cost of production	Employ ment	Net value added	2005	2011	2005	2011
Units who availed financial assistance	49.70	181.98	72.47	44.24	22.00	11.06	7.33	10.76	0.11	0.90
Units who had not availed financial assistance	37.95	(-)96.36	31.00	81.24	16.34	9.26	1.88	2.36	0.15	0.13
Total Units	49.00	59.32	66.36	74.68	19.43	10.80	4.85	6.72	0.71	0.07

It may also be pointed out that providing financial assistance in any form has been positively enhancing both over all size of output and income per worker. As the growth in value of gross output per worker as well net income per worker for units who availed financial assistance has been found relatively higher as compared to units those had not availed any financial assistance. Even, the net income per worker for latter category of units has declined from Rs 0.15 thousand to Rs.0.13 thousand as against the increase from Rs 0.11 thousand to Rs 0.90 for former category of units.

CHAPTER-IX

CONTRIBUTION IN INCOME AND EMPLOYMENT OF FARMERS

Identification of location for establishment of industry is determined by several factors. Among them, accessibility situation of different required raw material contribute a remarkable role in attracting entrepreneurs to make their decision for establishing particular raw material based industry in that location. On the other hand, establishment of units in adjoining raw material producing areas is expected to contribute positively in enhancing employment opportunities and additional income for surrounding households by way of supply of require raw materials to the industries on a regular basis. In addition, the farmers are expected to undertake diversification in their farming system though maximizing available land in cultivation of such commercial crops which are required by industries for its processing. Thus the general perceptions are that this whole process ultimately increases the possibility of generation of additional income and employment opportunities of farm households located in surrounding of the location of particular industry. Keeping into consideration to theses perceptions the study further attempted to examine the extent to which the local farm households have been deriving the benefit of employment and income by way of establishment of agro- industries in surrounding areas of their villages. This exercise is based on a sample of 1080 farm households consisting 720 diversified and 360 non-diversified farm households selected from each of the 18 sample districts selected for the study.

9.1. Socio-economic background of farm households: Th**e** sample farm households were mainly headed by the male members but this proportion of households varied across the size of farms. Average size of family of different categories of farm households together consisted for 6.14 members and average age of the owners of farms was 45.20 years. Distribution of diversified and non-diversified farm households according to the size categories of farm revealed that a fairly high proportion of nearly 87 percent non- diversified farm households as against only 2 percent diversified farm households were confined in the lowest farm group of below 2.5 acres. This shows the fact that availability of very small size of cultivated land with farm households has been restricting them for undertaking diversification in their farming system. The farmers having larger size of farm holdings have the advantages

of using their available land under different cropping options. Hence a majority of them were initiating the practices of diverse farming systems on their arable land.

Table 9.1

Sex composition, average size of family and the average age of farm owner by size of land holding

Land Holding Size(Acers)	Sex			Average age	Average size of family	Category of farm households		
	Male	Female	Total			Diversified	Undiversified	Total
0-2.5	318 (96.36)	12 (3.64)	330 (100.00)	46.21	5.83	17 (5.15)	313 (94.85)	330 (100.00)
2.5-5.0	348 (98.86)	4 (1.14)	352 (100.00)	44.34	5.97	308 (87.50)	44 (12.50)	352 (100.00)
5.0-10.00	299 (98.36)	5 (1.64)	304 (100.00)	46.41	6.35	303 (99.67)	1 (0.33)	304 (100.00)
<10	89 (94.68)	5 (5.32)	94 (100.00)	42.10	7.19	92 (97.87)	2 (2.13)	94 (100.00)
Total	1054 (97.59)	26 (2.41)	1080 (100.00)	45.20	6.14	720 (66.67)	360 (33.33)	1080 (100.00)

Looking into the educational status of the head of farm households across different size categories of farms it was found that a highest proportion of 38 percent closely followed by 31 percent had secondary and elementary level of education. Even a little over 1 percent of farmers owning relatively larger farms had professional education. This indicates that a sufficient proportion of farmers were well educated while only 15 percent farmers mainly who owned small size of below 2.5 acres of holding were illiterate.

Further, distribution of different categories of farm households according to their principle occupation revealed that an overwhelming majority of 96 percent had agriculture as their principle occupation. Even such categories of households were as larger as 98 percent among those had 2.5 to 5.0 acres of land. While only 4 percent

Table 9.2

Distribution of Farmers by Level of Education

Land Holding Size (Acrs)	Level of Education					
	Illiterate	Elementary	Secondary	Graduates	Technical / Professional	Total
0-2.5	67 (20.30)	132 (40.00)	107 (32.42)	24 (7.27)	0	330 (100.00)
2.5-5.0	44 (12.50)	95 (26.99)	157 (44.60)	50 (14.20)	6 (1.70)	352 (100.00)
5.0-10.00	41 (13.49)	83 (27.30)	110 (36.18)	64 (21.05)	6 (1.97)	304 (100.00)
<10	9 (9.57)	26 (27.66)	33 (35.11)	25 (26.60)	1 (1.06)	94 (100.00)
Total	161 (14.91)	336 (31.11)	407 (37.69)	163 (15.09)	13 (1.20)	1080 (100.00)

households owing less than 2.5 acres of land reported to have labour work as their principle occupation. Average size of cultivated land per farm household accounted only 3.26 acres. The same was relatively much higher to 3.91 acres for diversified farm households as against 1.95 acres for un-diversified farm households. It was further pointed out that the diversified farm households have been leasing out a sizeable cultivated land to other farmers also. At the same time both the categories of farm households were reported using leased in land from other farmers for cultivation of crops. Average size of land owned per farm household was 3.34 acres which accounted almost double for diversified households in compression to non-diversified households.

Further, looking into the contribution of different sources in the total income of farm households, the analysis depicted that the share of income generated from agricultural activities was as high as 72 percent and its contribution was almost same for both the categories of households. Wages earned through wage paid employment has been reported as the second most source of income in both the groups of households. However

Table 9.3
Distribution of households by their main occupation

Land Holding Size(Acrs)	Agriculture	Labour	Trade and Business	Services	All households
0-2.5	301(91.21)	12(3.64)	9(2.73)	8(2.42)	330(100.00)
2.5-5.0	345(98.01)	0	2(0.57)	5(1.42)	352(100.00)
5.0-10.00	296(97.37)	0	3(0.99)	5(1.64)	304(100.00)
<10	91(96.81)	0	1(1.06)	2(2.13)	94(100.00)
Total	1033(95.85)	12(1.11)	15(1.39)	20(1.85)	1080(100.00)

Table 9.4

Cultivated size of Land holding per households

(in acres)

Land Ownership	Diversified	Un-diversified	Total
Cultivated area	3.91	1.95	3.26
Leased in	0.05	0.01	0.03
Leased out	0.17	-	0.11
Owned land	4.03	1.94	3.34

its contribution was seen relatively higher in non- diversified farm households than in diversified farm households. On the other hand the gross income per household was depicted remarkably higher in diversified farm households than in case of un-diversified farm households. This depicted that the economic condition of former groups of households is sounder than the latter groups of households.

Table 9.5

Family Income per House-hold by its Sources

(in Rs per household)

Sources	Diversified Households	Un-Diversified Households	All households
Agriculture	167339(72.16)	127671(71.09)	154116(71.86)
Livestock	21962 (9.45)	14616 (8.14)	19513 (9.10)
Rent	2948 (1.27)	28 (0.02)	1975 (0.92)
Remittances	1340 (0.58)	1586 (0.88)	1422 (0.66)
Household Industry/Business	7457 (3.21)	6473 (3.60)	7129 (3.32)
Wages and Salary	22769 (9.82)	25831 (14.38)	23790 (11.09)
Interest	2911 (1.26)	655 (0.36)	2159 (1.01)
Others	5187 (2.24)	2732 (1.52)	4369 (2.04)
Total	231913 (100.00)	179592 (100.00)	214473 (100.00)

9.2. Structure and disposal of farm output and animal produces. All the sample diversified farm households have been selling at least some part of their farm produces through different marketing channels. However such has not been seen in case of most of the non-diversified households. The facts were that the non-diversified households were reported engaged in cultivation of traditional food crops and only a small part of it was being directly sold to the consumers. On the other hand the diversified farm households were involved in cultivation of both high value commercial crops for its market purposes and traditional food crops both for self consumption and selling it in the market or under different marketing channels.

Altogether, the value of output different farm produces per household constituted at Rs 199 thousand. Its largest part of over 77 percent was sold out by the farm households. The share of self consumption accounted for nearly 16 percent of the gross value of farm output. A look at the pattern of sale of different farm produces was concerned the study found that in the gross value of output the proportionate sale of both floriculture and fruits was as larger at over 95 percent followed by 93 percent for vegetables and spices and 86 percent other commercial crops like sugarcane. In terms of traditional crops the farmers were generating highest surplus for 70 percent in case of cereals followed by 68 percent of pulses and 59 percent of oilseeds for its selling it in the market.

Table 9.6

Value of Output per household and its Disposal

(value in Rs.)

Crops	Area	Output	Self consumption	Sale	Kept as a seed	Wastage
Cereals	6.53	91324(100.00)	23782(26.04)	63535(69.57)	2423(2.65)	1584(1.73)
Pulses	0.46	8072(100.00)	2254(27.92)	5514(68.31)	231(2.86)	72(0.89)
Oilseeds	0.43	6687(100.00)	2708(40.50)	3951(59.08)	17(0.25)	10(0.15)
Commercial .crops	1.75	80231(100.00)	2430(3.03)	69037(86.05)	7997(9.95)	767(0.95)
Veg/Spices	0.17	10530(100.00)	213(2.02)	9828(93.33)	265(2.52)	225(2.14)
Fruits	0.07	2382(100.00)	87(3.65)	2272(95.38)	-	23(0.97)
Floriculture	0.01	110(100.00)	3(2.73)	105(95.450	-	2(1.82)
Total	8.79	199335(100.00)	31477(15.79)	154243(77.38)	10933(5.48)	2683(1.34)

Similarly, annual value of output of animal produce per household accounted Rs. 32.88 thousand which by and large varied according to the size categories of households. A sizeable proportion of nearly 47 percent of output was being sold by the farm households in the market though different arrangements. However, this proportionate share of output sold varied highest from 51 percent for largest size of farm households to lowest of 41 percent of middle category of farm households.

Table 9.7

Value of Animal produces per households and its utilisation under different options

(value in Rs.)

Land Holding Size	Output	Self consumed	Sale
<2.5	28311(100.00)	15133(53.45)	13178(46.55)
2.5-5.0	13568(100.00)	6126(45.15)	7442(54.85)
5.0-10.00	49969(100.00)	29612(59.26)	20357(40.74)
10+	65961(100.00)	30011(45.50)	35950(54.50)
Total	32879(100.00)	17568(53.43)	15311(46.57)

9.3. Benefits in using land under different options: Value of net returns after deducting the cost of production per acre together of all crops has been estimated at nearly Rs.13 thousand which varied highest at Rs.39 thousand for vegetables/ spices to lowest at Rs. 8 thousand for cereals. On the other hand, per hectare returns in growing different crops accounted relatively much higher for diversified households as compared to non- diversified households accounting for Rs. 13 thousand and Rs 8 thousands respectively because the former groups were selling a larger part of their different agricultural produces than the latter groups of farmers in the market.

Table 9.8

Value of Net Return per Acre under different cropping systems

(value in Rs.)

Crops	Diversified household	Undiversified household	Percent differences of diversifies over non-diversified households	Total per household
Cereals	8593	7609	12.93	8437
Pulses	10189	10188	0.01	10189
Oilseeds	9716	7889	23.16	9600
Commercial .crops	26952	23880	12.86	26831
Veg/Spices	38911	34741	12.00	38821
Fruits	19814	-	0.00	19814
Floriculture	10061	-	0.00	10061
All crops	13159	8718	50.94	12618

9.4. Marketing linkages for selling farm and animal produces: The value of per household sale of different agricultural produces together was estimated at Rs 15.42 lakh which varied between Rs. 69 lakh for commercial crops to Rs 105 for floriculture. The farming communities were selling their produces mainly to contractors, processers and directly in the regulated markets. The supply of a highest proportion of 35 percent agricultural produces was carried out directly to the processing units followed by 32 percent to the contractors and 30 percent directly in the markets. Its supply to Government and Co-operative societies together accounted only nearly 3 percent. It was also depicted that the commercials crops were largely being purchased by the processers while the fruits are procured by the pre-harvest contractors from the farmers and largest proportion of vegetables and oilseed were directly sold out directly in the markets.

Table 9.9

Sale of Farm Produce by channel of marketing

(Value in Rs. Lakh)

Crops	Contractor	Govt Agencies	Co-operative	Processor	Direct in market	Total	Per household (in Rs.)
Cereals	293.58 (42.79)	6.40 (0.93)	36.70 (5.35)	83.29 (12.14)	266.20 (38.79)	686.18 (100.00)	63535
Pulses	26.09 (43.82)	0.39 (0.66)	-	0.19 (0.32)	32.87 (55.20)	59.55 (100.00)	5514
Oilseeds	19.70 (46.17)	-	-	2.81 (6.59)	20.15 (47.24)	42.67 (100.00)	3951
Commercial crops	134.30 (18.01)	1.02 (0.14)	1.60 (0.21)	492.07 (66.00)	116.59 (15.64)	745.59 (100.00)	69037
Veg/Spices	44.93 (42.34)	0.42 (0.40)	-	4.37 (4.12)	56.40 (53.14)	106.14 (100.00)	9828
Fruits	16.92 (68.99)	-	-	6.42 (26.18)	1.18 (4.83)	24.53 (100.00)	2272
Floriculture	0.43 (38.29)	-	-	0.30 (27.10)	0.39 (34.61)	1.13 (100.00)	105
Total	535.98 (32.18)	8.24 (0.49)	38.30 (2.30)	589.47 (35.39)	493.81 (29.64)	1665.82 (100.00)	154243

In terms of the marketing pattern of animal produces, per household sale was also quite remarkable at Rs. 15 thousand. However, different animal produces like milk, ghee, khoya and cream are mainly being sold in the markets to its consumers and retailers directly.

Table 9.10

Sale of Animal Produce by channel of marketing

(Value in Rs.)

Households	Wholesalers	Agent	Co-operative	Processors	Others	Total
Total	84820	259200	-	36000	16156705	16536725
Per HH	78.54 (0.51)	240 (1.57)	-	33.33 (0.22)	14959.92 (97.70)	15311.78 (100.00)

Marketing of different agricultural produces was carried out both under the systems of pre-harvest arrangement and un-arrangement basis of sale. A part of produces were also being sold at the farm sites itself and directly to the wholesales. However, the proportion of farmers who have made the arrangement of selling their produces at the sites of farm during its harvesting seasons accounted highest at 35 percent farmers. The proportions of such farmers were positively related with the size category of land holdings. The produces of a second majority of 31 percent farmers, mainly larger farmers owned above 5 acres lands were sold on un-arranged basis in the markets. Another, 23 percent farmers, mainly small and marginal farmers were selling their produces though other sources like to the consumers and retailers. Pre-harvest arrangement for marketing agricultural produces was made largely by larger farmers owing above 10 acres of land holdings.

Table 9.11

Type of marketing Arrangement of households in selling farm produces*

Size of holdings	Pre-harvest arrangement	Sale from farm	Un-arranged sale in market	Others	Total
<2.5	9 (2.58)	149 (42.69)	47 (13.47)	144 (41.26)	349 (100.00)
2.5-5.0	62 (11.38)	182 (33.39)	181 (33.21)	120 (22.02)	545 (100.00)
5.0-10.00	96 (17.97)	152 (28.46)	208 (38.95)	78 (14.62)	534 (100.00)
10>	41 (23.30)	55 (31.25)	60 (34.09)	20 (11.36)	176 (100.00)
Total	208 (12.97)	538 (33.54)	496 (30.92)	362 (22.57)	1604 (100.00)

* Multiple responses

Enquiring from sample farmers regarding the pattern of payments of produces the study revealed that a large proportion of nearly 83 percent farmers were paid their dues timely. Even, such farmers were as higher 97 percent among small and marginal farmers and their proportions negatively follows according to the size category of farm reaching lower at 72 percent among largest category of farmers.

Table 9.12

Timely payment of produces by its purchasing agencies

Size of holdings	YES	NO	TOTAL
<2.5	319 (96.67)	11 (3.33)	330 (100.00)
2.5-5.0	283 (80.40)	69 (19.60)	352 (100.00)
5.0-10.00	226 (74.34)	78 (25.66)	304 (100.00)
10>	68 (72.34)	26 (27.66)	94 (100.00)
Total	896 (82.97)	184 (17.03)	1080 (100.00)

Directly selling to processers was noted as the most preferable arrangement for a highest proportion of 45 percent farmers and the proportion of farmers preferring selling to processors were positively increasing according to increase of farm sizes. Sale of produces to the others was being preferred by a second majority of 41 percent farmers especially by small and marginal farmers. Only a lowest proportion of 4 percent farmers preferred to sale wholesalers.

However, it indicated that a majority of 61 percent farmers were satisfied with the kind of marketing arrangements they have presently adopted for disposal of their produces. But, the proportion of farmers facing different problems in selling their produces accounted highest among having larger size of farms of above 5 acres.

Table 9.13

Problems facing in selling farm produces

Size	YES	NO	Total
<2.5	45 (13.64)	285 (86.36)	330 (100.00)
2.5-5.0	166 (47.16)	186 (52.84)	352 (100.00)
5.0-10.00	155 (50.99)	149 (49.01)	304 (100.00)
10>	52 (55.32)	42 (44.68)	94 (100.00)
Total	418 (38.70)	662 (61.30)	1080 (100.00)

Non availability of adequate prices in selling their produces was noted as the main problem by a fairly large proportion of 72 percent farmers**.** Even the proportion of such farmers accounted as higher as 83 percent who owned large farms of above 10 acres. Second major problem of 35 percent farmers was related to inadequate demand of their produces in the markets. The problem of transportation for carrying out produces from villages to different destinations of marketing centers was reported by another 22 percent farmers those were largely confined in lowest sizes of farms.

Table 9.14

Type of problems facing in selling farm produces

Size of holdings	Inadequate demand	Inadequate prices	Competition	Transportation	Others	Total
<2.5	5 (11.11)	34 (75.56)	2 (4.44)	17 (37.78)	0	45 (100.00)
2.5-5.0	59 (35.54)	111 (66.87)	21 (12.65)	19 (11.45)	7 (4.22)	166 (100.00)
5.0-10.00	65 (41.94)	113 (72.90)	10 (6.45)	15 (9.68)	6 (3.87)	155 (100.00)
10>	18 (34.62)	43 (82.69)	7 (13.46)	3 (5.77)	3 (5.77)	52 (100.00)
Total	147 (35.17)	301 (72.01)	40 (9.57)	94 (22.49)	16 (3.83)	418 (100.00)

The perceptions of sample farmers were that the emerging marketing problems can be solved though ensuring realization of better prices for different crops, establishment of procurement centers among the clusters of villages, ensuring fair measurement of

crops while selling to different agencies from the part of the Government. Since, over half of the farmers, mainly larger farm holders suggested for ensuring payment of better prices of their props could possibly attract the farmers for initiating cultivation of high value

Table 9.15

Suggestions of households for solving problems facing in selling produces

Size of holdings	Govt. Purchase centre in village	Measurement should be fair	Ensure better prices for crop	Receipt should be provide	Transportation facility should be provided	Govt. should purchase crop	others	Total
<2.5	17 (37.78)	15 (33.33)	16 (35.56)	2 (4.44)	10 (22.22)	5 (11.11)	3 (6.67)	45 (100.00
2.5-5.0	48 (28.92)	59 (35.54)	76 (45.78)	39 (23.49)	15 (9.04)	16 (9.64)	32 (19.28)	166 (100.00
5.0-10.00	32 (20.65)	45 (29.03)	86 (55.48)	39 (25.16)	14 (9.03)	14 (9.03)	40 (25.81)	155 (100.00
10>	10 (19.23)	24 (46.15)	32 (61.54)	13 (25.00)	5 (9.62)	2 (3.85)	7 (13.46)	52 (100.00
Total	107 (25.60)	143 (34.21)	210 (50.24)	93 (22.25)	44 (10.53)	37 (8.85)	82 (19.62)	418 (100.00

crops for its marketing. This attempt can be solve through fixation of market prices of every commercial crops on the pattern of sugarcane before its harvesting every year. Another one third of farmers suggested that Government should provide the facility for weight and measurement at the points of selling their produces as different purchasing agencies adopt wrong practices in measurement of their produces at its marketing.

Impact of farm diversification in creation income and employment opportunities: The hypothesis could be drawn that the farming households living surrounding areas of agro-processing industries and those have advantages of well marketing network for selling agro-products will certainly receive the advantages in increasing their income and employment opportunities. In this context the study found that the diversified farmers have been mainly reaping greater opportunities than the non-diversified farmers in terms deriving higher income through supplying different agro-produces to the processers. It has been indicated by the fact that direct impact of supply of agricultural produces to the processors has been increasing at least some income for 86 percent diversified farmers as

Table 9.16

Distribution of farm households by Increase in net Income per household

Increase in HH Income (in Percentage)	Diversified	Un-Diversified	Total
Nil	100 (13.89)	341 (94.72)	441 (40.83)
<5	159 (22.08)	15 (4.17)	174 (16.12)
5-10	328 (45.56)	1 (0.28)	329 (30.46)
10-20	122 (16.94)	3 (0.83)	125 (11.57)
20+	11 (1.53)	0	11 (1.02)
Total	720 (100.00)	360 (100.00)	1080 (100.00)

against only 15 percent un-diversified farmers because the latter groups of farmers were largely involved in cultivation of traditional food crops while the former groups of farmers were growing both traditional and commercial crops but, largely latter crops. However, its impact in increasing income was found largely gone in favor of medium farm category of diversified farmers and least to highest farm category of diversified farmers. Thus, the whole analysis reflected that undertaking diversification in cropping system and its supply to processes positively enhance the income of farm households.

In terms of creating the opportunities of employment it revealed that the farming was generally undertaken though employing family unpaid workforce while only the larger farmers were employing both family workforce and hired workforce. The share of hired workforce in total workers accounted 72 percent but the same was over 75 percent for diversified farms as against 55 percent for undiversified farms. On the other hand, the proportion of hired workers in total workers reflected highest at 87 percent in growing of

Table-9.17
Structure of maydays Employment under different cropping systems

	Diversified			Un-diversified			Total		
Item	Total Employment	Hired workers	Man days employment	Total Employment	Hired workers	Man days	Total Employment	Hired workers	Man days employment
Food/non food crops	7739 (100.00)	6116 (79.03)	293614	2053 (100.00)	1303 (63.47)	119616	9792 (100.00)	7419 (75.77)	413230
Comm. Crop	6275 (100.00)	5144 (81.98)	162897	531 (100.00)	344 (64.78)	21975	6806 (100.00)	5488 (80.63)	184872
Vegetables	950 (100.00)	706 (74.32)	26887	17 (100.00)	10 (58.82)	976	967 (100.00)	716 (74.04)	27863
Fruits	240 (100.00)	208 (86.67)	3567	4 (100.00)	4 (100.00)	40	244 (100.00)	212 (86.89)	3607
Animal husbandry	962 (100.00)	10 (1.04)	280279	426 (100.00)	0	122577	1388 (100.00)	10 (0.72)	402856
Floriculture	13 (100.00)	5 (38.46)	140	0	0	0	13 (100.00)	5 (38.46)	140
Total	16179 (100.00)	12189 (75.34)	767384	3031 (100.00)	1661 (54.80)	265184	19210 (100.00)	13850 (72..10)	1032568

fruits followed by 74 percent in growing of vegetables, indicating that using available in cultivation of fruits and vegetable will prove an important measures for creation of additional employment. Since, the short supply of family workforce has been requiring farm households to employ hired workforce to meet out additional demand of farming work.Impact of supply of agro produces directly or indirectly to the processing industries has been estimated in matters of increase in size of man day's employment. The analysis in this context revealed that 42 percent farm households comprising 95 percent non-diversified and 17 diversified farm households were not supplying any agri produced to

Table 9.18

Distribution of farm households by Increase in man days Employment per households

Increase in Employment (in days)	Diversified	Un-Diversified	Total
Nil	121 (16.81)	341 (94.72)	462 (42.78)
<5	5 (0.69)	2 (0.56)	7 (0.65)
5-10	10 (1.39)	1 (0.28)	11 (1.02)
10-20	90 (12.50)	0	90 (8.33)
20+	494 (68.61)	16 (4.44)	510 (47.22)
Total	720 (100.00)	360 (100.00)	1080 (100.00)

the processors. As a result of supply of agricultural produces to the processers, the increase in employment of diversified farmers has been to the extent of 69 percent for larger farmers followed 13 percent for farmers owned 10 to 20 acres lands while it has increased lowest at 0.69 percent for farmers owned below 5 acres of land sizes.

Impact of establishment of agro-processing in nearby areas of sample villages and the supply of agricultural produces to concerned units has also increasingly motivated to the farmers towards changing their farming system by way of shifting land from the cultivation of traditional food crops to the commercial crops as per the requirement of located agro-industries nearby villages. It has been depicted that there has been an increase in area of 542.50 acres under high value crops together for 39 diversified farm households and 2 percent non-diversified households during the last ten years.

Table 9.19

Increase in area under high value crops of households during last 10 years

Verification	Diversified	Un-Diversified	Total
YES	281 (39.03)	6 (1.67)	287 (26.57)
NO	439 (60.97)	354 (98.33)	793 (73.43)
Total	720 (100.00)	360 (100.00)	1080 (100.00)
If yes total area(acre)	539.50	3.00	542.50

CHAPTER-X

PROBLEMS AND PESEPECTIVES OF DEVELOPMENT

The analysis presented in earlier chapter had demonstrated the fact the agro-industries confined in both organized as well as un-organized segments were facing variety of problems in procurement of raw materials from different sources and marketing of final products under various channels. In continuation of these visualized facts the study has further tried to understand the future perspectives of expansion of agro industries in the state. In this context the study has incorporated the perception of the entrepreneurs of different categories and product groups of agro industries. In addition the study also analyses the perception of entrepreneurs regarding issues related to future planning for undertaking further expansion and diversification in their present units.

10.1. Future Expansion Plans of Entrepreneurs: In this manner the study indicated that a sizeable proportion of little over 40 percent entrepreneurs of different agro-industries were planning for undertaking expansion in their unit by one matter or the other. Among them, the proportions of entrepreneursengaged in organized units were higher at 56 percent as against 25 percent entrepreneurs of un-organized units. However, the proportion of entrepreneurs planning expansion in their units accounted as higher as 61 percent among those were engaged in organized units of manufacturing of grain mill products and animal feeds and lowest at 23 percent those were engaged in un-organized units manufacturing sugar and sugar related products.

The nature of expansion in a highest majority of 25 percent units closely followed by in 23 percent units would be carried out though installation of additional machinery and carrying out product specific diversification respectively. Even the proportion of entrepreneurs planning installation of additional machines and product specific diversification in their units were noted as higher as 31 percent and 25 percent respectively from un-organized sector. In all, it is expected that the additional installation of machines would be in both organized and un-organized units engaged in manufacturing of vegetables, animal oils and facts and un-organized units of grain

Table 10.1

Future plan of entrepreneurs for making expansion of the unit

Product group	Planning expansion	Not Planning expansion	All unit
Manufacture of vegetables, animals oils	18(40.91)	26(59.09)	44(100.00)
Registered	11(47.83)	12(52.17)	23(100.00)
Un-Registered	7(33.33)	14(66.67)	21(100.00)
Manufacture of dairy products	5(26.32)	14(73.68)	19(100.00)
Registered	3(33.33)	6(66.67)	9(100.00)
Un-Registered	2(20.00)	8(80.00)	10(100.00)
Manufacture of grain mill products and	96(44.44)	120(55.56)	216(100.00)
Registered	64((60.95)	41(29.05)	105(100.00)
Un-Registered	32(28.83)	79(71.17)	111(100.00)
Manufacture of sugar and other food items	80(38.46)	128(61.54)	208(100.00)
Registered	56(54.37)	47(45.63)	103(100.00)
Un-Registered	24(22.86)	81(77.14)	105(100.00)
Distilling rectifying and blending of Spirits	5(25.00)	15(75.00)	20(100.00)
Registered	5(50.00)	5(50.00)	10(100.00)
Un-Registered	-	10(100.00)	10(100.00)
All units	204(40.24)	303(59.76)	507(100.00)
Registered	139(55.60)	111(44.40)	250(100.00)
Un-Registered	65(25.29)	192(74.71)	257(100.00)

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milling products and animal feeds and organized units of dairy products. At the same time 40 percent of units engaged in dairy products would increase the overall size of production mainly though installation of additional machines, inclusion of new product designs and carrying out product specific diversification (Table-10.2).

10.2. Financial Sources for Expansion: As far the financing for undertaking expansion in industries the financial investment of a large proportion of over 46 percent followed by 25 percent industries would be carried out through borrowings from the commercial banks and friends/ relatives respectively. The proportion of such units was almost same among both un-organized and organized sector. However, the proportion of units who would borrow from banks were as higher as 60 percent in the product group of dairy and

Table 10.2

Distribution of units by Nature of Expansion to be undertaken in the future

Product group	Inclusion of new and additio products nal	Inclusion of new design of products	Carriying product diversificat ion	Additional of machinces	Overall size of production	Expansion in employme nt	All unit
Manufacture of vegetables, animals oils and fats	2 (11.11)	1 (5.56)	3 (16.67)	6 (33.33)	3 (16.67)	3 (16.67)	18 (100.00)
Registered	1 (9.09)	1 (9.09)	1 (9.09)	4 (36.36)	1 (9.09)	3 (27.27)	11 (100.00)
Un-Registered	1 (14.29)	-	2 (28.57)	2 (28.57)	2 (28.57)	-	7 (100.00)
Manufacture of dairy products	-	1 (20.00)	1 (20.00)	1 (20.00)	2 (40.00)	-	5 (100.00)
Registered	-	1 (33.33)	-	1 (33.33)	1 (33.33)	-	3(100.00)
Un-Registered	-	-	1 (10.00)	-	1 (10.00)	-	2(100.00)
Manufacture of grain mill products and animals feeds	13 (13.54)	12 (12.50)	22 (22.92)	28 (29.17)	13 (13.54)	8 (8.33)	96(100.00)
Registered	7 (10.94)	11 (17.19)	16 (25.00)	15 (23.44)	8 (12.50)	7 (10.94)	64(100.00)
Un-Registered	6 (18.75)	1 (3.13)	6 (18.75)	13 (40.63)	5 (15.63)	1 (3.13)	32(100.00)
Manufacture of sugar and other food items	16 (20.00)	10 (12.50)	16 (20.00)	15 (18.75)	14 (17.50)	9 (11.25)	80(100.00)
Registered	11 (19.64)	8 (14.29)	9 (16.07)	10 (17.86)	9 (16.07)	9 (16.07)	56(100.00)
Un-Registered	5 (20.83)	2 (8.33)	7 (29.17)	5 (20.83)	5 (20.83)	-	24(100.00)
Distilling rectifying and blending of Spirits	-	-	4 (80.00)	-	1 (20.00)	-	5(100.00)
Registered	-	-	4 (80.00)	-	1 (20.00)	-	5(100.00)
Un-Registered	-	-	-	-	-	-	-
All units	31 (15.20)	24 (11.76)	46 (22.55)	50 (24.51)	33 (16.18)	20 (9.80)	204(100.00)
Registered	19 (13.66)	21 (15.11)	30 (21.58)	30 (21.58)	20 (14.39)	19 (13.67)	139(100.00)
Un-Registered	12 (18.46)	3 (4.62)	16 (24.62)	20 (30.77)	13 (20.00)	1 (1.54)	65(100.00)

Table 10.3

Sources of finances for carrying out expansion/diversification

Product group	Past savings from unit	Borrowing from banks	Borrowing from friends/relatives	Loan from financial institutions	Capital subsidy by govt or institution	Units planning expansion
Manufacture of vegetables, animals oils and fats	3 (16.67)	8 (44.44)	2 (11.11)	2 (11.11)	2 (11.11)	18 (100.00)
Registered	2 (18.18)	5 (45.45)	1 (9.09)	1 (9.09)	2 (18.18)	11 (100.00)
Un-Registered	1 (14.29)	3 (42.86)	1 (14.29)	1 (14.29)	-	7 (100.00)
Manufacture of dairy products	2 (40.00)	3 (60.00)	2 (40.00)	2 (40.00)	2 (40.00)	5 (100.00)
Registered	1 (33.33)	3 (100.00)	-	2 (66.67)	2 (66.67)	3(100.00)
Un-Registered	1 (50.00)	-	2 (100.00)	-	-	2(100.00)
Manufacture of grain mill products and animals feeds	14 (14.58)	45 (46.88)	17 (17.71)	22 (22.91)	23 (23.96)	96(100.00)
Registered	12 (18.75)	29 (45.31)	9 (14.06)	17 (26.56)	21 (32.81)	64(100.00)
Un-Registered	2 (6.25)	16 (50.00)	8 (25.00)	5 (15.63)	2 (6.25)	32(100.00)
Manufacture of sugar and other food items	14 (17.50)	40 (50.00)	13 (16.25)	25 (31.25)	34 (42.50)	80(100.00)
Registered	9 (16.07)	29 (51.79)	9 (16.07)	22 (39.29)	31 (55.36)	56(100.00)
Un-Registered	5 (20.83)	11 (45.83)	4 (16.67)	3 (12.50)	3 (12.50)	24(100.00)
Distilling rectifying and blending of Spirits	1 (20.00)	2 (40.00)	2 (40.00)	1 (20.00)	3 (60.00)	5(100.00)
Registered	-	2 (40.00)	1 (20.00)	1 (20.00)	3 (60.00)	5(100.00)
Un-Registered	1 (50.00)	-	1 (50.00)	-	-	2(100.00)
All units	34 (6.13)	98 (48.04)	36 (17.65)	52 (25.49)	64 (31.37)	204(100.00)
Registered	24 (17.27)	68 (48.92)	20 (14.39)	43 (30.94)	59 (42.45)	139(100.00)
Un-Registered	10 (15.38)	30 (46.15)	16 (24.62)	9 (13.85)	5 (7.69)	65(100.00)

lowest at 40 percent in distilling, rectifying and blending of spirits. Over, 31 percent industries, largely among organized sectors of units were accepted would avail the facility of capital subsidy from Government and other financial institutions. Among them, the proportion of units accounted highest at 63 percent in distilling, rectifying and blending of spirits followed by 43 in manufacturing of sugar and sugar related products. Past savings from the income of units and borrowings from friends/

relatives would be another option for financing the future expansion in remaining 6 percent and 18 percent units respectively (Table 10.3).

10.3. Emerging Problems in Successful Operation of Industry: Inadequacy in the supply of raw material from different sources and poorly developed marketing facilities have been noted as the two important factor limiting the scope of development of this sector.

Lacking financial facilities for running the units, access to only poor quality of raw materials, shortage of skilled labour have been reported as the other problems emerging in successfully operation of units by 33 percent, 39 percent and 33 percent units respectively. In organized sector, a highest proportion of 55 percent closely followed by 54 percent units were facing the problems of marketing of their produces and inadequate supply of required raw materials respectively. Even a majority of 40 percent and 33 percent units in un-organized sector were also facing the problems in supply of raw materials and marking of their produces respectively. Lacking finances and over interferences of Government officials at local level were emerging as the another factors limiting the properly functioning of both organized and un-organized sectors of agro-industries in the state.

The proportion of units facing the problem of inadequacy in supply of raw materials were reported varied between 68 percent among those engaged in manufacturing of vegetables, animal oils and fats and 5 percent among those engaged in distilling, rectifying and blending of spirits. In matters of units facing marketing problems were highest at 70 percent among distilling, rectifying and blending of spirits followed by 61 percent from manufacturing of vegetables, animal oils and fats and lowest at 39 percent among manufacturing of sugar and sugar related products.

Table 10.4
Factors limiting the development of enterprises

Product group	Inadequate supply of raw material	Availability of poor quality raw material	Lacking finance	Over interference of govt.	Poor marketing facility	Shortage of skilled lab our	others	All unit
Manufacture of vegetables, animals oils and	30 (68.18)	9 (20.45)	22 (50.00)	4 (9.09)	27 (61.36)	13 (29.55)	19 (43.18)	4
Registered	11 (47.83)	5 (21.74)	13 (56.52)	2 (8.70)	15 (65.22)	8 (34.78)	12 (52.17)	23 (100.00)
Un-Registered	14 (66.67)	4 (19.05)	9 (42.86)	1 (4.76)	12 (57.14)	5 (23.81)	7 (33.33)	21 (100.00)
Manufacture of dairy products	10 (52.63)	10	7 (36.84)	1 (5.26)	7	7 (36.84)	6 (31.58)	19 (100.00)
Registered	4 (44.44)	6 (66.67)	5 (55.56)	-	5 (55.56)	5 (55.56)	4 (44.4	9 (100.0
Un-Registered	3 (30.00)	4 (40.00)	2 (20.00)	-	2 (20.00)	2 (20.00)	2 (20.00)	10 (100.00)
Manufacture of grain mill	89 (41.20)	62 (28.70)	79 (36.57)	20 (9.26)	95 (43.98)	87 (40.28)	74 (34.26)	216 (100.00)
Registered	50 (47.62)	40 (38.09)	52 (49.52)	14 (13.33)	62 (59.05)	58 (55.24)	51 (48.57)	105 (100.00)
Un-Registered	39 (35.13)	22 (19.82)	27 (24.32)	6 (5.40)	33 (29.73)	29 (26.12)	23 (20.72)	111 (100.00)
Manufacture of sugar and other food items	111 (53.37)	80 (38.46)	75 (36.06)	18 (8.65)	82 (39.42)	52 (25.00)	34 (16.35)	208 (100.00)
Registered	68 (66.02)	51 (49.51)	45 (43.69)	13 (12.62)	47 (45.63)	32 (31.07)	19 (18.45)	103 (100.00)
Un-Registered	43 (40.95)	29 (27.62)	30 (28.57)	5 (4.76)	35 (33.33)	20 (19.05)	15 (14.29)	105 (100.00)
Distilling rectifying and blending of Spirits	1 (5.00)	8 (40.00)	13 (65.00)	1 (5.00)	14 (70.00)	9 (65.00)	9 (45.00)	20 (100.00)
Registered	1 (10.00)	5 (50.00)	8 (80.00)	1 (10.00)	9 (90.00)	6 (60.00)	5 (50.00)	10 (100.00)
Un-Registered	-	3 (30.00)	5 (50.00)	-	5 (50.00)	3 (30.00)	4 (40.00)	10 (100.00)
All units	238 (46.94)	169 (33.33)	196 (38.66)	43 (8.48)	223 (43.98)	168 (33.14)	142 (28.01)	507 (100.00)
Registered	134 (53.60)	107 (42.80)	123 (49.20)	31 (12.40)	138 (55.20)	109 (43.60)	91 (36.40)	250 (100.00)
Un-Registered	104 (40.47)	62 (24.12)	73 (28.40)	12 (4.67)	85 (33.07)	59 (22.96)	51 (19.85)	257 (100.00)

10.4: Suggestions of entrepreneurs for solving existing problems : In matters to overcome from the emerging problems as facing in properly functioning of industries by the respective group of industry a remarkable number of 86 percent entrepreneurs

of units comprising 90 percent organized and 82 percent un-organized recommended for reducing the problems of electricity supply though making regularity in its supply in industrial areas. A second majority of 66 percent entrepreneurs of units recommended for minimizing the cost of various machines though providing incentives in its purchases though different sources. Such categories of enterprenuers were even as higher as over 82 percent in organized units as against 49 percent in un-organized units. Among different product groups of industries, the figure of such entrepreneurs varied from 93 percent in organized manufacturing of sugar and sugar related products to 10 percent in un-organized distilling, rectifying and blinding of spirits. Providing financial support in capital investment, procurement of raw material and transportation of goods at selling, initiating protection policy to reduce extent of competition in selling goods, reduction in the rate of various taxes especially VAT imposed on marketing of goods and development of efficient marketing channels and proper marketing arrangements for selling industrial produces were the remaining recommendations of the entrepreneurs of sample units (Table-10.5).

10.5. Measures to be initiated for the development: Lastly the study has attempted to incorporate the perceptions of entrepreneurs regarding the kinds of additional measures to be initiated from the part of Government for achieving desirable growth in this sector. In this context, the perception of a highest proportion of over 71 percent entrepreneurs was in favour of maintaining regular supply of power. Though the proportion of entrepreneurs recommended for adopting such measures were relatively higher at 82 percent in organized units as compared to 61 percent entrepreneurs of un-organized units. Initiating measures for timely supply of raw material has been noted as the second most option for achieving increasing growth of this sector by 60 percent entrepreneurs, consisting 74 percent entrepreneurs of organized sector and 47 percent entrepreneurs of un-organized sector. The measures of introduction of easy process in lending finances from the part of different financial institutions was the perception of another 50 percent of entrepreneurs for achieving further growth in this sector. The perceptions of a sizeable numbers of entrepreneurs of different organized and

Table 10.5
Suggestions of entrepreneurs for solving existing problems

Product group	Cost of Machines should be reduce	Financial Support by Govt	Protection against Competition	Problem of Electricity should be reduce	Taxes should be low	Marketing Facility	All unit
Manufacture of vegetables, animals oils and fats	14 (31.82)	16 (36.36)	18 (40.91)	12 (27.27)	7 (15.91)	10 (22.73)	44 (100.00)
Registered	11 (47.83)	9 (39.13)	11 (47.83)	8 (34.78)	5 (21.74)	8 (34.78)	23 (100.00)
Un-Registered	3 (14.29)	7 (33.33)	7 (33.33)	4 (19.05)	2 (9.52)	2 (9.52)	21 (100.00)
Manufacture of dairy products	5 (26.32)	7 (36.84)	2 (10.53)	11 (57.89)	9 (47.37)	5 (26.32)	19 (100.00)
Registered	4 (44.44)	6 (66.67)	1 (11.11)	7 (77.78)	6 (66.67)	3 (33.33)	9 (100.00)
Un-Registered	1 (10.00)	1 (10.00)	1 (10.00)	4 (40.00)	3 (30.00)	2 (20.00)	10 (100.00)
Manufacture of grain mill products and animals feeds	160 (74.07)	56 (25.93)	40 (18.52)	200 (92.59)	47 (21.76)	42 (19.44)	216 (100.00)
Registered	89 (84.76)	35 (33.33)	15 (14.29)	100 (95.24)	27 (25.71)	30 (28.57)	105 (100.00)
Un-Registered	71 (63.96)	21 (18.92)	25 (22.52)	100 (90.09)	20 (18.02)	12 (10.81)	111 (100.00)
Manufacture of sugar and other food items	147 (70.67)	151 (72.60)	69 (33.17)	196 (94.23)	60 (28.85)	55 (26.44)	208 (100.00)
Registered	96 (93.20)	98 (95.15)	36 (34.95)	101 (98.06)	50 (48.54)	36 (34.95)	103 (100.00)
Un-Registered	51 (48.57)	53 (50.48)	33 (31.43)	95 (90.48)	10 (9.52)	19 (18.10)	105 (100.00)
Distilling rectifying and blending of Spirits	7 (35.00)	8 (40.00)	2 (10.00)	16 (80.00)	4 (20.00)	2 (10.00)	20 (100.00)
Registered	6 (60.00)	6 (60.00)	1 (10.00)	9 (90.00)	3 (30.00)	1 (10.00)	10 (100.00)
Un-Registered	1 (10.00)	2 (20.00)	1 (10.00)	7 (70.00)	1 (10.00)	1 (10.00)	10 (100.00)
All units	333 (65.80)	238 (46.94)	131 (25.84)	435 (85.80)	127 (25.05)	114 (22.49)	507 (100.00)
Registered	206 (82.40)	154 (61.60)	64 (25.60)	225 (90.00)	91 (36.40)	78 (31.20)	250 (100.00)
Un-Registered	127 (49.42)	84 (32.68)	67 (26.07)	210 (81.71)	36 (14.01)	36 (14.01)	257 (100.00)

Table 10.6
Measures to be initiated for the development of Agro- processing units

Product group	Timely supply of raw material	Introduction of Subsidy	Regular power supply	Abolish Mandi tax	Easy loaning facilities	Reduction in Cost of raw material	Access to Marketing facility	Infra-structure facility	All unit
Manufacture of vegetables, animals oils and fats	11 (25.00)	14 (31.82)	8 (18.18)	11 (25.00)	19 (43.18)	18 (40.91)	9 (20.45)	15 (34.09)	44 (100.00)
Registered	8 (34.78)	10 (43.48)	6 (26.09)	7 (30.43)	12 (52.17)	13 (56.52)	5 (21.74)	12 (52.17)	23 (100.00)
Un-Registered	3 (14.29)	4 (19.05)	2 (9.52)	4 (19.05)	7 (33.33)	5 (23.81)	4 (19.05)	3 (14.29)	21 (100.00)
Manufacture of dairy products	7 (36.84)	4 (21.05)	11 (57.89)	7 (36.84)	9 (47.37)	8 (42.11)	4 (21.05)	10 (52.63)	19 (100.00)
Registered	5 (55.56)	3 (33.33)	7 (77.78)	6 (66.67)	8 (88.89)	4 (44.44)	2 (22.22)	8 (88.89)	9 (100.00)
Un-Registered	2 (20.00)	1 (10.00)	4 (40.00)	1 (10.00)	1 (10.00)	4 (40.00)	2 (20.00)	2 (20.00)	10 (100.00)
Manufacture of grain mill products and animals feeds	151 (69.91)	40 (18.52)	160 (74.07)	10 (4.63)	140 (64.18)	15 (6.94)	110 (50.93)	95 (43.98)	216 (100.00)
Registered	71 (67.62)	24 (22.86)	85 (80.95)	7 (6.67)	80 (76.19)	11 (10.48)	70 (66.67)	50 (47.62)	105 (100.00)
Un-Registered	80 (72.07)	16 (14.41)	75 (67.57)	3 (2.70)	60 (54.05)	4 (3.60)	40 (36.04)	45 (40.54)	111 (100.00)
Manufacture of sugar and other food items	131 (62.98)	60 (28.85)	174 (83.65)	54 (25.96)	81 (38.94)	47 (22.60)	54 (25.96)	61 (29.33)	208 (100.00)
Registered	97 (94.17)	40 (38.83)	101 (98.06)	33 (32.04)	45 (43.69)	20 (19.42)	34 (33.01)	31 (30.10)	103 (100.00)
Un-Registered	34 (32.38)	20 (19.05)	73 (69.52)	21 (20.00)	36 (34.29)	17 (16.19)	20 (19.05)	30 (28.57)	105 (100.00)
Distilling rectifying and blending of Spirits	4 (20.00)	4 (20.00)	9 (45.00)	7 (35.00)	6 (30.00)	2 (10.00)	1 (5.00)	2 (10.00)	20 (100.00)
Registered	3 (30.00)	2 (20.00)	7 (70.00)	5 (50.00)	4 (40.00)	1 (10.00)	1 (10.00)	2 (20.00)	10 (100.00)
Un-Registered	1 (10.00)	2 (20.00)	2 (20.00)	2 (20.00)	2 (20.00)	1 (10.00)	-	-	10 (100.00)
All units	304 (59.96)	122 (24.06)	362 (71.40)	89 (17.55)	255 (50.30)	80 (15.78)	178 (35.10)	183 (36.09)	507 (100.00)
Registered	184 (73.60)	79 (31.60)	206 (82.40)	58 (23.20)	149 (59.60)	49 (19.60)	112 (44.80)	103 (41.20)	250 (100.00)
Un-Registered	120 (46.69)	43 (16.73)	156 (60.70)	31 (12.06)	106 (41.25)	31 (12.06)	66 (25.68)	80 (31.13)	257 (100.00)

un-organized agro industries were also that introduction of providing subsidy in capital investment at establishment of units, transport subsidy as was available earlier

for procurement of raw material from railhead and from its origin of supply, to abolish the mandi tax, provision of reducing cost in supply of raw material though reducing certain taxes which are imposed in its procurement from different departments of various states Governments and improving the facilities of different infrastructure and its easy accessibility could be some of the additional important measures for healthy growth of agro-processing industry in the state.

CHAPTER-XI
CONCLUSIONS AND POLICY RECOMMENDATIONS

The agro-processing industry in India plays a vital role in the national economic development and has potential to meet the local needs and export requirements. It helps in processing agricultural products such as field crops, tree crops, livestock and fisheries and converting them to edible and other usable forms. Thus, transformation of agriculture through creating forward and backward linkages with industry has been emerging as an important option to overcome the increasing challenges of creating employment opportunities for increasing labourforce and sustaining the livelihood of households in rural areas. Most important point in the agro-processing is that a sizeable portion of raw material processed in them being rural based it has a very high employment potential with significantly lower investment. Further the agro-industry generates new demand on the farm sector for more and different agricultural outputs, which are more suitable for processing. On the other hand, development of these industries would relax wage goods constraints to economic growth by enhancing the supply of their products. In this context there is a need for improving the capacity of the agro-industries to harness backward linkages with agriculture and allied activities in order to efficiently convert part of the output to value added products acceptable to the domestic and international markets. This would generate employment opportunities for different types of skills through food processing, packaging, grading and distribution. At the same time this will transfer a size margin to farmers through market linkages.

In the process of reaping advantages of establishing agro-based industries for achieving increasingly creation of employment and livelihood opportunities it would be necessary to adopt a comprehensive long term approach towards the development of various food processing activities. Such planning exercise should be aimed firstly to examine the overall situation and pattern of existing industrial enterprises and then attempt should made to identify most niche based product groups of enterprises which possess certain location specific advantages in its sustainable development. This would not only provide a strong base and alternative option for creation of additional employment opportunities and avenues of income for rural households owning very

small size of cultivated land and landless labourers within the rural areas itself but it would help in reduction in the rate of rural-urban migration of population.

Considering the importance of agro-processing industries in the development perspectives of overall rural development in general and realizing the expected role of expanding this sector for achieving increasing employment opportunities and income level to overcome the emerging challenges of unemployment and poverty in rural areas of the State the present study attempted to examine the emerging structure and pattern of growth, capital investment, output, generation of value added, production technologies, employment pattern, supply of raw material from the farmers and other suppliers, procurement pattern, accessibility situation, prospects and problems in operation. Policies and incentives introduced by different Government and agencies the central and state Governments and other institutions and agencies and their usefulness in expansion and growth of agro- based industries, contribution and impact of expansion of agro processing industries in increasing income and employment of farm households and kinds of initiatives to be undertaken for health growth of this sector.

1. Structure and Growth of Agro-industries: A bulk of agro-processing industries them were concentrated in un-organized sector with using low productive technology and know-how in their production processes. Number of registered and un-registered agro industries in the state constituted to 2154 and 42586 respectively during 2006-07. Share of agro-based industries in all categories of industries in the state was 26 per cent. Among them, the industries in the product group of grain milling and animal feeds, sugar and other food groups were the dominant product group of agro-based industries accounting for over 17 per cent share in total existing industrial sector in the state.

In terms of the capital investment, the share of agro-industrial sector in total industrial sector was 29 percent through which varied from 74 percent for sugar products to 4 percent for dairy products in the state. In output and gross value added its share accounted 21 percent and 9 percent respectively. In both the respects the contribution of manufacture of sugar and other food products is noted very remarkable. On the other, the share of this sector in employment accounted nearly 23 per cent. Again the

industrial activities in the product line of sugar and other food products have been contributing a dominating role in providing employment.

Per unit invested capital and output in agro-processing industries is estimated at Rs.861 lakh and Rs 12865 lakh respectively as against Rs 779 lakh and Rs 1549 lakh at Rs.1211 lakh in non-agro- processing industries respectively. But the size of net income in Agro- industries has been at lower level than non-agro industries. Among different agro-units, the size of capital per unit was highest at Rs 1584 lakh for distilling, rectifying and blending of spirit units followed by Rs 1544 lakh suger and other food products and lowest at Rs.154 lakh for grain milling products, starches & animal feeds manufacturing units. Similarly the size of output per unit varied from Rs 342 lakh for grain milling products, starches and animal feeds to Rs 4043 lakh for dairy Products. Value added per unit varied from a negative of Rs 712 lakh for dairy products to Rs 963 lakh for distilling, rectifying and blinding of spirits. Size of employment per unit accounted highest from 105 workers in sugar and sugar based products to lowest at 20 workers in grain mill products and animal feeds.

Across the agro -regions of the state, out of 2402 agro units, nearly 31 percent of them were alone located in central agro- region and a second majority of 15 percent units were located in Tarai and bhabar agro region. The pattern of capital investment, gross value of output, net value added and employment in agro-industries across different agro-regions has been visualized, by and large in accordance to the share of industrial units in all agro-industries in particular agro-region. However, in creation of employment, the Central zone has been dominating among different zones in this regard beginning from 2000-1. Although the share in employment in concerned zone has declined from 27 percent in 200-01 to 23 percent in 2006-07.

Capital investment in this sector has increased over 94 percent during 2000-01 to 2006-07.Growth of gross output in this sector has increased at 104 percent during the same periods. It varied highest from 112 percent in south western zone to a negative growth of 87 percent in Bundelkhand. Growth in net income from agro processing industries varied highest from 67 percent in Tarai Bhabar to lowest at over 6 percent points in Mid Western zone. Size of employment in this sector has grown at 21 percent during the periods 2000-01 to 2006-07.

The share of agro-industries in total industrial sectors of the state has been remarkably increasing while the same has been narrowing down for non-agro-industries during the recent past. Similar is pattern was the case in contribution of Agro-industries in capital investment, value of output, gross value added, net value added and employment. Growth rate of agro industries accounted nearly 20 percent as against 19 percent for non agro industries during 2000-01 to 2006-07. Even, both the rate of investment in former category of industries is growing at higher level than the latter category of industries. But the reversal is the situation prevailing in terms of the rate of the growth in value of output, net value added and employment generation among these two categories of industries.

2. Background characteristics of Agro-industries: Based on primary data obtained among a sample of 507 agro- processing industries, comprising 250 registered and 257 un-registered agro-processing industries, the study found that one third of agro-processing industries, consisting 30 percent registered and 37 percent un-registered industries were started during 2001-05 while 28 percent among both categories were started during 1992-2000. Only, 16 percent units, 21 percent registered and 11 percent un- registered units were started nearly two decades ago. Over 68 percent units were registered under Small Scale Industries Act. In terms of the legal ownership of Industries, 79 percent of them were operating under a signal ownership. Among them, un-registered industries accounted 86 percent as against 72 percent registered industries. Only 3 percent registered units were operating as private and public limited company and co-operative society.

Avery large numbers of 81 percent industries were first generation units while 15 percent units, 16 percent registered and 15 percent un-registered units were second generation industries. Only 3 percent and one percent units were established by the present entrepreneurs. First generation industries were largely confined in the product of distilling rectifying and blending of Spirits and manufacture of sugar and other food items.

Easy access to the availability of basic raw material and access to marketing facilities were the major factors for expansion of units at present location of 78 percent and 73

percent entrepreneurs respectively. Being local residence of the entrepreneurs has influenced the expansion of 35 percent industries in the present location.

Agro-processing industries were headed mainly by the young persons. Since, the average age of entrepreneurs of was 45 years and 30 percent of them were in the age group of below 40 years. Over 54 percent Agro-industries were established by the entrepreneurs possessing rural background. But, the large scale agro- industries especially the product group of distilling rectifying and blinding of spirits and dairy based products which require larger capital investment in its expansion are seen mainly established by the entrepreneurs of urban origin. Nearly 32 percent entrepreneurs in Agro-processing industries are processing below primary level of education. Even, such category of entrepreneurs in small scale un-registered agro-units accounted over 42 percent. However, a majority of 44 percent entrepreneurs had secondary level of education while only 1 percent entrepreneurs, mainly the entrepreneurs of large scale registered units have obtained technical/ professional level of education. The caste composition of the entrepreneur's reveals that the domination of General cast entrepreneurs has been highest at 65 percent in registered units 80 percent in un-organized units.

A fairly high proportion of over 69 entrepreneurs were actively engaged in various economic activities before joining or the starting of present industry. However, such entrepreneurs reflected relatively higher among those started/ joined un-registered industries (71 percent) as compared to those started/ joined registered industry (67 percent). However, 30 percent entrepreneurs were either un-employed or students earlier to joining / starting the present unit. Among them, a majority of nearly 50 percent entrepreneurs opted to join/ start small scale un-registered Agro-industry in the product groups of dairy, distilling, rectifying and blinding of spirits. Before joining present units, a majority of entrepreneurs were engaged in wage- paid employment and as self employed. However, the proportions of latter entrepreneurs were higher than former entrepreneurs. Nearly one third percentage of them has been involved with their present industry since 2001. However, such entrepreneurs reported 48 percent alone in unregistered manufacturing units of vegetables, animal feeds and fats followed by distilling, rectifying and blinding of spirits. Another, 27 percent entrepreneurs were working in present units for last two decades. Their proportion

was relatively higher in registered industries as compared in un-registered industries. Only 26 percent entrepreneurs entered in agro- processing industry after 2006.

Examining at the pattern of involvement of entrepreneurs in operating and handling of different agro-industries it indicated that majority of 91 percent were working with their industry as a full time entrepreneur. Such entrepreneurs were larger in un-organised industries than in organized industries. Among different products of agro-units, the proportion of such entrepreneurs indicated as high as cent percent in both organised and un-organized dairy products of industries and registered distilling, rectifying and blinding of spirits followed by 97 percent in un-organized sugar and sugar related food products.

Annual average income of all the working entrepreneurs in their last activities together accounted for only Rs.1.82 lakh. Even, it was as low as Rs. 70 thousand for entrepreneurs who joined unregistered Agro- industries. Availability of inadequate income through undertaking last economic activity had been a reason of a remarkable number of 67 percent entrepreneurs behind joining the present agro- industry. Such entrepreneurs had largely joined un-registered agro industries especially in manufacturing of dairy products, vegetables, animal oils and fats.

3. Pattern of Capital Investment and Profitability Pattern:

Based on primary data obtained among a sample of Agro-industries it reflected that the expansion of Agro-industry require a very low amount of Rs 47.96 lakh capital investment. Even the initial investment for expansion of small scale unit has been estimated only a little over Rs.3 lakh. Similarly, in case of un-organized agro-industry, the initial capital investment has been as low as Rs. 1.34 lakh for Dairy products followed by Rs. 1.80 lakh for grain milling products and animal feeds. But the same for expansion of organized units it stood Rs. 94 lakh . Similarly, the initial capital investment in a bulk of over 69 percent agro-industries was less than Rs. 5 lakh. Among them the proportion of un-registered industries was as larger as 91 percent as against 46 percent registered industries. But, the initial investment of 11 percent units mainly registered industries and were confined in grain milling, animal feeds and sugar and sugar based products was above Rs. 20 lakh

In terms of share of different components of capitals in the overall capital investment, it reveals that in the per unit capital investment of Rs 47.96 lakh the share of machinery and other equipments together accounted as high as 68 percent. The second component of capital investment has been working capital which share accounted for 19 percent. However, per unit capital investment in setting of un-organized unit require only Rs. 84 thousand as against Rs 66 lakh for setting of organized units. Relatively highest amount of investment is required for the establishment of sugar and sugar based food products and lowest for manufacturing of dairy products.

In terms of sources of finances, a major part of 82.26 percent capital investment was financed from own sources by the owners of the present units. However, the initial investment of 88 percent un-registered and 82 percent registered industries was financed from the particular sources. Even the share of own sources of financing the capital investment has been as high as 97 percent for the expansion of each distilling, rectifying and blending of spirits and dairy products. Financing from banks and different financial institution has been noted as the second most sources for financing the capital investment at the establishment of different product groups of agro-industries in general and the industries in product groups of grain milling and animal feeds in particular. The contribution of financial subsidy offered by different financial institutions has been only 1 percent in the total capital investment. Financial subsidy in expansion of unit was availed by only the registered agro-industries. Thus, the overall analysis depicted the fact that the expansion of agro- industries in the state has been promoted mainly through undertaking capital investment from their own financial sources and its borrowings from friends and relatives while a very little contribution in this regard has been noted from the part of different financial institutions.

Productive capital per agro industry has increased from 1 Rs. 119 lakh in 2005 to Rs. 189 lakh during 2011.In case of registered and un-registered units; it increased from Rs228 laklh to Rs. 363 lakh for former units and from Rs. 12 lakh to Rs. 20 lakh for latter category of units during the same periods. Significantly a very high jump in per unit capital investment from Rs 43 lakh in 2005 to Rs. 146 lakh in 20011 has been for manufacturing of vegetables, animal oils and fats. Over the years, the productive

capital per unit has been remarkably increasing for all the product groups of agro-industries

The fixed capital per unit has increased from Rs. 43 lakh in 2005 to Rs. 64 lakh during 2011. Although, per unit value of fixed capital of registered units was many fold higher than the case of registered during both 2005and 2011 periods and again it has been increasing faster in response to former category of units than the latter. The size of working capital per unit has been reported relatively larger than the per unit value of fixed capital for former categories of units while reversal was the case for latter categories of units. **I**nitially during 2005 a larger proportion of over 69 percent units were in the lowest capital investment group of below Rs. 20 lakh and only 15 percent of them were in the highest capital investment range of above Rs. 80 lakh. But this proportion of units has narrowed down to 53 percent in lowest capital investment group while it has increased to 17 percent in highest capital investment group. On the other hand the pattern of upward increasing trend in the proportion of units from lowest capital investment range to higher capital investment groups was noted relatively higher in case of un-organized units than the organized units. Even the jump of units into highest capital investment group of above Rs 80 lakh registered higher for former groups of units than the latter one. But, the proportion of the latter groups of units was still remarkably much higher than the former groups of units in the highest capital investment range. Among the different product groups of industries, the increasing trends in value of productive capital has been noted highest for units engaged in manufacturing of vegetables, animal oils and fats followed by manufacturing of sugar and sugar related food products.

In absolute terms the productive capital has been increasing at the rate of nearly 10 percent over the years but the same has been growing at higher rate for un-organized units as compared to organized units. Even the concerned growth trend has been estimated as higher as 40 percent for units manufacturing vegetables, animal oils and fats followed by 17 percent for units manufacturing sugar and sugar related food products. However, the lowest growth trend of nearly 2 percent was accounted for units manufacturing grain mill products and animal feeds. Among the different components of productive capital investment the growth trend was noted highest at 77

percent in land and building followed by 65 percent in working capital and 40 percent in machinery and equipments during 2005 and 20011.

The cost of production per unit increased from Rs 70.62 lakh during 2005 to Rs 123.36 during 2011. Purchase of raw materials and wages and salaries were the two main heads of production costs. The size of the value of output of agro-products constitutes the total value of final products and by products. In this manner the study found the agro-processing industries are generating a very sizeable amount of gross output if one considers the level of capital investment per unit carried out in this sector. Remarkable differences are further visualized in gross value of output of organized and un-organized units and among the different product groups of industries. Gross value of output per unit has been estimated at Rs 136.87 lakh which comes as larger as Rs 148.38 lakh for organized units as against only Rs 17.40 lakh for un-organized units. Among the different product groups of organized industries it reaches to Rs.183.08 lakh for sugar and sugar food products to lowest at Rs 57.46 lakh for vetatales, animal oils and fats. Similarly, in case of un-organized units, the same ranged between Rs 36.21 lakh again for sugar and sugar based food products to Rs. 2.91 lakh for grain mill products and animal feeds.

Similarly, the value of output per unit of both organized and un-organized has been remarkably increasing over the years, although the un-organized units had shown relatively better performance than their organized counterpart of units in this regard. Since, the value of output per unit for former categories of units increased 80 percent as against 26 percent for latter categories of units. Extents of variations have been appearing in this context among different product groups of industries on one hand and among different categories of units on the other. Among un-organized units a highest increase of 141 percent in this regard was for distilling, rectifying and blinding of spirits and lowest at 51 percent for manufacturing of vegetables, animal oils and fats.

4. Structure of Employment: The agro processing industries of both the categories were seen employing different skilled and unskilled as paid workers and unpaid family workers as well as men and women workers in different stages of production functions. However, the labourforce in this sector has been highly dominated by male

workforce. Even the share of men workers has been on the increase on the cost of declining share of women workers in the total workforce over the years. The remarkable signs are that the size of employment per unit in this sector both organized and un-organized industries have been increasing during the recent past. The size of employment per unit has increased from 17 workers in 2005 to 20 workers in 2011.However, it been significantly varying across the different product groups of industries in both un-organized and organized as well. On the other hand, per unit employment in organized units reported as high as 32 workers as against 9 workers in un-organized units. Even the pace of increase in per unit employment has been noted remarkably much higher in favour of former categories of units than the latter categories of units during 2005 and 2011.

The share of un-skilled workers constituted over 49 percent as against 8 percent office workers and 18 percent skilled workers in the total workforce employed in this sector. However, the size of different categories of workforce per unit has been increased significantly both in organized and un-organized during the reference periods. Exception was only in the case of declining size of family workforce per unit in both the categories of units.

Over the years, the tendency of agro-units in employing semi-skilled has been remarkably boosting up while it had been narrowing down for hiring un-paid family workers.

Alltogather, the size of employment in this sector has been growing at the rate of nearly 4 percent, though the concerned increasing trend has been relatively much higher in response to un-organized units than the case of organized units. Among different product groups of units, the rate of increase in total size of employment was reflected highest at 113 percent in manufacturing of dairy products followed by 93 percent in distilling, rectifying and blinding of spirits and lowest at 10 percent in manufacturing of sugar and sugar related food products during 2005 and 2011. However, the units engaged in manufacturing of sugar and sugar based food products were already dominating in employing a bulk of different categories of workforce among different agro-based units

5.Technology Adaptation: A very high proportion of 53 percent of agro-units comprising 54 percent organized and 52 percent un-organized units were relying to use second hand/ already used machines and other instrument because of their economic inability to install new and important efficient machines and other instruments. Among both un-organized and organized units, such units were largely confined in manufacturing of distilling, rectifying and blinding of spirits, dairy products. Only, 28 percent and 19 percent units were using domestically manufactured and imported new machines and instruments respectively.

Regarding the accessibility pattern of modern / high proactive machines and other instrument at accessible distances in local areas it reflected that a majority of over 63 percent entrepreneurs did not have the knowledge of the accessibility of such machines and instruments in the country. Despite having awareness to 37 percent entrepreneurs regarding the accessibility of modern machines and instruments within the country none of them had installed such machines in their units mainly due to reasons as high purchase cost, lacking of finances, less supply and not accessibility in local markets.

In terms of the adaptation of technology in processing of raw materials the study found that the mechanized and semi-mechanizes form of technologies were commonly been adopted in cleaning and washing of basic raw materials in a majority of 53 percent units consisting 72 percent organized and 34 percent un-organized units. A very high proportion of 59 percent units in manufacturing of vegetables, animal oils and fats were still manually cleaning and washing of raw material. Such units in un-organized segment were even as high as over 90 percent in same product group followed by 68 percent in manufacturing of grain milling products and animal feeds. The grading of raw material according to its quality and size also seen carried out in 44 percent units.

In matters of adaptation technology in of production the study found that most agro-based industries either fall in organized or the un-organized sector have been either adopting mechanized or the semi mechanized form of technologies in its different stages of agro-processing. It was only the exception that the processing of raw material before its processing was being carried out manually in a sizeable proportion

of agro-units especially in un-organizes industries. It has further pointed out that a significant level of changed have been persisting in adaptation of modern mode of production technologies in this sector. This trends has been well reflected by the fact that the proportion of units using modern mechanized form of technologies have been moved from 72 percent in 2005 to over 74 percent during 2011 though this trend has been more remarkable in case of organized segment of units and in particular to manufacturing of sugar and sugar based food products. On the other hand, the proportion of units which were using traditional production technologies has declined from 3 percent in 2005 to 2 percent during 2011.

In marketing of final goods, a sizeable number of both organized and un-organized have been undertaking the grading, leveling and packaging of agro-products manually. Units undertaking grading manually accounted for nearly 55 percent, though such units were relatively higher among un-organized than organized one. In terms of leveling on the products and packaging of products the manual technology was being adopted in three fourth and over 55 percent of units respectively. Again such units were highly concentrated in un-organized sector and in the product groups of manufacturing gain milling products and animal feeds and sugar and sugar related food products. The advanced mechanized form of technologies were being applied by only 21 percent units in performing grading, 21 percent units leveling and 19 percent units in packaging of products.

In matters of marking over the final products and its storing the study revealed that a majority of units were depending on the traditional form of manual technologies for both the purposes. However, the proportions of units using modern technology in marking on the final products were higher in organized sector than in un-organized sector. But reversal was the situation emerging in the proportion of units using manual technology in storing the products among these two groups. Only 18 percent and 6 percent units were using mechanized form of technologies in marking and storing of agro-products respectively.

The quality control a device was maintained by only 28 organized segments of units for their products. Even, none of the units which are manufacturing vegetable, animal

oil, fats and dairy products had such facility. 78 percent of them had this facility within their unit level and remaining was utilizing the same from other sources.

Facility of Cold Storage was available to 73 percent units consisting 76 percent organized and 70 percent un-organized units. Even, such units accounted as larger as 79 percent each in the product line of manufacturing dairy products, sugar and related food products. However, a significant proportion of 57 percent units were covering a distance a above 5 kms to utilize concerned facility but, nearly 43 percent units had this facility after covering less than 5 km from their units. It further found that nearly 60 percent units reported facing some short of critical problems in using this facility, though such units accounted fairly larger among organized units than the un-organized units. Even, among the different product line of units the figure of such units accounted as high as 75 percent which were confined in manufacturing of dairy products. Transportation of goods from the places to the location of nearest available facility of cold storage has been cited as the major problem by a remarkable proportion of over 75 percent agro-units which are mainly confined in un-organized sector and in manufacturing of sugar and sugar related food products. Involvement of a high cost in availing cold storage facility and lacking proper preservation devices with a maximum numbers of cold stages have been reported other serious problems in using concerned facility by 13 percent and 9 percent units respectively.

6. Supply of Raw Material: In case of procurement of raw materials the study depicted that the agro-processing units have been procuring basic raw materials both from wholesalers and directly from famers as well. However, in total size of its supply the share of procurement from wholesalers was reported higher than its share from the farmers especially in case of organized sector of units. On the other hand, the un-organized units were seen mainly relying upon its procurement directly from the farmers. Also none of units among both organized and un-organized in the product groups of dairy, organized units involved in manufacturing grain milling and animal feeds were procuring raw materials from wholesalers. It also indicated that the agro-processing industries concentrated in different locations have been maintaining favorable linkages with the farmers of nearby villages for obtaining required basic raw materials on the basis of pre-arranged terms and conditions of its supply. Since, the value of raw material per unit as obtained from farmer under the pre-arranged system was Rs. 36.60 lakh as against Rs 30.84 which obtained under un-arranged

basis. However, this linkage of units with farmers was made by organized sector of agro-units and which were confined in manufacturing of sugar and sugar based food products. Under the pre-arranged supply of raw material, the farmers were directly delivering a fixed quantity of sugarcane to a set of fixed numbers of sugar and sugar based food manufacturing unit located in surrounding areas of their villages for past several years. These product groups of units were also procuring any shortfall of raw materials from the wholesalers under un-arranged basis. Otherwise a major supply of basic raw material requirement of both organized and un-organized agro-industries was met out from wholesalers without any prior -arrangements. It may be mentioned here that as per the provision of State Government the farmers of sugarcane in a particular catchment areas of the sugar industries have to supply their entire sugarcane to the concerned sugar industry.

As far as the supply condition of the availability of raw materials as required for processing for agro-industries was concerned the study found that a majority of nearly 78 percent units had not to face any serious problems in timely getting of required different raw materials. Even such units were reported relatively higher at 83 percent among organized industries as against 72 percent un-organized industries. The problem of non- availability of adequate supply of raw material was largely reported by un-organized units than the organized units and those were confined in manufacture of grain milling products, animal feeds, vegetable based products, animal oils and fats. The quality of supply of raw materials from different sources was reported good or satisfactory by 86 percent organized units and 89 percent un-organizes units.

The prevailing market forced and the extent of supply and demand conditions were reported to have been determining the procurement prices of a majority types of raw materials in the markets. The prices of raw materials which are procured on pre-arranged basis from different sources were mutually fixed by suppliers and units themselves. The role of State Government in this context was reported by only 9 percent organized agro-units which were engaged only in manufacturing of sugar and sugar related food products and grain milling products and animal feeds. The problems highlighted by the entrepreneurs in supply of raw materials were mainly in terms of untimely supply, involvement high procurement cost, availability of poor quality and inadequacy in quantity of supply of different raw materials.

7. Marketing System: In matters of marketing of agro-products none of the sample agro-processing unit was involved in direct export of their products. A major part of over 96 percent outputs was sold to the wholesalers. Value of per unit sale of agro-produce through wholesalers accounted at Rs 518.36 lakh. Even the share of sale to through concerned channel was as larger as nearly cent percent in case of sugar and sugar based food products followed by 96 percent vegetable based products, animal oils and fats. The Government departments were purchasing only 3 percent agro-products from the units that too only of grain milling products, animal feeds, sugar and sugar based products. While it's sale to consumers accounted only less than 1 percent.

The consequences of lacking any suitable marketing arrangement for selling the agro based products in sample districts a high majority of over 84 percent units were found facing one or the other form of marketing problem. Even such units were as high as nearly 90 percent among those were manufacturing grain milling products and animal feeds. Even the proportion units facing in selling their products accounted relatively higher among organized units than the un-organized units. It could be largely because a sizeable number of un-organized units were evolved in carrying out job work and such work arrangements do not require any marketing channel for selling products. The problems were mainly in terms of unlikely development of any marketing facility in local areas, products were not fetching reasonable prices in domestic markets, existing high taxes, over interference of local officials while selling products through different channels and late payment of produces from the part of different agencies involved in buying their products.

8. Impact of Financial Incentives and Subsidies: The central and State Government have, over a period of time, evolved various schemes of subsidies and incentives with a view to giving industrial activities some impetus and help diversification of industries in favor of the backward areas. The central Government had made a provision of providing Central Subsidy of 25 percent up to a maximum of a RS. 25 Lakh, but it was depending upon the category of the district in terms of its industrial backwardness. Another scheme of the central Government was the provision of providing Central Transport subsidy up to 75 percent of the cost of transportation of

raw materials and finished goods from location to the nearest rail head for units located in remote and inaccessible areas. However, both of these schemes are not in operation presently in the state. Similarly, the state Government has initiated the provisions of state capital subsidy, interest free sales tax loan equal to sales tax paid up to Rs 40 lakhs in three years, exemption from Octroi, Generating set subsidy, state capital subsidy for export, concessions related to power and exemptions from sales tax. However, over the years most incentives and schemes are withdrawn by the State Government. Most of the old schemes are replaced by the new schemes during the recent past which details are accordingly well listed in the first chapter. **F**iscal incentives like tax concessions, reliefs and rebates, and financial incentives like capital subsidy and concessional rates of interest have been were introduced in the state to allow new and small units only to units located in backward areas. The state Government had established Directorate of Industries, Uttar Pradesh Small Industries Corporation (UPSIC); Pradeshiya Industrial and Investment Corporation of Uttar Pradesh Limited Uttar Pradesh Financial Corporation (UPFC); Uttar Pradesh State Industrial Development Corporation (UPSIDC) for managing different industrial promotion measures and schemes to promote industrial activities in the state. It may be mention here that most of the industrial promotional measures in the form of providing financial subsidy to industrial activities in locating different industrially in the state especially in backward districts of the state have been withdrawn. The most popular scheme as Adhyogik Nivesh Protshahan Yojana has been recently introduced in the state.

The role of different institutions in offering various incentives in the form of subsidized financial incentives for promoting agro-processing industries has been indicated very weak in the state. Since only 24 percent of the sample industrial units were found to have availed the financial facility from different financial institutions. Such agro-units comprised 50 percent among registered industries as against only 8 percent un-organized industries. These units were mainly confined in manufacturing of grain milling products and animal feeds, sugar and sugar based food products while none of the unit among dairy products had received any financial assistance for running their industry.

The agro- industries were basically requiring financial assistance to meet out the operational cost of industry. As nearly 63 percent and 32 percent units had obtained financial assistance for working capital and purchasing machinery and other equipments respectively. However, 75 percent un-registered units had availed loan from banks for purchasing machinery and other equipments. The commercial banks had been the main source of financing the agro-industry for 92 percent agro-industries, consisting of 90 percent organized and all the un-registered industries The contribution of state owned financial institutions has been in offering incentives to only 8 percent registered agro-industries.

A large proportion of 49 percent units were provided financial assistance of less than Rs 5 lakh. Among them the proportion of un-organized units accounted as high as 95 percent as against 40 percent among organized units. Only 21 percent organized units received financial assistance of above Rs 50 lakh. Such units were mainly confined in the product groups of grain milling and animal feeds and sugar and sugar related food products. The consequences of lacking initiatives from the part of Government owned financial institutions in offering financial assistance to agro -industries for different purposes and increasing involvement of commercial banks in this context, the agro-units has been bearing a very high production cost by way of paying a very high rate of interest against the financial assistance received from the latter sources. Due to a very high proportion of units availing financial facility from the commercial banks the average rate of interest claimed by different financial institutions together has been noted nearly 12 percent per annum.

The impact of incentives and financial assistances could be seen both in terms of the immediate benefit that beneficiary units get and the ultimate result they have in terms of expansion in capital investment, capacity, output and employment. Out of 124 Units who availed financial assistance, a very large proportion of nearly 77 percent entrepreneurs were that they did not realize any favorable out come of the availed financial assistance in any way. Only a little over 10 percent and 8 percent entrepreneurs had the perceptions that it did help in reduction in fixed cost of production and making liquidity available at low cost. However, the help of financial assistance in former aspects has been more number of un-organized units than the organized units. But the proportion of entrepreneurs who realized a favorable impact of financial assistance in reduction of fixed cost of production was same from both the

categories of units. Other 3 percent and 2 percent entrepreneurs had the perception that it helped in reduction in current cost of production and realization of availability of essential inputs.

In terms of benefits derived after getting financial assistance, the perception of a majority of 58 percent of entrepreneurs, consisting 45 percent un-organized and 61 percent organized units were that it had not benefitted them in any matter. However, nearly 27 percent entrepreneurs were benefited in increasing the size of employment. Such units accounted relatively higher at 45 percent registered units as against 23 percent un-registered units. Another, second majority of 24 entrepreneurs had found its outcome in increasing the volume of output while 24 percent entrepreneurs had the understanding that they would have started unit even without receiving financial assistance.

Lastly the direct impact of financial assistance has been examined in achieving the increasing trend in value of fixed and productive capital, size of output, cost of production, employment and productivity of workers during the periods 2005 to 2011. In this context, an exercise has been carried to measure the differences emerging in matters of all theses parameters between beneficial and non beneficial units of different financial assistances. Thus, the study found that the beneficiary units of different financial assistance have been achieving relatively higher rate of growth than the non-beneficiary units in size of capital, productive capital output, employment and value addition over the years. Even, the size of output per worker has been noted remarkable in beneficiary units than in non-beneficiary units during both the years of 2005 and 2011.

It may also be pointed out that providing financial assistance in any form has been positively enhancing both over all size of output and income per worker. As the growth in value of gross output per worker as well net income per worker for units who availed financial assistance has been found relatively higher as compared to units those had not availed any financial assistance. Even, the net income per worker for latter category of units has declined from Rs 0.15 thousand to Rs.0.13 thousand as against the increase from Rs 0.11 thousand to Rs 0.90 for former category of units.

9. Contribution of Expansion of Agro-industries in Generation of Income and Employment of Farmers:

Establishment of units in adjoining raw material producing areas is expected to contribute positively in enhancing employment opportunities and additional income for surrounding farm households by way of supply of require raw materials to the industries on a regular basis. In addition, the farmers are expected to undertake diversification in their farming system though maximizing available land in cultivation of such commercial crops which are required by industries for its processing. While considering these perceptions the study further attempted to examine concerned hypothesis through taking a sample of 1080 farm households consisting 720 diversified and 360 non-diversified farm households from the nearby areas of different agro-units in 18 sample districts.

Sample farm households were mainly headed by the male members but this proportion of households varied across the size of farms. Average size of family of different categories of farm households was of 6.14 members and average age of the owners of farms was 45.20 years. A fairly high proportion of 87 percent non-diversified farm households as against only 2 percent diversified farm households were in the lowest farm group of below 2.5 acres. This shows the fact that availability of very small size of cultivated land with farm households has been restricting them for undertaking diversification in their farming system. The farmers having larger size of farm holdings have the advantages of using their available land under different cropping options. Hence a majority of them were initiating the practices of diverse farming systems on their arable land.

A highest proportion of 38 percent and 31 percent farmers had secondary and elementary level of education while only 15 percent farmers mainly who owned small size of below 2.5 acres of holding were illiterate. Majority of 96 percent farmers had agriculture as their principle occupation. Average size of cultivated land per farm household accounted only 3.26 acres. The same was 3.91 acres for diversified farmers as against 1.95 acres for un-diversified farmers. Diversified farm households have been leasing out a sizeable cultivated land to other farmers also.

In the total income of households, the share of agricultural activities 72 percent and its contribution was almost same for both the categories of households. Wages earned through wage paid employment was the second most source of income in both the groups of households. However its contribution was higher in non- diversified farm households than in diversified farm households. Average income per household was higher in diversified farm households than in un-diversified farm households.

All the sample diversified farm households were selling some part of their farm produces through different marketing channels. However such has not been seen in case of most of the non-diversified households. The facts were that the non-diversified households were engaged in cultivation of traditional food crops and only a small part of it was being directly sold to the consumers. On the other hand the diversified farm households were involved in cultivation of both high value commercial crops for its market purposes and traditional food crops both for self consumption and selling it under different marketing channels.

Value of output of farm produces per household constituted at Rs 199 thousand and 77 percent of it was sold out by the farm households. The share of self consumption accounted for nearly 16 percent of the gross value of farm output. Proportionate sale of both floriculture and fruits was as larger at over 95 percent followed by 93 percent for vegetables and spices and 86 percent for other commercial crops like sugarcane. Annual value of output of animal produces per household accounted Rs. 32.88 thousand and 47 percent of output was being sold by the farm households though different arrangements.

Value of net returns after deducting the cost of production per acre together of all crops was Rs.13 thousand which varied highest at Rs.39 thousand for vegetables/ spices to lowest at Rs. 8 thousand for cereals. Per hectare returns in growing different crops accounted relatively much higher for diversified households as compared to non- diversified households accounting for Rs. 13 thousand and Rs 8 thousands respectively because the former groups were selling a larger part of their different agricultural produces than the latter groups of farmers.

Value of per household sale of agricultural produces was Rs 15.42 lakh which varied between Rs. 69 lakh for commercial crops to Rs 105 for floriculture. The farmers

were selling their produces mainly to contractors, processers and directly in the regulated markets. The supply of a highest proportion of 35 percent agricultural produces was carried out directly to the processing units followed by 32 percent to the contractors and 30 percent directly in the markets. Its supply to Government and Co-operative societies together accounted only nearly 3 percent. It was also depicted that the commercials crops were largely being purchased by the processers while the fruits are procured by the pre-harvest contractors from the farmers and largest proportion of vegetables and oilseed were directly sold out directly in the markets.In terms of the marketing pattern of animal produces, per household sale was also quite remarkable at Rs. 15 thousand. However, different animal produces like milk, ghee, khoya and cream are mainly being sold in the markets to its consumers and retailers directly.

Marketing of different agricultural produces was carried out both under the systems of pre-harvest arrangement and un-arrangement basis of sale. A part of produces were also being sold at the farm sites itself and directly to the wholesales. However, the proportion of farmers who have made the arrangement of selling their produces at the sites of farm during its harvesting seasons accounted highest at 35 percent farmers. The proportions of such farmers were positively related with the size category of land holdings. The produces of a second majority of 31 percent farmers, mainly larger farmers owned above 5 acres lands were sold on un-arranged basis in the markets. Another, 23 percent farmers, mainly small and marginal farmers were selling their produces though other sources like to the consumers and retailers. Pre-harvest arrangement for marketing agricultural produces was made largely by larger farmers owing above 10 acres of land holdings.

A large proportion of 83 percent farmers did not face in timely payment for their produces sold under different cannels. Directly selling to processers was as the most preferable arrangement for a highest proportion of 45 percent farmers and their proportion were positively increasing according to increase of farm sizes. A lowest proportion of 4 percent farmers preferred to sale wholesalers. A majority of 61 percent farmers were satisfied with their present marketing arrangements for disposal of their produces. Non availability of adequate prices and inadequate demand of their produces in the markets were the main problems farmers**.**

On the whole, the diversified farmers have been mainly reaping greater opportunities than the non-diversified farmers in terms of deriving higher income through supplying different agro-produces to the processers. The supply of agricultural produces to the processors has impacted in increasing income of 86 percent diversified farmers as against only 15 percent un-diversified farmers because the latter groups of farmers were largely involved in cultivation of traditional food crops while the former groups of farmers were growing both traditional and commercial crops but, largely latter crops. However, the gain in increasing income was largely gone in favor of medium farm category of diversified farmers and least to highest farm category of diversified farmers.

10. Structure of Employment: The farming was generally undertaken though employing family unpaid workforce while only the larger farmers were employing both family workforce and hired workforce. The share of hired workforce in total workers accounted 72 percent but the same was over 75 percent for diversified farms as against 55 percent for undiversified farms. The proportion of hired workers in total workers reflected highest at 87 percent in growing of fruits followed by 74 percent in growing of vegetables, indicating that using available in cultivation of fruits and vegetable will prove an important measures for creation of additional employment. Since, the short supply of family workforce has been requiring farm households to employ hired workforce to meet out additional demand of farming work.Impact of supply of agro produces directly or indirectly to the processing industries has been indicated in matters of increase in size of man day's employment. The analysis in this context revealed that 42 percent farm households comprising 95 percent non-diversified and 17 diversified farm households were not supplying any agri produced to the processors. As a result of supply of agricultural produces to the processers, the increase in employment of diversified farmers has been to the extent of 69 percent for larger farmers followed 13 percent for farmers owned 10 to 20 acres lands while it has increased lowest at 0.69 percent for farmers owned below 5 acres of land sizes.

Impact of establishment of agro-processing in nearby areas of sample villages and the supply of agricultural produces to concerned units has also increasingly motivated to the farmers towards changing their farming system by way of shifting land from the

cultivation of traditional food crops to the commercial crops as per the requirement of located agro-industries nearby villages.

11. Emerging Problems and Perspectives of Development: Emerging Problems in Successful Operation of Industry: Inadequacy in the supply of raw material from different sources and poorly developed marketing facilities, lacking financial facilities for running the units, irregular supply of power, access to only poor quality of raw materials, shortage of skilled labour were the important factor limiting the scope of development of this sector.

For the healthy growth of this sector, a remarkable number of 86 percent entrepreneurs of units comprising 90 percent registered and 82 percent un- registered units recommended for reducing the problems of electricity supply though making regularity in its supply in industrial areas. A second majority of 66 percent entrepreneurs of units recommended for minimizing the cost of various machines though providing incentives in its purchases though different sources. Such entrepreneurs were over 82 percent registered and 49 percent un-registered units.Providing financial support in capital investment, procurement of raw material and transportation of goods at selling, initiating protection policy to reduce extent of competition in selling goods, reduction in the rate of various taxes especially VAT imposed on marketing of goods and development of efficient marketing channels and proper marketing arrangements for selling industrial produces were the remaining recommendations of the entrepreneurs of sample units.

In terms of the future expansion plans of entrepreneurs, the study found that over 40 percent entrepreneurs were planning for undertaking expansion in their unit by one matter or the other. Such entrepreneurs were highest at 61 percent among grain mill products and animal feeds and lowest at 23 percent among sugar and sugar related products.

The nature of expansion of 25 percent units and 23 percent units would be in terms of installation of additional machinery and carrying out product specific diversification respectively. Additional installation of machines would be in both organized and un-organized units engaged in manufacturing of vegetables, animal oils and facts and un-organized units of grain milling products and animal feeds and organized units of

dairy products. Financial investment in such expansion would be carried out through borrowings from the commercial banks and friends/ relatives. However, the proportion of units proposed to borrow from banks were 60 percent in the product group of dairy and lowest at 40 percent in distilling, rectifying and blending of spirits. Over, 31 percent industries, largely among organized sectors of units would avail the facility of capital subsidy from Government and other financial institutions.

In matters of future perspectives of this sector, **t**he perceptions of 71 percent entrepreneurs was that it will depend on maintaining regular supply of power. Initiating measures for timely supply of raw material has been noted as the second most factor for achieving increasing growth of this sector by 60 percent entrepreneurs, The measures of introduction of easy process in lending finances from the part of different financial institutions was the perception of another 50 percent of entrepreneurs for achieving further growth in this sector. The perceptions of a sizeable numbers of entrepreneurs of different organized and un-organized agro industries were also that introduction of providing subsidy in capital investment at establishment of units, transport subsidy as was available earlier for procurement of raw material from railhead and from its origin of supply, to abolish the mandi tax, provision of reducing cost in supply of raw material though reducing certain taxes which are imposed in its procurement from different departments of various states Governments and improving the facilities of different infrastructure and its easy accessibility could be some of the additional important measures for healthy growth of agro-processing industry in the state.

Suggestions for Policy Recommendation: Based of the finding presented on different issues of the present study in preceding chapter, personal discussions held with the entrepreneurs of different products of agro-units and general observations of the study team the study forward following recommendations for policy action:

- Timely supply of raw materials in require quantity should be ensured through establishing raw material banks in specific to particular product group of industries in areas where they are largely concentrated.
- Assured supply of raw material in adequate quantity could also be done though motivating farmers for undertaking diversification in their farming

system by using available land under the cultivation of particular raw material as required by industrial units located in particular areas.

- The facility of cold storage should be made available in clusters of villages so as to retain the quality of most perceivable farm based raw material for a substantial period of time.
- The prices of different farm based raw materials should be fixed every year before harvesting by the State Government on the similar pattern as are fixed for sugarcane in the State.
- Development of marketing facilities in local areas could possibly be an important solution to overcome from the practices of late payment against the purchase of goods by wholesalers and to achieve improvements in the overall productive efficiency of the agro-industries.
- The rate of value added tax imposed by the State Government was very high which increasing per unit cost of production and making products highly competitive against the similar goods arriving from other states of the country even in domestic markets leave aside the export markets. In this context it was suggested either to reduce the rates of VAT or the similar amount claimed as VAT should be refunded to the industry as loan on subsidized rates of interest.
- The interference of Government Officials in different stages of operation of the units should be strictly avoided so that the industry can operate efficiently.
- Emerging marketing problems can be solved though establishment of procurement centers among the clusters of villages, ensuring fair measurement of crops while selling to different agencies from the part of the Government.
- Government should provide the facility for weight and measurement at the points of selling their produces as different purchasing agencies adopt wrong practices in measurement of their produces at its marketing.
- The State Government should ensure regularity in supply of power in industrial areas.
- The State Government should introduced policies for providing subsidised financial incentives in the form of capital subsidy cum loan at starting of the units especially in industrially backward districts.
- Introduction of a scheme as entrepreneurship training and apprenticeship for IIT diploma holders seems to necessary for improving capacity building for both young generation willing to start units and skilled labours.

- The transportation subsidy on procurement of raw materials from different destination should be introduced for minimising the cost of production.
- The provision of social security for all categories of workers at enterprise level should be made mandatory to attract rural-urban migration.
- There is a need for skill development programme for un-skilled labour from the labour dept to increase the supply of skilled labourforce.
- Retirement benefits scheme for workers can control the movement of workers from pone to the other units as they leave parent unit after acquiring basic skill and training.
- Free hand be given to unit to remove nuisance creating workers in unit.
- ITI be strengthened to impart skill formation among human resources as per requirement of units located in particular areas.
- Vocational training courses in the form of apprentice scheme for skill formation among the students of ITI should be imparted through large units.
- Labour laws should be withdrawn on matters of removing non-productive and problem creating labours.
- There is a need to improve law and order situation in industrial areas.
- In failure, sickness of unit's govt should provide its claim out of assets available / remained with unit to owners.
- Multiple formalities of banks in extending loan should be reduced.
- Technology up gradation in certain matters of production processes which cannot reduce employment is required to make products more competitive.
- Product specific industrial clusters should be promoted though providing various infrastructural facilities and developing market linkages.

References

All India Congress Committee, Economic Programme Committee: Report 1948, Section IV, Para 1.

Alagh, Y.K.(1995); Agro-based Industrialisation in India, in Harish Nayyar and P.Ramaswami (eds) Globlisation and Agricultural Marketing

Austin J. M. (1981); Agro-processing Project Analysis, John Hopkins University Press Baltimore and London.

Baldev Singh (1988), "Development of A Self-reliant Agro-Food Industry", Economic and Political Weekly, 2-9 April, 1988, pp 683-687

Bhattacharya S.N (1980) , Rural Industrialization in India, B R Publishing Corporation, Delhi, , p 192 Chadha G.K. and P.P. Sahu (2003); Small Scale Agro-industry in India: Low Productivity is Its Achilles Heel; Indian Journal of Agricultural Economics ; Vol. 58, No.

Chengappa P. G. (2004); Emerging Trends in Agro- processing in India; Indian Journal of Agricultural Economics. Vol. 59, No. 1 March

Desai B.M. and N.V. Nambuoodiri (1992), Development of Food –Processing Industries: Economic and Political Weekly, Vol.26, March 28

Govt. of India; First Five Year Plan, Planning Commission, New Delhi

Govt. of India; Second Five Year Plan, Planning Commission, New Delhi

Govt. Of India;, Report of the Village and Small Scale Industries Planning Commission (Second Five Year Plan)

Govt. of India; Third Five Year Plan, Planning Commission, New Delhi

Govt. of India, Ministry of Food and Agriculture (Dept of Agriculture), Annual Report, 1964-65,

Govt. of India; Fourth Five Year Plan, Planning Commission, New Delhi

Govt. of India; Fifth Five Year Plan, Planning Commission, New Delhi

Govt. of India; Sixth Five Year Plan, Planning Commission, New Delhi

Govt. of India (1989); Agro-processing Industry, VII Five Year Plan, Draft Report, Ministry of Food Processing Industries, New Delhi.

Govt. of India (2000); Annual Report 1999-2000, Department of Food Processing, Ministry of Agriculture, New Delhi.

Govt. of India; Eleventh Five Year Plan, Planning Commission, New Delhi

Govt. of India; Annual Plan (2006-07), Planning Commission, New Delhi

Govt. of India; Annual Plan (2007-08), Planning Commission, New Delhi

Govt. of India; Annual Plan (2008-09), Planning Commission, New Delhi

Govt. of India; Annual Plan (2009-10), Planning Commission, New Delhi

Govt. of India; Annual Plan (2010-11), Planning Commission, New Delhi

Govt. of India; Annual Plans for different years, Ministry of Food Processing, New Delhi

Govt. of India (2010); A Special Report on Ministry of Food Processing Industries, The Times of India, Friday March 26

Goel S.K. (1984), et al Small Scale Sector and Big Business, Corporate Studies Group, Indian Institute of Public Administration.

Goel SK (1994); Policies towards Development of Agro-Industries in India; in GS Bhalla (ed) Economic Liberalization and Indian Agriculture, ISID New Delhi

Iqbal B.A. (1981), Agro-based industries; Performance and Prospects, Print well Publications, Aligarh

Kachru R.P.(2008). Agro-Processing Industries in India—Growth, Status and Prospects**;** , Indian Council of Agricultural Research, New Delhi

Padmanabhan M (2001); Set for Quantum Jump, The Hindu, Survey of Indian Industry

Ruth Rama (1990); Foreign Direct Investment in the Food and Food Packaging Industries in India, OECD Development Centre, February 1990.

Rao,VKRV (1997); "Industrialization and Integrated Rural Development", Man and Development, Vol I, No 2, July

Ruth Rama, (1990), Foreign Direct Investment in the Food and Food Packaging Industries in India, OECD Development Centre

Srivastava UK (1989); Agro-processing Industries; Potential, Constraints and Task **Ahead;** Indian Journal of Agricultural Economics. Vol. 44, No. 3

Venkaiah V. (1987), Impact of Agro-based Industries on Rural Economy, Himalaya Publishing House, Bombay.

UNCTAD (1978); Marketing and Distribution of Tobacco, United Nations, 1978, p ix).

UNIDO, Industry in A Changing World, special issue for the Fourth General Conference of UNIDO, United Nations, New York, 1983, p. 264. Chapter IX of the survey deals with "Agro-Food Industries in Developing Countries: the Nexus between Agriculture and Industry").