CHAPTER 2:

REVIEW OF LITERATURE
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2. REVIEW OF LITERATURE

Agro-processing industry, with its strong forward and backward linkages, has manifold contribution to agricultural and economic development. The significance of the agro-processing industry can be gauged from its benefits to consumers, producers, agriculture and economy as a whole. The agro-processing industry can function as catalytic agent to bring about take-off in agriculture and ultimately in economy as a whole.

In a view of its role in the economic development of a country, many research works have been conducted on various aspects of the agro-processing industry. Therefore, a brief review of previous research work is necessary to identify various issues and research gaps for the present study. The review of literature is presented on following lines.

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2.1. RESEARCH WORK AT INTERNATIONAL LEVEL:
A brief review of research work related to agro-processing industry at international level and in various foreign countries is discussed below.

J. Wilkinson and R. Rocha\(^1\) in their study on, “The Agro-Processing Sector: Empirical Overview, Recent Trends and Development Impacts” have taken overview of agro-processing sector world over and pointed out recent trends in it. The study also highlighted the developmental impact of agro-processing sector on the economy. The study finds that Agro-processing industry plays a fundamental role in employment creation and income generation, particularly the food and beverages processing sector remains important at all levels of economic development. It further states the role of agro-processing sector in its contribution to manufacturing and GDP and promotion of socio-economic development.
A study conducted by FAO on “The Importance of Agro-Industry for Socioeconomic Development and Poverty Reduction” examines the role of agro-industry in socioeconomic development worldwide. The study finds that Agro-industry performs a number of crucial functions that support development and poverty alleviation. It is therefore argued that agriculture in connection with industry needs to be recognized by senior-level policy makers and industry leaders as a competitive, value-adding business sector that has a positive development impact and contributes to economic growth. Rather than focusing on agricultural productivity only, policy makers must consider the competitiveness of the entire agro-value chain. A comprehensive approach could include e.g. supporting small agro-producers and SMEs, enabling market access and developing a supportive institutional environment.

In another study, “Material Productivity in Food Processing”, Adesoji O. Adelaja, holds that material inputs account for over 60% of the cost of the manufacturing food products in the United States. Hence food manufacturing is more material intensive than most other manufacturing sectors. Using New Jersey’s food manufacturing sector as a case study, this study investigate the extent and mechanism of recent growth in material productivity. The results of the study suggests that greater material efficiency or material productivity growth is encouraged by rising material prices (material price inflation) wage rates, and regulations and by declining food prices.

In a study, “Supply Response and Investment in the Canadian Food Processing Industry”, Ramon E. Lopez holds that food processing industry constitutes a major direct market for the domestic farm sector and hence the dynamism of agriculture depends on development in the food processing industry. The study analyze the determinants and the production structure of the food processing industry in Canada and estimate a complete system of factor demand, output supply and investment for the Canadian food processing industry, using the theory of adjustment cost developed by Treadway. The main findings of the study are 1) capital adjustment costs play a substantial role in determining short run and intermediate run behavioural response. The hypothesis of instantaneous capital adjustment to changing market conditions is statistically rejected. Capital stock adjustment to optimal level takes two and one third years, and 2) although output supply and input demand are responsive to price changes, a general pattern of inelastic factor demand and output supply responsiveness prevail in short run, intermediate run and even in the long run.
H.M. Dietz and S. Matee’s study on “Assessment of the Small Scale Food Processing Sub Sector in Tanzania and Uganda” examines constraints faced by small scale food processing industries in these countries. The study finds that it is constrained by lack of access to capital and information, limited choice of technologies and poor technical and managerial skills. Approaches for improving productivity and competitiveness are also discussed in the study.

In another study, “Small Scale Food Processing in Mozambique, South Africa and Zambia”, Saasa K Atkinson and M.J. Cardoso highlight the potential contribution of small scale food enterprises to the economies of these countries, and discuss the constraints such enterprises face including poor access to finance and unfavourable infrastructural and regulatory environment.

Norman Mhazo, Brighton M. Mvumi, Raymond M. Nazare and Elijah Nyakudya in their study, “The Status of the Agro-Processing Industry in Zimbabwe with particular reference to Small and Medium Enterprises”, have examined the status of the agro-processing industry in Zimbabwe. The study states that the Zimbabwe agro-processing industry 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 is well established. There are also well established skills training programmes in manufacturing 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.

In another study, “Status of Rural-Based Small and Medium Food Processing Industry in Japan”, Isamu Sakurai, has presented status of the rural based small and medium food processing industry in Japan and argued their development from the point of view of economic development. The study also points out the challenges faced by the food processing industry in Japan.

John Wilkinson in his study on “The Food Processing Industry, Globalization and Developing Countries” examines the transformations in the food processing sectors of developing countries from the point of view of export earnings, domestic industry restructuring and dietary issues. The study discusses the main trends identifiable in the
food processing industries of the three regional blocs of the developed world, since it is their combined impact that determines the complex patterns of globalization, importance of non-traditional food processing exports by developing countries and the different interpretations to which it has given rise and the internal transformations of the food processing sector of developing countries under the combined impact of imports and FDI. The study finds the strategic role of agro-processing for developing countries in the context of globalization. The increasing importance of processed food exports when compared with primary commodities confirms this sector as a key component of export growth strategies for developing countries. The phenomenon of FDI in the food processing sectors of developing countries, while partially identified with the promotion of these non-traditional exports, is seen as transforming the competitive environment of the food industry in developing countries. The study recommends the different possibilities for strengthening the participation of small and medium enterprises in food processing sector.

Alastair Hicks\textsuperscript{10} in his study on “Issues and Strategies in Development of Rural-Based Small and Medium Food Industry in Asia and the Pacific” has taken review of Asia-Pacific region countries and pointed out the issues and strategies in development of rural based small and medium food industry. The study concludes, planned investment and socio-economic development will open up many opportunities and provide the foundation and confidence for rapid advancement. At this stage the production and processing of agricultural biomass including its by-products, for commercial and industrial purposes, becomes increasingly viable for countries of the Region. Farm, forest and industry can be integrated for the optimum utilization of each country's biomass resources, leading to wealth generation, through agribusiness development.

The research is also carried out on agro-processing industry in various other countries like China, Brazil, Chili, Iran, Indonesia, Malasia, Shrilanka, Bangaladesh India etc.

2.2. RESEARCH WORK AT NATIONAL LEVEL:
A brief review of research work related to agro-processing industry in India is discussed below.

U K. Srivastava’s\textsuperscript{11} study, “Agro-Processing Industries: Potential, Constraints and Task Ahead” analyzed the profile and trends in the growth of agro-processing industries and
identified constraints of agro-processing industries. It is also observed in the study that substantial portion of net value added from the agro-industry is derived from unregistered and cottage scale units. Further it is observed that bulk of the agro-processing industries are very small and that fixed capital investment per factory in the non agro-based industries, and working capital employed is more as compared in non agro-based industries and capital labour ratio is less in the agro-based industries as compared in non agro-based industries indicating the labour intensive character of the agro-based industries. The study identifies constraints like inadequacy and suitability of raw materials, under utilization of the existing capacity, obsolete processing technology and consequent suboptimal yields, energy over utilization, lack of scale economies in production, increased market costs, larger expenditure on market development, high rate of interest on working capital from commercial bank and high tax on processed products.

Many research institutions in India like Indian Council of Agricultural Research have conducted research on technical aspects of agro-processing. R.P. Kachru\textsuperscript{12} in his study on “Agro-Processing Industries in India: Growth, Status and Prospects” provided a summary of the growth history of the sector covering role of R&D, recent trends vis-a-vis crop-wise status of agro processing industrialization and problems, export trends, SWOT analysis and thrust areas for future for achieving greater role of this sector in the national economy. The study further states that the performance of agro-processing industry is not satisfactory and is suffering from problems of marketing, finance, technology, productivity, raw material and points out the need to develop separate support system for agro-processing industry.

In another study, “Importance of Agro-Processing Industry in Diversification of Agriculture in India”, R.K. Singh and J. Rai\textsuperscript{13}, have analyzed the failure of capital oriented and centralized agro-based industry in India in stimulating agricultural development and raising the standard of living of the people of rural population and the enormous loss of centralized urban based agro-industry during post harvest period in production areas. For solving this problem, the study has emphasized some of the aspects of diversification oriented towards horizontal, vertical and regional interaction of farming and its possible effects on prices, adoption of new technology and profits of any crop. In order to reduce post harvest loss of agricultural commodities, the study suggests that the processing industries must be established in the production areas of
the agricultural produce within the formal and informal sector which would create the potential for labour absorption and alleviate poverty and unemployment in India.

Vasant P. Gandhi and Gyanendra Mani\textsuperscript{14}, in their study, “Agro-Processing for Development and Exports: The Importance and Pattern of Value Addition from Food Processing” attempt to analyze the magnitudes, variation and pattern in the value addition in the food processing industries using data from annual survey of industries. The study finds that net value addition from food processing industry over the total value of input is high and grown during the period of the study. The extent of value addition as a percentage of input differs substantially by the food industry group from over 25\% for cashew, coffee and fine sugar to 5-6\% in traditional industries like milling, edible oil and vanaspati. The study concludes that information on value addition of agro-processing industries in different sectors will be of immense help in designing investment portfolio for the development of agro-processing industries for domestic markets and exports.

In another work, “Managing Food Processing Industries in India”, U.K. Srivastava and N.T. Patel\textsuperscript{15}, analyze the structure and export performance of agro-processing industries in India, illustrate methods for financial and economic analysis, focuses on working capital and raw material management, examine specific problems in marketing of processed food products, packaging and capacity utilization.

Desai et. al\textsuperscript{16} in their study, “Food Processing Industries: Development and Financial Performance” analyzed the development and financial performance of selected food processing industries such as food grains, edible oil processing, sugar factories and dairy products and contributions of these industries rural led economic development. The performance of these industries is analyzed by examining their input and factory productivity, liquidity, working capital management efficiency, solvency management efficiency, profitability, operating surplus to investment and liquidity and solvency cushion criteria. The study has shown that sustained growth in primary output of commodities is essential for higher growth performance of the selected food processing industries.

In another study, “Development of Food Processing Industries”, Bhupat M. Desai et. al\textsuperscript{17} have analyzed development and financial performance with reference to working capital management of selected food processing industries such as food grain milling,
edible oil seed processing, sugarcane processing and milk processing and hold that food processing industries raw material, labour and working capital intensive. The study prioritizes these industries for the development on the basis of performance development criteria. The study finds that edible oil mills get priority followed by grain mails, dairy products and sugar.

In another study, “Size Structure of Agro-Industry: A Linkage Analysis”, Sandip Sarkar attempts to explain the size, structure of agro-industry of India based on 21 group of agro-industries. The important factors used in the study to explain the size, structure of agro-industry are backward linkages, raw material concentration and size of market. The study indicates that own account enterprises (smallest size group in the unorganized sector) are disadvantageously positioned in terms of backward linkage, raw material concentration index and size of market. Their diminishing advantages are due to dispersed raw material availability and sectors where processes are difficult to standardize. Whereas the advantages of factory sector lies in terms of larger market, higher linkages and concentrated availability in raw material.

Himanshu’s study on “Agri Business management: Problems and Prospects” deals with the problems and prospects and other related operational aspects involved in setting up new agro-industrial projects in India. Suggestions and policy recommendations for the growth of agro-industries in India have been also made in this study.

G.K. Chandha and P.P. Sahu’s study on “Small Scale Agro-Industry in India: Low Productivity is its Achilles Heel” examines the size and performance of agro-industries in India, analyses the growth of productivity in unorganized and organized manufacturing sector in India and examines the locational and scale advantages/disadvantages among tiny and small enterprises. The study finds that the most festering part of the Achilles heel lies amongst the lowest rung of the unorganized agro-based units.

B.D. Dhawan’s study of “Location of Agro-Processing Industries – Case Study of Fruits and Vegetables” has examined the location of fruit and vegetable processing industries in India. He observes in the study that most of the fruit and vegetable processing industries are located in big cities with population over one lakh.
Sandip Sarkar and Anup K. Karan\textsuperscript{22} in their study on “Status and Potentials of Village Agro-Processing Units / Industries” examine broadly the status and potential of village level agro-industries in India. The study investigates relative position of village level agro-industries in rural non-farm sector, strength of interrelationship with agricultural sector, various physical and financial constraints faced by these units and suggest policy measures to improve viability of these units and improve their market share.

Sanjay Sinha and Sauabh Sinha’s\textsuperscript{23} study of “Small Scale Fruit and Vegetable Processing Industries” has traced the growth of industry, analyzed constraints and opportunities, discuss the prospects for the growth and assesses the future of the industry. They have identified the constraints as poor horticultural base, a weak production system, market limitations, consumer preferences and government policies.

K.P. Kannan’s\textsuperscript{24} study on ‘Cashew Processing Industries’ has analyzed the historical factors that have shaped its development and grappled with issues like the extent to which agrarian and non agrarian capital has moved into this industry, the emergence of factory system, the determinants of employment and wages, the problems in the import front, the domestic potential of increasing production of nuts and points out the needed policy changes.

2.3. RESEARCH WORK AT STATE LEVEL:
A brief review of research work related to agro-processing industry in various states in India is discussed below.

In a study, “Growth and Structure of the Food Processing Industry in the Punjab in the Eighties”, Sukhpal Singh and Vinod Vyasulu\textsuperscript{25}, has examined the growth and change in the structure of the food processing industry in Punjab. It has been found that growth has taken place in the field of primary processing of agricultural produce which has recorded growth above the state average in both output and employment. But the secondary processing sector, which contributes to the higher rates of value added had not grown at a commensurate rate.

In another study, “Role of Agro-Based Industries in the Industrial Development in the State of Madhya Pradesh”, Lal Mrigendra Singh Baghel and Neelkanth G. Pendse\textsuperscript{26}, examine the role of agro-industries in the industrial districts of Madhya Pradesh. The study observes that Madhya Pradesh being an agricultural based economy,
development of industries largely depends on the agro-industry. The study has also analyzed the industrial scenario of the state in terms of the development of agro-based industries and concludes that agro-industries play an important role in economic development of the state in terms of increase in investment and generation of employment.

In another study “Model for Agro-Industrial Development in Punjab”, M.P. Kaushal\textsuperscript{27}, has analyzed the agricultural situations in Punjab. He observes in the study that Punjab agriculture is confronted by situational factors such as supply of food grains exceeds the demand for it, for small farmers agriculture is less remunerative and small/marginal holdings are non viable, educated labour force are unwilling to take up agricultural activities and they represent a net burden of the surplus population. Against this background the study suggest agro-industries which will solve the problems of absorbing surplus labour of agriculture and that of educated unemployed youth, can prevent the small farmers from giving up agriculture, can check migration from rural to urban centres and thus lessens the pressure on congested urban areas.

In another study, “Agro-Industries for Diversified Growth and Employment”, after presenting scenario of agro-processing in India, Sukhdev Singh\textsuperscript{28}, discusses the problem of Punjab agriculture. He observes that though Punjab agriculture is at advanced state, its production is growing at low rate, cost of production is increasing and consequently returns of the farmers are falling. Cropping pattern in the state dominated by paddy-wheat rotation caused scarcity of water resources in the state. The study further observes that most of the educated youths in the state are tied up in the agriculture sector at very low level of income. In this context, he observes that development of agro-processing industries can offer a viable solution to the economic problems of the state in and general agriculture in particular.

S.C. Gupta’s\textsuperscript{29} study on “Development of Agro-Industries – Problems and Prospects”, investigate the growth, problems and prospects of agro-industries in Bihar. It further examines their impact on agricultural and economic development with reference Bihar. The study is carried out with regard to growth, structure, pattern and prospects of agro-processing industry and examines organization, management, marketing, finance, materials aspects of the industry. The study identifies problems of agro-industries in Bihar as lack of finance, inadequate and irregular supply of power, lack of working
capital, lack of raw material, lack of trained labours, lack of demand, marketing problems, poor technology.

Som Nath Sharma’s study “Socio-Economic Study of Agro-Industries”, attempts to study the infrastructural facilities and agro-based industries and their impact on rural employment, rural income and rural wage structure in the rural areas. The efforts made by the Government to develop these facilities for the uplift of the rural economy have also been studies. Major factors responsible for the socio-economic development in the region at micro level in the state of Haryana have been identified and studied.

T.S. Chahal and Harwinder Singh’s study, “Impact of Establishing Agro-Processing Industries on Income and Employment of Farmers in Punjab” examined the impact of agro-processing industries in Punjab on income, employment, cropping pattern and on farm investment in Punjab agriculture. In the study they observe that cropping pattern in Punjab agriculture mainly revolve around wheat and paddy production which has reached peak level. In order to solve this problem, they further observe that a shift in cropping pattern in favour of fruits and vegetables is necessary to diversify Punjab agriculture. The success of such agriculture depends on setting up of a network of agro-processing units to provide value added products. The study also shows that with setting up of agro-processing industry, the cropping pattern of an area undergo a change, thereby affecting the income and employment pattern of the farmers.

Raman Mahadevan, Mridul Epapen, K.N. Nair and John Kurian’s study on “Agro-Processing Industries in Tamil Nadu and Kerala”, has analyzed issues like development of technology, interaction between technology and organization of production, the supply of raw materials, the spatial spread of the industry and the market for products and by products etc. in the context of few selected agro-processing industries such as palmgur, meat and broiler industries with a view to evolve a policy framework or the development.

M.N. Malliswari in her study on "Mango Processing in Andhra Pradesh: Potential, Infrastructure and Constraints", examined cost of four processing units of different sizes which produce mango pulp for independent marketing. It was found that except for raw material, all the other costs are higher per unit in large and medium scale concerns in relation to the smallest scale of production, thereby indicating that there is a substantial element of fixed expenditure under each head and that economies of scale
are not reaped at this level. It was also found that substantial cost reduction especially transportation cost and increase in shelf life of product are the benefits in pulp processing activities at the place of production of raw material.

2.4. RESEARCH WORK AT DISTRICT LEVEL:
A brief review of research work related to agro-processing industry conducted at district level is discussed below.

M. G. Joshi, S.S. Wadkar, D. M. Malave and J.M. Talathi’s study on “Income and Employment Generation in Mango Processing Industry” conducted for Ratnagiri and Sindhudurga districts of Maharashtra analyzed the cost of processing of various varieties of mango and profit margin and their effect on income and employment. The study has revealed that mango processing activity provides employment to a large number of workers particularly female workers.

Mohammed Asmatoddin, G.T. Pawar and Khan Darakshan Irfan in their study on “Performance of Bakery and Confectionary Food Processing units in Maharashtra, India” have examined the performance of bakery and confectionary units in Parabhati district of Maharashtra. The study finds the investment, gross profit, operating profit, net profit and output ratio of bakery and confectionary units.

In another study on “Retrospect and Prospects of Chickpea Processing Industries in Maharashtra - An Empirical Analysis”, R.D. Shelke and A.A. Chavan examines the Chickpea processing industries in Marathawada region of Maharashtra and points out the prospects of it. This study calculates the value addition, cost benefit ratio and employment pattern in chickpea processing. The result shows that the efforts should be made to introduce improved management practices and high technology for improving the recovery of finished products. The study states that Chickpea processing provide new avenues of employment at a relatively smaller capital cost. These industries also serve as a means for providing employment opportunities.

In another study, “Economics of Agro-Processing – A Case Study of Jaggery Production and Marketing in East Godavari district of Andhra Pradesh”, V.T. Raju and M.V. Ramesh have attempted to analyze costs and returns of jiggery production and marketing in East Godavari district of Andhra Pradesh. The study has revealed that
jiggery preparation was more profitable in the study area than selling cane to sugar factories.

Anant Ram Verma’s study, “Economics of Processing and Marketing of Gur in District of Indore, Madhya Pradesh”, have analyzed the economics/cost, productivity, profitability and producer’s share in the consumer’s price. The study has revealed that the share of the producer in the consumer’s rupee can be increased by preventing illegal unauthorized deductions by eliminating a large number of intermediaries.

P.S. Sehrawat, N.S. Verma and K.S. Suhag’s study, “Factors Affecting the Economic Viability of Small Scale Agro-Processing Industries”, examine the factors responsible for economic viability of small scale agro-processing industries based on a study conducted in four districts in Haryana. The study revealed that marketing and financial factors are ready availability of finance, identification mega markets, attractive packaging of products, selection of product based on market demand, good conduct of marketing personnel. The study further revealed production factors, socio personal and psychological factors responsible for economic viability of small scale agro-processing industries.

S.D. Sivakumar, R. Balasubramniam and N. Srinivasan, in their study, “Growth Linkage Effects of Agro-Industrialization” conducted in Dhrmapuri district of Tamil Nadu, consider agro-industrialization with strong rural urban growth linkages is an important option to absorb surplus labour. The study analyzes the linkage effects of agro-industries. The study finds that the raw material procurement activities of agro-industries promoted rural to rural interaction and the export of value added products from the region promoted rural urban interaction. The study also finds that the growth of agro-industries would favour growth of nonfarm non industrial activities and hence agro-industrialization is regarded as a means of development strategy.

In another study, “Econometric Analysis of Sugar Industry”, V. Kudandarami Reddy, analyze sugar industry in Chittor district of Andhra Pradesh, using production approach and observe that sugar industry is one of the largest agro-based industries in India providing both direct and indirect employment to many and supporting many more allied industries. The study finds that there are no economies of large scale production in the industry, existing labour and capital investment are underutilized, output of sugar can be increased by using more of raw material and that among factors relative
contribution to output value, the contribution of raw material is greater than those of both labour and capital.

D.C. Pal and G. L. Meena in a study on "A Comparative Study of Processing Chilli in Jodhpur District of Rajasthan", examines 12 Chilli processing units in Jodhpur district of Rajasthan after equally choosing from 3 size groups—small units (capacity upto 5 quintals), medium units (5-10 quintals per day) and large units (above 10 quintals per day). The study finds that maximum utilization was in medium units (59 per cent), followed by large units (53 per cent) and small units (41 per cent). However, recovery rate of chilli powder was uniform in all size categories and all units were operating above breakeven capacity and earning profit.

Pardeep S. Shehrawat in a study “Agro Processing Industries – A Challengeing Entrepreneurship for Rural Development” examines the problems encountered by agro-processing industries regarding finance, marketing, technological and export in four industrially leading districts of Haryana. The study also points out the specific training needs of the entrepreneurs.

The review of research work related to agro-processing industry conducted so far reveals following facts.

- Many research studies are related to role and significance of agro-processing industry in agricultural, rural and economic development.
- The research studies have been undertaken at international level, national level, state level and district level.
- The research studies are sector specific and are related more to the food sector than to non food sector.
- The research studies are product category specific and are related to specific product categories like fruit and vegetable processing, bakery, confectionary etc.
- The research studies are related to the states where agriculture is comparatively advanced like Punjab, Haryana etc.
- The research studies conducted in Maharashtra are comparatively less.
- The research studies are related to large scale enterprises especially related to sugar industry.
• The research studies related to analysis of performance of agro-processing industry are scanty.
• The research studies are related to economic, technical aspects of agro-processing industry.
• The research studies conducted so far do not lay much focus on various functional areas of management like marketing, finance etc.
REFERENCES:


