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Enhancing Growth and Productive Employment Linkages in the Food Processing Sector

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Foreword

The Centre for Economic and Social Studies (CESS) was established in 1980 to undertake research in the field of economic and social development in India. The Centre recognizes that a comprehensive study of economic and social development issues requires an interdisciplinary approach and tries to involve researchers from various disciplines. The Centre's focus has been on policy relevant research through empirical investigation with sound methodology. Being a Hyderabad based think tank, it has focused on, among other things, several distinctive features of the development process of Andhra Pradesh. In keeping with the interests of the faculty, CESS has made important contributions to social science research in several areas; viz., economic growth and equity, agriculture and livestock development, food security, poverty measurement, evaluation of poverty reduction programmes, environment, district planning, resettlement and rehabilitation, state finances, education, health and demography. It is important to recognize the need to reorient the priorities of research taking into account the contemporary and emerging problems. Social science research needs to respond to the challenges posed by the shifts in the development paradigms like economic reforms and globalization as well as emerging issues such as optimal use of environmental and natural resources, role of new technology and inclusive growth.

Dissemination of research findings to fellow researchers and policy thinkers is an important dimension of policy relevant research which directly or indirectly contributes to policy formulation and evaluation. CESS has published several books, journal articles, working papers and monographs over the years. The monographs are basically research studies and project reports done at the Centre. They provide an opportunity for CESS faculty, visiting scholars and students to disseminate their research findings in an elaborate form.

This monograph titled "Enhancing Growth and Productive Employment Linkages in the Food Processing Sector" by N. Chandrasekhara Rao is an interesting contribution on a topical issue. Food processing is considered to be a sunrise sector and there has been some optimism about its growth potential and possibilities of employment creation in this sector. This is a sector where agriculture meets the industry and if properly developed, it can help the farming community by enabling them to get remunerative prices by virtue of creating new demand and absorbing the peak season surpluses for processing. The growth experiences of developed countries suggest that the share of processed products increases as a country moves on to higher growth path. The government of India, realizing this need, established a separate ministry for the sector and provided several incentives in the reform era.

The sector has been growing at higher rates since the early nineties. The higher income elasticity of processed food products, increasing nuclear families, participation of women in the labour forces leading to higher opportunity cost of time and changing dietary patterns

due to globalization are mainly responsible for accelerating the growth of this sector, apart from the favourable policy framework. The structure of food processing and nature of employment in the sector have not been documented in the literature adequately, even though there are concerns about the quality of this work. In spite of untapped potential for growth and known labour intensive character of this production, there are very few systematic studies on this sector especially in the vast informal segment. The wages and conditions of work in the sector are largely undocumented compared to workers in other activities like garments etc. The present study tries to fill this gap and brings out structure and growth of the sector and employment, gender aspects and wages at the aggregate level, wages and conditions of work at the ground level and provides a critical review of policy framework and offers policy suggestions for enhancing growth and productive employment linkages.

The study critically reviews the policy framework and comes to the conclusion that the reminiscences of the old policy based on the assumption that the rich only consume processed products still continue. The unorganized segment which creates most of the employment in food processing has been neglected. On the other hand, the expected growth in the utilisation of fruits and vegetables has not been forthcoming. The infrastructure in terms of credit, technology, research support to bring processable varieties and breeds, packaging material, machinery, cool chains etc is also in a primitive condition. The study highlights the need for interventions on these lines and rationalizes them in view of the societal gains in terms of poverty reduction through employment, remunerative prices to farming community and catering to the requirement of consumers in the modern times.

This monograph provides valuable suggestions to policy makers from the analysis of macro data, field studies and review of policies. I hope it would be useful to the research community, policy makers and all those interested in this sunrise sector.

Manoj Panda
Director, CESS

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N.Chandrasekhara Rao

EXECUTIVE SUMMARY

There has been some optimism about the growth potential and possibilities of employment creation in the food processing sector in India. It is considered to be a sunrise sector and the approach paper to the Eleventh Five Year Plan recognizes it as a labour intensive manufacturing sector and proposes to encourage this along with others like leather products, footwear, and textiles and service sectors such as tourism and construction to create additional employment opportunities of 65 million during the plan period. The growth experience of the sector in the past two decades seems to justify this optimism and future expectations on its growth and probable increased contribution of the sector to overall growth of the economy are also high. Much of this is based on factors like increasing per capita incomes in the country, favourable demographic structure, rapid urbanization, changing consumption patterns, rising share of organised food retail etc in the same order.

In addition to the objective conditions in the country favouring the growth of processed foods, certain developments in the food processing industry in the world are also driving the sector in India. Most important among them are - the consistent rise in the share of processed foods in the international agricultural trade; the rise of what are called 'non-traditional items' in agricultural exports in the international trade etc. The food processing multinationals are faced with the falling population, stabilizing urbanization and falling economic growth rates in the developed countries and falling trade volumes in international market. Precisely because of these reasons, they are now concentrating on transnationalisation of the sector and investing through foreign direct investment in the developing countries. Another influential factor in the contemporary world scenario is the rise of buyer-driven value chains in place of producer-driven value chains consequent on many nations shifting to export oriented industrialization from the import-substitution industrialization and as a result of moving of the centre of gravity for the production and export of many manufactures to an expanding array of newly industrializing economies in the third world. This will have profound positive implication for the development of food processing industry in developing countries like India. Thus, both the internal and external environments are favourable to the development of food processing sector now.

This sector is known for employing large number of people in many countries around the globe. It employs large number of workers in India also. The growth of the sector is expected to provide large number of jobs. The growth of this sector is adding new dimensions to women's involvement in agro and food processing. The Government of India earlier targeted to increase the percentage of fruits and vegetables processed from 2 to 10 by 2010 and anticipated creation of employment to 7.5 million persons directly and another thirty million indirectly. The evolution of this sector can have positive or negative influence on the

employment and may also vary across sub-sectors. Therefore, empirical study is needed to plan in advance about the implications of growth of this sector. However, the quality of employment is also important to provide a minimum standard of living to the workers. The existence of high proportion of unorganized segment in most of the manufacturing sectors in the country reduces the quality of employment. The labour productivity in that segment is very low and sometimes lower than that of the agricultural sector. Further, the growth rate of real wages in the nineties has gone down or real wages declined in many cases. The security of employment and benefits from state are almost non-existent for workers in unorganized segment. The contraction of employment in the organized sector aggravates the problem.

In spite of the huge untapped potential for growth and known labour intensive character of this production, there are very few systematic studies on food processing sector in India. The wages and conditions of work in the sector are largely undocumented compared to workers in other sectors like garments etc. There is also a need to look at the nature of growth in terms of employment creation to arrive at useful starting points for public intervention. The study is a humble attempt in that direction. This study focuses on the food processing sector at the all-India level. The main objective of the study is to bring out the growth and productive employment linkages in the food processing sector in India. The specific objectives are –

1. To study the structure and growth of food processing sector
2. To study the structure of employment, gender aspects and wages at the aggregate level
3. To study the wages, conditions of work, power of representation and training needs at worker level and
4. To provide a critical review of policies and policy suggestions for enhancing growth and productive employment linkages

The industries in food and beverages are considered under food processing in the study and the tobacco industries are left out except for giving some important ratios. The structure and nature of employment in the food processing sector in India have been analysed from the analysis of data of the Annual Survey of Industries (ASI) of the Central Statistical Organization and the reports on unorganized manufacturing segment of the National Sample Survey Organization (NSSO). A field study was conducted to know the wages, conditions of workers, employment security, social security, gender bias and training needs in the food processing sector. The activities selected for field study are cashew processing and fish processing in the factory sector; and mango jelly making and pickles making in the non-factory sector. The number of workers interviewed are 425 across all these activities and 80 per cent of them are women. The results of the study are outlined hereunder in order of the objectives of the study.

Food processing industry processes materials of plant or animal origin by transformation and preservation through altering physical and chemical characteristics and packaging. It transforms raw material into finished products for consumption. The five sub sectors in food processing industries are - production, processing and preserving of meat, fish, fruits, vegetables, oils and fats; manufacture of dairy products; manufacture of grain mill products, starches and starch products and prepared animal feeds; manufacture of other food products; and manufacture of beverages. Each of the above groups is classified into different classes and sub-classes at four and five digit-levels respectively.

The food processing sector forms 2.06 per cent of the gross domestic product in 2004-05. The organized segment of the sector dominates in terms of output, accounting for 78 per cent of the total value of output in 2000-01 and the unorganized segment provides the major share of employment to an extent of 84 per cent of the total 81.75 lakh persons employed in the sector. The unorganized segment seems to be the major creator of jobs for the workforce. Out of the 0.88 million jobs created between 1994-95 and 2000-01, the unorganized segment contributed 93 per cent. The growth experience of the sector is a success story and it improved its share in the total value of manufacturing output from 15 per cent in 1994-95 to 18 per cent in 2000-01. The organized segment contributed mainly to the growth in this share. The share of organized segment of food processing in the employment of total manufacturing went up from 14 per cent in triennium ending (TE) 1993-94 to 17 per cent in the TE 2003-04. The importance of this sector stems from these very high contributions to output and employment. However, the lower share of wages and salaries at 11 per cent in the total wages and salaries of manufacturing sector indicates that the quality of employment in the sector may be poor on the whole. This gap seems to be relatively higher if we observe the share in employment and wages across many other countries. There is no gap between these two in developing countries like Sri Lanka and Kenya also.

The major components of the organized food processing sector with respect to output in the triennium ending 2003-04 are vegetable and animal oils and fats (30 per cent), grain mill products (20 per cent), sugar (17 per cent), dairy products (10 per cent); and macaroni, noodles, conscious and similar farinaceous products and other food products not elsewhere classified (8 per cent). During the last two decades, the share of sugar and other food products decreased by 9 per cent and 4 per cent respectively and that of dairy products, grain mill products, vegetable and animal oils and fats and animal feeds increased by 3 per cent, 2 per cent, 2 per cent and 2 per cent, respectively. The regional distribution of both organized and unorganized segments of food processing activity shows that Maharashtra, Uttar Pradesh, Tamil Nadu, Andhra Pradesh, West Bengal and Karnataka accounted for 62 per cent of the total gross value added in 2000-01 under the manufacture of food and beverages in the country. The value addition is very low viz., 16 per cent compared to 23 per cent in the total manufacturing.

The scale of operation in the sector compared to the total manufacturing in terms of output, fixed capital and persons per enterprise is low. The labour intensive nature of the sector provides jobs at a much lower (viz., 30 per cent) capital investment compared to the manufacturing sector as a whole. Some of the sub-sectors like macaroni, noodles and other food products and grain mill products can provide a job at a capital investment that is 75 per cent less than that in the total manufacturing sector. Even jobs in the manufacture of bakery products come at a 55 per cent lower capital requirement. The fixed capital in the oranised sector is 1/3 of that in the total manufacturing. The capital intensity is only 40 per cent of that in total manufacturing and of course, it is increasing at a very high rate. Nearly 70 per cent of this increase in the organized sector was during the eighties and it has slowed down in the nineties. The vast difference in the labour productivity between the organized and unorganized segments is a serious problem in the sector. The productivity in the unorganized segment is only 6 per cent of that in the organsied segment and this calls for attention. The sector improved its scale of operation, capital intensity and labour productivity in the study period. But the capital productivity is declining, though it is still much higher than that in the total manufacturing. The persons per enterprise declined in both the organized and unorganized segment, though this decline is sharper in the former. Most of the sub-sectors in TE 2003-04 are employing lower number of persons per enterprise compared to TE 1983-84. These are dairy products (-32 per cent), fruits and vegetables (-16 per cent), wines (-13 per cent), vegetable and animal oils and fats (-8 per cent), macaroni, noodles, conscious and similar farinaceous products and other food products (-8 per cent), bakery products (-6 per cent) and grain mill products (-3 per cent). The sub-sectors, where the capital intensity is very low are macaroni, noodles and other food products, grain mill products and bakery products. They are very important from the point of view of employment creation. The labour productivity is very low in macaroni, noodles and other food products, fruits and vegetables and starches and starch products.

The growth rate of output in the organized segment of the sector is 50 per cent more than that in the total manufacturing during 1993-94 to 2003-04. This is despite poor agricultural performance during the late nineties and early years of the new decade. This segment maintained a high growth rate of 6.62 per cent per annum for the last two decades and the value of output in 2003-04 was Rs.1800 billion at current prices. The unorganized segment is not far behind the organized segment in its contribution to growth of the sector. In fact, during 1994-95 and 2000-01, it has grown by 7 per cent per annum. This demonstrates that the notion of organized sector alone can propel the sector to higher growth is wrong. During 1981-82 to 2003-04, the higher growth rates are registered in case of starches and starch products, cocoa, chocolate and sugar confectionery, prepared animal feeds, meat and meat products, wines, soft drinks and mineral waters and dairy products. The value of production in the sector nearly doubles in every decade at these growth rates in the business as usual scenario. The share of food processing in the total manufacturing is likely to improve from 15 per cent to 16 per cent by the TE 2025-26. The proposed investment in the eleventh five year plan can increase the growth rate by 34 per cent and take it to 8.87 per cent.

The structure of employment at the macro level seems to be moving towards self-employment and regular salaried employment in recent times. The level of indirect employment in the food processing sector is on par with the total manufacturing. However, it is severe in some of the sub-sectors like meat, fish, fruits, vegetables and oils; and grain mill products. A high proportion of workers are indirectly employed in Haryana, Punjab, Orissa, Rajastan, M.P, A.P, Gujarat and U.P. This is the lowest in Kerala, Tamil Nadu and West Bengal. The major activities in organized segment of food and beverages in terms of employment in the triennium ending 2003-04 are macaroni, noodles, conscious and similar farinaceous products and other food products (26 per cent), sugar (22 per cent), grain mill products (20 per cent), dairy products (11 per cent) and vegetable and animal oils and fats (6 per cent). The sub-sector macaroni, noodles, conscious and similar farinaceous products and other food products contributes only 8 per cent to the total output of the sector, while its share in total employment is very high. This can be considered the most labour intensive sub-sector in the food and beverages sector. The structure of employment in the unorganized segment presents a slightly different picture. The grain mill products (38 per cent); macaroni, noodles and similar farinaceous products and other food products (22 per cent); sugar (10 per cent); cocoa, sugar and confectionery (8 per cent) and dairy products are the major sources of employment in the unorganized sector.

The elasticities of employment suggest that the unorganized segment is doing better than the organized segment in creation of jobs. On the whole, the sector is slightly better than the total manufacturing. The major activities for employment like sugar and vegetable oils showed negative elasticities, while grain mill products and other food products have elasticities of 0.23 and 0.21 respectively. The additions to employment are relatively high in starches and starch products, prepared animal feeds and bakery products. Nearly 60 per cent of the total organized employment is in five states viz., Maharashtra, A.P, U.P, Kerala and Tamil Nadu. Kerala is the biggest beneficiary in terms of employment with 48 per cent of its manufacturing employment coming from this sector followed by U.P (28 per cent), Uttaranchal (28 per cent), Punjab (25 per cent) and Bihar (20 per cent). Within the sector, other food products (52 per cent) and grain mill products (24 per cent) are the major employers.

In the unorganized segment, the OAMEs play a bigger role in providing employment in the sector compared to total manufacturing with 71 per cent followed by NDMEs (16 per cent) and DMEs (13 per cent). The NDMEs and DMEs dominate in bakery products, sugar, cocoa, chocolate and sugar confectionery, starches and starch products and prepared animal feeds. Eighty per cent of the unorganized segment employment is in rural areas compared to 67 per cent in the total manufacturing. The other workers, unpaid household workers and hired workers in the unorganized segment of food processing are in the ratio of 43 per cent, 39 per cent and 17 per cent respectively. The proportion of hired workers is lower by 16 per cent in food processing compared to total manufacturing.

The proportion of women in both organized and unorganized segment is around 27 per cent. This proportion is 44 per cent higher and 19 per cent lower than the respective segment in the total manufacturing. In the organized segment, macaroni, noodles and other food products (58 per cent), fish and fish products (42 per cent) and fruits and vegetables (42 per cent) are the sub-sectors with higher proportion of women. On the other hand, the presence of women is negligible in some industries like sugar (1 per cent), wines (3 per cent), dairy products (4 per cent) and vegetable and animal oils and fats (5 percent). The sector is predominantly women based in Kerala and Tamil Nadu with 86 per cent and 53 per cent respectively. The OAMEs employ 86 per cent of women followed by DMEs (10 per cent) and NDMEs. The participation of women in food processing is mainly in the form of unpaid household workers to an extent of 72 per cent compared to only 64 per cent in total manufacturing. Among women in unorganized segment, 83 per cent are in the manufacture of other food products. Therefore, improving the growth and quality of employment in this sub-sector will have maximum positive impact on women. The experience of other countries like China, Kenya, Malaysia, Sri Lanka and other countries shows that the women get the additional jobs as the sector develops. Therefore, it is a good cause for government to promote this sector.

The conditions of work are brought out through the results of field study in regard to available facilities at workplace, health problems and injuries and work load, advance, income adequacy and regular availability of work etc. It is found that the working conditions in non-factory sector like mango jelly making and pickles making are very tough. The workers are required to work throughout the day in the hot Sun in the mango jelly making. There are no other facilities except water. Though there are some facilities in the factory sector, the workers are forced to wait for the fish stock for hours and no payment is made for waiting in fish processing. Sometimes, they have to report for work in the mid-night depending on the supply of fresh fish stock, which has to be processed within hours of arrival. The percentage of workers reporting health problems due to work and injuries are 22 per cent and 11 per cent respectively. This is very high relative to other industries. There are more number of workers reporting health problems in fish processing and mango jelly making and higher proportion of workers viz., 30 per cent reported injuries in pickles making. The owners do not pay medical bills for the injuries sustained at workplace in 60 per cent of the cases. Among the workers, six percent reported verbal abuse by the owners. That the reported workers are mostly men and from forward communities imply that this in fact may be higher than reported. The number of working hours is long in the food processing activities and found to be nearly 10 hours. The workers are not paid any advances in the pickles making and fish processing activities.

Analysing the responses of male and female workers, it is concluded that the men workers suffer more due to excessive hours of hard work. However, many men workers receive monthly payment compared to women. They are also given positions that are year round like store boys etc in the fish processing, skilled jobs like roasting etc in cashew, monthly

jobs in mango jelly making and marketing personnel in the pickles making activities. This segregation of work based on gender pushes women into lower earning jobs. Further, the entry of new technology in mango jelly making in the form of factories is eliminating women from the jobs and more of men and forward communities are entering them.

The annual emoluments in the sector as a whole are lower than those in the total manufacturing sector by 33 per cent in 2000-01. There is literally no change in real wages and salaries per worker in the manufacture of food and beverages during 1993-94 to 2003-04, as is the case with the manufacturing sector as a whole. During the second period, wages per worker in several sub-sectors have gone down and they have not increased at all in several others. The sub-sectors registering decline in real wages are macaroni, noodles, and other food products (-25 per cent), meat and meat products (-21 per cent), spirits and ethyl alcohol (-20 per cent), malt liquors and malt (-18 per cent) and bakery products (-10 per cent). The sub-sectors with no increase in real wages are fish and fish products, dairy products, grain mill products, starches and starch products and prepared animal feeds. While 33 per cent of the workers in the sector are in the first group, 36 per cent of the workers have been working in the second group, where there has been no increase in real wages. The wages in the organized segment of food processing are 55 per cent lower than that in the total manufacturing in TE 2003-04. Within the sector, macaroni, noodles and other products, grain mill products, starches and starch products and fruits and vegetables are lower than the average in the sector. Though the labour productivity in the organized segment of this sector compares well with the total organised manufacturing in the country, the wages are lower by 55 per cent. This is a puzzle as the wages moves in tandem with the productivity. The annual emoluments across countries show that wages in India are the lowest and Indonesia alone seems to be paying lower among the leading food processing countries. Even Kenya is ahead in this regard. However, the value added per employee in the country is very low compared to many countries in the world where the workers are paid better wages.

The results of the field study show that the annual earnings from different food processing activities are Rs.7045 and 53 per cent of their total wage earnings. The total earnings of Rs.13249 in 2006 are closer to the annual emoluments found from the 2000-01 data of unorganized segment of food processing. The women are observed to earn 51 per cent of their male counterparts in these activities. This huge difference is a function of both the number of days of employment and also the segregation of work. Their daily wage is only 53 per cent of the men's wage in the sector and the number of days of employment per year is 11 per cent lower than those for the men. The annual earnings in the non-factory sector are 1/3 of those in the factory sector. Coming to the wage, the average wage per day is Rs.49 and these activities provide on an average 120 days of employment to workers. The factory sector employ workers for 181 days and the non-factory sector only 36 per cent of this. The wage in non-factory sector is only 71 per cent of that in the factory sector. There is no security of employment and security payments in the factory sector also. This is all the

more surprising to know that the fish processors who export bulk of their production to developed countries do not provide at least provident fund facility to workers.

It is generally believed that the wages in the non-farm sector are higher and they would have an upward influence on agricultural wages. However, the average wages in both the factory and non-factory sectors of food processing are lower than those in agricultural activities. This indicates that the employment in these activities is residual. This is especially so in case of women workers, whereas the men workers get better wages compared to agricultural labour. Therefore, participation of men seems to be based on 'pull' factors, while it is distress that is driving women into these activities. But then, we tried to answer the question as to why these workers go and work in all these activities at all. In case of non-factory sector viz., mango jelly and pickles making, the workers do not get any agricultural work during the summer, when this production goes on. The availability of round the year employment in case of cashew processing and fish processing is responsible for the workers to prefer this job even though at a lower rate. On the whole, it is clear that the quality of employment in the sector is very poor and leaves much to be desired.

The presence of union in any workplace improves the bargaining power of workers. It is found that only 24 per cent of all the workers reported having a union in their workplace viz., only in the cashew processing factories. Therefore, the bargaining power of the workers in the sector is very low. The seasonal nature of work in the non-factory sector is not conducive for forming a union and the management of fish processing factories is hostile to any trade union activity. They have also not hiked the wages of the workers for the past 8-10 years. A follow-up study conducted in cashew processing factories in Tuni of Andhra Pradesh revealed that the productivity of workers and wages increased due to the technology. Though the management is willing to give facilities like provident fund etc, they are very oppressive of any kind of union activity. Therefore, an emerging trend in all the new processing factories with modern technology is not to allow any union among their workers. This is in line with the trends in emerging industries like information technology and garments factories as part of the export oriented industrialization strategy.

Majority of the workers viz., 72 per cent are illiterate. The quality of workforce in the factory sector of the food processing is quite low with 74 per cent being illiterate. The management of the fish factories, where new technologies are used and higher level of hygiene is to be maintained as a fall out of higher standards in the exporting countries particularly E.U and the U.S.A, organized regular training programmes for the workers. However, they informed that workers' skill level is very low and they have to be taught to maintain general hygiene also.

The upgradation of skills to the changing technologies is a serious problem in the cashew processing factories also. The workforce there has resisted introduction of modern (steam boiling) technology with an apprehension that they may not be able to handle the new

machines. These training needs are largely unmet. For example, there is a need to upgrade the technology in the pickles making to avoid injuries, which again needs new skills. If these predominantly women oriented works adopt new technology, the risk of the present women workers losing their jobs is high. This trend is already being witnessed in case of newly set-up mango jelly factories. It is also found that the training opportunities in the workplace or outside the workplace are too few.

The workers in the unorganized sector expect the state to look after their problems by instituting appropriate social security measures. The workers in the food processing sector are no exception. The results of the study suggest that very few benefits reach them. Among these few, maternal benefit scheme (9 per cent), old age pension (5 per cent) and widow pension (5 per cent) are the main schemes, though a negligible proportion of workers get benefit from physically handicapped pension and girl child protection scheme. Further, the workers in different food processing activities get benefits from very few governmental schemes like Indira Krnathi Patham (34 per cent of workers), free text books (32 per cent), mid-day meal scheme (24 per cent), ICDS (18 per cent), scholarships (7 per cent), free uniforms (5 per cent) and SGRY (4 per cent). It is also found that a good proportion of the total workers (23 per cent) are now getting employment and income from *Indira Kranthi Patham*, which is a World Bank aided SHG plus poverty alleviation programme and likely to be extended to other states in the eleventh plan. Their expectations from the state are provision of financial assistance for starting petty business and credit without collateral. These findings provide important inputs to policy making.

The policy framework needs course correction for making the growth in the sector more inclusive. The goal of the policy framework in food processing should be redrawn so as to include employment creation and improving its quality apart from contribution to overall growth of the economy and export promotion. Any such realization should lead to recognition of the long neglect of the unorganized segment of the sector, which employs 84 per cent of the 0.82 million labour force. The financial, credit, technological and human resource development needs of the unorganised segment need attention on a priority basis. The assumption that the processed food products are consumed by the rich alone does not hold good now in the changing socio-economic milieu. Therefore, the central government needs to move towards zero taxation for the processed food products, their raw materials including machinery and preservation materials. Though lots of measures are taken towards this end, there is a long way to go to create a level playing field to our processors as well as to attract investors domestically and from abroad. This will also help the entrepreneurs in the unorganized segment.

The analysis of the international market for processed food and key drivers for the sector in the domestic market lead us to believe that the domestic demand will be the key for the sector in years to come, though there is some scope for improving the exports. As the country moves on to higher growth path and consumption patterns get altered, the focus needs to be on food safety' also along with 'food security'. The domestic quality standards

are very poor and this has to be raised to save the domestic market from imports with the rising health consciousness among middle class. The passing of Food Safety and Standards Act, 2006 is a welcome step in this direction. The present applied tariffs for many of the agricultural commodities that are of immediate relevance to the food processing sector are very near to the bound rates. Therefore, the government needs to bargain effectively for special safeguards for these items in the Doha Round. Otherwise, the sector will be very vulnerable for surges in imports. The second and the most important problem with the likely decline in the tariffs and removing of specific duties in the developed countries with tariff peaks and escalation will be non-tariff barriers to exports from our country. This needs to be tackled effectively by appropriate counter strategies and at the same time the quality standards have to be raised in the country. The recent appreciation of rupee calls for steps to mitigate the loss of competitive edge for the processed food products. Sadly this has been ignored by the government, while some help is being given to other labour intensive production like textiles.

The problems of financing for both the organized and unorganized segments are too well-known. The venture capital fund route may be a good solution for the sector also, as done in case of other industries like biotechnology. A minimum of Rs.500 crores may be allotted for this purpose. However, fulfilling the credit needs of the unorganized segment is crucial. The flow of investments into the sector in the past few years has been below the requirements and there is a drought of investments at present. The performance of the Ministry of food processing during the tenth plan period is also not encouraging. However, the policy framework and structural problems are to be blamed for this rather poor performance. The government needs to seriously consider higher budgetary provisions for the sector in view of the potential for growth and creation of jobs. The formation of a National Fund for the Unorganised Sector (NAFUS) as proposed by the National Commission for Enterprises in the Unroganised Sector (NCEUS) can also take of many of the credit, technological, marketing and skill development needs of the sector. The monitoring of the credit disbursement to the units in the unorganized sector by fixing definite targets like in case of agriculture, as proposed by the NCEUS would be an excellent arrangement for this labour intensive manufacturing sector.

The gearing up of research in agriculture and allied sectors for required attributes of processing and preservation is the most important step in the provision of good quality infrastructure for the sector. The cold storage facilities have to be improved at village level. The land has become so costly in the country with the raise of real estate sector in recent times that the government needs to do something to make it affordable to prospective processors. Efforts may be made to start some special economic zones (SEZs) exclusively for the sector, as the sector is unable to make use of the benefits on its own by forming SEZs. The institutional issues like contract farming policy, acceleration of removing of erstwhile APMC acts in states, making warehouse receipt negotiable for loan purposes need immediate attention. The lack of skilled workers is a serious problem for the sector.

Therefore, human resource development needs more focus. The establishment of more number of Food processing Training Centres (FPTCs) will help in training the entrepreneurs and workers in the unorganized sector. The human resource development strategy should aim to train the present workforce to work in the upgraded technology and retain their jobs. This is especially true for women, who are generally displaced with new technology and better working conditions.

The sub-sectors like macaroni, noodles and other food products and grain mill products and bakery products are very labour intensive. The creation of a job in both organized segment and unorganized segments in these sub-sectors can be done at a much lesser capital than most other industries. The former sub-sector viz., macaroni, noodles and other products is the most important for creation of jobs in the country. Moreover, 83 per cent of women workers in the sector are employed in this sub-sector. The sub-sectors of fish and fish products and fruits and vegetables also employ very high proportion of women in the sector. They also need to be encouraged on a priority basis. The sector can be made more inclusive by keeping more focus on these sub-sectors. It is also necessary to take steps to develop this sector in states like Bihar, Jharkhand, Rajastan, Madhya Pradesh, Orissa etc, where it is almost non-existent. The real wages in many of the sub-sectors of food processing either declined or stagnated in the nineties. Appropriate measures to improve quality of this employment need to be taken by keeping in mind that reducing wages is not the way to provide more jobs. The high employment, participation of women and high quality of employment in Kerala, Tamil Nadu and also West Bengal to some extent shows that special social security programmes being implemented in those states have a positive impact on these workers and other states may emulate these states in this regard.

The state also needs to play its regulatory role effectively to see that at least the workers in the factory sector get security payments like provident fund, ESI contribution etc. The payment of bonus may also be made mandatory. It seems that there is some kind of consensus on giving more and more exemptions to the export oriented units like fish processing units with a belief that these are indispensable for export promotion and these include security payments to labour. These kinds of misconceptions may be immediately done away with. The poor hygiene and lack of any kind of quality standards in both organized and the unorganized segments need to be corrected for the sector to cater to even the domestic demand in view of rising quality and health consciousness. The high incidence of injuries in activities like pickles necessitates infusion of technology in the unorgansied units, for which the state needs to take steps. The implementation of minimum wage rules needs to be scrupulously implemented in the sector. Otherwise, the women workers would never be able to come out of poverty trap, though they work in non-farm activities. The cases like hostile attitude of the some of the food processors to union formation need to be dealt with firmly for protecting the freedom of representation.

Conclusion

The employment in the food processing sector creates hopes in terms of provision of good number of employment opportunities and scope for employment creation in view of the huge potential for the sector's expansion, as the country moves on to the higher level of development. The sector, which has grown at an impressive trend rate of 6.62 per cent per annum over a longer period of 1981-82 to 2003-04, can shift to higher growth trajectory of 8.87 per cent, if the proposed investment in the eleventh five year plan materializes. That the sector employs 18 per cent of the manufacturing employment in the country, provides jobs at a 30 per cent lower capital investment compared to the manufacturing sector as a whole and many of the sub-sectors like macaroni, noodles and other food products, grain mill products able to create a job with 75 per cent lower capital investment is proof of this. The employment in the organised segment of food processing did not shrink in the nineties unlike the situation in the total manufacturing sector, where employment has gone down by 20 per cent after 1990[7]. The unorganised segment, carrying 84 per cent of the 82 lakh workforce in the sector in 2000-01, created much of the employment in the sector during the nineties. The optimism shown on this sector for employment creation in the Eleventh Five Year Plan seems justified in this background.

Further probe into the quality of employment in the sector gives a gloomy picture about wages and conditions of work both at the macro level and at the worker level. A 55 per cent lower wages than the manufacturing average, more than 60 per cent of workers falling below even this low wage and worse still 66 per cent of all the workers' wages either absolutely declining or stagnating are the hard realities at the macro level. The results from field survey reveal that the wages in the sector are lower than those for the same workers in the agricultural labour indicating the residual nature of employment and women being the major victims of this, poor working conditions, women earning half of what their male counterparts get, high level of health problems and injuries, no security payments even in factory sector, very few benefits from social security schemes and poverty alleviation programmes of the state and no power of representation. If this is the condition of those who could enter this labour market, the condition of those SC workers who are socially excluded in some of the food processing activities is pathetic to say the least. In a nutshell, the quality of employment in the sector leaves much to be desired.

Then, taking the positive and negative side of the sector, what is the emerging conclusion from empirical evidence on the contribution of this sector to employment? There is definitely a positive contribution of the sector for employment and in foreseeable future can add more jobs and can become a major employer in the manufacturing, provided the potential is properly harnessed through proper policy framework. The poor quality of employment does not diminish the importance of this employment, as can also be seen from the responses of the workers in this sector. In fact, the women are happy to work in these activities and get some income, where their men could not get any livelihood opportunities in cashew and fish processing activities. The seasonal nature of unorganised food processing work providing

66 days of employment in rural areas in summer months solves the problems of smoothening their intra year income and consumption patterns. Their responses reveal that they value these jobs as very important, though they ask for some improvements in wages and working conditions[8]. As argued by Lanjouw and Procter (2005), Reardon et al (2001) and several others, these non-farm jobs tighten the labour market, act as a safety net and prevent the workers from falling even further into poverty and helping to prevent the depth of poverty from increasing, despite the residual nature of this work. Therefore this sector needs to be promoted for the sake of employment creation and poverty reduction mainly in the rural areas and for urban poor and also for realisation of better prices for the farming community.

The policy framework for the sector must give more emphasis on unorganized segment in view of the employment creation opportunities and poor quality of employment. Further, to increase the value added from the sector, it must focus on increasing the abysmally low level of public investment, making the prices of processed food products nearer to fresh products by reducing the tax burden and through other incentives, developing quality standards to ensure food safety, effective bargain in the multilateral trade talks to provide special safe guards, liberalizing the import of raw materials used in the sector and storage equipment and packaging materials, developing infrastructure like research in agriculture and allied fields for processing, cold storage, power and transport facilities in rural areas and overall agricultural development. Some of the institutional aspects like enforceability of contracts for the procurement of raw material, provision of finance through warehousing receipt etc, are obligatory on the part of the government to encourage this sector. As the sector is losing out in the race for SEZs, special economic zones with small areas may be created for providing the needed space and other amenities for the prospective investors. This sector also needs to be given special packages along with other labour intensive sectors like manufacturing to cope up with the present appreciation of the Indian currency for exporting to other countries. The reduction and in some cases waiving the custom duties in the fight against the present inflation can harm the processing industry immensely. Therefore, the policy makers need to be careful in this regard, as it can lead to importing unemployment. The labour intensive sectors like macaroni, noodles and other food products, grain mill products and bakery products need special attention. The neglect of unorganized segment is fraught with serious danger, as the job creation is mainly here and also because it houses more than 80 per cent of the workers in this sector. Special efforts are needed to develop food processing sector in states like Bihar, Jharkhand, Rajasthan, Madhya Pradesh, Orissa etc, where these activities are at a very low level, as brought out clearly in the study. This will enhance the availability of non-farm jobs to the asset less poor in the rural areas. These investments can have disproportionately higher beneficial impact on these poor, compared to the investments aimed at increasing agricultural productivity, as shown by Foster and Rosenzweig (2004).

The state needs to play its regulatory role effectively to see that the workers get security payments like provident fund, ESI facility etc at least in the factory sector and to bring a

minimum standard in the conditions of work, as recommended by the National Commission for Enterprises in the Unorganised Sector (NCEUS) in its report on working conditions. The workers in both organized and unorganized segment are not getting much from the state in terms of social security schemes. Therefore, the implementation of some of the recommendations of the NCEUS for providing life insurance, health insurance etc may be immediately implemented. The skill development for the existing workers is an urgent task by investing in training them so that the growth of the sector is not hampered and the existing workers especially women may not lose out.

I. Introduction

There has been some optimism about the growth potential and possibilities of employment creation in the food processing sector in India. It is considered to be a sunrise sector and the approach paper to the Eleventh Five Year Plan recognizes it as a labour intensive manufacturing sector and proposes to encourage this along with others like leather products, footwear, and textiles and service sectors such as tourism and construction to create additional employment opportunities of 65 million during the plan period[1] . The growth experience of the sector in the past two decades seems to justify this optimism[2] and future expectations on its growth and probable increased contribution of the sector to overall growth of the economy are also high. Much of this is based on factors like increasing per capita incomes in the country, favourable demographic structure, rapid urbanization, changing consumption patterns, rising share of organised food retail etc in the same order. A brief account of how each of these factors will have a catalytic impact on the sector is in order.

In the process of development, as income rises, the proportion of income spent on food declines (though the absolute expenditure rises), and the food consumed will be increasingly processed products. Consequently, the food system moves towards an increased value added production and a higher proportion of services (Hamann, 2001). In the light of this stylized fact, the empirical evidence on the growth experience of the country needs to be juxtaposed. It is now commonly agreed that the world economy is propelled by the robust growth of the economies of two Asian countries viz., China and India, though the U.S.A continues to be the lead economy. While China has been experiencing growth rates in excess of 8 since the past 2-3 decades, there is unanimity among the scholars that India's economy experienced structural break in its growth trajectory in the early eighties. The growth in per capita income, which was almost stagnant during 1900-1950, grew at 1.4 per cent per annum during 1950-51 to 1979-80. This has gone up substantially to reach 3.6 per cent per annum during 1980-81 to 2004-05. In fact, the later years of this period viz., 1991-92 to 2004-05 has seen a shift in the growth path to higher level (Table 1.1). Many believe that the buoyant growth during the last few years, in excess of 8 per cent, may be sustainable in the long run also. Whether this may happen or not, the rising per capita incomes of the past two decades in the country

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[1] GoI, (2006a), Pp. 74-75.

[2] The annual rate of growth of net value added of agro-industries at constant prices increased from 4.12 per cent during the pre-reform period to 6.62 per cent during the post-reform period (Singh, 2003)

is unparalleled in contemporary international scenario. As a result of this development, the population in the upper middle class is growing at a rapid rate. All this is evidence enough to say that the country is entering a higher level of development. The food consumption in countries with high per capita incomes tends to be more of processed food. For example, the proportion of processed food in total consumption is 80 per cent and 70 per cent respectively in the U.S.A and France respectively. In addition to this, the processed food products have high-income elasticity of demand and increases with incomes. Therefore, the proportion of processed food is likely to increase in India also and necessitate higher production of processed food products to cater to the changing consumption needs of the people with quickly rising per capita incomes.

Table 1.1: Sectoral and Aggregate Economic Growth in India since Independence (Per cent per annum)

Sector/Period	1950-51 to 1979-80	1980-81 to 2004-05	1980-81 to 1990-91	1991-92 to 2004-05
Primary sector	2.2	2.9	3.1	2.5
Secondary sector	5.3	6.1	6.7	6.0
Tertiary sector	4.5	7.1	6.6	7.8
GDP total	3.5	5.6	5.4	5.9
GDP per capita	1.4	3.6	3.2	4.1

Source: Nayyar (2006)

The population of the country, now at 1.1 billion, is expected to overtake China in the coming decades and it is going to be the largest populated country in the world. At a time when the growth of population in most of the western countries slowed down and greying of people becomes a problem, the relatively young population in India is a boon for the food processing sector in the world. Nearly 500 million people are under 20 years of age and it favours the growth of the sector. Further, the share of food in personal consumption expenditure is more than 50 per cent in the country unlike many developed countries (Table 1.2). It can be observed from the table that the share of food in consumption expenditure is quite high on an average and also across all levels of income. It is very high for the low-income groups and any increase in income for them goes for expenditure on food. The recent large sample study of the National Sample Survey Organisation (NSSO) in 2004-05 (61st round) also shows that the expenditure on food in rural areas is 55 per cent and 43 per cent in urban areas[3].

[3] NSS Report No.508: Level and Pattern of Consumer Expenditure, 2004-05.

Table 1.2 : Average Share of Food in Consumption Expenditure in India

Year	Lowest 30 per cent	Middle 40 per cent	Top 30 per cent	All
1972-73	81.22	78.36	66.61	72.76
1977-78	79.50	76.01	57.38	66.38
1983	75.94	72.27	59.37	66.29
1987-88	74.21	70.74	57.32	64.38
1993-94	69.76	66.82	53.86	60.77
1999-00	62.71	60.14	51.92	56.60
2004-05	64.55	58.41	45.87	50.80

Source: The figures for 2004-05 are calculated by the author and for other years, the source is Dev (2003)

The third factor, which is likely to spur the growth of food processing sector, is the rapid urabanisation in the country. The pace of urbanization in Asia is expected to be very high in the coming few decades, as it happened in the case of Latin America in the past three decades. For the first time in the history of mankind, more people are living in the urban areas in world now compared to rural areas. The process of urbanization in most of the developed countries like the U.S.A. and those in Europe has stabilized at more than 70 per cent and this happened in Latin America also at a scorching pace towards the second of twentieth century, vaulting from a just over 40 per cent urbanization level to 75 per cent during the period. It is observed from the experience of several countries that the 'pace of urban growth between urbanization levels of 25-30 per cent and 55-60 per cent has typically been observed to take place in a very short historical time frame of 25-30 years (Mohan, 2005, P.216). That the country now has reached 29 per cent of urban population in 2001 leads the experts to believe that the pace of urbanization from now on would be fast[4] . The sheer number of urban people, their high growth rate compared to rural growth rate and emergence of mega cities and cities are likely to be conducive to the growth of food processing sector. Important forces driving the differences between rural and urban diets are the higher average wages and opportunity cost of time in urban areas and the higher participation of women in the labour (Stamoulis et al, 2004).

The consumption pattern of food has been undergoing marked changes during the past few decades. There has been diversification of the Indian diets away from foodgrains to high value products like milk, meat products, vegetables and fruits (Rao, 2000; Dev 2003). Pingali

[4] Similar conclusions can be seen from other scholars (For e.g. Stamoulis et al, 2004, P.157).

and Khwaja (2004), while explaining the process of diet transformation in India in two separate stages of income-induced diet diversification and diet globalization, observed that income induced diversification is still continuing and will do so for a long time to come but there are signs that globalization is emerging in India[5]. The rapid pace of urbanization accelerates the process of diet globalization.

An associated change consequent to the process of urbanization and consumption patterns is the development of food retail chains in the country. The spectacular rise of retail chains in Latin America follows the same path as their urbanization. The supermarkets constituted 10-20 per cent of the national food retail there in 1990 and it reached 50-60 per cent by 2000. In the process, it has seen in a single decade the same development of supermarkets that the United States experienced in five decades. The process of development of organized food retail in the Asian countries including India is likely to move in the same direction as that in Latin America as the urbanization trends here are predicted to be as witnessed there during the last few decades. The development of organized food retail is likely to give a boost to the processed food products. The supermarkets are generally supposed to handle processed food products such as noodles, milk products and grains easily and face difficulty in dealing with fresh produce. These stores possess the advantage of economies of scale in the former products and the experience across countries suggests that the ratio of processed and fresh produce can be 3:1 or 2: 1 in supermarkets (Reardon et al, 2004). The present share of organized retail in food sales is 5 per cent and the number of players starting retail chains in the country and the ensuing foreign direct investment in the sector are likely to change the scenario greatly in the coming few years. Most of the retail chains being started in the country seem to vie for selling fresh products and in fact, they name themselves as sellers of fresh products, though they sell everything. However, they are realizing now that it is not easy to handle highly perishable fresh products and the margins are not as expected (Gupta and Daftari, 2007). This may lead them in the long run to focus mainly on processed products. Even if the present trend continues, there would be increased market avenues for the processed products and the share of these products in food consumption is bound to rise.

In addition to the objective conditions in the country favouring the growth of processed foods as delineated above, certain developments in the food processing industry in the world is also driving the sector in India. Foremost among them is the stylized fact that the share of processed foods in international agricultural trade has been steadily increasing and now occupies major portion of these exports thereby making higher manufacture of processed

[5] According to the authors, during diet diversification, increase in the demand for all traditional foods such as rice, wheat, pulses, cereals, and animal products can be observed as income increases. During the second stage of change, as global influences begin to exert their effects, the increase in demand is mainly concentrated on wheat, animal products and related food and there could be a decline in the consumption of traditional food such as rice, pulses and cereals.

food products mandatory. The share of processed food in the total agro-food exports from developing countries has increased during 1970 to 1999 from 24 per cent to 52 per cent (Athukorala and Jayasuriya, 2005). It is also growing at a faster rate than in the case of developing countries. Then, the exports of processed foods do not require much import content like other manufacturing exports. For example, the gems and jewellery exports from the country require huge proportion of imports and thereby the net exports will be small. On the other hand in processed products, net exports can be more positive. The rise of what are called 'non-traditional items' in agricultural exports in the international trade has reinforced the significance of the food processing industry. These non-traditional exports are fruits and vegetables, poultry, dairy and fish products and are gaining in place of traditional exports like coffee, tea, cotton etc.

It would be appropriate to end the discussion on the changes in the international market favouring development of food processing sector in the country by noting that the food processing companies are faced with the falling population, stabilizing urbanization and falling growth rates in the developed countries and falling trade volumes in international market. Precisely because of these reasons, the multinational companies are now concentrating on transnationalisation of the sector and investing through foreign direct investment in the developing countries (Wilkinson and Rocha, 2006). Another influential factor in the contemporary world scenario is the rise of buyer-driven value chains in place of producer-driven value chains consequent on many nations shifting to export oriented industrialization from the import-substitution industrialization and as a result of moving of the centre of gravity for the production and export of many manufactures to an expanding array of newly industrializing economies in the third world (Gereffi, 2001). The food processing industry is analysed in the light of the fragmentation of manufacturing on a global scale and its relocation in developing countries (Wilkinson and Rocha, 2006). The rise of demand driven value chains in the world has profound implications for the sector in developing country like India. The above discussion brings out clearly that several internal factors in the country combine with the internationally changing scenario in the food trade to make them conducive for the sector to grow.

This sector is known for employing a large number of people in many countries around the globe. It employs 9 per cent of the manufacturing employment in the U.S.A and the leading manufacturing sector in terms of employment in Europe[6]. It employs a large number of workers in the country also. The growth of the sector is also expected to provide a large number of jobs. The Government of India earlier targeted to increase the percentage of fruits and vegetables processed from 2 to 10 by 2010 and anticipated creation of employment to 7.5 million persons directly and another thirty million, people indirectly (Dev and Rao, 2005). The recent Vision document the ministry of food processing industries of the government of India estimates that the sector can create 2.8 million jobs directly and 7.4

[6] Wilkinson and Rocha (2006)

million indirectly in both the organized and unorganized segments by 2015 (Rabobank, 2005). The growth of this sector is also adding new dimensions to women's involvement in agro and food processing. The ILO Report on *Technology and Employment in the Food and Drink Industries* reveals that the experience of evolution of the sector varied across countries[7]. Therefore, planning is needed to know the likely trends, identify the vulnerable groups and provide needed training. In the Indian context, the quality of employment is also important to provide a minimum standard of living to the workers. The existence of high proportion of unorganized segment in most of the manufacturing sectors in the country reduces the quality of employment. The labour productivity in that segment is very low and sometimes lower than that of the agricultural sector. Further, the growth rate of real wages in the nineties has gone down or real wages declined in many cases. The security of employment and benefits from state are almost non-existent for workers in unorganized segment. The contraction of employment in the organized sector aggravates the problem.

In spite of this huge untapped potential for growth and known labour intensive character of this production, there are very few systematic studies on food processing sector in India. The wages and conditions of work in the sector are largely undocumented compared to workers in other sectors like garments etc. There is also a need to look at the nature of growth in terms of employment growth to arrive at useful starting points for public intervention. The study is a humble attempt in that direction.

The main objective of the study is to bring out the growth and productive employment linkages in the food processing sector in India. The specific objectives are –

1. To study the structure and growth of food processing sector;
2. To study the structure of employment, gender aspects and wages at the aggregate level
3. To study the wages, conditions of work, power of representation and training needs at worker level and
4. To provide a critical review of policies and policy suggestion for enhancing growth and productive employment linkages

Methodology: The industries in food and beverages are considered under food processing in the study and the tobacco industries are left out except for giving some important ratios. The structure and nature of employment in the food processing sector in India have been analysed from the analysis of data of the Annual Survey of Industries (ASI) of the Central Statistical Organization and the reports on unorganized manufacturing segment of the National Sample Survey Organization (NSSO). The NSSO brought out reports on this in 1994-95 and 2000-01 in the recent past. These are utilized to throw some light on the

[7] ILO (1998)

salient features of the unorganized segment vis-à-vis the organized segment. All the monetary values have been deflated with the wholesale price indices the corresponding sub-sector. The growth rates presented in this study are based on semi-log trend growth rate, unless specified otherwise. A field study was conducted to know the wages, conditions of workers, employment security, social security, gender bias and training needs in the food processing sector. The results of this study are used in the text of this report to bring out plight of workers in the sector. A brief account of the field study and selected workers is given here.

Field Study: The analysis of data collected from the Annual Survey of Industries shows that the organized component forms the major share of the value of output produced in the sector, whereas the unorganized component plays a major role in employment creation. The food processing sector is very big and diverse and therefore getting a representative sample is a big challenge. To overcome this problem, the sample for the present study has been drawn from four different activities in the food processing sector. These activities are so selected that they represent the sector on the whole and the employment is casual. Further, they are also chosen with a view to study the conditions of workers with a particular reference to women in the unorganized sector. The selected activities are mango jelly making and pickles making in the unorganized segment and fish processing and cashew processing in the factory sector of the food processing sector. Though the latter two activities are in the factory sector, the workers are casual wage earners and did not have security of employment. A structured questionnaire is canvassed to collect information from the workers and focus group discussions are also conducted to elicit qualitative information and collating the results. The total size of the sample workers is 425 from all the four activities (Table 1.3)

The cashew processing workers are taken from Palasa region in Srikakulam district of Andhra Pradesh, which is the biggest processing center for cashew nuts in Andhra Pradesh and considered only next to Kerala. The fish processing workers are from Bhimavaram region of Andhra Pradesh, where processing of prawns is done to export to a number of countries including U.S.A, the U.K and retail chains like Wal-Mart etc. The exports from this place account for nearly one-third of the $1.7 billion marine products exported from India in 2005-2006. Recognising this, the Ministry of Commerce has also given the status of Town of Excellence for exports to Bhimavaram town and sanctioned Rs.60 crores towards development of infrastructure. In the unorganized sector, three villages from Ravulapalem of East Godavari district are famous for making pickles and sell huge quantities to consumers in A.P, Orissa, Tamil Nadu, Karnataka etc. The workers in these villages are studied for pickles making activity. Finally, villages adjoining Kakinada are well-known for preparing mango jelly in summer months and employ a large number of labourers both male and female in the process. The workers from this place are considered to study employment aspects in mango jelly making. All these activities are labour intensive and women play a major role in processing of these food products. While the first two activities viz., cashew processing and fish processing are almost year round activities with a gap of 3-4 months, the mango jelly making and pickles making are mostly done during summer though some

activity continues in other months also at a low level. This facilitates studying different aspects of employment in both regular and seasonal activities of the sector.

Table 1.3: Details of Sample Units in Different Food Processing Activities

Sl. no	Food processing activity	State	District	Mandals	Villages	Sample workers
1	Cashew processing	Andhra Pradesh	Srikakulam	Palasa	Mogilipadu, Sasanam, Seesali, Palasa	100 (23.53)
2	Mango jelly making	Andhra Pradesh	East Godavari	Kakinada Gollaprolu	Panduru, Sarpavaram Chebrolu	110 (25.88)
3	Fish processing	Andhra Pradesh	West Godavari	Bhimavaram Kaalla	Pedamiram, Dirusumarru, Yenamaduru	100 (23.53)
4	Pickles making	Andhra Pradesh	East Godavari	Atreyapuram	Narketmilli, Ankampalem, Ryali, Atreyapuram	115 (27.06)
					Total	**425 (100)**

Note: Figures in the parentheses indicate the percentage to total workers considered

Source: Field Survey

The Selected Workers: The number of selected workers in all the different food processing activities was 425 of which women formed 80 per cent viz., 340 and men formed the rest with a total number of 85 (Table 1.4).

Table 1.4: Sample Workers in Different Food Processing Activities

Sex	Cashew processing	Mango jelly making	Fish processing	Pickles making	Total
Male	16 (16.0)	47 (42.73)	9 (9.0)	13 (11.30)	85 (20.0)
Female	84 (84.0)	63 (57.27)	91 (91.0)	102 (88.70)	340 (80.0)
Total	100 (100)	110 (100)	100 (100)	115 (100)	425 (100)

Note: Figures in parentheses indicate percentage to total in the respective activity

Source: Field Survey

The workers from all the four activities viz., cashew processing, mango jelly making, fish processing and pickles making are almost equally represented in the sample. The workers in the factory sector represent 47 per cent, while those in the non-factory sector form 53 per cent of the sample workers. The workers considered for study are mostly from the SC (42%) and the BC (43%) categories and only a small proportion of the workers (15%) are from the OCs (Table 1.5). Among the OCs, 47 per cent are male, most of them are working in mango jelly making factories. The women from OCs can be seen mostly in pickles making units. We can not find STs engaged in these activities. It is also very difficult to get people from forward communities working in these activities. We find some male workers in mango jelly making units and female workers in pickles making units from these communities. While the men workers in mango jelly making have been working in the recently started mango jelly making factories, the women workers from the OC category are participating in pickles making, as it is done within the four walls. These women feel that working as wage labour in agricultural fields is 'below their dignity' and it is not acceptable to their communities. Therefore, pickles making work gives them an opportunity to work and earn some income.

Table 1.5: Sample Workers by Social Categories in Different Food Processing Activities

Community	Cashew processing	Mango jelly making	Fish processing	Pickles making	Total
SC*	32 (32.0)	51 (46.36)	55 (55.0)	42 (36.52)	180 42.35)
BC	67 (67.0)	36 (32.73)	42 (42.0)	38 (33.04)	183 (43.06)
OC	1 (1.0)	23 (20.91)	3 (3.0)	35 (30.43)	62 (14.59)
Total	100 (100)	110 (100)	100 (100)	115 (100)	425 (100)

* Includes two ST workers in fish processing.
Note: Figures in parentheses indicate percentage to total in the respective activity
Source: Field Survey

Social Exclusion in Labour Market

It is found that there exists some kind of discrimination in employing labour in food processing activities. This discrimination is mainly with regard to employing people from the SCs who are considered to be untouchables in th Indian society. This is observed mainly with regard to ready-to-eat products which are directly consumed in the rural side of the country like sweets, pickles etc. We have made an attempt initially to study workers in a

sweets making unit in Tapeswaram of East Godavari district of A.P and later cancelled due to the non-cooperation of owners of those units. In the process, we found that they are not employing people from the SC community to work in their units due to the fear that the sweets are not being purchased by the public at large[8] . This may be true in most of the sweets' making units in the countryside, though things may be different in the urban side. As Sukhdeo Thorat says that this involves denial of work in some category of jobs due to notion of purity and impurity associated with untouchables as they are considered to be polluting[9] . It is nothing but passive social exclusion through discrimination as explained by Thorat and Newman (2007, p 4121-4122).Many owners of the pickles making units told us that they generally try to avoid SC workers. Despite this discrimination, we find some workers from the SCs in pickles making units in one village. Some people in these villages are employed by owners of the pickles making units to sell the pickles from door-to-door in the nearby towns. These workers reside in those towns for some days and sell the pickles by going on cycles. Some SC workers informed that the public are not purchasing pickles from them when their caste identity is known. This is also one reason why the owners avoid them. On the other hand, a dry commodity like cashew, which is generally used in some food preparations, the discrimination is not followed. It is also not followed in fish processing and it may be due to the fact that the prawns are processed for exporting to far off places and are not consumed locally.

Presentation : The rest of the monograph is presented as follows. The second section brings out the structure and growth of the sector and the third section provides the structure of employment in the organized and unorganized segments. The gender aspects of employment are examined in the fourth section and the fifth section gives the conditions of work in the sector. The sixth section looks at the wages, while the dynamics of wage increase, power of representation and training needs are given in the seventh section. The social security benefits from state and perceptions and expectations of workers from the state are brought out in the eighth section. A critical review of policy measures for the sector is dealt with in the ninth section. The summary and conclusions along with policy suggestions are given in the Executive Summary at the beginning of the report.

II. Structure and Growth

Food processing industry processes materials of plant or animal origin by transformation and preservation through altering physical and chemical characteristics and packaging. It has manifold contribution to economic development. It transforms raw material into finished products for consumption; constitutes a significant proportion of the developing countries' manufacturing production and exports and develops food system that provides the nutrients critical for the well-being of the expanding population. According to FAO (1997), a precise theoretical rationale for emphasizing the role of agro – industry, of which food processing

[8] When we enquired further into the issue by knowing the type of employment in one of the most well-known sweets making chain in A.P and which also caters to NRI demand, the same kind of discrimination was observed.

[9] Personal communication

is a sub-set, during the process of development is provided by Hirschman's linkage hypothesis, which postulates that the best development path lies in selecting those activities where progress will induce further progress elsewhere. Thus, the development of food processing sector, which has a very high raw material intensity, can develop agriculture also and can lead to better price realization for the farmers by creating new demands on agricultural production.

Food processing industry occupies a central position in the Indian industrial sector. Before the Green Revolution, India was not self-sufficient in food and almost all food production was consumed at the very first stage of production. However, the success of Green Revolution followed by White Revolution gave a significant fillip to not only production of food grains but also diversification of food production and consumption. The sector witnessed significant growth in the post green revolution period. It is one of the largest in terms of employment, production, consumption, export and growth prospects.

Important sub sectors in food processing industries are: fruit and vegetable processing, fish-processing, milk processing, meat and poultry processing, packaged/convenience foods, alcoholic beverages and soft drinks and grain processing. In addition to this, during last one decade or so many other raw and prepared food based enterprises developed with very high growth prospects. The major activities in the food processing sector, according to 1998 industrial classification are given in the Table 2.1. There are five broad groups – 151, 152, 153, 154, and 155 corresponding to production, processing and preserving of meat, fish, fruits, vegetables, oils and fats; manufacture of dairy products; manufacture of grain mill products, starches and starch products and prepared animal feeds; manufacture of other food products; and manufacture of beverages. Each of the above groups is classified into different classes and presented at four-digit level and given in the Table 2.1. They are further divided into sub-classes and presented in five-digit level.

Table 2.1: Activities in the Food Processing Sector According to 1998 National Industrial Classification

Division	Description	Group	Description	Class	Description
15	Manufacture of food products and beverages				
		151	Production, processing and preservation of meat, fish, fruits, vegetables and oils	1511	Production, processing& preservation of meat and meat products

Table 2.1contd...

Division	Description	Group	Description	Class	Description
				1512	Processing and preserving of fish and fish products.
				1513	Processing and preserving of fruit and vegetables
				1514	Manufacture of vegetable and animal oils and fats
		152	Manufacture of dairy products	1520	Manufacture of dairy products
		153	Manufacture of grain mill products, starches and starch products and prepared animal feeds	1531	Manufacture of grain mill products.
				1532	Manufacture of starches and starch products.
				1533	Manufacture of prepared animal feeds.
		154	Manufacture of other food products	1541	Manufacture of bakery products.
				1542	Manufacture of sugar.

Table 2.1contd...

Division	Description	Group	Description	Class	Description
				1543	Manufacture of cocoa, chocolate and sugar confect-ionary.
				1544+ 1549	Manufacture of macaroni, noodles, conscious and similar farinaceous products. Manufacture of other food products n.e.c.
155	Manufacture of beverages			1551	Distilling, rectifying and blending of spirits, ethyl alcohol production from fermented materials
				1552	Manufacture of wines.
				1553	Manufacture of malt liquors and malt
				1554	Manufacture of soft drinks, production of mineral waters.

Source: Central Statistical Organisation

According to the National Accounts Statistics (2006), the food processing sector forms 2.06 per cent of the gross domestic product on its own and 2.28 per cent along with the manufacture of tobacco products, while the manufacturing sector as a whole constitutes 15.08 per cent of the gross domestic product. The unorganized segment dominates the food processing sector of the country in terms of number of enterprises and employment, whereas the organized segment produces the maximum share of output and total fixed assets with 78 per cent and 67 per cent respectively in 2000-01 (Table 2.2). The organized segment with only 0.80 per cent of the total number of enterprises produced 78 per cent of the total output produced in the sector in 2000-01. However, the unorganized segment, despite producing a lower share of only 22 per cent in the value of output employs majority of the workforce in the sector. It employed 84 per cent of the total 81.75 lakhs in the sector in 2000-01. Even if we include tobacco industries in the food processing industries, this situation does not change a bit (see Appendix Table 2.1). If anything, the share of unorganized sector increases further, as the tobacco industries are dominated further by unorganized segment.

Share of Food Processing in Organized and Unorganized Manufacturing: The share of food processing in the manufacturing sector increased in terms of output, enterprises, fixed capital and employment between 1994-95 and 2000-01 (Table 2.3). While the increase in the share of enterprises in food processing is mainly due to increase in tobacco industries in the unorganized sector, the share of enterprises in the manufacture of food products and beverages remained constant during the same period. The share of food products and beverages in total fixed capital of manufacturing sector increased from 7 per cent to 10 per cent as a result of rise in the share of the corresponding organized segment, while the share of unorganized segment declined. The share of organized segment in total output and employment in the manufacturing sector has gone up from 14 per cent to 17 per cent during the period, while that of unorganized segment remained same. As a result of this enhanced share in output, the organized segment in the manufacture of food products and beverages could employ 3 per cent higher share of employment in total organized manufacturing of the country. Though the share of tobacco industries in the output in fact has gone down slightly, its share in manufacturing employment increased by two per cent as a result of higher share in the unorganized segment of tobacco industries in the number of enterprises in manufacturing. This employment intensity in tobacco industry comes from *bidi* making, which is mainly done by women at home.

Table 2.2: Share of the Organized and Unorganized Segments in Food Products and Beverages in 1994-95 and 2000-01

Item	Units	1994-95			2000-01		
		Organized sector	Un-organized sector	Total	Organized sector	Un-organized sector	Total
Number of enterprises	Share (%)	0.81	99.19	100.0	0.79	99.21	100.0
	Numbers	21297	2595230	2616527	23988	3011289	3035277
Output	Share (%)	79.14	20.86	100.0	77.55	22.45	100.0
	Value in Rs. crores at 1993-94 prices	63899	16843	80742	99260	28731	127991
Employment	Share (%)	17.38	82.62	100.0	16.30	83.70	100.0
	Total numbers	1267546	6023997	7291543	1332587	6841990	8174577
Fixed assets	Share (%)	64.29	35.71	100.0	67.31	32.69	100.0
	Value in Rs. crores at 1993-94 prices	13193	7328	20521	27634	13421	41055

Source: Annual Survey of Industries and NSS Reports

Table 2.3: Share of Food Processing in the Manufacturing Sector in 1994-95 and 2000-01

		As a per cent of organized manufacturing			As a per cent of unorganized manufacturing			As a per cent of total manufacturing		
Item	Year	15	16	15+16	15	16	15+16	15	16	15+16
Output	1994-5	13.89	1.1	14.99	23.74	1.91	25.65	15.21	1.21	16.42
	2000-1	16.67	1.09	17.76	23.9	1.69	25.59	17.89	1.19	19.08
Enter-prises	1994-5	17.31	6.27	23.58	17.97	8.48	26.45	17.97	8.46	26.42
	2000-1	18.27	2.06	20.33	17.69	12.4	30.05	17.69	12.3	29.97
Fixed capital	1994-5	5.04	0.18	5.22	20.61	2.62	23.23	6.89	0.47	7.37
	2000-1	8.51	0.41	8.91	16.03	1.77	17.7	10.05	0.69	10.72
Emplo-yment	1994-5	13.93	5.83	19.76	18.14	6.96	25.11	17.24	6.72	23.96
	2000-1	16.68	6.05	22.73	18.45	9.19	27.64	18.14	8.64	26.77

Note: 15 – Food products and beverages, 16 – Tobacco industries

Source: ASI and NSSO Reports

On the whole, the importance of the food processing industries can be seen from the fact that it contributed 18 per cent of output and 18 per cent of employment. This sector has improved its share in the output of total manufacturing from 15 per cent in 1994-95 to 18 per cent in 2000-01 and it needs to be underlined that the manufacturing sector as a whole improved its share in the GDP of the country during this period. If we add tobacco industries also, they form 19 per cent of output and 27 per cent of total employment in the manufacturing sector of the country in 2000-01. In fact, in the unorganized sector, the manufacture of food products and beverages had the maximum estimated number of workers followed by textiles and wood and wood products. Several incentives have been given to the food processing sector in the reform regime after 1991. These incentives seem to have propelled the organized segment of food products and beverages to increase their share in total output and because of their labour intensive nature employed higher share, though the fixed capital of the sector also increased. On the other hand, the unorganized sector has not grown enough to claim a higher share in manufacturing output.

The share of organized manufacture of food products and beverages and also tobacco industries in the total manufacturing in respect of number of enterprises, output, workers and total employees showed a decline in the eighties and recovered to improve its share in the nineties (Table 2.4). The emphasis on value addition for the agro products and incentive policy framework might have been responsible for this recovery. However, experience of developing countries shows that there is scope for further increase in the share of value added in the total manufacturing from the present ten per cent (See Appendix Table 2.2).

It can be observed from Table 2.4 that the share of food processing in total wages and salaries is only 11 per cent, while it employs 17 per cent of the total workforce in manufacturing in TE 2003-04. This indicates that the quality of employment in the sector in the country may be low. We turn to this in detail in next sections. Before that, international comparisons of share in manufacturing employment and wages of food and beverages sector are given in Table 2.5. It can be observed that this gap in the share in employment and wages seems to be higher in India compared to even some of the other developing countries like Kenya, Sri Lanka etc.

Structure of Output in the Organised Segment: The organized food processing sector in the country is dominated by traditional activities like vegetables oils, grain mill products, sugar and dairy products and the level of processing is very low with primary processing dominating the sector. The last two decades have seen rapid improvements in the food processing sector and the tastes and preferences of the consumers are changing with the influence of globalization, increasing incomes of the middleclass etc. Therefore, the data from Annual Survey of Industries are analysed to see if any structural changes have taken place over the period 1981-82 to 2003-04. The major components of the food processing sector with

respect to output in the triennium ending 2003-04 were vegetable and animal oils and fats (30 per cent), grain mill products (20 per cent), sugar (17 per cent), dairy products (10 per cent); macaroni, noodles, conscious and similar farinaceous products and other food products not elsewhere classified (8 per cent) (Table 2.6). The major change in this period in the food processing sector is the decline in the share of sugar by 9 per cent and that of other food products by 4 per cent; and increase in the share of dairy products by 3 per cent, that of grain mill products by 2 per cent, that of vegetable and animal oils and fats by 2 per cent and animal feeds by 2 per cent.

Table 2.4: Share of Food Processing in the Organized Manufacturing Sector in Regard to Different Variables in TE 1983-84 and 2003-04

Item	Food processing sector			Food processing + tobacco industries		
	TE 1983-84	TE 1993-94	TE 2003-04	TE 1983- 84	TE 1993-94	TE 2003- 04
No. of enterprises	18.58	17.86	18.45	27.08	23.87	20.55
Output	14.85	14.19	15.95	16.61	15.45	16.77
GVA	8.27	8.15	9.47	10.00	9.63	11.25
NVA	8.28	8.43	9.61	10.21	10.15	11.72
Fixed capital	3.64	4.70	5.15	3.73	4.87	5.39
Gross fixed capital formation	4.44	6.28	7.91	4.64	6.61	8.32
Net fixed capital formation	2.97	6.38	6.42	3.08	6.76	6.62
Workers	16.87	13.94	16.61	22.83	20.38	24.19
Man-days	10.87	12.25	14.80	15.86	18.08	20.77
Total employees	15.94	14.29	16.89	21.11	19.83	23.04
Wages & salaries	7.04	8.90	10.66	8.82	11.08	13.22

Source: Calculated from ASI data

The decline in the manufacture of sugar can be explained by the policies of trade liberalization and resulting surge in import of sugar into the country in the background of lower applied tariff and historically low prices of sugar in the international market during the nineties. The consumption of wheat and wheat products has been increasing in the country due to its popularity among the middle classes, which is a sign of diet globalization according to Pingali and Khwaja (2004). This seems to have encouraged the manufacture of grain mill products. The higher use of animal products including dairy products as a result of increasing incomes has its impact on the dairy products and also on the manufacture of prepared animal feeds.

Table 2.5: Share of Food Processing in Total Manufacturing in Employment and Wages across Selected Countries

Country	No of employees		Salary	
	Food &Beverages	FB+Tobacco	Food &Beverages	FB+Tobacco
Finland 2002	9.20	9.29	8.23	8.33
Germany 2003	11.40	11.57	7.17	7.41
Transition				
Bulgaria 2004	15.65	17.05	13.77	17.10
Croatia 2004	17.72	18.26		
Russia 2004	15.35	15.54	13.32	13.76
Lithuania 2004	20.33	20.77	21.80	22.07
Hungary 2002	16.27	NA	15.40	NA
Developing				
Cameroon*	18.89	19.85	19.25	20.37
Kenya*	36.41	37.13	33.01	NA
Botswana 2004	19.94	NA	NA	NA
India 2003	17.00	23.27	10.46	12.18
Indonesia 2003	14.17	20.36	8.47	12.57
Philippines 2003	15.65	16.62	17.48	18.53
Argentina 2002	29.53	30.32	26.35	27.68
Brazil 2004	20.84	21.15	14.99	15.53
Ecuador 2004	45.06	45.42	41.60	42.12

* The data for these countries relate to 1999

Source: UNIDO (2005 and 2002)

In terms of fixed capital, the share of sugar (35 per cent) is the highest (Table 2.6). It is surprising to note that the vegetable and animal oils and fats and grain mill products, which produce 30 per cent and 20 per cent of the output, respectively account for only12 per cent and 8 per cent of the fixed capital, whereas activities like soft drinks and mineral waters are capital intensive with 8 per cent of the fixed capital.

Regional Distribution: The regional distribution of both organized and unorganized segments of food processing activity shows that Maharashtra (17 per cent), Uttar Pradesh (13 per cent), Tamil Nadu (9 per cent), Andhra Pradesh (9 per cent), West Bengal (7 per cent) and Karnataka (7 per cent) accounted for 62 per cent of the total gross value added in 2000-01 under the manufacture of food and beverages in the country (Table 2.7). The states with higher proportion of poor people like Bihar, Chattisgarh, Jharkhand, Uttaranchal, Rajastan and Madhya Pradesh do not have considerable share under the food processing sector. This may in part explain the lack of non-farm activities for them and prevalence of high rates of poverty in those states. The states of Andhra Pradesh, Karnataka, Uttar Pradesh and West Bengal had the advantage of tobacco industries and they contribute to 72 per cent of the gross value added in tobacco industries of the country. The food processing in the organized

segment in Punjab is also developed and contributes 8 per cent of the GVA and it is considerably high relative to its size. However, it is surprising to note that the economically most advanced state like Gujarat does not contribute much to the food processing sector. It may be because other heavy industries are concentrated in that state.

Table 2.6: Share of Sub-sectors of Organised Food Processing in Output and Fixed Capital

Sub-sectors	Output			Fixed capital		
	TE 1983-84	TE 1993-94	TE 2003-04	TE 1983-84	TE 1993-94	TE 2003-04
1511: Production, processing& preservation of meat and meat products	0.38	0.41	0.62	0.68	0.89	1.77
1512: Processing and preserving of fish and fish products.	1.66	2.6	1.99	1.21	1.51	2.25
1513: Processing and preserving of fruit and vegetables	0.74	0.48	0.8	1.12	1.42	2.95
1514:Manufacture of vegetable and animal oils and fats	27.9	23.9	29.6	12.5	16.2	12
1520: Manufacture of dairy products	6.94	10.2	9.94	8.12	7.05	6.6
1531: Manufacture of grain mill products.	17.6	18.3	20.1	14.2	9.55	7.58
1532: Manufacture of starches and starch products.	0.11	0.12	0.75	1.04	1.47	2.04
1533: Manufacture of prepared animal feeds.	1.03	1.84	2.88	1.19	0.91	1.58
1541: Manufacture of bakery products.	2.12	2.27	2.23	2.08	1.85	1.94
1542: Manufacture of sugar.	26.1	23.1	16.8	40.4	36	34.5
1543: Cocoa, chocolate and sugar confectionary.	0.23	0.62	0.99	0.24	0.89	1.66
1544+1549: Manufacture of macaroni, noodles, conscious and similar farinaceous products and other food products n.e.c	11.6	11	7.61	9.73	11.8	9.28

Table 2.6 contd...

Sub-sectors	Output			Fixed capital		
	TE 1983-84	TE 1993-94	TE 2003-04	TE 1983-84	TE 1993-94	TE 2003-04
1551:Distilling, rectifying and blending of spirits, ethyl alcohol production from fermented materials.	1.18	2.43	1.43	2.88	4.11	3.78
1552: Manufacture of wines.	0.25	0.25	0.61	0.32	0.46	0.92
1553: Manufacture of malt liquors and malt	0.95	1.47	1.35	2.12	2.88	3.59
1554: Soft drinks, production of mineral waters.	1.21	1	2.29	2.18	2.97	7.57
151 Meat, fish, fruits, vegetables and oils	30.7	27.4	33	15.5	20	19
152 Dairy products	6.94	10.2	9.94	8.12	7.05	6.6
153 Grain mill products	18.7	20.2	23.7	16.4	11.9	11.2
154 Other food products	40.1	37.1	27.7	52.4	50.6	47.3
155 Beverages	3.59	5.16	5.68	7.5	10.4	15.9
15: Manufacture of food products and beverages.	100	100	100	100	100	100

Source: ASI data

Growth of Output and Fixed Capital

A comparison of the growth rates in the organized and unorganized sectors shows that the organized sector did better only in case of growth in fixed capital and in all other aspects like enterprises, output and employment, the unorganized sector did well during 1994-95 to 2000-01 (Table 2.8).

As the data pertaining to sub-groups could be obtained only for the organized sector during the entire period, we present here the growth rates at the disaggregated level below in case of factories (see Appendix Table 2.3), output and fixed capital (Table 2.9) for the organized sector only. The number of factories increased at a modest rate of 1.39 per cent per annum during 1981-82 to 2003-04 and at a lower rate than that in the total manufacturing. The manufacture of prepared animal feeds, wines, dairy products and cocoa, sugar and confectionery are the sectors, where the growth in the number of units is relatively more. While the growth in the units in prepared animal feeds, wines and distilling, rectifying and blending of spirits and ethyl alcohol production from fermented materials is more in the eighties, more of new units in starches and starch products, meat and meat products and

fruits and vegetables are started in the nineties. Several units in sugar industry are closed in the eighties and this closure continued in the nineties though at a relatively slower rate. The factories in the vegetable and animal oils and fats faced a similar situation in the nineties. The gradual trade liberalization in the country starting from the eighties might have played a major role in the steady decline in these industries. It can also be noted from the table that the units in distilling, rectifying and blending of spirits, ethyl alcohol production from fermented materials have also declined in the nineties. In tobacco products, the very high negative growth rate in the organized sector units indicates informalization of the sector.

Table 2.7: Share of Different States in Gross Value Added in Food Processing and Tobacco Products in 2000-01

States	Share in 15 (organized & unorganized)	Share in 15+16 (organized and unorganized)	Share in organized segment of 15	Share in unorganized segment of 15	Share in organized segment of 16	Share in unorganized segment of 16
A.P	9.04	10.5	8.27	10.4	24.3	6.8
Bihar	2.74	3.06	1.22	5.44	4.11	5.77
Chattisgarh	0.51	0.47	0.4	0.71	0.18	0.37
Gujarat	4.71	4.38	5.62	3.1	3.11	1.69
Haryana	3.31	2.81	4.18	1.78	0.19	0.06
H.P	0.75	0.69	0.66	0.93	0.52	0
J & K	0.6	0.51	0.17	1.37	0	0
Jharkhand	0.86	0.99	0.28	1.87	0.36	3.98
Karnataka	6.69	8.81	7.11	5.94	21.7	16.9
Kerala	4.16	3.61	4.5	3.56	0.35	1.33
M.P	2.9	3.64	2.75	3.16	8.49	5.84
Maharashtra	16.8	14.8	21.3	8.8	6.12	0.96
Orissa	1.73	1.48	0.8	3.37	0.13	0.18
Punjab	5.87	4.93	7.63	2.75	0	0
Rajastan	2.4	2.12	1.73	3.58	0.5	0.86
T.Nadu	8.81	7.98	9.46	7.65	0.6	8.95
Uttar Pradesh	13.1	13	13.4	12.6	16.2	6.16
Uttaranchal	0.91	0.78	1.01	0.75	0.02	0.16
W. Bengal	7.16	9.33	2.07	16.1	10.1	39.7
Total of 19 states	93.04	93.82	92.55	93.92	97.01	99.61
All-India	**100**	**100**	**100**	**100**	**100**	**100**

Source: ASI and NSSO Reports

Table 2.8: Exponential Growth Rates in the Organised and Unorganised Segments of Food Processing Industries

Item	Food processing industries			FP + Tobacco industries		
	Organised	Unorganised	Total	Organised	Unorganised	Total
Enterprises	1.20	1.50	1.50	-0.83	2.96	2.94
Output	6.49	7.93	4.72	4.37	5.39	4.59
Employment	0.50	1.28	1.15	0.10	2.09	1.76
Fixed capital	7.67	6.24	7.18	7.80	6.02	7.16

Source: ASI and NSSO Reports

The output in the manufacture of food and beverages in the study period viz., 1981- 82 to 2003-04 has grown at a healthy rate of 6.62 per cent and slightly higher than that in the total manufacturing (Table 2.9). While it trailed behind total manufacturing during TE 1983-84 to TE 1992-93 by seven percent, its growth surged ahead by 50 per cent than that in the total manufacturing in the later period. There has been some slackening towards the end of nineties and initial years after 2000. If we take 1990-91 to 1999-2000, the growth in the food and beverages sector was 7 per cent per annum and thereafter came down to 5.19 per cent per annum during 1997-98 to 2003-04. In the later period, the output of fish and fish products and other food products actually declined. Some of the groups in the beverages have recovered from decline towards the later period, though they declined in the early nineties. The tobacco industries registered a negligible growth of 0.83 per cent in the later period. However, the growth in these industries during the entire period was also not very high and during TE 1993-94 to TE 2003-04, it was only 1.51 per cent per annum.

Some of the industries in the food and beverages have grown at higher rates in the entire period. Among them are starches and starch products (16 per cent), cocoa, chocolate and sugar confectionery (13 per cent), prepared animal feeds (12 per cent), meat and meat products (11 per cent), wines (10 per cent), soft drinks and mineral waters (10 per cent) and dairy products (8 per cent). The industries in other food products are the ones with the slowest growth per annum. The industries in spirits and ethyl alcohol, dairy products, malt liquors and malt, sugar and other food products had done well in the eighties and later slowed down considerably. Those who picked up in the nineties are starches and starch products, wines, soft drinks and mineral waters, meat and meat products, fruits and vegetables and animal feeds. The very high growth in cocoa, chocolate and sugar confectionery continued in the nineties also.

The growth of fixed capital in the manufacture of food and beverages in this period has been very high in the sector as a whole and in double digits for most of the sub-groups (Table 2.9). These growth rates are much in excess of what we have seen in case of output.

Table 2.9: Growth Rates of Total Output and Fixed Capital in the Organised Food Processing Sector

	Total output			Fixed capital		
	1981-82 to 1992-93	1993-94 to 2003-04	1981-82 to 2003-04	1981-82 to 1992-93	1993-94 to 2003-04	1981-82 to 2003-04
1511: Production, processing& preservation of meat and meat products	6.92	11.18	10.9	8.04	13.04	16.83
1512: Processing and preserving of fish and fish products.	6.58	1.93	7.86	8.80	3.93	15.91
1513: Processing and preserving of fruit and vegetables	1.93	10.03	7.66	10.18	9.09	14.78
1514: Manufacture of vegetable and animal oils and fats	4.9	8.30	7.29	12.06	-0.03	9.29
1520: Manufacture of dairy products	9.55	6.20	8.31	8.97	3.82	8.32
1531: Manufacture of grain mill products.	6.94	6.78	6.83	6.63	4.83	6.69
1532: Manufacture of starches and starch products.	10.3	32.36	16.1	10.94	15.73	12.24
1533: Manufacture of prepared animal feeds.	13.4	10.92	11.5	8.33	9.47	11.91
1541: Manufacture of bakery products.	7.49	5.58	6.78	10.24	6.45	9.12
1542: Manufacture of sugar.	7.37	3.84	4.87	8.75	4.99	8.52
1543: Manufacture of cocoa, chocolate and sugar confectionary.	12.9	12.81	12.7	21.15	8.07	18.49
1544+1549: Manufacture of macaroni, noodles, conscious and similar farinaceous products. Manufacture of other food products n.e.c.	6.49	1.84	4.29	11.87	1.57	8.96
1551:distilling, rectifying and blending of spirits, ethyl alcohol production from fermented materials.	13	3.54	6.6	13.22	3.06	12.16
1552: Manufacture of wines.	8.68	18.09	9.7	16.32	11.82	14.04
1553: Manufacture of malt liquors and malt	10.8	5.34	6.76	15.73	7.36	11.26
1554: Manufacture of soft drinks, production of mineral waters.	5.31	14.65	9.69	13.48	14.38	15.82
15: Manufacture of food products and beverages.	6.75	6.35	6.62	9.92	4.86	9.62
1600: Manufacture of tobacco products.	3.36	1.51	2.87	12.95	9.22	11.45
151 Meat, fish, fruits, vegetables and oils	4.71	7.87	7.26	11.59	2.41	10.92
152 Dairy products	9.55	6.19	8.31	8.97	3.82	8.32
153 Grain mill products	7.45	7.58	7.4	7.24	6.86	8.02
154 Other food products	7	3.61	4.91	9.52	4.33	8.82
155 Beverages	10.1	8.72	8.09	14.25	9.15	13.67
All industries	**7.25**	**4.24**	**6.44**	**7.17**	**3.17**	**7.13**

Source: ASI Reports

Among them are cocoa, chocolate and confectionery (18 per cent), meat and meat products (17 per cent), fish and fish products (16 per cent), soft drinks and mineral waters (16 per cent), fruits and vegetables (15 per cent), wines (14 per cent), starch and starch products (12 per cent), spirits and ethyl alcohol (12 per cent), prepared animal feeds (12 per cent) and malt liquors and malt (11 per cent). Much of this growth can be seen during the eighties. The sector as a whole also witnessed deceleration in the growth of fixed capital during the later period. In fact, growth in the second period was less than 50 per cent of the first period. The situation in the total manufacturing is also same during the period, though its growth has been lower than that in the manufacture of food and beverages by 38 per cent and 65 per cent in the eighties and nineties respectively. The increasing demand for processed food since the eighties as a result of various factors might have necessitated capacity additions in the existing factories and technological modernization. This could be the reason for rapid rise in the fixed during this period. There again, much of this capacity additions took place in the eighties. In the nineties, the emphasis might have been on utilizing the unutilized potential. The figures from the annual reports of Ministry of Food Processing also suggest that the capacity utilization increased from 33 per cent in 1990 to 46 per cent in 2003 (GoI, 2005).

Future Projections: The value of production in the sector nearly doubles in every decade at the growth rate shown above in the business as usual scenario (Table 2.10). The value of output, which was Rs. 33757 crores at constant 1993-94 prices in the triennium ending (TE) 1985-86 has grown by 42 per cent to become Rs 47969 crores in 1999-91 and further Rs 93498 crores in 2000-01. This can go up to Rs. 175126 crores in 2010, Rs. 339510 crores in 2020 and to Rs. 472721 crores by 2025.

Table 2.10: Projections for the Food Processing Sector up to 2025-26

(Constant 1993-94 prices)

Year	Food Processing		Manufacturing		Share of FP in mfg. output	Share of FP in mfg. GVA
	Output	GVA	Output	GVA		
TE 1985-86	33757	4879	220232	52599	15	9
TE 1990-91	47968	6893	336047	76148	14	9
TE 2000-01	93496	11708	590117	114893	16	10
TE 2010-11	175126	21004	1154944	220714	15	10
TE 2020-21	339510	38395	2199549	385279	15	10
TE 2025-26	472721	51911	3035428	509036	16	10

Source: Calculated using ASI data

The growth in gross value added in the same period follows a similar pattern with a somewhat slower growth than that in the total value of production, as can be seen from the table. The

share of food processing in the total manufacturing is likely to improve from 15 per cent to 16 per cent by the TE 2025-26 in case of value of production and from 9 per cent to 10 per cent in case of gross value added by the same period.

While this is the business as usual scenario, harnessing the full potential of the food processing sector by increasing investments and removing the bottlenecks through proper policy framework can in fact increase the growth rate in the sector considerably. For example, our analysis shows that a 10 per cent increase in the growth of investments in the sector can increase the growth of value of production by 1 per cent[10]. Therefore, the targeted investment growth of Rs. 200000 crores in the Eleventh Five Year Plan[11] can accelerate the growth of the value of production by 2.25 per cent from the present 6.62 per cent, which is already quite high from international standards. However, the crucial issue is whether the new investments of this magnitude will happen or not, as it is based on the assumption that the government would invest Rs. 5000 crores in the sector during the Eleventh Five Year Plan. One naturally gets this doubt as the ministry could spend only Rs. 381 crores in the Tenth Five Year Plan as against a target of Rs. 650 crores. In fact, this sector needs more than Rs. 5000 crores and investing more to look after the economic, technological, human resource problems of unorganized sector can increase the employment disproportionately higher to its investment.

Structural Ratios

The extent of output, fixed capital and persons per enterprise can give an idea of the scale of operation in any sector. The predominantly unorganized nature of the food processing sector of the country requires examination of these ratios in that segment also. It can be observed from Table 2.11[12] that scale of operation is very low in the unorganized segment compared to their organized counterpart of food processing sector including tobacco industries, much like the total manufacturing sector of the country. Though the organized segment in food processing is relatively better in respect of output, fixed capital and persons per enterprise compared to the unorganized segment, it compares poorly with the situation in the total manufacturing sector, which is dealt with in more detail in the next paragraph. As a result of low capital per enterprise, the capital productivity in both the segments is higher than the total manufacturing sector (see Appendix Table 2.5). However, the labour productivity in

[10] $VoP = -7.419^{***} + 1.806^{***}\ PNNP + 0.101^{*}\ INVESTS \quad R^2 = 0.980 \quad DW = 2.208$

(-12.992) (17.810) (1.896)

Where VoP is value of production, PNNP is per capita net national product and INVESTS is investments in the sector. The three stars indicate significance at 1 per cent level of significance and single star indicates significance at 10 per cent level of significance. The values in the parentheses are t values. The equation is in double log form and therefore the coefficients are also elasticities.

[11] Please see GoI (2006b) for details. The Working Group of Planning Commission estimates that the growth of the sector can 'go up from the present 7 per cent to around 10.01 per cent over the next plan period', which according to us is over optimistic.

[12] Details in Appendix Table A2.4

the unorganized segment is very low in the food and tobacco industries sector reflecting poor wages to the workers[13]. In fact, improving this productivity is the major challenge to the sector[14]. The situation is particularly bad in the tobacco industries. The capital intensity in the sector is only 31 per cent of that in the total manufacturing in 1994-95 and it improved to 40 per cent in 2000-01. This indicates the labour intensive nature of the work in food processing sector. The enterprises in the unorganized segment in food and beverages seem to be better placed compared to total unorganized manufacturing in terms of scale of operation, capital deepening and capital and labour productivity in 1994-95 and continue to be the same in 2000-01 except in case of fixed capital per enterprise and fixed capital per person. These industries have improved their scale of operation, capital intensity and labour productivity in 2000-01.

Table 2.11: Structural Ratios in Food Processing and All industries in 2000-01

Ratio	Food processing			Total manufacturing		
	Org	Unorg	Total	Org	Unorg	Total
Output per enterprise in lakh Rs.	413.79	0.95	4.22	453.51	0.71	4.17
Fixed capital per enterprise in lakh Rs.	115.2	0.45	1.35	247.49	0.49	2.38
Persons per enterprise in numbers	55.55	2.27	2.69	60.85	2.18	2.63
Fixed capital per person in lakh Rs.	2.07	0.2	0.5	4.07	0.23	0.91
Output to fixed capital ratio in Rs.	3.59	2.14	3.12	1.83	1.44	1.75
Output per person in lakh Rs.	7.45	0.42	1.57	7.45	0.32	1.59

Note: All are calculated with constant 1993-94 prices, *Source:* ASI and NSSO Reports

In the organized segment, the output and fixed capital per enterprise, capital intensity and labour productivity are rising (Table 2.12 and Appendix Table A2.6). On the other hand, the persons per enterprise and capital productivity are going down. This may be due to the rising capital intensity in the reform period. The incentive framework in this period mainly seemed to have helped the organized sector in building up the machinery to increase scale of production. The percent of persons per enterprise in the sector compared to those in total manufacturing came down to 80 per cent in triennium ending 1993-94 and went up again to

[13] The relationship between the wages and productivity is well documented. Goldar and Banga (2005) concluded that there was a positive relationship between labour productivity and wage rate, though the marginal effect of the former on the latter was low.

[14] Similar results are reported in Chadha and Sahu (2003)

92 per cent in the TE 2003-04. The capital intensity increased by 175 per cent and 72 per cent respectively in the eighties and nineties in food processing sector, while the same in the total manufacturing are 92 per cent and 16 per cent.

Table 2.12: Structural Ratios in Organized Food Processing Sector in TE 1983-84 to TE 2003-04 Relative to Total Manufacturing

Ratio	Food processing			Total manufacturing		
	TE 1983-84	TE 1993-94	TE 2003-04	TE 1983-84	TE 1993-94	TE 2003-04
Output per enterprise in lakh Rs.	81	80.5	89	100	100	100
Fixed capital per enterprise in lakh Rs.	19	26.4	28	100	100	100
Persons per enterprise in numbers	92	80.2	92	100	100	100
Fixed capital per person in lakh Rs.	23	33.2	69	100	100	100
Output to fixed capital ratio in Rs.	407	301	310	100	100	100
Output per person in lakh Rs.	87	102	95	100	100	100

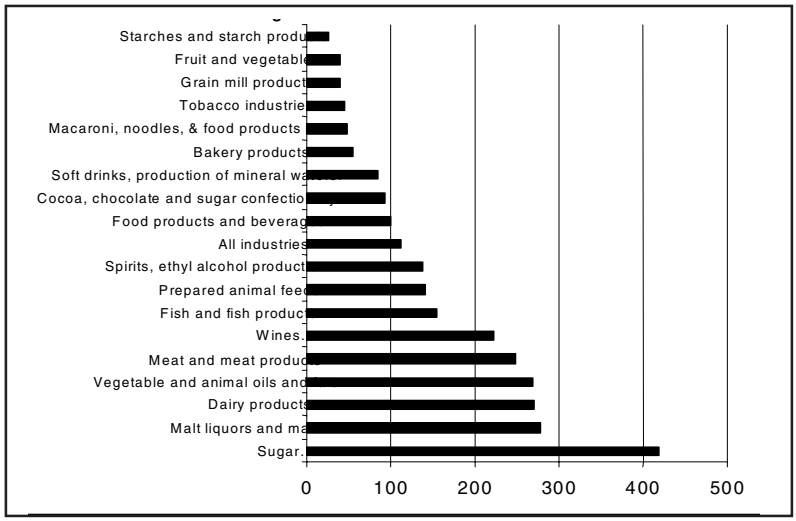
Source: ASI Reports

Structural Ratios in Sub-sectors

The output per enterprise in the manufacture of food and beverages was Rs. 473 lakhs in the triennium ending 2003-04 at constant 1993-94 prices and 89 per cent of that in the total manufacturing sector of the country. It improved from 81 per cent of the same in the triennium ending 1983-84. Among the sub-sectors, sugar, malt liquors and malt, dairy products, vegetable and animal oils and fats, meat products and wines had higher output per enterprise (Figure 2.1). On the other hand, the scale of operation in respect of output in starches and starch products, fruit and vegetables, grain mill products and tobacco industries is very low compared to the average in the sector. The output per enterprise increased in all the sub-sectors in the food processing sector over the past two decades, though at different rates (see Appendix Table 2.7). It increased by 182 per cent in the sector as a whole. The units in starches and starch products (1140 per cent), sugar (494 per cent), cocoa, chocolate and sugar confectionery (432 per cent), vegetable and animal oils and fats (400 per cent) showed very high growth in the output per enterprise over the triennium ending 1983-84. The sub-sectors like processing and preserving of fruits and vegetables (48 per cent), dairy products (75 per cent) could not improve much in terms of output per enterprise during this period.

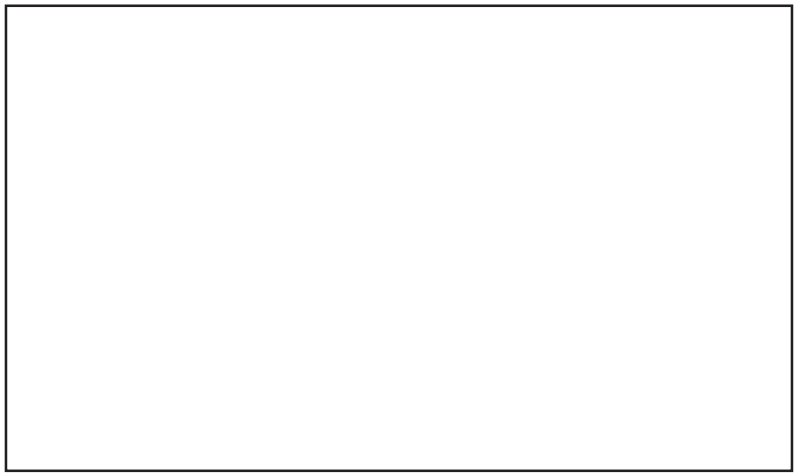
The fixed assets per enterprise in the sector is very low (Rs. 75 lakhs at constant 1993-94 prices) and is only 28 per cent of that in the total manufacturing sector of the country, despite improving its position by a whopping 290 per cent (see Appendix Table 2.7). In the sub-sectors like grain mill products, tobacco industries, bakery products, other food products, starches and starch products, the fixed capital per unit is very low (Figure 2.2). The units in sugar, malt liquors and malt, where the output per enterprise is high, also had higher fixed capital relative to that in the sector as a whole. The improvement in fixed assets is very high in soft drinks (1200 per cent), cocoa, chocolate and sugar confectionery (1100 per cent), sugar (1000 per cent), fish and fish products (580 per cent) and vegetable and animal oils and fats (540 per cent). These are also the industry groups where the multinationals entered in a big way during this period. It was observed that this improvement has also been marked in the first period viz., 1983-84 to 1993-94. However, industries in dairy products, grain mill products improved very marginally in terms of fixed capital during the period. It can be concluded from this that the food processing sector continues to be labour intensive with a very small fixed capital requirement compared to most other industries in the manufacturing sector of the country.

Figure 2.1: Output enterprise ratio in Sub-groups Relative to Food, Beverages Sector in TE 2003-4



Source: ASI Reports

Figure 2.2: Fixed assets per enterprise in Sub-groups Relative to Food and Beverages in TE 2003-04



Source: ASI Reports

While the output per enterprise and fixed assets per enterprise increased by 182 per cent and 290 per cent respectively, the persons pe
the period (see Appendix Table 2.8). Howev
been near equal decline (23 per cent) in the
manufacturing sector during the same perioc
2003-04 in the food processing industries per e
lower number of persons per enterprise than
this gap seems to be widening. While the pers
lower than that in total manufacturing in the T
TE 2003-04. The industries in the manufactu
and malt, meat and meat products and wines
manufacture of grain mill products, starches a
fats and bakery products had been organized
(Figure 2.3). As far as the change during this
the sector were employing lower number than that in the TE 1983-84. They are dairy products (-32 per cent), fruits and vegetables (-16 per cent), wines (-13 per cent), vegetable and animal oils and fats (-8 per cent), macaroni, noodles, conscious and similar farinaceous products (-8 per cent), bakery products (-6 per cent) and grain mill products (-3 per cent). Among the very few showing improvement in the number of persons per unit are tobacco products (270 per cent), fish and fish products (81 per cent), soft drinks and mineral waters (51 per cent), sugar (40 per cent), cocoa, chocolate and sugar confectionery (15 per cent) (see Appendix Table 2.8).

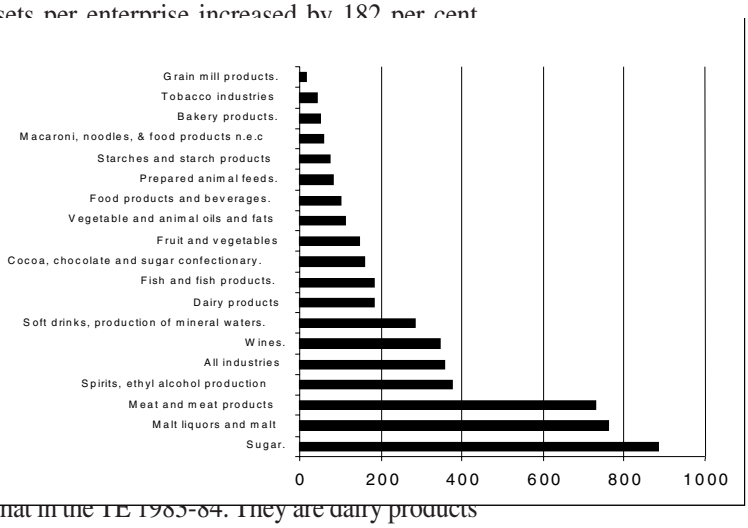
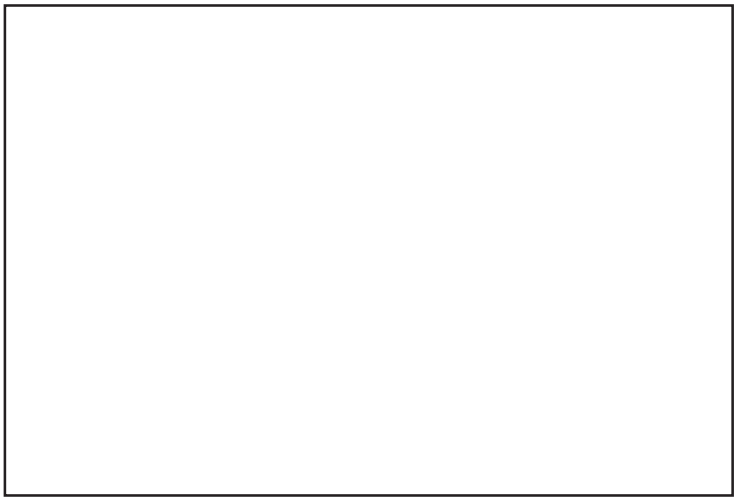


Figure 2.3: Persons per enterprise in Sub-groups Relative to Food and Beverages in TE 2003-04



Source: ASI Reports

The capital intensity viz., fixed assets per person was Rs.1.33 lakhs per person at constant 1993-94 prices in the TE 2003-04 and it im
manufacturing in the TE 1983-84 to 70 per c
sector, soft drinks and mineral waters, mea
vegetable and animal oils and fats, cocoa, c
ethyl alcohol production and sugar are the in
high relative to the sector average (Figure 2.
0.17 lakhs), macaroni, noodles and other food
(Rs. 0.50 lakhs) and bakery products (Rs.0.87
per person. This important structural ratio that
of the sector as a whole increased by 386 per
04 (see Appendix Table 2.8). It is also note
during the first period. Among the sub-secto
tobacco products, soft drinks and mineral wat
fruits and vegetables showed sharp increase in
and dairy products had negligible increase.

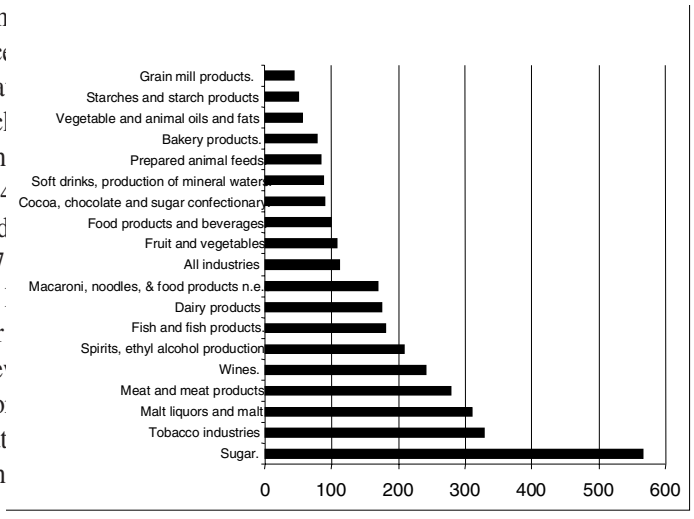
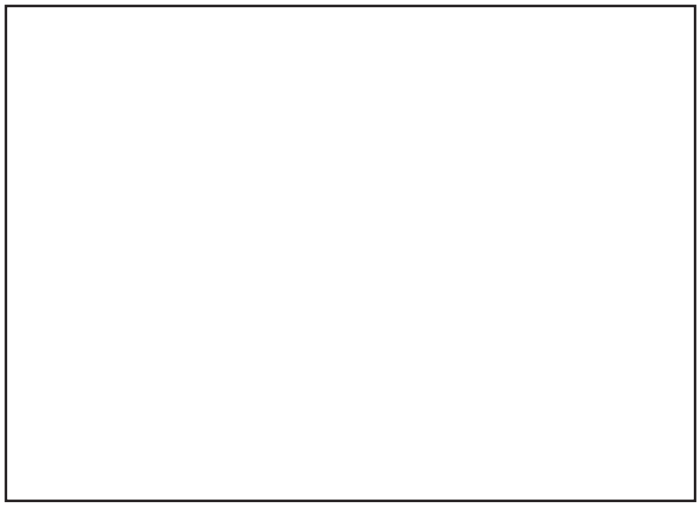
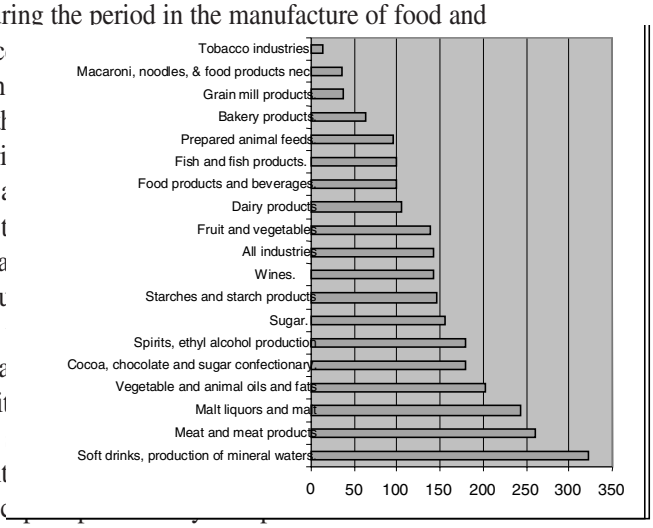


Figure 2.4 : Fixed assets per person in sub-groups Relative to Food and Beverages in TE 2003-04



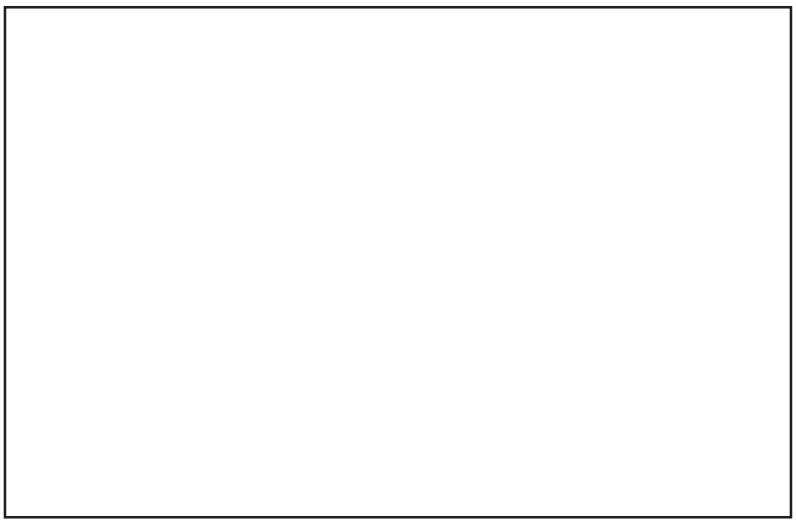
Source: ASI Reports

The capital productivity represented by output to fixed assets ratio is Rs. 6.02 lakhs at constant 1993-94 prices. It has gone down during the period in the manufacture of food and beverages and the same trend is seen in tobac
went down by 29 per cent during the period in
may be due to increase in the fixed assets in tl
increase the scale of operation to cater to the ri
consequent on the rising disposable incomes a
the plant and new technology brought may t
into production. Despite this decline in capita
much higher than that in the total manufactu
productivity in the sector was nearly three
sector in the TE 1983-84, it was still more tha
be viewed in the background of stagnant capi
trebling of fixed assets per enterprise in the
can be observed from table that the per cent
processing sector was negative in respect of
and starch products (+ 155 per cent), grain mill products (52 per cent), animal feeds (50 per cent) and dairy products (25 per cent). The capital productivity declined sharply in fruits and vegetables (-71 per cent), soft drinks and mineral waters (-61 per cent), cocoa, chocolate and confectionery (-56 per cent), fish and fish products (-54 per cent) etc. The highest capital productivity was found in the grain mill products, vegetable and animal oils and fats, prepared animal feeds, dairy products and bakery products (Figure 2.5). These are also the industries where the fixed assets per enterprise are very low as can be seen from the



previous paragraphs. The lowest capital productivity was in case of fruits and vegetables, soft drinks and mineral waters, meat and meat products and starches and starch products.

Figure 2.5: Output fixed assets ratio in Sub- sectors Relative to Food and Beverages in TE 2003-04



Source: ASI Reports

The labour productivity measured in terms o
lower than that in the total manufacturing sec
of persons in the food processing, but due t
compared to the total manufacturing. The nota
is that it has been increasing continuously du
274 compared to 236 in the total manufact
productivity is the highest in vegetable and an
dairy products in the sector (Figure 2.6). All
low number of persons per enterprise as we
productivity is low in industries where the
tobacco industries, macaroni, noodles, similar
fruits and vegetables and starches and starch
mill products, the labour productivity is lowe
persons per enterprise.

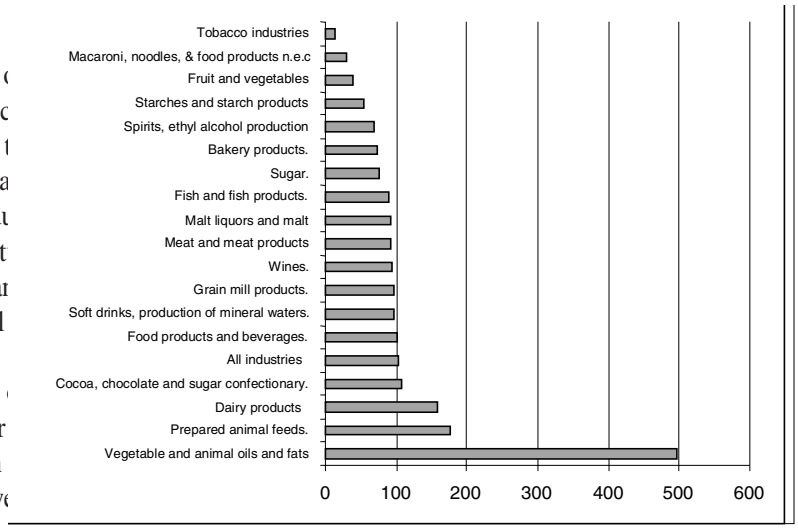
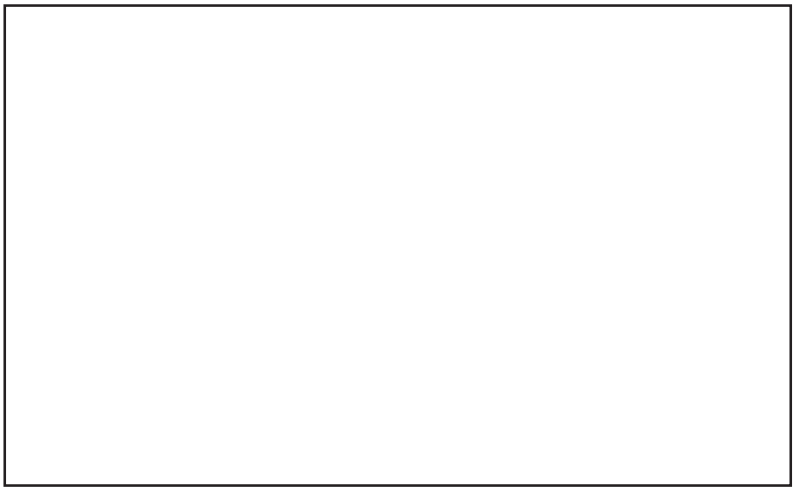


Figure 2.6: Output persons ratio in Sub-setors relative to Food and Beverages in TE 2003-04



Source: ASI Reports

Elasticities of Employment: The precise estimates of employment with respect to the growth in output are given by elasticities. These are presented in Table 2.13 and two things can be observed from the table. The first one is that th
segment of food and beverages sector is 11
segment during 1994-95 to 2000-01. The sec
in the food and beverages and 79 per cent
compared to that in the total manufacturing.
organized sector is negligible in the food, bev
as is well documented shrank in the total ma

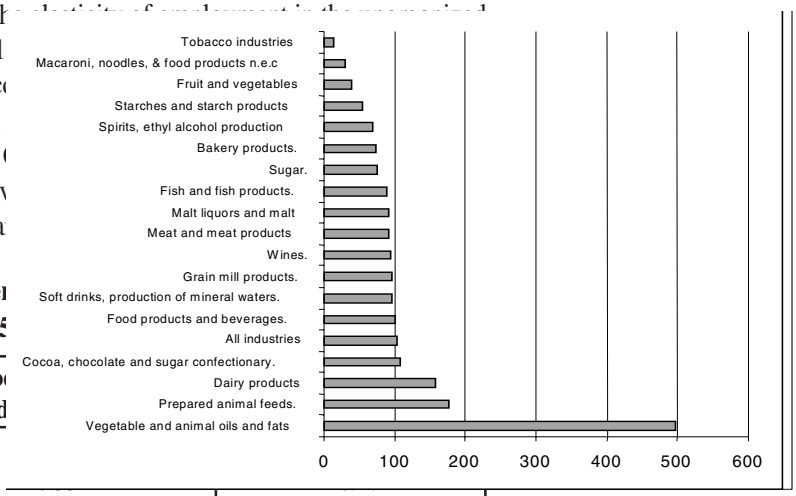


**Table 2.13: Elasticities of Employme
Segments During 1994-9**

Segment	Food and beverages	Foo and
Organised	0.09	
Unorganised	0.19	
Total	0.21	0.34 0.19

Source: ASI and NSSO Reports

The elasticities for all the sub-groups for the period from 1981-82 to 2003-04 are calculated for the organized sector as the data are available (Table 2.14). The elasticity of employment is very low viz., 0.02 for the entire period. In fact, it declined in the eighties and later slightly recovered and showed an elasticity of 0.13. The situation was not that rosy for labour in the tobacco industries also. The major activities for employment like sugar and

vegetable oils showed negative elasticities, while grain mill products and other food products had elasticities of 0.23 and 0.21 respectively. The additions to employment are relatively high in starches and starch products, prepared animal feeds and bakery products. It needs to be mentioned here that the elasticities in all these would have been still lower if we take workers only in to account instead of total persons.

Table 2.14: Elasticities of Employment of total persons with respect to Net Value Added in Sub-sectors

Sub-sectors	TE 1983-84 to TE 1993-94	TE 1993-94 to TE 2003-04	TE 1983-84 to TE 2003-04
1511:Production, processing& preservation of meat and meat products	-0.02	2.95	0.43
1512: Processing and preserving of fish and fish products.	0.14	-2.37	0.5
1513: Processing and preserving of fruit and vegetables	0.15	0.54	0.25
1514:Vegetable and animal oils and fats	0.07	-0.49	-0.2
1520: Manufacture of dairy products	0.48	0.1	0.15
1531: Manufacture of grain mill products.	0.43	0.16	0.23
1532: Manufacture of starches and starch products.	0.44	1.02	0.64
1533: Manufacture of prepared animal feeds.	0.5	0.39	0.33
1541: Manufacture of bakery products.	0.33	0.31	0.27
1542: Manufacture of sugar.	-0.5	-0.66	-0.4
1543: Manufacture of cocoa, chocolate and sugar confectionary.	0.24	0.12	0.1
1544+1549: Manufacture of macaroni, noodles, conscious and similar farinaceous products. Manufacture of other food products n.e.c.	0.01	-4.81	0.21
1551: Distilling, rectifying and blending of spirits, ethyl alcohol production from fermented materials.	0.22	1.17	0.21
1552: Manufacture of wines.	0	0.48	0.15
1553: Manufacture of malt liquors and malt	0.2	1.8	0.36
1554: Soft drinks, production of mineral waters.	0.24	0.3	0.22
151 Meat, fish, fruits, vegetables and oils	0.11	-0.09	0.02
152 Dairy products	0.48	0.1	0.15
153 Grain mill products	0.41	0.19	0.23
154 Other food products	-0.2	0.05	-0.15
155 Beverages	0.21	0.51	0.23
15: Manufacture of food products and beverages.	-0.03	0.13	0.02
1600: Manufacture of tobacco products.	0.22	0.05	0.11
All industries	0.09	-0.21	0.004

Source: ASI Reports

III. Structure of Employment

The structure of employment in the country is dominated by self-employment in the rural and urban areas to the extent of around 60 per cent and 45 per cent respectively (Tables 3.1 and 3.2). The proportion of self-employed increased across all groups in 2004-05. On the other hand, the proportion of casual labourers declined in the recent period and the regular employed have gone up in case of rural males and urban females. These are the broad trends in the structure of employment at a macro level. We now proceed to the food processing sector for a detailed examination. The structure of employment in the organized and unorganized sectors, regional distribution and employment by type of establishments and different workers are brought out in this section.

Table 3.1: Distribution of Usually Employed (PS +SS) by Category of Employment in Rural India

Year	Male workers			Female workers			All workers		
	Self-employed	Regular salaried employees	Casual labour	Self-employed	Regular salaried employees	Casual labour	Self-employed	Regular salaried employees	Casual labour
1972-73	65.90	12.10	22.00	64.50	4.10	31.40	65.30	9.30	25.40
1977-78	62.80	10.60	26.60	62.10	2.80	35.10	62.60	7.70	29.70
1983	60.50	10.30	29.20	61.90	2.80	35.30	57.82	8.06	33.72
1987-88	58.60	10.00	31.40	60.80	3.70	35.50	59.45	7.83	32.28
1990-91	55.70	12.84	31.47	58.56	3.77	37.67	57.27	9.70	33.02
1992	60.79	8.27	30.93	59.10	3.19	37.70	60.41	6.40	33.18
1993	59.08	7.89	33.03	58.52	2.25	39.23	59.25	6.50	34.24
1993-94	57.70	8.50	33.80	58.60	2.70	38.70	58.10	6.60	35.30
1994-95	60.40	6.80	32.8	57.00	2.20	40.80	59.14	5.19	35.67
1995-96	59.00	7.70	33.30	56.40	2.40	41.20	58.08	5.25	35.83
1997	59.40	7.30	33.30	57.00	2.10	40.90	58.69	5.63	35.68
1998	55.30	7.00	37.70	53.40	2.25	44.20	54.68	5.66	39.65
1999-00	55.00	8.80	36.20	57.30	3.10	39.60	55.80	6.80	37.40
2001-02	58.00	8.10	33.90	58.90	2.90	38.20	58.42	6.23	35.33
2002	56.90	8.80	34.40	55.80	3.60	40.60	56.46	6.94	36.36
2003	57.80	8.70	33.50	61.60	3.30	35.10	59.16	7.20	34.11
2004	57.20	9.22	33.58	61.59	3.81	34.60	58.70	7.42	33.87
2004-05	58.10	9.00	32.90	63.37	3.70	32.60	60.20	7.20	32.80

Source: Different Round of NSS as compiled in Reddy (2007)

Table 3.2: Distribution of Usually Employed (PS +SS) by Category of Employment in Urban India

Year	Urban males			Urban females		
	Self-employed	Regular salaried employees	Casual labour	Self-employed	Regular salaried employees	Casual labour
1983	40.9	43.7	15.4	45.8	25.8	28.4
1987-88	41.7	43.7	14.6	47.1	27.5	25.4
1993-94	41.7	42.0	16.3	45.8	28.4	25.8
1999-00	41.5	41.7	16.8	45.3	33.3	21.4
2004-05	44.8	40.6	14.6	47.7	35.6	16.7

Source: Same as for Table 3.1

Direct and Indirect Employment: These are the two types of employment in the organized sector. Whereas the workers employed directly by the owners enjoy some security benefits, those who are put into work by the contractors viz., employed indirectly, cannot claim any rights that legitimately come on being identified as workers. Therefore, the quality of employment with the indirect employment is poor. These are brought out across states and different industries of the food processing sector in Table 3.3. The problem of indirect employment is always there in the manufacturing sector of the country and over time it is increasing and especially so after the new economic policies after 1991. However, this is more acute in the production of tobacco products and the extent of this problem in the food processing sector as a whole is on par with that in the total manufacturing. At a disaggregate level, it is severe in the sub-sectors of meat, fish, fruits, vegetables and oils; and grain mill products. Across states, a high proportion of workers in Haryana, Punjab, Orissa, Rajastan, M.P, A.P, Gujarat and Uttar Pradesh are indirectly employed in the food processing sector. It can be observed from the table that the quality of employment in Kerala, Tamil Nadu and West Bengal is very good with lowest levels of indirect employment.

Structure of Employment in the Organised Sector: The major activities in food and beverages in terms of employment in the triennium ending 2003-04 are macaroni, noodles, conscious and similar farinaceous products and other food products (26 per cent), sugar (22 per cent), grain mill products (20 per cent), dairy products (11 per cent) and vegetable and animal oils and fats (6 per cent) (Table 3.4). These activities together account for 85 per cent of the total employment in the manufacture of food and beverages. However, the sub-sector macaroni, noodles, conscious and similar farinaceous products and other food products contribute only 8 per cent to the total output of the sector. While its contribution to the output overtime has been declining, its share in the total employment of the sector is increasing. This can be considered the most labour intensive sub-sector in the food and beverages sector. On the other hand, the share of industries in the manufacture of vegetable and animal oils and fats in employment was only 6 per cent, despite contributing 30 per

Table 3.3: Proportion of Indirect Employment in Different Food Processing Activities in the Organised Segment in TE 2003-04

State	Meat, fish, fruits, vegetables and oils	Dairy products	Grain mill products	Other food products	Beverages	Food and beverages	Tobacco products	Food, beverages & tobacco	All industries
A P	50.7	24.12	47.27	13.58	24.6	34.56	85.31	68.48	45.16
Bihar	9.36	48.67	33.54	26.33	24.66	29.94	21.01	28.19	44.47
Gujarat	50.12	32.08	33.44	16.99	17.25	33.64	28.07	33.23	32.01
Haryana	36.56	33.24	78.59	22.54	57.94	56.95	10.93	56.46	33.49
H.P	27.09	0	11.8	6.33	21.7	19.05	47.43	23.65	14.2
J&K	31.24	15.3	40.76	0	44.41	30.07	7.64	21.9	24.25
Jharkhand	20.92	26.71	0	0	48.62	18.28	86.77	75.01	13.57
Karnataka	31.07	39.51	19.97	15.43	18.9	18.98	1.573	17.57	11.01
Kerala	19.46	5.88	11.59	0.93	27.14	2.23	45.5	7.93	8.25
M.P	32.26	43.16	18.01	36.52	57.3	34.85	41.53	36.9	20.81
Maharashtra	49.04	13.61	23.17	17.58	42.99	24.17	8.92	17.69	21.4
Orissa	35	52.47	45.98	15.04	51.2	41.75	86.97	50.99	34.12
Punjab	49.07	14.4	64.03	22.22	32.35	51.98	0	51.98	21.93
Rajasthan	31.9	66.53	43.55	27.36	33.81	39.26	81.8	46.72	29.43
T.Nadu	28.19	4.65	13.93	5.30	36.78	10.75	1.06	10.38	10.15
U.P	52.64	41.11	43.28	21.25	49.93	29.44	39.61	30.19	27.29
Uttaranchal	42.2	42.62	51.99	12.97	45.1	28.16	0	28.16	21.84
W.B	34.45	42.91	25.96	2.91	18.84	11.63	37.81	17.92	9.743
Chattisgarh	19.81	2.913	15.96	13.53	0.38	15.23	20	15.77	26.83
All India	**43.78**	**26.4**	**41.22**	**10.4**	**38.81**	**23.89**	**60.27**	**35.36**	**23.15**

Source: ASI Reports

cent of the output of the sector. During the study period, the shares of sugar (-20) and vegetable oils (-3) have gone down and those of grain mill products (+6) and other food products (+3) increased, while the share of dairy products did not change. All other activities have improved their shares in total employment marginally.

The analysis of data at the five digit level for the organized segment shows that the important industries for employment along with the share of employment are manufacture of refined sugar (16.49 per cent); rice milling (16.24 per cent); processing of edible nuts (15.28); and processing and blending of tea including instant tea (8.49 per cent) in 2003-04 (see Appendix Table 3.1). Few other industries providing considerable employment are manufacture of pasteurized milk (2.74 per cent); other semi-processed, processed or instant food (2.57 per cent); other grain milling and processing (2.54 per cent); vegetable oils and fats (2.29); manufacture of khandasari from sugar cane (2.41); processing and canning of fish (1.76);

manufacture of vegetable oils and fats through solvent extraction process (1.79); biscuits, cakes and pastries (1.68) etc.

Structure of Employment in the Unorganised Segment: The structure of employment in the unorganized segment presents a slightly different picture[15] (Table 3.5). The grain mill products (38 per cent); macaroni, noodles and similar farinaceous products and other food products (22 per cent); sugar (10 per cent); cocoa, sugar and confectionery (8 per cent) and dairy products are the major sources of employment in the unorganized sector. However, it is to be remembered that a one percent employment in unorganized segment means nearly 60000 jobs compared to a mere 13000 in the organized segment. The grain mill products and cocoa, sugar and confectionery sub-sectors are more important in the unorganized segment in provision of employment. While grain mill products, macaroni, noodles and other food products dominate employment in unorganized segment in food processing of rural area, the cocoa, sugar and confectionery, bakery products and meat and meat products employ many people in the urban area apart from grain mill products and macaroni and other food products.

Regional Distribution of Employment: It would be ideal to have employment in non-farm sectors like food processing in all the states. However, the employment in the food processing sector is concentrated in some of the relatively developed states. It can be observed from Table 3.6 that the share of individual states in the total employment in the organized segment of food processing sector takes a different pattern compared to output. The states of Maharashtra (14 per cent), Andhra Pradesh (13 per cent), Uttar Pradesh (11 per cent), Kerala (11 per cent) and Tamil Nadu (10 per cent) account for 60 per cent of the total employment in food processing sector in the country. In the tobacco products, Andhra Pradesh and Maharashtra account for 80 per cent of total employment. Though West Bengal accounts for nearly 10 per cent of the gross value added in the manufacture of food, beverages and tobacco products, its share in employment is only 3.5 per cent. Andhra Pradesh, with only 9 per cent of the gross value added in food and beverages, accounts for 13 per cent of employment. These differences may be due to the type of food processing industries located in the particular state. When it comes to total manufacturing, Maharashtra, Tamil Nadu, Andhra Pradesh and Gujarat account for 50 per cent of the total employment in the country. The food processing industries in Uttar Pradesh seem to have developed better, despite its poor level of industrialization. The sugar cane factories might have been responsible for this employment.

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[15] The structure of employment in the unorganized segment in different sub-sectors and states is based on the results of 51st round of National Sample Survey Organisation reported in Report No.433 and 435. Though the NSSO conducted in its 56th round again on unorganized manufacturing sector in India and reported in Report Nos. 477,478,479 and 480, the disaggregation at sub-sector level and across states is not given in those reports. Therefore, the latest available evidence on these aspects is from the 1994-95 survey only

Table 3.4: Structure of Total Employment of Organised Food Processing Industry

Sub-sectors	TE 1983-84	TE 1993-94	TE 2003-04
1511: Production, processing& preservation of meat and meat products	0.27	0.27	0.66
1512: Processing and preserving of fish and fish products.	0.93	1.53	2.19
1513: Processing and preserving of fruit and vegetables	0.99	1.22	2.08
1514: Manufacture of vegetable and animal oils and fats	8.76	9.4	5.81
1520: Manufacture of dairy products	10.9	12.4	10.7
1531: Manufacture of grain mill products.	14.4	19.7	20.2
1532: Manufacture of starches and starch products.	0.65	0.9	1.36
1533: Manufacture of prepared animal feeds.	0.52	1.02	1.6
1541: Manufacture of bakery products.	1.93	2.74	2.96
1542: Manufacture of sugar.	41.5	28	22
1543: Manufacture of cocoa, chocolate and sugar confectionary.	0.29	0.77	0.9
1544+1549: Manufacture of macaroni, noodles, conscious and similar farinaceous products. Manufacture of other food products n.e.c.	23	23.9	25.7
1551: Distilling, rectifying and blending of spirits, ethyl alcohol production from fermented materials.	1.44	2.37	2.05
1552: Manufacture of wines.	0.25	0.25	0.63
1553: Manufacture of malt liquors and malt	0.66	1.03	1.43
1554: Manufacture of soft drinks, production of mineral waters.	1.17	1.38	2.29
151 Meat, fish, fruits, vegetables and oils	10.9	12.4	10.7
152 Dairy products	3.22	5.51	6.11
153 Grain mill products	15.6	21.6	23.2
154 Other food products	66.7	55.4	52.35
155 Beverages	3.52	5.03	6.41
15: Manufacture of food products and beverages.	100	100	100

Source: ASI Reports

At a disaggregate level, the following states account for major share of employment in food processing.

151 – Meat, fish, fruits, vegetables and oils — A.P, Maharashtra, Gujarat

152 - Dairy products – Maharashtra, Gujarat, A.P, Tamil Nadu

153 – Grain mill products – A.P, Punjab, Tamil Nadu

154 – Other food products – Kerala, Maharashtra, U. P, Tamil Nadu

155 - Beverages – U.P, Maharashtra, A.P

Table 3.5: Employment in Food Processing in 1994-95 in Unorganised Segment

Sub-sector	Rural	Urban	Total
1511: Production, processing& preservation of meat and meat products	1.21	8.21	2.64
1512: Processing and preserving of fish and fish products.	1.6	0.48	1.37
1513: Processing and preserving of fruit and vegetables	0.9	1.33	0.99
1514: Manufacture of vegetable and animal oils and fats	2.11	3.71	2.44
1520: Manufacture of dairy products	5.35	4.81	5.24
1531: Manufacture of grain mill products.	41.1	25.3	37.9
1532: Manufacture of starhes and starch products.	0	0.03	0.01
1533: Manufacture of prepared animal feeds.	0.05	0.3	0.1
1541: Manufacture of bakery products.	1.17	9.71	2.91
1542: Manufacture of sugar.	12	1.34	9.87
1543: Manufacture of cocoa, chocolate and sugar confectionary.	3.99	21.8	7.61
1544+1549: Manufacture of macaroni, noodles, conscious and similar farinaceous products. Manufacture of other food products n.e.c.	23.5	18.1	22.4
1551: Distilling, rectifying and blending of spirits, ethyl alcohol production from fermented materials.	4.12	0.87	3.46
1552: Manufacture of wines.	0.01	0	0
1553: Manufacture of malt liquors and malt	1.79	0.03	1.43
1554: Manufacture of soft drinks, production of mineral waters.	0.98	4	1.59
Food and beverages	100	100	100

Source: NSSO Reports

Table 3.6: Share of States in the Employment of Food Processing Sector in TE 2003-04 in Organised Segment

States	151	152	153	154	155	15	16	15+16	All industries
Andhra Pradesh	**21.69**	**11.39**	**25.47**	5.73	**13.86**	**13.07**	**61.57**	**26.26**	11.76
Bihar	0.13	1.87	0.76	0.95	1.19	0.88	0.57	0.79	0.74
Gujarat	14.6	**12.44**	3.54	3.09	1.89	4.97	1.04	3.90	9.17
Haryana	1.19	2.50	6.82	1.8	3.16	3.06	0.09	2.25	3.84
Himachal Pradesh	0.72	0	0.13	0.1	1.72	0.28	0.16	0.25	0.45
Jammu&Kashmir	0.25	0.23	0.40	0.15	1.74	0.33	0.44	0.36	0.32
Jharkhand	0.23	0.30	0.21	0.03	0.54	0.15	1.48	0.51	1.94
Karnataka	4.90	6.56	3.26	7.12	7.42	5.94	1.22	4.66	6.29
Kerala	3.67	3.35	1.28	**18.7**	3.48	**10.92**	4.20	**9.09**	3.79
Madhya Pradesh	6.65	3.04	1.48	0.89	3.46	1.97	2.14	2.01	2.68
Maharashtra	**15.13**	**20.12**	6.48	**16.1**	**13.32**	**13.76**	**18.3**	**14.99**	14.63
Orissa	0.86	0.84	4.45	0.46	1.93	1.57	0.94	1.40	1.52
Punjab	4.74	8.76	**17.68**	1.72	8.26	6.72	0	4.89	4.40
Rajasthan	3.87	4.36	1.04	0.49	4.47	1.50	0.68	1.28	3.06
Tamil Nadu	8.64	10.55	10.4	**10.9**	7.11	**10.27**	1.08	7.77	14.37
Uttar Pradesh	5.98	8.34	6.91	**14.7**	**14.39**	**11.46**	2.32	**8.97**	6.90
Uttaranchal	0.71	0.53	1.02	0.94	0.57	0.88	0	0.64	0.53
West Bengal	3.24	2.29	3.74	5.07	4.39	4.34	3.47	4.09	6.79
Chattisgarh	0.98	0.08	3.18	0.16	1.03	1.02	0.33	0.83	1.22
All 19 states	98.17	97.55	98.23	89.1	93.92	93.09	100	94.97	94.4
All India	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: ASI Reports

As is shown in some of the earlier tables, the food processing sector accounts for 1/6th of the employment in total manufacturing and along with the tobacco products, it provides employment to nearly a quarter of work force in the organised sector. This shows the importance of the sector for employment creation in the country. This is especially so in view of the immense untapped growth potential of the sector. As the country moves on the path of development, people are bound to consume more of processed products. This will be the major driver for the sector and therefore it promises to be the critical sector for employment creation in years to come. The other issue addressed here is what significance the sector holds for individual states with regard to manufacturing employment. It can be seen from Appendix Table 3.2 that this sector provides the biggest share of manufacturing employment in Kerala, U.P, Uttaranchal, Punjab, Bihar, A.P, Jammu and Kashmir, Maharashtra and several other states.

Though the total number in Uttaranchal, Bihar and Jammu and Kashmir, Orissa, Madhya Pradesh and Chattisgarh are low in food processing, the share of the sector to manufacturing employment is high because of the low level of industrialization in the state. The manufacture of tobacco products creates 33 per cent of employment in Andhra Pradesh due to the fact that large number of people are employed in *Bidi* making. Within the sector, other food products and grain mill products are the sub-sectors with major share in the employment. The former accounts for 52 per cent of the employment in the sector and the later for 24 per (see Appendix Table 3.3).

Employment in Different Establishments in the Unorganised Sector: The National Sample Survey Organisation (NSSO) of the Government of India categorizes all the enterprises in the unorganized sector into three types – own account manufacturing enterprises (OAMEs), non-directory manufacturing establishments (NDMEs) and directory manufacturing establishments (DMEs). The OAME is run mostly by owners and his/her family members without any hired worker on a regular basis. The NDME and DME are run by less than six and more than six workers respectively and this should include at least one hired worker on a regular basis.

All these three types of enterprises can be seen in the rural and urban areas in the sector. The OAMEs dominate in terms of number as well as employment and most of them are located in the rural areas only. Specifically, the shares of OAMEs, NDMEs and DMEs in the unorganized manufacturing employment of the country are 68, 15 and 17, respectively (see Appendix Table 3.4). The OAMEs play a little bigger role in providing employment in the food processing with 71 per cent share in employment followed by NDMEs (16 per cent) and DMEs (13 per cent). It is still higher in tobacco products with 90 per cent share. These ratios do not change much in 2000-01 also as can be observed from the table.

All the employment in the beverages sector is in the OAMEs except very few in the distilling, rectifying and blending of spirits and ethyl alcohol production from fermented materials. Most of them are employed in the production of country liquors etc and foreign liquors are

made in organized segment units. Very few people are employed in OAMEs in bakery products, sugar, cocoa, chocolate and sugar confectionery, starches and starch products and prepared animal feeds. These are activities where the NDMEs and DMEs dominate with hired workers.

The significance of food processing sector for a country like India, where employment opportunities in the rural areas are too few and additions much less, can be gauged from the fact that 80 per cent of the sector's employment is in the rural areas compared to 67 per cent in the total manufacturing sector of the country (Table 3.7). This means that 48 lakhs of the 60.23 lakhs of employment is in rural areas in food processing sector in 1994-95. Though the proportion of rural employment in this has come down by 4 per cent in 2000-01, it still employs 51 lakhs. On the other hand, the increased share of urban areas in the employment indicates that the sector is gradually coming up in the urban areas with the growing demand for processed food in changing urban life styles. The employment in the manufacture of

Table 3.7: Share of Rural Employment in Different Establishments in the Unorganised Segment in 1994-95

Sub-sector	OAME	NDME	DME	TOTAL
Meat and meat products	41.14	17.63	4.854	36.55
Fish and fish products	96.43	100	86.17	92.92
Fruits and vegetables	75.88	88.05	42.09	72.6
Vegetable and animal oils & fats	84.23	48.6	48	68.95
Dairy products	87.19	51.55	36.44	81.27
Grain mill products	91.09	68.71	64.38	86.39
Starches and starch products	40.08	11.6	100	33.5
Prepared animal feeds	31.62	37.54	57.96	41.11
Bakery products	36.35	32.91	27.52	32.02
Sugar	95.2	96.97	98.34	97.24
Cocoa, chocolate & sugar confectionery	58.96	31.09	21.37	41.75
Macaroni, noodles and other products	86.2	56.24	81.17	83.56
Spirits and ethyl alcohol	95.24	80.12	0	94.86
Wines	93.05	0	0	93.05
Malt, liquors and malt	99.6	0	0	99.6
Soft drinks and mineral waters	52.88	42.4	22.35	48.91
Food and beverages	85.57	57.5	73.67	79.58
Tobacco products	78	77.9	85.93	78.48
Food, beverages and tobacco	83.09	59.43	75.46	79.28
All industries	78.74	37.43	43.37	66.64
2000-01				
Food and beverages	82.5	53.42	64.35	75.58
Tobacco industries	79.32	84.32	93.75	80.43
All industries	76.4	34.75	44.99	64.68

Source: NSSO Reports

tobacco products is also predominantly rural. Among the sub-groups in food processing-malt, liquors and malt (100 per cent), sugar (97 per cent), spirits and ethyl alcohol (95 per cent), wines (93 per cent), fish and fish products (93 per cent), grain mill products (86 per cent) and macaroni, noodles and other products (84 per cent) are employing workers mostly in the rural areas only (Table 3.7).

The other workers, unpaid household workers and hired workers in the unorganized segment of food processing are in the ratio of 43 per cent, 39 per cent and 17 per cent respectively[16] (see Appendix Table 3.5). The paid household workers are too few. This is broadly in line with the situation in the total manufacturing except that the proportion of hired workers is 16 per cent less in the food processing sector compared to the total manufacturing. The hired workers are far less in the tobacco products and higher proportion of other workers performs the work. The industries where higher percentage of hired workers are employed include sugar, bakery products, prepared animal feeds, fish and fish products, starches and starch products and cocoa, chocolate and sugar confectionery. The unpaid household workers are more in malt liquor and malt; macaroni, noodles and other products; dairy products and meat and meat products in the manufacture of food and beverages and also tobacco products. The industries employing more of other workers are wines, spirits and ethyl alcohol, soft drinks and mineral waters, grain mill products, meat and meat products, fruits and vegetables, dairy products and vegetable and animal oils and fats. There seems to be some change in the definitions of the groups of workers in the 56th round of the NSSO and therefore the two sets of data may not be comparable.

IV. Gender Aspects of Employment in Food Processing

The proportion of women in both the organized and unorganized segments of food processing sector is around 27 per cent (Table 4.1). In the unorganized segment, this proportion is lower than that in the total manufacturing by 19 per cent and worse still, it declined from 29 per cent in 1994-95. As the sector develops along technological lines and increases in the scale of operation, women may be losing their jobs as the field study in this paper reports somewhere else. However, in the organized sector, the proportion is 44 per cent higher than that in the total manufacturing. It can be observed from the table that only a few sub-sectors employ considerable percent of women in the organized segment. Among them are – macaroni, noodles and other food products (58 per cent), fish and fish products (42 per cent) and fruits and vegetables (42 per cent). The presence of women is negligible in some

[16] The NSSO in 1994-95 defines other workers as all persons who are indirectly associated with or incidental to the manufacturing process of a manufacturing and /or repairing enterprise and this category includes persons holding the position of supervision and management, clerks, store-keepers, sweepers, *darwans* etc (Report no.433 of NSSO, 1998). However, this definition seems to have changed in 56th round in 2000-01 of NSSO. In Report no. 477, NSSO defines other worker as all persons belonging to the household of the proprietor or households of the partners who are working in or for the enterprise without regular salary or wages. Persons working as exchange labourer in the enterprise without salary or wages will also be covered in this category. All unpaid household workers/helpers who are associated with the activities of the enterprise during the reference month are considered in this category.

industries like sugar (1 per cent), wines (3 per cent), dairy products (4 per cent) and vegetable and animal oils and fats (5 per cent). The labour intensive sub-sectors like macaroni, noodles and other food products have higher presence of women. However, the quality of this employment is very poor because of lower wages and their absolute decline in the nineties as shown in the sixth Section.

Table 4.1: Proportion of Women in Sub sectors in Food Processing

Sub-sectors	Proportion of women
Organised segment (in TE 2003-04)	
Meat and meat products	13.71
Fish and fish products	**42.14**
Fruits and vegetables	**42.41**
Vegetable and animal oils & fats	4.92
Dairy products	4.23
Grain mill products	16.52
Starches and starch products	28.33
Prepared animal feeds	6.94
Bakery products	11.98
Sugar	0.61
Cocoa, chocolate & sugar confectionery	8.61
Macaroni, noodles and other products	**58.13**
Spirits and ethyl alcohol	15.73
Wines	2.99
Malt, liquors and malt	10.80
Soft drinks and mineral waters	9.60
Food and beverages	**27.94**
Tobacco products	**68.15**
Food, beverages and tobacco	35.67
All industries	**19.4**
Unorganised segment	
1994-95	
Food and beverages	28.81
Tobacco products	62.79
All industries	31.05
2000-01	
Food and beverages	27.31
Tobacco products	69.29
All industries	33.71

Source: ASI and NSSO Reports

The proportion of women in the sub-sectors of food processing across different states shows that their participation in these activities is very high in Kerala (see Appendix Table 4.1). It is surprising to note that 86 per cent of the workers in food processing industries in Kerala are women. This is followed by Tamil Nadu (53 per cent). The women play major role in

the manufacture of tobacco products also and account for 68 per cent of the total workers. Among the sub-sectors, other food products employ highest proportion of women and dairy products the least number.

The women seem to be mainly involved in the processing of other food products, which includes bakery products; sugar; cocoa, chocolate and sugar confectionery; and macaroni, noodles, conscious and similar farinaceous products and other food products (Table 4.2). This is such a big group and labour intensive. This sub-sector accounts for 8 per cent of the gross value added in TE 2003-04 and employs 26 per cent of the total persons engaged in food processing. Most of the women viz., 83 per cent in food processing are in this sub-sector. Therefore, the state's interventions for development of the sector may better give more focus on this particular sub-sector. While in most of the states, other food products is the major employer of women in the sector, grain mill products provide employment opportunity to majority of the women in the sector in Orissa, West Bengal, Madhya Pradesh and Jharkhand. The sub-sector of meat, fish, fruits, vegetables and oils is the major source of employment in food processing for women in Uttaranchal, Himachal Pradesh, Gujarat, Punjab and Haryana. The dairy products employ more women in Bihar followed by Punjab.

Table 4.2: Proportion of Sub-sectors in Women Employment in Food Processing in 2003-04 Across States in Organised Segment

States	Meat, fish, fruits, vegetables and oils	Dairy products	Grain mill products	Other food products	Beverages	Food products and beverages
Andhra Pradesh	19.34	2.83	29.44	43.73	4.66	100
Bihar	40.00	50.00	0.00	10.00	0.00	100
Gujarat	60.10	2.61	8.56	27.83	0.89	100
Haryana	45.61	0.00	0.00	54.39	0.00	100
H P	62.99	0.00	15.58	17.53	3.90	100
Jammu&Kashmir	0.53	0.53	0.00	82.01	16.93	100
Jharkhand	28.57	4.76	35.71	9.52	21.43	100
Karnataka	6.25	1.93	7.69	76.42	7.72	100
Kerala	0.82	0.18	0.15	98.34	0.52	100
Madhya Pradesh	21.39	0.00	36.87	39.30	2.43	100
Maharashtra	17.24	2.89	26.26	47.97	5.65	100
Orissa	6.46	0.11	70.59	22.79	0.05	100
Punjab	53.55	35.82	0.00	9.22	1.42	100
Rajasthan	6.79	8.64	1.85	70.37	12.35	100
Tamil Nadu	5.09	0.65	17.56	75.01	1.69	100
Uttar Pradesh	26.13	0.59	0.00	73.08	0.20	100
Uttaranchal	82.61	0.00	0.00	17.39	0.00	100
West Bengal	7.00	0.34	70.31	21.53	0.82	100
All India	4.92	0.78	9.59	82.77	1.94	100

Source: ASI Reports

Women in Unorganised Segment: Of the 29 per cent of women workers in the unorganized segment of food processing, 86 per cent are in the own account manufacturing enterprises (OAMEs), 10 per cent in the non-directory manufacturing establishments (NDMEs) and the remaining few workers in the directory manufacturing establishments (DMEs) (Table 4.3). In the unorganized segment also, fish and products; and macaroni, noodles and other products are dominated by women workers. Apart from these, wines; and malt, liquors and malt also have more women compared to men. The manufacture of tobacco products is also quite useful for employing women, though the problem of lower wages make a low quality employment. The manufacture of dairy products in the unorganized segment employs a higher proportion of women viz., 32 per cent compared to the organized segment, where only 4 per cent of the workers are women.

Table 4.3: Share of Women Employment in Different Types of Establishments in the in Food Processing in 1994-95 in Unorganised Segment

	OAME	MDME	DME	Total women in Food and beverages
Meat and meat products	5.83	0.3	0.06	6.19
Fish and fish products	34.9	0.18	28.75	**63.78**
Fruits and vegetables	17.9	2.81	7.79	28.51
Vegetable and animal oils & fats	15.7	2.11	1.03	18.84
Dairy products	30.8	1.31	0.02	**32.12**
Grain mill products	20.9	0.95	0.42	22.28
Starches and starch products	10.8	2.45	0	13.24
Preaperd animal feeds	5.5	4.13	0.78	10.41
Bakery products	7.21	3.35	2.68	13.23
Sugar	8.83	0.64	5.52	14.98
Cocoa, chocolate & sugar confectionery	10.9	0.84	1.08	12.83
Macaroni, noodles and other products	44.1	2.03	6.55	**52.7**
Spirits and ethyl alcohol	34.1	0.35	0.02	34.44
Wines	68.7	0	0	**68.73**
Malt, liquors and malt	57.5	0	0	57.55
Soft drinks and mineral waters	13.1	0.92	0.32	14.37
Food and beverages	24.7	1.23	2.85	28.81
Tobacco products	58.3	1.27	3.18	**62.79**
Food, beverages and tobacco	34	1.24	2.95	38.24
All industries	**26.8**	**1.21**	**3.06**	**31.05**

Source: NSSO Reports

The participation of women in food processing is mainly in the form of unpaid household workers and to an extent of 72 per cent (See Appendix Table 4.2). This is against 64 per cent

of unpaid household workers in the total manufacturing. The hired workers are to a considerable extent areengaged in fish and fish products, sugar, prepared animal feeds and fruits and vegetables. The definition of 'other workers' changed in 2000-01 survey of the NSSO and this makes the comparison not possible as already explained above.

The prospects of increase in the proportion of women in the additional employment from now also are bright. The experience of other countries reveals this (see Appendix Table 4.3). As can be observed from the table, the proportion of women has been going up across countries like China, Kenya, Malaysia and Philippines. The proportion is as high as 58 in Japan, 50 per cent in Korea, 48 per cent in China and 41 in U.K. Therefore, it can be inferred that the newly created jobs in the sector may be available to women and it is a good cause for the government to promote this sector.

V. Conditions of Work

The conditions of work in the food processing sector are brought out in this section from the results of field study. The aspects covered are available facilities at workplace; health problems and injuries; and work load, adequacy of income and other things.

5.1. Available Facilities: The only facility available in all the food processing activities to all the workers seems to be drinking water and the one which is absent everywhere is a crèche (Table 5.1). Nearly one fourth of all the workers report that they have toilets, protective gear, first aid and rest rooms. In the fish processing, the factory atmosphere is good and toilets, first aid, protective gear and rest rooms are available in most cases. In the non-factory sector, only drinking water is available. In cashew processing also, the facilities are not satisfactory. The facilities for men workers are still worse.

The women workers in fish processing report that the owners do not allow them to use gloves while beheading or peeling as they make the workers lose grip and may result in breaking of the fragile prawns. This results in pricking of fish bones to the fingers of workers. The breaking of roasted cashew nuts is a difficult job and the cashew nut shell liquid (CSNL) on the roasted kernel damages the hands causing blisters and allergies. The workers need to use gloves to protect their hands. But, the workers are not provided with gloves.

5.2. Health Problems and Injuries: The questions of health problems due to working conditions, injuries at workplace, and treatment by owners are important factors in deciding the quality of employment. The responses of the workers in different food processing activities indicate that the health problems due to work and injuries at work are very high in these activities (Table 5.2).

While 22 per cent of the workers report that they have health problems due to work, 11 per cent sustain injuries at workplace in food processing activities. Higher proportion of workers in mango jelly making (44 per cent) and fish processing (33 per cent) report health problems, while a very high percent of workers in pickles making (30 per cent) get injuries in the

process of working. The higher incidence of health problems in mango jelly making and fish processing can be understood in the background of the respective stressful work. Mango jelly making work is carried out in hot sun and the women workers have to move from one platform to another to apply mango juice on the bamboo mats throughout the day in the hot Sun. Therefore, it is no surprise that they complain of weakness, headache and over heat. On the other hand, the women have to stand all the day on the allotted platforms in the fish processing factories for doing all the operations like beheading, peeling, grading and setting. This makes them terribly tired by the time they finish their work. Most (74 per cent) of those complaining health problems report that they suffer from anaemia in this case.

Table 5.1: Available Facilities at the Work Place in Different Food Processing Activities

Sl.No	Item	Cashew	Mango processing making	Fish Jelly	Pickles processing	Total making
All workers						
	Per cent reporting availability of					
1	Drinking water	100.00	100.00	100.00	100.00	98.84
2	Toilets	26.00	2.73	97.00	0.00	29.60
3	Crèche	19.00	0.00	2.00	0.00	4.70
4	Protective gear	4.00	0.91	94.00	0.00	23.30
5	First aid	24.00	0.00	94.00	0.00	27.80
6	Rest rooms	28.00	1.82	72.90	0.00	25.40
Women workers						
1	Drinking water	100.00	100.00	100.00	100.00	100.00
2	Toilets	26.19	0.00	97.80	0.00	32.65
3	Crèche	19.05	0.00	0.00	0.00	4.71
4	Protective gear	2.38	0.00	94.51	0.00	25.88
5	First aid	22.62	0.00	94.51	0.00	30.88
6	Rest rooms	28.57	0.00	76.92	0.00	27.65
Men workers						
1	Drinking water	100.00	100.00	100.00	100.00	100.00
2	Toilets	25.00	6.38	88.89	0.00	17.65
3	Crèche	18.75	0.00	11.11	0.00	4.71
4	Protective gear	12.50	2.13	88.89	0.00	12.94
5	First aid	31.25	0.00	88.89	0.00	15.29
6	Rest rooms	25.00	4.26	88.89	0.00	16.47

Source: Field Survey

Table 5.2: Health Problems and Injuries in Different Food Processing Activities

Sl. no	Item	Cashew processing making	Mango jelly	Fish processing	Pickles making	Total
1	Per cent reporting health problems due to work	10.00	35.45	34.00	7.83	21.65
2	Per cent reporting anaemia	12.50	1.69	73.53	0.00	24.11
	Per cent reporting weakness	0.00	40.68	2.94	0.00	22.32
	Per cent reporting headache	25.00	11.86	2.94	0.00	8.93
	Per cent reporting spoilage of nails	0.00	3.92	0.00	0.00	1.92
3	Per cent reporting injuries	4.00	4.55	3.00	30.43	11.06
	Per cent reporting to have slipped and fell down	33.33	0.00	50.00	0.00	4.65
	Per cent reporting damage to fingers	33.33		0.00	0.00	2.33
	Per cent reporting pricking of fish bones, nails etc	0.00	33.33	50.00	0.00	4.65
	Per cent reporting cuts to fingers	33.33	66.67		100.00	88.37
4	No of days absent from work due to injury	5.50	3.60	6.33	2.46	3.09
5	Medical expenses for injury in Rs.	550.00	110.00	466.67	61.86	134.36
6	Per cent reporting medical expenditure	4.00	4.55	3.00	30.43	11.06
7	Per cent reporting payment of medical bill by worker	100.00	100.00	100.00	45.71	59.57
	Per cent reporting payment of medical bill by employer	0.00	0.00	0.00	54.29	40.43
8	No of days absent due to household activities	21.67	5.55	23.05	5.08	14.53
9	Per cent reporting no harassment	99.00	94.55	98.99	86.96	94.58
	Per cent reporting verbal abuse	1.00	5.45	1.01	12.17	5.19
10	Per cent reporting harass-ment to others (verbal abuse	1.0	8.2	1.0	12.2	5.9
11	Per cent reporting injury to others	3.00	2.73	0.00	21.05	7.58

Source: Field Survey

On the whole, 11.47 per cent report that they get injured in these activities, the same in case of pickles making it is as high as 30 per cent. All (the 30 per cent) these workers report that they cut their fingers in the process because they cut the mangoes and other fruits with bigger knives by catching the fruit with one hand. The incidence of injuries is very high (18 per cent) in the non-factory sector compared to 4 per cent in the factory sector. Coming to

the payment of medical bills, in 54 per cent of the cases, the workers had to bear the burden. Except in the case of pickles, the employers do not take any responsibility for getting the workers treated for injuries. Though not directly victimized, 9 per cent of the workers inform that others got injured at workplace. While most (95 per cent) of the workers report that there is no harassment at the workplace, 5 per cent of them reveal that there is verbal abuse. A percent of workers in the non-factory sector report verbal abuse as compared to only 1 per cent in the factory sector. It is also observed that more men (12 per cent) report verbal abuse. Also, 15 per cent of the total male workers report that they have seen their colleagues being abused verbally. Further, more workers from the OCs (11 per cent) report verbal abuse compared to only 6 per cent from the SCs.

The workers generally do not discuss their problems with new people. This is especially so in cashew processing as the workers are under tremendous stress at the time of interview for fear of losing their jobs as a result of government closing down 18 polluting units and government insistence on using steam boiling technology instead of drum roasting method. They are scared that the steam roasting technology may take away their jobs as skill is required to operate the small machines for breaking the steam roasted nuts. In this background, the workers are hesitating to tell their genuine problems, as it may reflect on their owners and ultimately closure of units. They are also very desperate about having these jobs, as the livelihood options are very limited. Most of them inform that they would have to starve but for this job. None of the 340 women report sexual abuse though questions are asked. The male investigators canvassing the schedule may also be one of the problems here. On the whole, the incidence of health related problems and injuries could have been higher if the workers in cashew processing workers are not that desperate to project a very good image of their owners for the fear of losing job.

The workers in the cashew processing activities work in a very hazardous workplace because of the drum roasting technology. The workers get exposed to the heat generated in the process of drum roasting as the breaking labour have to be present at the time of roasting their allocated nuts. To overcome this problem of not properly being reported by cashew processing workers, we met the leading medical practitioners in Palasa town to enquire about their general health problems. They revealed that many workers suffer from pulmonary diseases like asthma, tuberculosis etc. It is very difficult to recover from tuberculosis (TB) in case of infection because all the workers sit in small hall together and there is always a danger that it spreads from one to another. The doctors put the proportion of TB affected as more than 40 per cent in the main cashew processing village of Mogilipadu. They also inform that the smoke coming from these factories is organic and not carcinogenic. Other problems caused are rashes due to cashew nut shell liquid and conjunctivitis, allergic dermatitis etc.

5.3. Work Load, Mode of Payment and Utilisation of Earnings: The number of working hours is long in all the food processing industries and it is found to be nearly 10 hours on the

whole (Table 5.3). In fish processing, it is too long with 11 ½ hours. Among the workers, 41 per cent opine that the working hours are longer and 38 per cent of them also report that the workload is heavy. The workload seems to be particularly high in mango jelly making with 58 per cent reporting it to be excessive.

Table 5.3: Work Load, Mode of Payment and Utilisation of Earnings in Different Food Processing Activities

Sl. no	Item	Cashew processing	Mang jelly making	Fish processing	Pickles making	Total
1	Number of working hours	9.55	9.01	11.25	8.40	9.50
2	Per cent reporting working hours to be excessive	22.00	42.73	58.00	41.74	41.18
	Per cent reporting willingness to work more hours	76.00	5.45	35.00	6.09	29.18
	Per cent reporting no problems with working hours	0.00	49.09	1.00	51.30	26.82
3	Per cent reporting single break in a day	1.00	70.00	13.00	65.22	39.06
	Per cent reporting no control on taking breaks	97.00	0.00	57.00	0.0	36.24
	Per cent reporting three breaks a day	0.00	24.55	25.0	33.04	21.18
4	Per cent reporting the work load to be easy to handle	79.00	52.73	64.00	55.65	62.35
	Per cent reporting the work load to be heavy	21.00	47.27	36.00	44.35	37.65
5	Per cent reporting weekly payment	87.00	58.18	45.00	73.04	65.88
	Per cent reporting monthly payment	12.00	21.82	22.00	9.57	16.24
6	Per cent reporting spending on one's own	77.00	28.18	55.00	46.96	51.06
	Per cent reporting handing over earnings to father	2.00	22.73	25.00	4.35	13.41
	Per cent reporting handing over earnings to husband	14.00	16.36	16.00	28.70	19.06
7	Amount saved	1176.49	1560.64	1281.33	510.35	1026.28

Source: Field Survey

The dominant mode of payment is that 66 per cent receive at the end of the week and only 13 per cent get monthly payment. A higher proportion (23 per cent) of workers among the

OCs get monthly payment compared to only 17 per cent in case of workers from the SCs. In fish processing, the women have to attend work sometimes during night also if the stock of fish comes in the night. In such cases, they go to work at 2 A.M in the early morning also. Some times, they are made to wait in the factories for the stock of fish. However, there is no increase in pay for working in the nights. There is neither any incentive for waiting and the only incentive is getting work.

Analysing the responses of male and female workers, it is found that the men workers suffer more due to excessive hours of hard work than women workers. However, many (45 per cent) men workers receive monthly payment compared to only 9 per cent of women workers. On the question of utilization of one's own earnings, 23 per cent of women report that they hand over the wage earnings to their husbands, while 11 per cent give to their fathers. The working hours in the factory sector are more (10 hours and 40 minutes) compared to 8.70 hours in the non-factory sector. Majority (56 per cent) of the workers in the factory sector are willing to work for more hours compared to only 6 per cent in the non-factory sector because the workers in both cashew processing and fish processing are paid wages on piece rate basis and more hours of work mean more wage earnings for them. A very interesting and favourable finding is that 63 per cent of women workers can spend earnings on their own in the factory sector compared to only 38 per cent of their counterparts in the non-factory sector. Relatively few of them hand over their earnings to their husbands or fathers. This again may be due to the fact that the food processing activities in the factory sector provide more number of days of employment to the workers compared to either mango jelly or pickles making.

With regard to continuation of work, most workers in mango jelly (65 per cent) and pickles making (70 per cent) report that its continuation depends on the season. The fish processing is also dependent on season to a lesser degree. On the whole, 43 per cent of the workers are hopeful of continuation of their work and this is mostly from cashew and fish processing activities viz., factory sector. Only 14 per cent of the workers informed that their work may not be continued. In case of pregnancy, there are no benefits to the workers and their job will be lost. The lactating mothers are not allowed to join work till the child is one year old. Nearly 51 per cent of these workers view their job in food processing is important for their livelihood. Others, however, report that they have alternative employment opportunities. The tenure of workers in the non-factory sector of food processing with their workplace seems to be short lived and they keep changing. Their continuation in the work in the next season is mostly (in 68 per cent of cases) dependant on season and among them 24 per cent report that they are not hopeful of continuing their work. However, it is also true that they do not rely too much on this work and 62 per cent of them have alternate jobs compared to only 34 per cent of workers in the factory sector.

Though 53 per cent of workers report that they have to work over time sometimes, only 7 per cent of the workers receive remuneration for the additional work (see Appendix Table

5.1). The need for overtime work seems to arise mainly in fish processing (96 per cent) followed by pickles making (59 per cent), mango jelly making (31 per cent) and cashew processing (28 per cent). Because of stringent rules disallowing roasting of cashew during daytime in view of serious pollution, it is done during early hours in the morning between 3 A.M to 7 A.M. Though two or three male workers do this work, the women workers have to be present at that time to collect their portion of material for work on that day. They can collect their material and can go back home to attend to work normally at 9 A.M. Many women inform that this is adding to their stress levels and affecting their health badly. However, no remuneration is paid for this additional work. This burden is only done away if the drum roasting technology is replaced with a better technology like steam roasting technology which is allowed during daytime also.

The workers are very particular about advances when there is no work. But, only 52 per cent of the workers in different activities report that they are given advances. A lower proportion of workers from the OCs (32 per cent) report that they receive advances compared to 55 per cent of the workers from the SCs. It is found that the owners subsequently deduct it from their wage earnings and do not charge any interest. The owners in cashew processing pay the workers Rs.1000 every year in January before start of the season. The head woman, who approaches the workers in fish processing, pays them some advance on demand. In the non-factory sector, workers in pickles making do not get advances for which they complained. Whereas 47 per cent of women workers receive advances and the same in case of male workers is 71 per cent.

Though not many people, regardless of their profession and income level, would say that their income level is sufficient, an effort is made to see which aspects of the expenditure is not covered with the kind of income workers in different food processing activities are getting. The aspects of the expenditure not covered are health (for 58 per cent of workers), education expenditure (30 per cent), food expenditure (18 per cent), clothing expenditure (12 per cent) and debt repayment (6 per cent). Among the workers, 40 per cent are hopeful that their income will increase in the next year. Most of the workers in cashew processing (87 per cent) were found to be having hope of increase, may be because of union. The average likely increase, according to the workers, is Rs. 1996 per annum on the whole in all the activities and Rs.1300 in case of non-factory sector and around Rs.3500 in the case of factory sector.

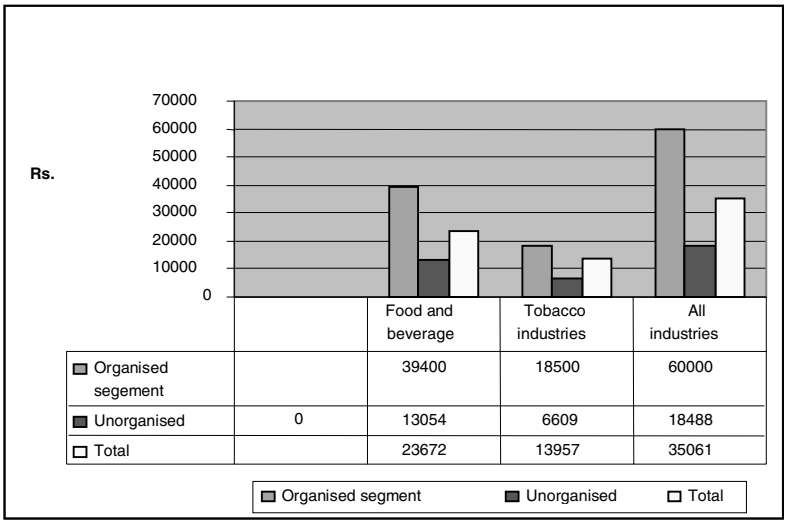
VI. Wages

The annual emoluments in the organized and unorganized segments are calculated from secondary data at macro level; the growth of wages per worker per annum at sub-sectoral level in the organized sector; level of wages across sub-sectors compared to the food processing sectoral average; and finally wages and annual earnings at the worker level from the results of field study are brought out in this section.

6.1. Annual Emoluments: The annual emoluments per worker in the food and beverages are lower than those in the total manufacturing by 33 per cent in 2000-01 (Figure 6.1). The situation in the manufacture of tobacco products is pathetic to say the least. The workers in that activity are getting 60 per cent less than the average wage in the total manufacturing. Further, the wage in the unorganized tobacco industries was only 11 per cent of the average wage in the total unorganized manufacturing sector. This is far less than that required for a person to come out of poverty in the country.

It has been documented by many scholars that the rise in real wages for workers has been nominal in general and in particular in the manufacturing sector after the full-fledged liberalization. In this background, it will be interesting to observe what is happening to the wages in the food processing sector and compare it with the average wage in the total manufacturing. This can serve two purposes apart from comparing the sector with the average situation in all the industries put together. One is to know the changes in wage rates over the study period in the food processing sector besides bringing out the plight of the workers in different sub-sectors.

Figure 6.1: Annual Emoluments Per Worker in Food, Beverages Tobacco Industries at Current Prices in 2000-01



Source: Calculated from ASI and NSSO Reports

There is literally no change in real wages and salaries per worker in the manufacture of food and beverages during 1993-94 to 2003-04, as is the case with the manufacturing sector as a whole (Table 6.1). However, in the first period between viz., 1981-82 and 1992-93, there was a 75 per cent increase in food processing sector compared to only 11 per cent increase in the total manufacturing. During the second period viz., 1993-94 to 2003-04, wages per worker in several sub-sectors of food processing have gone down and they have not increased

Table 6.1: Percent Change in Real Wages and Salaries per worker in Organised Segment during 1981-82 to 2003-04

Sub-sectors	1981-82 to 1992-93	1993-94 to 2003-04	Overall period
1511: Production, processing& preservation of meat and meat products	27	-21	0
1512: Processing and preserving of fish and fish products.	500	0	500
1513: Processing and preserving of fruit and vegetables	25	20	50
1514: Manufacture of vegetable and animal oils and fats	20	17	40
1520: Manufacture of dairy products	30	0	30
1531: Manufacture of grain mill products.	33	0	33
1532: Manufacture of starches and starch products.	20	0	20
1533: Manufacture of prepared animal feeds.	14	0	14
1541: Manufacture of bakery products.	11	-10	0
1542: Manufacture of sugar.	150	10	175
1543: Manufacture of cocoa, chocolate and sugar confectionary.	14	13	29
1544+1549: Manufacture of macaroni, noodles, conscious and similar farinaceous products. Manufacture of other food products n.e.c.	33	-25	0
1551: Distilling, rectifying and blending of spirits, ethyl alcohol production from fermented materials.	43	-20	14
1552: Manufacture of wines.	0	13	13
1553: Manufacture of malt liquors and malt	38	-18	13
1554: Manufacture of soft drinks, production of mineral waters.	33	13	50
151 Meat, fish, fruits, vegetables and oils	50	17	75
152 Dairy products	30	0	30
153 Grain mill products	33	25	67
154 Other food products	75	-14	50
155 Beverages	75	0	75
15: Manufacture of food products and beverages.	75	0	75
1600: Manufacture of tobacco products.	33	-25	0
All industries	11	0	11

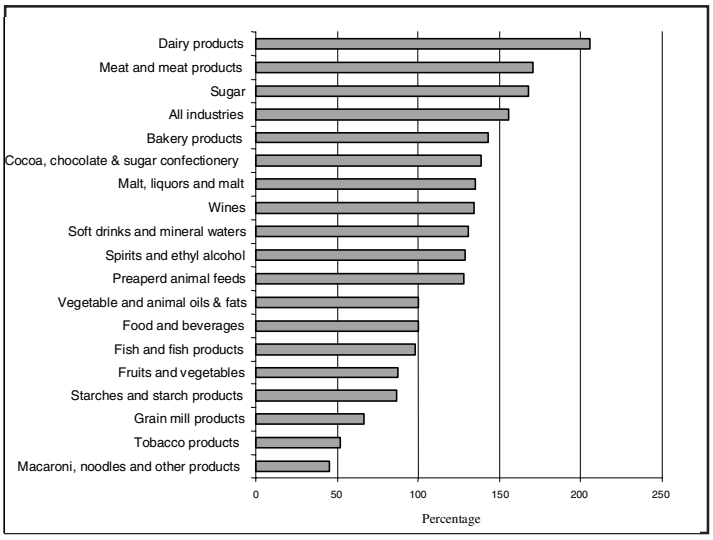
Source: Calculated from ASI

at all in several others. The sub-sectors registering decline in real wages in the second period are macaroni, noodles, conscious and similar farinaceous products and other food products (-25 per cent), meat and meat products (-21 per cent), Spirits and ethyl alcohol (-20 per cent), malt liquors and malt (-18 per cent), bakery products (-10 per cent). The sub-sectors with no increase in real wages are fish and fish products, dairy products, grain mill products, starches and starch products and prepared animal feeds. 33 per cent of the workers in the sector are in the first group and 36 per cent of the workers have been working in the second group, where there is no increase in real wages. In the tobacco products also, the real wages declined badly on par with the other food products in the food processing sector. If this is the situation in the organized segment of the sector, one can imagine the condition of workers in the unorganized sector. This is brought out from the results of the field study. The wages per employee in the country are the lowest, if we compare with many other countries in the world (Table 6.2). The wages are lower in only Indonesia and Kenya and also little higher than India with regard to the emoluments to workers in food processing.

Though the labour productivity in the organized segment of this sector compares well with the total organised manufacturing in the country, the wages are lower by 55 per cent. This is a puzzle as the wages move in tandem with the productivity. However, the value added per employee in the country is very low compared to many countries in the world where the workers are paid better wages.

A look at the level of wages in the organized segment of food processing brings out that the real wages per worker in the sector are 55 per cent lower than that in the total manufacturing in triennium ending 2003-04 (Figure 6.2). Within the sector, the wages in macaroni, noodles

Figure 6.2 : Wages and Salaries in Sub-groups Relative to Food and Beverages in TE 2003-04



Source: Calculated from ASI data

Table 6.2: Value Added and Wage Per Employee Across Selected Countries

Country	Latest year1	Latest year2	Value added per employee ($ ' 000)			Wage per employee ($ ' 000)			Operating surplus as a per cent of output			
Industrialized countries			1990	LY1	LY2	1990	LY1	LY2	1990	1995	LY1	LY2
Germany	1999	2003	NA	43.8	42.5	NA	24	23.2	NA	NA	10.9	9.4
Italy	1998	2002	59.0	60.1	48.6	36.3	20.7	19.3	7.4	NA	14.2	9.7
Japan	1999	2002	58.6	73.8	57.1	18.8	26.9	13.9	25.1	28.4	23.6	23.9
UK	1999	2003	49.7	NA	53.5	18.3	NA	28.0	22.0	13.3	12.7	13.3
USA	1999	2002	89.9	119.2	102.1	21.9	27.7	26.5	26.9	30.5	31.8	27.1
Developing countries												
Chile 1997		20.5	44.3	NA	4.0	8.1	NA	30.4	32.4	34.1		NA
Singapore	1999	2003	30.3	46.3	24.2	40.8	16.1	14.5	18.4	18.3	23.4	7.6
Malaysia	1997	2003	11.8	20.8	23.2	2.9	5.1	4.1	11.0	11.5	9.8	8.2
India	1998	2003	2.0	2.6	4.4	0.8	0.8	0.9	6.2	7.2	8.0	4.4
Indonesia	1999	2003	4.9	4.6	7.9	0.6	0.6	0.9	29.9	17.4	25.5	20.4
China	1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Kenya	1999		4.9	5.6	NA	1.1	1.7	NA	6.1	6.3	5.9	NA

Source: UNIDO (2005)

and other products, tobacco products, grain mill products, starches and starch products and fruits and vegetables are lower than the average in the sector. It is particularly bad to note that the wages in labour intensive sub-sector macaroni, noodles and other products, grain mill products and tobacco products are very low. It was noticed in the previous table that they in fact declined also. The wages are somewhat higher in dairy products, meat and meat products and sugar in the sector and they are also above the average real wage in total manufacturing.

6.2.Wages and Number of Days of Employment from Field Study

The annual earnings for workers in the food processing activities are found to be Rs. 7045 and this forms 53 per cent of their total wage earnings (Table 6.3). The earnings from agricultural labour constitute the other part of earnings. It can also be observed from the table that women earn only 51 per cent of their counterparts in food processing activity, which is a very tragic part of it. The women in the non-factory sector like mango jelly making and pickles making get less than a quarter of what men are paid. This huge difference is a function of both the number of days of employment provided and also the segregation of work. It is worthwhile to mention here again that more men get monthly payment in the different food processing activities studied. The next important point to be noted from field observations is that the wage in all the different food processing activities has been less than that in agricultural labour (Table 6.4 and Figure 6.3). This is discussed more in detail later.

Table 6.3: Annual Earnings for Workers in Different Food Processing Activities (Rs.)

Item	Cashew processing	Mango jelly making	Fish processing	Pickles making	Factory sector	Non-factory sector	Total earnings
Total earnings in food processing	10837	4378	10453	2633	10632	3448	7045
Total earnings	12781	10935	16698	8834	16474	9843	13249
Earnings in FP as per cent of total earnings	85	40	63	30	65	35	53
Women earnings in FP as percent of men's earnings in FP	44	17	57	32	49	23	51

Source: Field Survey

The workers get 120 days of employment in food processing activities and those in non-factory sector only 36 per cent of the days of employment in the factory sector (Table 6.4). It would be appropriate to note the type of employment contracts in these activities, before talking of wage. In the non-factory sector viz., mango jelly and pickles making, the workers are hired on daily wage basis. But in pickles making, few male labourers are hired on monthly salary basis. They are given tea, snacks and meals during the working hours. In the mango jelly making, the women workers are given one mango daily and at the end of the season and 10 kilograms of material for mango pickle without oil, which works out to be Rs. 200. These materials are given for those who go to the same producer throughout the season. In cashew processing activity, the cashew shell waste is given to the workers every week. This is used as firewood for cooking and this quantity costs about Rs.20 in the market.

Table 6.4: Wages and Number of Days of Work in Different Food Processing Activities

Item	Cashew processing	Mango jelly making	Fish processing	Pickles making	Factory sector	Non-factory sector	Total earnings
All workers							
No of days worked	179	66	182	66	181	66	120
Wage /day in Rs.	61	54	58	40	59	47	51
Wage /day in Rs. as agri. labour	56	61	65	39	65	51	56
No of days worked as agri labour	34	107	96	153	90	128	115
Women workers							
No of days worked	179	38	175	63	177	53	117
Wage /day in Rs.	50	37	57	36	54	36	44
Wage /day in Rs. in agri labour	53	50	65	37	64	43	51
No of days worked as agri labour	33	106	98	151	93	131	116
Men workers							
No of days worked	179	104	256	86	206	100	131
Wage /day in Rs.	115	79	68	77	98	77	82
No of days worked as agri labour	37	108	61	167	51	119	110
Wage /day in Rs. in agri. Labour	65	77	78	57	73	73	73

Source: Field Survey

The activities of cashew processing and fish processing provided employment almost round the year and created nearly 180 days of employment to the workers. The cashew processing goes on for 9-10 months in a year (March-December), whereas the stock of fish will not be available for four months viz., January, February, March and April. On the other hand, the seasonal activities of mango jelly making and pickles making employed workers for 66 days each in summer months. Though some kinds of pickles are made round the year, the intensive activity can only be seen in summer months, as the major demand is for mango pickles.Subsequently, for other pickles like tomato, amla, tamarind, red chillies etc., the family labour of the owners will be sufficient and in some cases a few labourers will be engaged. In the case of mango jelly making, it is mostly manual drying of fresh mango juice in hot sun and therefore seasonal. The newly coming factories are installing boilers to boil the juice by adding some preservatives and with that they are able to produce mango jelly round the year on demand subject to the availability of sunshine for drying. Some labourers, mostly men, are engaged in these factories. Compared to women, men worked for more number of days in a year (131 days compared to 117 days for women). This is because men are given different works in the food processing activities also. For example, in cashew processing, men are involved in getting fresh kernels from the fields to processing factories, drying and staking them, roasting, transporting them from factories to railway wagons or lorries. In the case of fish also, men are employed as store boys etc., who are appointed on a monthly basis[17].

In the factory sector, the workers are hired on piece wage rate basis in cashew and fish processing. One interesting aspect of employment in fish processing is that the factory owner never interacts with the worker. The head woman forms a group of 25-30 women workers and takes them to work place often in the company vehicles, and also disburses the group their earnings as per the amount of work turned out in the group generally at the end of week. Then, all the women distribute the earnings equally. The women workers allege that the weighing is not done properly with regards to the quantum of work done. The head woman gets more benefits in the process.

The average wage, as can be seen from the table, works out to be Rs.52 including other benefits worth Rs.2.50 (which includes breakfast, lunch etc.) and the average annual earnings from food processing activities are Rs.6746. There is a huge gap between the wages of women and men in case of both wages and annual earnings. While women earn a wage of Rs.44 per day and Rs.5498 per annum, the same for men are Rs.82 and Rs.10735. The average wage and earnings are lower in pickles making (Rs.34 per day and Rs.2144 per annum) and mango jelly making (Rs.49 per day and Rs.4022 per annum). The women in pickles making get only Rs.30 per day and earn only Rs.1752 per year followed by mango jelly making, where it is no better with Rs.32 per day and Rs.1202 per year. In the factory sector viz., cashew and fish processing, the wages and annual earnings are much better. The

[17] Similar results are reported by Baud (1992) and D'Mello (1996).

wages in the factory sector are higher by 42 per cent and by 72 per cent in case of women in this sector. The annual earnings in both are nearly Rs.10500 and in case of women, higher annual earnings have been received in fish processing (Rs.9780) followed by cashew (Rs.8630). The wages in the agricultural sector for the same workers are higher than the wages in the processing sector. There are not many differences across social groups in respect of wages and number of days in the sector. However, the SCs seemed to be working more number of days than the OCs.

The averages mask some of the differences in the conditions of workers within each activity. This is particularly so in the case of cashew and fish processing. In cashew processing, the breaking labourer's job is difficult compared to that of peeling labourer. The peeling labourers are also found to enjoy better quality of life and from higher social and economic back grounds. The processors pay Rs.6.40 and Rs.4.75 for breaking and peeling one kilogram of cashew respectively. Like wise, in fish processing, peeling is the difficult job compared to others like beheading and grading. While one rupee is paid for beheading, Rs.3.50 is paid for peeling for one kilogram of prawns.

Realisation of Statutory Minimum Wages

The realization of statutory minimum wages is only 48 per cent, on the whole, in all the food processing activities[18] (Table 6.5).

Table 6.5: Percentage of Statutory Minimum Wages Realised by Different Groups of Workers in Food Processing

Activity	Women	Men	SC & ST	BC	OC	All workers
Cashew processing	63	62	64	62	65	63
Mango jelly making	35	80	48	45	81	54
Fish processing	40	47	41	39	37	40
Pickles making	33	65	38	34	36	36
Factory sector	51	57	50	53	44	52
Non-factory sector	33	77	44	39	54	45
Total	42	71	47	48	53	48

Source: Field study and information provided by the A.P.Department of Labour on the statutory minimum wages in different food processing activities

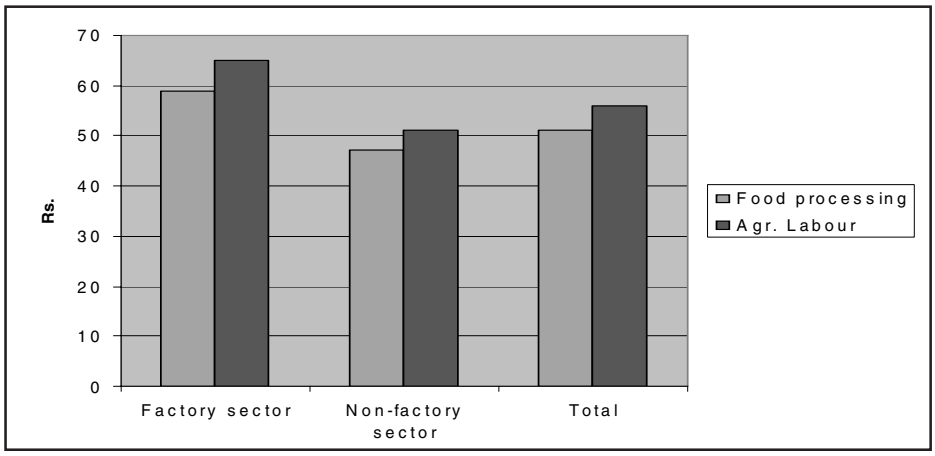
[18] The comparison of the wages with the statutory wages is needed to know the actual level of required earnings, as recommended by the National Commission for the Enterprises in the Unorganised Sector (NCEUS) in its report on working conditions in GoI (2007a). The A.P. Labour Department gives statutory minimum wages for the major categories of work in fish and cashew processing. However, workers in mango jelly making and pickles making have no separate statutory wages and those given by the Department for the unskilled workers are taken for comparison. Their wages are not compensated for price rise except that they are revised now and then.

The highest realization of 63 per cent can be seen in the case of workers in cashew processing, where the bargaining power of workers is strengthened by the presence of a union. Though fish processing is a factory sector activity, the entrepreneurs are very hostile to any union activity and did not allow union formation. The workers in this activity, therefore, get only 40 per cent of the statutory wages. There was no wage revision for the last several years in this case. This finding from the field survey compares well with the macro scenario from Table 6.1. As can be seen from the table, the wages of workers in processing and preserving fish and fish products did not change at all during the period 1993-94 to 2003-04. Another worrisome scenario is that women realize only 42 per cent of the statutory wages, while men get 71 per cent. This again reveals that women chose to work in these activities relatively more due to push factors.

Residual Nature of Employment

It can be observed from field results that the average wage in food processing activities is less than that in agricultural labour (Figure 6.3). It is generally believed that the wages in the non-farm sector are higher and they would have an upward influence on agricultural wages. However, it is surprising to know that the wages in all the four food processing activities are lower than those in agricultural activities. This goes on to prove that these activities are inferior to agricultural labour and reminds us of remarks of Vaidyanathan (1986) that it is a residual sector. However, as can be seen from Table 6.4, men workers are getting better wages in these activities compared to wages as agricultural labour. Therefore, *participation of men seems to be based on 'pull' factors, while it is distress that is driving women into these activities.* As we have discussed earlier, this is because women are provided low-end jobs and far lower number of days of employment.

Figure 6.3 Comparision of Wages in Factory and Non-factory Sectors of Food Processing with Wages in Agricultural Labour



Note: The factory sector relates to cashew and fish processing and non-factory sector relates to Mango jelly making and pickles making.

Source: Table 6.4.

But then, we tried to answer the question as to why these workers go and work in all these activities at all. In case of non-factory sector viz., mango jelly and pickles making, the workers do not get any agricultural work during the summer, when this production goes on. In the backward Srikakulam[19] district, lack of employment opportunities forces the women and men to compete for the work in cashew processing. The agricultural sector is not able to provide employment because of lower percent area under irrigation and the extent of industrialisation is also negligible. This is particularly so in Palasa, which is on border between Andhra Pradesh and Orissa. In the case of fish processing, though they go for agricultural work during peak seasons, they do not want to lose the opportunity to work in this activity as this work is available throughout the year.

VII. Trade Unions, Dynamics of Wage Increase and Training Needs

The presence of union in any workplace improves the bargaining power of workers. We are living in a time when the number and strength of trade unions is fast declining everywhere. In this background, where do the workers in the food processing sector stand? However, studies indicate that the 'women, younger workers, less educated workers and those working in the informal sector – groups already at a disadvantage in the labour market – were less likely to be represented through unions' (Dasgupta, 2002). It is essential to study this to know the dynamics of work in this 'sunrise' sector.

It is found that only 24 per cent of all the workers reported having a union in their workplace (see Appendix Table 7.1). This is because there is a union only in the cashew processing factories[20] among all the food processing activities studied. The owners of the fish processing units are hostile to any union activity among their workers and do not allow starting of a union. The seasonal nature of work in mango jelly and pickles making is not conducive for forming a union, as they work for only two months in a year in these activities. That is why 40 per cent of workers in mango jelly and 50 per cent of the pickles making workers feel that they do not need a union. On the other hand, 88 per cent of the workers in fish processing want to start a union. This proportion is high among women (90 per cent) compared to men

[19] Srikakulam district is in the North Coastal Andhra and very backward in terms of economic and social development with few development opportunities. Several studies have shown that the poverty level in the district is one of the highest in the state (See for example, Dev, 2007)

[20] However, a follow-up study conducted in the cashew processing factories in Tuni of Andhra Pradesh, where new (steam boiling) technology has been introduced, reveals that these workers are paid better than those in the traditional drum roasting technologies factories. They also are given facilities like provident fund contribution etc. However, they are very strict and vigilant as far union activities are concerned. None of the workers in those factories are members of the union because of this. This leads us to conclude that most of the new factories, whether it be fish processing factories or cashew processing factories with new technology, they are same as far as aversion to unionism is concerned. This is despite the fact that they may pay slightly better than their counterparts. This has a parallel in the information technology industries and garment factories.

(67 per cent). This can be understood well due to the fact that men workers are given better wages and are subservient to the management in fish processing, while the women in this activity have problems and need to articulate them collectively to get their problems solved. It is also surprising to note that 50 per cent of workers from the OCs report that there is no need of a union compared to only 27 per cent informing the same from the SCs. Further, a higher proportion of workers from the OCs (13 per cent) reveal that it is not possible to start a union though needed. Apart from trade union, 39 per cent of workers and 47 per cent of women are part of self-help groups under the Indira Kranthi Pathakam of Government of Andhra Pradesh and it is implemented with a loan from World Bank.

All the workers in cashew processing have been members of the union formed by workers of cashew processing and rice mills in Palasa without any political affiliation. Their responses to question reveal that they perceive the union to be highly useful and does several things for them including wage bargain, fighting for improving working conditions, approaching government for benefits from schemes and talking to management in case of problems like injury etc. In the recent times, the union successfully organized a ten-day strike of all cashew processing workers in protest against closure of 18 units on the grounds of pollution. They also create strong impressions on the minds of workers by 'educating' against new processing technology like steam roasting technology which in fact is desirable. This corrupt union, which colludes with the owners, vigorously propagates the idea that several of the existing workers lose their jobs if the new technology comes. Of course, they bargain with the owners on wage hike after every three years and do other such things. They also see that the workers in factories, which are closed early in the season, get work in other factories by making arrangement among the workers for sharing whatever work available.

While 46 per cent of the workers in the non-factory sector of food processing perceive that there is no need to start a union, 44 per cent from the factory sector wishes that a union may be started immediately. Since there is already a well-functioning union in the cashew processing, most of those demanding for starting a union are from the fish processing sector. Another 9 per cent of workers in the non-factory sector inform that it will not be possible to start a union, though needed.

Dynamics of Wage Increase and Other Issues: There is no hike in wages for the last few years for 20 per cent of workers in food processing activities (see Appendix Table 7.2). This happened due to the situation in fish processing factories, where 87 per cent of workers and 93 per cent of women workers report that they did not get any wage increase in the last few years. The male workers in the same processing activity are getting their wages revised as can be seen from the table. Most of the male workers are appointed as store boys on monthly salary basis. Nearly 67 per cent of these male workers have this facility of wage revision compared to only 7 per cent of women. It is found that the owners of fish processing factories are not increasing the wages of these workers since a long time. They also suppress the aspiration of the workers to start a union in those factories. The workers allege that they remove workers who tried to start a union or ask for wage hike. The workers in cashew

processing get their wages revised once in three years. In the non-factory sector viz., mango jelly and pickles making, almost all the workers have their wages increased in the present year or previous year. When it comes to the next wage increase, 63 per cent of the workers report that they do not have any idea on the probable date of increase and 31 per cent are hopeful that it will be in the next year.

The employers feel that the wage and the bargaining power of the workers in food processing sector is very weak (see Appendix Table 7.2). Majority (48 per cent) of the workers reports that the owners take a decision on the wage increase based on the situation. Among workers in non-factory sector, 70 per cent report this. The next method in the process of wage revision is that the workers informally ask the owners to increase and 20 per cent of the workers in all the food processing activities and 30 per cent in the non-factory sector report this. The union demands wage increase in the cashew processing activity. When asked questions of any possibility of strike, very negligible number of workers in all the activities inform that this can be one way.

Educational Background: Majority of the workers (64 per cent) in different food processing activities are illiterate and another 8 per cent can only sign in their mother tongue and cannot read or write (Table 7.1). Therefore, at least 72 per cent are illiterate. The illiteracy among those in cashew processing is still higher than 86 per cent and they cannot sign in the local language and another 6 per cent just being able to sign. The quality of workforce in the factory sector of the food processing is also quite poor with 74 per cent being illiterate and those in the non-factory sector seems to be relatively better with only 56 per cent illiterate.

Training Needs: Nearly 32 per cent of the workers do not receive any training. Among those reporting to have received any training only 11 per cent of the workers in mango jelly making got formal training (Table 7.2). All other workers are performing with informal training only. The opportunities for training either at work place (only 7 per cent) or outside workplace (11 per cent) are too few. 9 per cent of the workers are wanting to shift to new work, 33 per cent are interested in starting petty business and 11 per cent want to start small hotels. Many people in the non-factory sector want to start hotels. The major training needs are with regard to starting cottage industries (21 per cent) and business principles (15 per cent). A higher proportion of women workers (32 per cent and 26 per cent) want the same training compared to men workers. More than 80 per cent of the workers want the government to intervene for training the work force in food processing. Among these, very high proportion (90 per cent) is from women compared to 73 per cent from men workers. None of the workers in cashew processing wants to shift to new work. Among women workers, the intention to shift to new work, apart from starting petty businesses (32 per cent) is to work in small industries (21 per cent). Though very few (2 per cent) expressed desire to shift to another work to improve their standard of living in the factory sector, 15 per cent of the workers in the non-factory sector are willing to shift in search of better avenues.

Table 7.1: Educational Background of Workers in Different Food Processing Activities

Item	Cashew processing	Mango jelly making	Fish processing	Pickles making	Total
Per cent illiterate	86.0	55.0	61.0	56.5	64.2
Per cent who can sign	6.0	4.5	8.0	11.3	7.5
Per cent completed primary school	8.0	13.6	11.0	17.4	12.7
Per cent completed upper primary	0.0	10.9	11.0	4.3	6.6
Per cent completed high school	0.0	13.6	8.0	10.4	8.2
Women workers					
Per cent illiterate	88.1	74.6	64.8	55.9	69.7
Per cent who can sign	3.6	3.2	7.7	11.8	7.1
Per cent completed primary school	8.3	11.1	12.1	18.6	12.9
Per cent completed upper primary	0.0	7.9	8.8	3.9	5.0
Per cent completed high school	0.0	3.2	6.6	9.8	5.3
Male workers					
Per cent illiterate	75.0	29.8	22.2	61.5	42.4
Per cent who can sign	18.8	6.4	11.1	7.7	9.4
Per cent completed primary school	6.3	17.0	0.0	7.7	11.8
Per cent completed upper primary	0.0	14.9	33.3	7.7	12.9
Per cent completed high school	0.0	27.7	22.2	15.4	20.0

Source: Field survey

Among social categories, a very high proportion of workers from the OCs report that they have training opportunities at work place (23 per cent) and outside (21 per cent) compared to only 6 per cent and 11 per cent for the SCs. The desire to shift to new works is also high among workers from the OCs with 23 per cent of them expressing willingness and need to shift compared to only 8 per cent from the SCs.

VIII. Benefits from State, Perceptions and Expectations

The workers in the unorganized sector expect the state to look after their problems by instituting appropriate social security measures. The workers in the food processing sector are no exception. What actually are the social security benefits that are accruing to them? The results suggest that very few benefits reach them (Table 8.1). Maternal benefit schemes (9 per cent), old age pensions (5 per cent) and widow pensions (5 per cent) are the main schemes, though a negligible proportion of workers get benefit from physically handicapped pension and girl child protection scheme. None of the workers from the OCs receives any kind of pension and very few receive benefits from family survival scheme and maternal benefit scheme. Relatively higher proportion of workers in the factory sectors get old age

pensions, widow pensions and pension for physically handicapped persons (see Appendix Table 8.1). However, none of the workers interviewed are having provident fund facility, bonus system or access to E.S.I hospitals.

Table 7.2: Training Needs of All Workers in Different Food Processing Activities

Sl No	Item processing	Cashew jelly making	Mango processing	Fish making	Pickles	Total
1	Per cent reporting to have received some training	100.00	33.64	100.00	43.48	67.53
2	Per cent reporting receiving formal training	0.00	10.53	0.00	0.00	1.39
3	Per cent reporting informal training	100.00	89.47	100.00	100.00	98.61
	Percent reporting sufficiency of training	100.00	71.05	100.00	95.92	95.47
4	Per cent reporting training opportunities at work place	0.00	10.00	0.00	17.39	7.29
5	Per cent reporting training opportunities out side work place	0.00	19.27	0.00	21.74	10.85
6	Per cent reporting full utilization of skills	100.00	80.91	97.00	94.78	92.94
7	Per cent reporting intention to shift to another work	0.00	18.10	3.00	12.17	8.57
8	Per cent reporting intention to start petty business	0.00	36.84	33.33	28.57	33.33
9	Per cent reporting intention to start a small hotel	0.00	10.53	0.00	14.29	11.11
10	Per cent reporting that no training is needed	0.00	50.00	50.00	42.86	47.06
11	Per cent reporting need for training on starting cottage industry	0.00	11.11	50.00	28.57	20.59
12	Per cent reporting need for training on business principles	0.00	11.11	0.00	21.43	14.71
13	Per cent reporting government intervention for training	0.00	72.22	100.00	92.86	82.35

*Source:*Field Survey

Table 8.1: Formal Social Security Benefits for Workers in Different Food Processing Activities

Sl No	Item processing	Cashew jelly making	Mango processing	Fish making	Pickles	Total
	All workers					
1	Per cent receiving old age pension	14.00	4.55	1.00	1.74	5.18
2	Per cent receiving widow pension	11.00	1.82	4.00	4.35	5.18
3	Per cent receiving family survival benefit	1.00	0.00	0.00	0.87	0.47
4	Per cent receiving maternal benefit scheme	13.00	6.36	5.00	13.04	9.41
5	Per cent receiving P.H pension	2.00	0.91	2.00	0.00	1.18
6	Per cent receiving EUS	0.00	0.00	0.00	0.00	0.00
7	Per cent receiving girl child protection scheme	1.00	0.00	0.00	1.74	0.71
8	Financial assistance at the time of death of any of the family member during last 3 years	0.00	0.00	0.00	0.00	0.00
	Women workers					
1	Per cent receiving old age pension	16.67	7.94	1.10	0.98	6.18
2	Per cent receiving widow pension	10.71	3.17	4.40	4.90	5.88
3	Per cent receiving family survival benefit	1.19	0.00	0.00	0.98	0.59
4	Per cent maternal benefit scheme	13.10	11.11	3.30	13.73	10.29
5	Per cent receiving physically handicapped pension	1.19	1.59	2.20	0.00	1.18
6	Per cent receiving EUS	0.00	0.00	0.00	0.00	0.00
7	Per cent receiving girl child protection scheme	1.19	0.00	0.00	1.96	0.88
8	Financial assistance at the time of death of any of the family member during last 3 years	0.00	0.00	0.00	0.00	0.00
	Men workers					
1	Per cent receiving old age pension	0.00	0.00	0.00	7.69	1.18
2	Per cent receiving widow pension	12.50	0.00	0.00	0.00	2.35
3	Per cent receiving family survival benefit	0.00	0.00	0.00	0.00	0.00
4	Per cent maternal benefit scheme	12.50	0.00	22.22	7.69	5.88
5	Per cent receiving physically handicapped pension	6.25	0.00	0.00	0.00	1.18
6	Per cent receiving EUS	0.00	0.00	0.00	0.00	0.00
7	Per cent receiving girl child protection scheme	0.00	0.00	0.00	0.00	0.00
8	Financial assistance at the time of death of any of the family member during last 3 years	0.00	0.00	0.00	0.00	0.00

Source: Field Survey

In fact, the workers in the cashew processing factories allege that the owners of the cashew processing factories conspired to avoid the establishment of a E.S.I hospital by the Ministry of Labour in Palasa by showing very few number of workers in their factories. The workers in the fish processing also face a similar fate without any kind of security. We have seen that women of more than 65 years do work in cashew processing factories for their livelihood. They tell that they have to do this work because they are not given any kind of payments even after working for more than 35-40 years in these factories. Though the owners say that they are paying provident fund to some of the workers, none of our respondents reported to be beneficiaries of that facility. When enquired, we came to know that they do not give any kind of official documents to any workers in the cashew processing. The owners of fish processing factories do not pay provident fund and other security payments to the women workers. They have a small group of workers, whom they import from other places and stay in and around the factory. It is this small group of workers who get provident fund and other such things.

In the case of visit of any official, they are only shown as working in the factories. The women workers seem to be slightly getting better access to these social security measures. The workers in fish processing get the least benefits followed by workers engaged in the mango jelly making. However, the workers in cashew processing access more social security benefits by virtue of organizing themselves well. No worker reported receiving financial assistance at the time of death of his family members during the last three years.

Poverty Alleviation Programmes: The workers in different food processing activities get benefits from very few governmental schemes like Indira Kranthi Patham (34 per cent of workers), free text books (32 per cent), mid-day meal scheme (24 per cent), ICDS (18.35 per cent), scholarships (7 per cent), free uniforms (5 per cent) and SGRY (4 per cent) (Table 8.2). It is also found that a good proportion of the total workers (23 per cent) are now getting employment and income from Indira Kranthi Patham. Here again, higher proportion of women workers get benefits from these schemes compared to men. Among different activities, the workers in fish processing are the least benefited. Contrary to social security schemes, the workers in the non-factory sector seems to be getting more benefits under the poverty alleviation programmes compared to those in the factory sector (see Appendix Table 8.2). Among social categories, workers from the SCs seems to be getting more benefits compared to workers from OCs.

Expectations from Employers and the State: The workers in different food processing activities expect their employers to enhance their wages every year (76 per cent of workers), increase in working days and create employment round the year (55 per cent), providing bonus (13 per cent), providing all facilities at the workplace (10 per cent), paying P.F and ESI to all workers (8 per cent), providing advances (8 per cent), reduce working hours or pay overtime allowance (8 per cent), providing for treatment of the injuries by employers (8 per cent) and bearing the medical and travel expenses by them (9 per cent) (Table 8.3).

Table 8.2: Benefits from Poverty Alleviation Programmes to Workers in Food Processing Activities

Sl No	Item processing	Cashew jelly making	Mango processing	Fish making	Pickles	Total
	All workers					
1	SHGs under IKP	44.00	25.45	25.00	42.61	34.35
2	Free text books	33.00	36.36	13.00	43.48	32.00
3	Mid-day meal scheme	24.00	25.45	14.00	31.30	24.00
4	ICDS	19.00	19.09	10.00	24.35	18.35
5	Scholarships	4.00	10.91	2.00	9.57	6.82
6	Free uniforms	1.00	8.18	0.00	10.43	5.18
7	SGRY	0.00	0.00	16.00	0.00	3.76
8	Per cent reporting to be getting income presently from SHGs under IKP scheme	25.00	13.64	12.00	40.00	23.06
9	Per cent reporting to have white ration card	95	100	98	97.4	97.6
	Women workers					
1	SHGs under IKP	47.62	39.68	27.47	45.10	40.00
2	Free text books	34.52	39.68	10.99	44.12	32.06
3	Mid-day meal scheme	25.00	33.33	12.09	33.33	25.59
4	ICDS	19.05	20.63	6.59	24.51	17.65
5	Scholarships	4.76	7.94	1.10	8.82	5.59
6	Free uniforms	1.19	7.94	0.00	8.82	4.41
7	SGRY	0.00	0.00	13.19	0.00	3.53
8	Per cent reporting to be getting income presently from SHGs under IKP scheme	26.19	22.22	13.19	42.16	26.76
9	Per cent reporting to have white ration card					
	Men workers					
1	SHGs under IKP	25.00	6.38	0.00	23.08	11.76
2	Free text books	25.00	31.91	33.33	38.46	31.76
3	Mid-day meal scheme	18.75	14.89	33.33	15.38	17.65
4	ICDS	18.75	17.02	44.44	23.08	21.18
5	Scholarships	0.00	14.89	11.11	15.38	11.76
6	Free uniforms	0.00	8.51	0.00	23.08	8.24
7	SGRY	0.00	0.00	44.44	0.00	4.71
8	Per cent reporting to be getting income presently from SHGs under IKP scheme	18.75	2.13	0.00	23.08	8.24
9	Per cent reporting to have white ration card					

Source: Field Survey

Here again, a higher proportion of male workers (12 per cent) suggested for reducing the working hours compared to women workers, of whom only 8 per cent asked for the same. The expectations from the employers of the workers in factory sector differ with those in the non-factory sector.

While bonus, facilities and payment of provident fund and E.S.I contributions are main demands put forth by the workers in factory sector, the workers in the non-factory sector are mainly demanding for increase in their wages, provision of advances and reducing working hours/ paying overtime allowance (see Appendix Table 8.3). Among social categories, a higher proportion (21 per cent) of workers from the OCs requested for the payment of the overtime allowance from their employers compared to only 6 per cent from SCs asking for the same.

The workers also have a lot of expectations from the government on a number of their problems. Among their expectations, the provision of financial assistance (45 per cent of workers asked for this), provision of house sites and construction of houses (35 per cent), provision of credit facilities without guarantees (20 per cent) and taking action on managements to create more days of employment (17 per cent) are the major ones. The other issues are like the workers expecting the state to provide education, health, hygiene and power (16 per cent), providing old age, widow, physically handicapped pensions to all workers (12 per cent), providing employment security (10 per cent), providing of marketing opportunities including exporting avenues (8 per cent) and framing laws for payment of overtime allowance (7 per cent). A higher percentage of the workers in fish processing (67 per cent) are expecting/requesting for house sites and construction of houses. For those in pickles making, the provision of credit facilities without guarantees mattered the most. A higher proportion of workers in mango jelly making (21 per cent) expected the government to provide marketing opportunities for the products of their owners compared to workers in other food processing activities.

The majority of workers (74 per cent) in the non-factory sector want the government to provide financial assistance for starting petty business. Some of them (14 per cent) also want the government to provide marketing avenues to their owners and another 10 per cent expect the government to make laws for payment of overtime allowance. On the other hand, those in the factory sector suggested that house sites, loan facilities without guarantees and old age, widow and physically handicapped pension be provided to all eligible workers. Among social categories, many from the OCs (68 per cent) suggested that financial assistance be provided for petty business as compared to 45 per cent from the SCs. Relatively more number of workers from the SCs expects the government to provide loans without guarantees and facilities for education, health, hygiene and power.

Table 8.3: Expectations of Workers in Different Food Processing Activities from Employers and State

Sl No	Item processing	Cashew jelly making	Mango processing	Fish making	Pickles	Total
1	**Expectations from employer: Per cent asking for**					
	a. Increase wages every year	56.00	79.09	79.00	87.83	76.00
	b. Increase in work days and all round the year	74.00	68.14	36.00	40.87	54.58
	c. Provide bonus to workers	21.00	0.00	36.00	0.00	13.41
	d. Provide all facilities at the workplace	22.00	7.27	12.00	0.00	9.88
	e. Pay P.F and ESI to all workers	12.00	0.00	23.00	0.00	8.24
	f. Provide advances	5.00	10.00	4.00	12.17	8.00
	g. Reduce working hours or pay overtime allowance	0.00	8.18	6.00	16.52	8.00
	h. Management should be responsible for treatment to injuries	23.00	0.00	11.00	0.00	8.00
	i. Management should bear medical and travel expenses	14.00	1.82	20.00	0.87	8.71
2	Expectations from government: Per cent asking for					
	a. Provision of financial assistance for petty business	19.00	58.18	4.00	88.70	44.47
	b. Provision of house sites and construction of houses	25.00	19.09	67.00	31.30	35.06
	c. Taking action on managements to create more days of employment	33.00	20.00	12.00	3.48	16.71
	d. Provision of loan facilities without guarantees	22.00	10.91	45.00	4.35	19.76
	e. Provision of education, health, hygiene and power	30.00	2.73	29.00	3.48	15.53
	f. Provision of old age, widow, P.H pensions to all the eligible	28.00	2.73	15.00	5.22	12.24
	g. Provision of employment security	20.00	8.18	11.00	2.61	10.12
	h. Provision of marketing opportunities including exporting avenues	1.00	20.91	0.00	6.96	7.53
	i. making laws for payment of overtime allowance	0.00	20.00	6.00	0.00	6.59

Source: Field survey

IX. Critical Review of Policy Framework

The food policy in India has mainly focused on increasing the production with a view to substitute imports which became a common feature during the immediate post-independence years. The 'grow more food' campaign in the fifties to the package for bringing in advanced seed-fertiliser technology in the sixties is proof of this strategy. The production of foodgrains is planned to be increased through all this and the interests of the consumers are taken care through the public distribution system (PDS) for supplying food to the poor people at affordable prices. The latter objective remained central to the planning until the eighties, as the percentage of poor was closer to 60 per cent at that time. The entire discussion on food policy centred around this and 'food security' at the national level and inter and intra household are the themes of policy debates during that period. Therefore, the issue of processing the food did not arise as a policy question until the eighties. On the other hand, the industrial policy since the second five year plan concentrated on the heavy industries required to build up the necessary infrastructure for the industrial development. Though there were some food processing industries in the organized sector, they were part of small and village industries and have no separate identity.

The consistent rise in per capita incomes and the shifting of the incomes after 1981 to a higher growth path led to the rise in middle classes, who have the purchasing power to buy the processed foods. The growth of manufacturing industry also necessitated encouraging food processing sector. The central government, in view of these changes, has started attempts to invigorate the sector by forming a separate ministry for food processing industries in 1988. This is also precisely the same time when liberalization measures were introduced in the country and the seeds of information technology revolution were sown. This is to bring out the fact that India is a late entrant into the food processing sector and international market. Though some measures are initiated after the formation of the ministry for the speedy development of the sector, it is only after the country embarked on full scale liberalization in 1991 that the food processing sector got real impetus. Several policy initiatives for freeing the licensing system, foreign investment etc are taken during this time for encouraging the sector.

The entire sector was deregulated and no license is required except in case of items reserved for small -scale sector and alcoholic beverages. Automatic approval for foreign investment up to 100 per cent equity in food processing industries is available except in a few cases. Hundred per cent export – oriented units are permitted to import raw material and capital goods free of duty. The excise duty on food processing items was removed in 1991 and again imposed in 1997. This excise duty of 16 per cent was again removed in 2001. The concept of food parks, agri-export zones, human resource development have been initiated besides several incentive schemes during this period. The central government has released a food processing policy in 2001 and again in 2005. The new agro-processing industries set up to process, preserve and package fruits and vegetables are allowed under Income tax act, a deduction of 100 per cent for five years and 25 per cent of profits for the next five years

since 2004-05. However, the role of state is considered to be vital. Hence, the centre has urged the state governments to allow exemption for this sector from sales tax and other local taxes. Several state governments have also announced food processing policies. Some of the recent tax incentives announced after 2004 for the sector are given in Table 9.1.

Table 9.1: Some of the Recent Tax Deductions to Processed Food Products

Type of tax	Item	Old rate	New rate
Excise duty	Dairy machinery	16	0
	Meat, poultry and fish	16	8
	Food grade hexane used in edible oil industry	32	16
	Refined edible oil	Rs. 1.00 per kilogram	0
	Vanaspati	Rs.1.25 per kilogram	0
	Milk, ice cream, preparations of meat, fish and poiultry, pectins	NA	0
	Ready-to-eat packaged foods and instant food mixes, like dosa and idli mixes	NA	0
	Aerated drinks	24	16
	Packaging paper	16	12
	Biscuits whose retail sale price does not exceed Rs. 50 per kilogram	NA	0
	All kinds of food mixes including instant mixes	NA	0
	Packaged coconut water, tea and coffee mixes, and puffed rice	16	0
	Refrigeration equipment consisting of compressor, condenser units, evaporator etc on end use basis above t2 tones of refrigeration utilizing power of 50 KW and above	NA	0
Customs duty	Refrigerated vans	20	10
	Packaging machines	15	5
	Vanaspati Increased to 80 per cent		
	Vitamin premixes and mineral mixtures used in the manufacture of cattle and poultry feeds	30	20
	Phosphoric acid used in the manufacture of cattle and poultry feeds	7.5	5

Note: All these incentives are announced after 2004-05 and up to 2008- 09 budget.

The long list of these measures in Table 9.1 and their incentive nature indicates the importance being given for the development of food processing in the country. Most of these initiatives of the government are aimed at reducing the tax burden on the sector. In fact, the tax structure for the sector is based on the assumption that the processed foods are meant for consumption of the richer classes of the society. The processed foods are cheaper than the fresh foods in most of the countries in the world and the taxes on food are almost zero or negligible

around the globe. However, the situation in India is quite different and the tax levels are among the highest in the world. Though the central excise tax is removed now, the 4 per cent central sales tax, the value added tax in the states ranging between 12 and13 per cent, entry tax, *octroi, mandi* tax etc puts a lot of burden on the food processors and deny a level playing field for the them compared to their counter parts in other countries. Often, the cost of packaging materials forms more than 20 per cent of the final price of processed food products in the country. All these taxes increase the final price payable by the consumer for these products. Therefore, the high price elasticity of demand for these products makes their consumption lesser and further to lower volumes of sales, which again increases the average price due to the lack of economies of scale.

The central government needs to move towards zero taxation for the sector and this may include both processed foods and those inputs used in the manufacture of these products like packaging material, machinery (required for the manufacture and preservation) to be imported for the sector etc. That the rich alone consume the processed food products does not hold true today, though it may be true some decades back in the country and the situation now stands changed altogether. Further, the labour intensive nature of the sector provides jobs at a much lower (viz., 30 per cent) capital investment compared to the manufacturing sector as a whole. Some of the sub-sectors like macaroni, noodles and other food products and grain mill products can provide a job at a capital investment that is 75 per cent less than that in the total manufacturing sector. Even the jobs in the manufacture of bakery products come at a 55 per cent lower capital requirement. Apart from provision of jobs at a lower cost, this sector can have very positive impact on the farming community through utilization of their products and improve their price realization. These factors should weigh in its favour for the government to move towards zero taxation for the products and raw materials and preservation equipment of this sector. Despite substantial rationalization of taxes in recent times as shown above, there is a lot of scope and need to reduce the taxes on a variety of processed foods like beverages containing milk, foods obtained by swelling of cereals, cereals products, textured vegetable proteins, ready to eat packaged foods etc. Further, a low and predictable tax regime is needed to attract many investors into the manufacture of food and beverages and reap the benefits of economies of scale and to be on a level playing field in the international market.

Neglect of Unorganised Segment and Employment

The brief historical outline of the evolution of this sector given above shows that this has evolved in the country at a time when the neoclassical economic policy prescriptions are on the ascendancy. Therefore, it is not surprising that the major policy ends pursued for this sector are contribution to overall growth of the economy and export promotion. At no point of time since the inception of the ministry, poverty reduction or employment creation or improving the quality of employment are internalized in the policy discussions. If either of

these two goals entered the decision making process, things would have been much different. The unorganized segment, which employs 84 per cent of the labour force in the sector and larger share of already higher proportion of women in the sector, might have been given some reckoning in the formulation of schemes and expenditure. The financial, credit, technological and human resource development needs of the sector are overlooked in the process of this growth trajectory. It is possible to maintain emphasis on growth and export promotion and at the same time revive the declining fortunes of those in the unorganized segment of the sector. That the policy makers did not pay attention to this segment is clear, if we go through the activities of either Ministry of Food Processing or Agricultural and Processed Food Products Export Development Authority (APEDA) of the Ministry of Commerce from their inception to the present. Notwithstanding the neglect of unorganized segment in the state policy, it has been flourishing in terms of output and employment because of the increasing demand of the processed food products. In fact, this segment has created additional jobs of 0.8 million between 1994-95 and 2000-01, while the employment in the organized segment increased by only 80000 during the same period. Therefore, the concept of inclusive growth in this sector would need the policy makers to give equal focus if not more to the unorganized sector in view of its potential for employment in general and women in particular. The state policy must also aim at addressing the residual nature of employment in the sector brought out in the previous sections. The formation of a National Fund for the Unorganised Sector (NAFUS) as proposed by the National Commission for Enterprises in the Unroganised Sector (NCEUS) can also take many of the credit, technological, marketing and skill development needs of the sector[21]. The monitoring of the credit disbursement to the units in the unorganized sector by fixing definite targets like in case of agriculture, as proposed by the NCEUS would be an excellent arrangement for this labour intensive manufacturing sector.

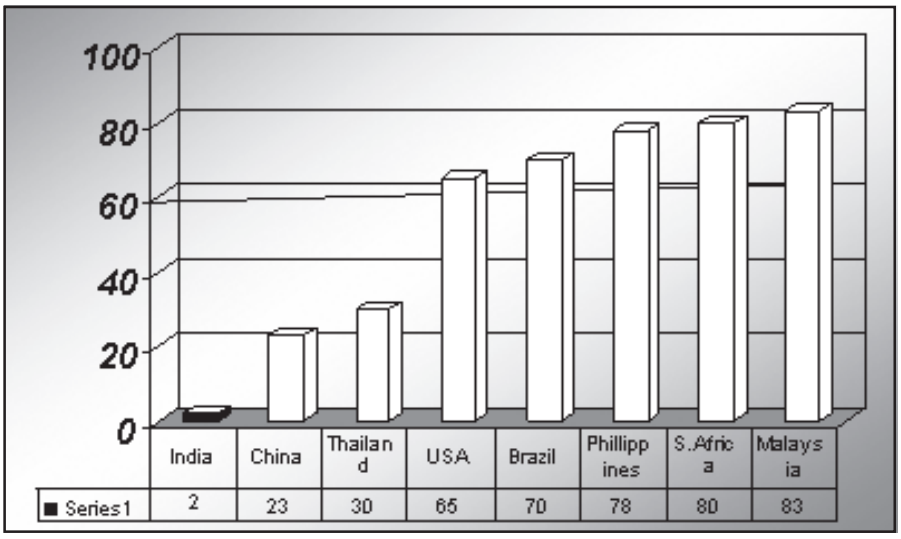
Growth and Export Promotion

The major policy goal of accelerating the growth rate in the sector seems to have been realized, if we observe the growth of the sector during the nineties. The sector witnessed a growth of 6.35 per cent per annum during 1993-94 to 2003-04 and it is 50 per cent higher than the growth in the total manufacturing sector. This is in spite of the poor agricultural performance during the late nineties and early years of the new century. It also means that the sector has been growing at a trend annual growth rate of 6.62 per cent during the two decades viz., between 1981-82 and 2003-04, which is very robust by international standards also. The present hype in the media and other circles surrounding the sector stems from this and the future expectations. However, there is a vast unrealized potential for the sector. If we take the case of fruits and vegetables, the level of processing is just 2.2 per cent of the

[21] GoI (2007b)

total production[22] of 150 million tones of fruits and vegetables. It compares very poorly with other countries (Figure 9.2). The total installed processing capacity at the end of 2006 is only 2.4 million tones and has miles to go before considerable part of the available production is processed. The value addition at 16 per cent is very low compared to as much as 23 per cent in China, 45 per cent in the Philippines and 188 per cent in the UK (see Appendix Table 9.1). This is a serious failure of the policies and more so because it is a very important labour intensive sector with a very low capital requirement for creation of jobs in the food processing sector. The manufacture of food and beverages is unique in the manufacturing sector and it is more dependent on the performance of agriculture and of course rainfall pattern. All the sub-groups in the sector except the animal products and beverages to some extent are directly affected by crops sector. The preservation and processing of fruits and vegetables; vegetable oils and fats; sugar; cocoa, sugar and confectionery; processing of edible nuts like ground nuts and cashew, dairy products etc are some of the sectors having a direct relationship with the fortunes of agriculture. Therefore, policies for the development of agriculture are also important for the food processing sector and the cliché that this is where agriculture meets industry is quite true.

Figure 9.1: Percentage of Processing of Fruits and Vegetables across Countries



Source: GoI (2006b)

[22] Bedi (2006) arrives at this figure with a rigorous analysis of data relating to fruits and vegtables.

The second major goal of the policy framework for the sector continues to be the export promotion. The value of exports from the sector increased at an impressive rate during 1993-94- 2005-06 across all the groups of processed agricultural products and the overall growth per annum is slightly higher than that of all agricultural products (Table 9.2). The exports of animal products increased at a much higher growth rate per annum than others during this period. The share of exports of marine products in the total processed food products declined from 68 per cent in 1995-96 to 53 per cent in 2005-06 and the growth rate is not very good. The share of animal products is increasing and it has gone up from 10 per cent to 20 per cent during this period. This may be the indication of the trend in times to come as the manufacture of meat products has a lot of scope in the country. On the other hand, the export of fish products is facing stiff quality standards and other difficulties in the international market. This issue of barriers to exports by means of quality standards and other such things is discussed in some more detail later. The share of processed food products in the total agricultural exports during this period increased from 29 per cent to 31 per cent. If we include cashew also in the total agricultural products given by the ministry of food processing, it goes up to 45 per cent in 2004-05. This is in line with the international trend of 'non- traditional exports' dominating the agricultural exports and processed products increasing in share. Therefore, this share is bound to increase in future. In other words, the agricultural exports in future will have to be more of processed products. This makes it mandatory to improve food processing in the country so that the exports continue to increase. In the present situation, some of the countries are left with a deficit in agricultural trade because of increased imports of processed products. This has to be kept in mind.

Table 9.2: Growth Rates of Exports of Processed Agricultural Products

Period	Processed fruits and vegetables	Animal products	Other processed products	Marine products	All processed agricultural products	All agricultural products
1993-94 to 2005-06	13.41	16.50	11.95	8.04	10.25	9.13*
2000-01 to 2005-06	2.39	14.94	7.33	3.64	6.17	11.39**
Shares of different products						
Triennium ending 1995-96	7.71	10.47	13.80	68.02	100	
Triennium ending 2005-06	10.1	19.56	17.76	52.58	100	

Note: * for 1993-94 to 2004-05 only; ** for 2000-01 to 2004-05 only
Source: Annual Reports of the Ministry of Food Processing, New Delhi

Another important point to be noted from Table 9.2 is the crucial link between the performance of agriculture and growth of food processing exports and ultimately sectoral growth. During 2000-01 to 2005-06, the growth rate in exports of fruits and vegetables, other processed products and marine products came down to 2.39, 3.64 and 7.33 per cent per annum respectively. This is because of the poor performance of agriculture during the first years of this century. Though the drop in exports of marine products has another reason in the anti-dumping measures initiated in the United States of America, the dramatic increase in the contribution of in land fish to more than 50 per cent in the recent period makes it all the more dependant on rains.

Drivers for Growth

The markets for processed foods in the developed countries especially the U.S.A and the E.U have been stagnating for some time. Though the present consumption of processed food in the total food is very high, the growth rates are low and the prospects are also not encouraging (see Appendix Table 9.2)[23] . The reasons behind this are the low growth of population, saturation of the urban population etc. On the other hand, as we discussed earlier, most of the future growth in population in the coming years will be in developing countries and in urban areas. The urbanization trends also suggest that it is going to be the turn of Asia now to become urban after the Latin America has increased its urban population to more than 70 per cent towards the second half of the twentieth century. On the other hand, there has been a slump in the international trade in processed foods in the past few years. Therefore, the real driver for the growth of the food processing sector in India is domestic market[24]. The per capita consumption of fruits and vegetable will be deficit to a tune of 8 million tones and 32 million tones, if the people of the country are consuming as per the norms of the Indian Council of Medical Research at a per capita consumption per day of 120 gms and 280 gms respectively. The consumption of meat and milk are presently low in the country[25]. The consumption of these products are likely to increase sharply in the country with the increase of per capita incomes at the present high rate in years to come. The population in excess of 1.1 billion, nearly 50 per cent of them being less than twenty years of age and the growth rates of urban population being higher than the rural populace, India is widely recognised to be the most happening country in the world today for the food

[23] On the other hand, the share of developing countries in the world value added in food and beverages has been increasing continuously since 1985 and it increased from 16 per cent in 1985 to 21 per cent in 2000.

[24] Several scholars concluded the similar findings from their study of international markets. For e.g. see Wilkinson and Rocha (2006)

[25] The per capita consumption of milk, eggs and meat are only 72 per cent, 17 per cent and 30 per cent of those recommended by the Indian Council of Medical Research (Dev 2008, P.104)

[26] The table clearly shows that India came from nowhere in 1990 to claim 1.4 per cent of world total value added in 2000 and it is expected that it will increase further.

processing sector (Table 9.3)[26] . This can be a double edged sword as this can also lure countries, who already have well developed processing industry, to dump their products at lower costs in the country. This can happen if our products do not become competitive as the conclusion of negotiations in the Doha Round will in all probability reduce the tariff barriers substantially. Therefore, the policy makers need to consider these trends in the contemporary food processing industry and take necessary steps to make the domestic industry competitive. The real focus should be on increasing the size of domestic market through favourable policy measures and breaking the socio-cultural factors like preference for fresh foods etc so that the growth potential is realized.

Table 9.3: Leading Producers in Food Products and Beverages

1990		2000		2005	
Country or area	**Share a/ (%)**	**Country or area**	**Share a/ (%)**	**Country or area**	**Share a/ (%)**
USA	22.6	USA	22.6	USA	15.6
Japan	15.7	Japan	13.4	Japan	15.4
Germany, western part	8.3	Germany, western part	8.7	Germany, western part	5.6
France	5.6	France	5.4	France	4.2
UK	5.2	UK	4.7	UK	4.4
Italy	4.1	Italy	4.0	Italy	3.6
Spain	3.8	Spain	3.5	Spain	2.5
Brazil	2.6	Brazil	2.8	Brazil	2.8
Canada	2.5	Canada	2.5	Canada	2.6
Mexico	1.9	Mexico	2.2	Mexico	2.4
Netherlands	1.8	Argentina	2.2	Argentina	1.6
Argentina	1.8	Netherlands	1.9	China	8.1
Australia	1.4	Australia	1.6	Australia	1.7
Belgium	1.3	India	1.4	Russia Federation	1.7
Republic of Korea	1.2	Belgium	1.3	Belgium	1.7
Sum of above	79.8	Sum of above	78.2	Sum of above	73.9

a/ : In the world total value added (excluding eastern Europe, the former USSR, and China (but not the Hong Kong SAR and Taiwan Province)) at constant 1990 prices
Source: UNIDO (2005)

Investments and Credit

The experience in the past 15 years shows that flow of investments into the sector is not very encouraging. The structural problems explained above may be the main reason apart from the preference of the Indian population for the fresh foods. There also seems to be some confusion regarding the requirement of investment in the sector. In 2001, the Ministry of Food Processing estimated that increasing the level of food processing from 2 per cent to 10 per cent would call for a whopping Rs. 1, 40, 000 crores (Dev and Rao, 2005). However,

in the latest vision 2015 prepared by the Ministry in 2005, the investment requirement is of the order of Rs.1,00,000 crores upto the end of 2015. The Ministry does not provide any review of the investments made in the sector so far. There has been a lot of optimism about the inflow of foreign direct investment in to the sector consequent on allowing 100 per cent FDI into the sector after 1991. These hopes are not realized and the total inflow of FDI in food processing sector up to 2005-06 was only Rs.5274 crores since 1991 and most of it is in food retailing, alcoholic beverages, soft drinks, mineral waters and plantations[27] . However, as the country moves from a $3 billion FDI per annum to more than $10 billion per annum, the prospects seem to be bright for the flow of FDI into the sector[28] . The international market situation also favours higher FDI into the country provided the policy framework improves. The latest available data indicate that the total investment under approved IEM and industrial approval units since 1991 and upto the end of 2002 was Rs.63926 (GoI, 2003). The actual investments might have been much lower. If the performance of the Ministry in the Tenth Five Year Plan investing a total of Rs.338 crores for the Tenth Plan[29] is taken into consideration, there is a drought of investments in the sector. The investments coming into the sector are concentrated not in the labour intensive sub-sectors like soft drinks, mineral waters, fermentation industry etc. Therefore, there is a need to increase the investments in the sector in view of the growth potential, opportunities for employment creation and more so because the multiplier effect of investment in food processing industry on employment generation is 2.5 times than in other industrial sectors[30] .

One of the major constraints for the sector has been flow of credit to the unorganized as well as organized segments. The credit disbursed to food processing sector in 2005-06 is Rs.36628 crores and 6.46 per cent of gross bank credit to the industry, which includes small, medium and large units. This has been less than 3 per cent for a long time and has been improving since 2004-05, when it crossed 3 per cent for the first time and jumped to 5.7 per cent. However, this is far too less for a sector contributing 16 per cent of the value of output of the total manufacturing sector of the country. The government has recognized it as priority sector lending in 1998 and to solve the problems of refinance, the NABARD created a refinancing window with a corpus of Rs. 1000 crores especially for agro processing infrastructure and market development. The problems of finance for the sector run too

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[27] GoI, (2006b)

[28] Several countries are now showing interest in making investments in the food processing sector of the country of which the best example is the US- India Joint Initiative on Agriculture. Please see GoI (2006) for details.

[29] This is against a budgeted amount of Rs.650 crores. Many of the physical targets are also not achieved during the period. For example, only 8 food parks are sanctioned against a target of 25 and they are also working with only 28 units in them. Similar underachievement in case of cold chain facilities and value added centers can be observed from the annual reports of the Ministry.

[30] GoI (2006b)

deeper to be solved by this initiative alone. The major problem continues to be the seasonal nature of production, unpredictable availability of raw materials and low margins. These same problems increase the risk of lending for the units in the sector. This again increases the chargeable rate of interest.

One of the ways out of these problems can be creation of venture capital fund. This facility is already available to a number of industries. The fledgling biotech industry, valued at nearly Rs.9000 crores in 2006, has venture capital fund for the start-ups since the past three years. Unfortunately, the policy makers did not think of this kind of encouragement for food processing sector whose value of output in 2003-04 happens to be Rs.180000 crores in the organized segment alone. The major reason may be the lack of pressure groups with the stakeholder companies in the sector. There are no flagship companies in the sector like a Wipro or Infosys in information technology, or a Biocon in the biotech industry. In this background of lack of this kind of stakeholder pressure, the policy makers need to act quickly to invigorate the sector by creation of a venture capital fund with sufficient quantity for the sector. A minimum of Rs.500 crores would be ideal considering the sectoral needs.

Non-tariff Barriers to Exports

The gradual liberalization of the foreign trade since the mid-eighties culminated in the full-scale export liberalization after 1991 and import liberalization after joining the World Trade Organisation in 1995. The complete lifting of quantitative restrictions on the imports by 2001 completed the process of trade liberalization in the country. The average tariffs have also come down in this period. The country has only tariffs to protect itself from the surges in imports from other countries especially subsidized exports from some of the western countries. The tariffs have to be immediately adjusted according to the changes in prices of commodities in international market from time to time. Both inter-year and intra-year variations in international market are more than the domestic prices. Therefore, there is a need for far higher vigilance in the tariff regime. The failure of the policy makers in promptly acting during the latter years of nineties resulted in import surges in sugar and vegetable oils. This has affected the growth of processing industry, apart from farming community in both these commodities, as the tariffs are not adjusted immediately after the fall in international prices. There is also a serious danger in the immediate future as the tariffs in the post-Doha round of agreement are likely to be lower than the present bound tariffs. In the case of some commodities, the present applied tariffs are nearer to the bound rates (Table 9.4). Many of these commodities are of considerable significance to the processing industry in the country.

If the bound rates go down in the case of these commodities, it can cause serious damage not only to the processing industry but also farming community in the country. These fears are more pronounced as there has been appreciable increase in imports for fruits and vegetables in the recent past (Bhattacharya, 2003, P.322). The government needs to bargain effectively in the Doha Round of WTO so as to include all these items in the exempted list under special safeguards.

Table 9.4: Applied and Bounds Tariffs on Major Agriculture Commodities

Item description	Applied tariff as on April 1,2002 (Per cent)	Bound tariff (Per cent)
Cereals and Pulses Rice in the husk	80	80
Husked (brown) rice; broken rice	80	80
Semi-miller or wholly milled rice whether or not polished	70	70
Wheat and potato starch	35	35
Cheese	35	40
Milk powder (outside TRQ)	60	60
Coffee	100	100/150
Coconut, desiccated coconut	70	100
Chicken leg (raw, processed);	100	100
Apples	50	50
Grape fruit, plums and sloes, prunes	25	25
Pears and quinces	35	35
Oranges, lemons and limes; fresh grapes	35	40
Soyabean oil (Crude)	45	45
Rapeseed oil (Crude)	75	75
Colza or Mustard oil (Crude)	75	75
Soyabean oil (Refined)	45	45
Rapeseed oil (Refined)	75	75
Colza or Mustard oil (Refined)	75	75

Source: Bhattacharya (2003)

While lowering the tariffs as a result of agreement on conclusion of the ongoing Doha Round is a concern, the non-tariff barriers put in place to block the exports of developing countries using the provisions of sanitary and phytosanitary agreement of the earlier Round have been a serious problem for exports of processed food products from India. The developed countries protected their sensitive commodities like sugar, dairy products, beef etc using the tariff peaks and tariff escalation measures, while at the same time keeping the overall tariff within the stipulated level[31]. That all specific or non-*ad valorem* rates are going to be converted into *ad valorem* rates in this (Doha) Round, the use of non-tariff barriers may become crucial to protecting the domestic industry in the developed world as part of a protectionist strategy. The experience of processed food industry during the past ten years shows that this can have a very adverse impact on the exports. This has happened for the exports of marine products, mangoes and mango pulp, mushrooms, peanuts and egg

[31] The EU and its partners currently have about 8000 tariff lines expressed in specific duties. besides, the tariffs in some cases such as dairy products, beef, sugar and other sensitive products are much more complex with different elements of specific and ad valorem rates combined in such a way that each exporting country faced one set of problems or the other in European market (EPW, 2005).

powder in the markets of developed countries[32]. Therefore, the policy makers should plan appropriate measures to counter this. The main problem from the fledgling organized food processing of the country is that the quality standards are very poor with not many of the units following the HACCP norms[33]. As the country is a late entrant into the international market for these products, the infrastructure is outdated and basically can cater to the supply at home where the consumers won't question about the quality of the products. On one side, the quality and health consciousness is growing in the local populations of the country, the exporters have also to deal with the private standards being developed by the food retail giants in the western countries. As the country moves on to the higher growth path and the consumption patterns get altered, the focus needs to be on 'food safety' along with 'food security'. The passing of the Food Safety and Standards Act, 2006 is a welcome step in this direction and culminated in the efforts of the government to remove the multiplicity of laws for the sector[34]. Now the onus is on the government to strictly implement the Act in letter and spirit, for which the first step would be to establish a Food Safety and Standards Authority of India. There is also a need to establish food testing laboratories all over the country and increase the number from the present 280 to at least one for each district. Unless we raise the standards of our food products, the imports can take their place in the long run at least among the upper middle classes and newly rising middle classes, whose disposable incomes are rising at a very high rate. Needless to say, this can cripple the growth of food processing sector in the country.

Other Challenges

It is well-known that the level of infrastructure in the country for food processing and preservation is very poor. What is not well-known and adequately emphasized is the lack of sufficient research on bringing out processable varieties in crops- both field crops and horticultural crops, processable meat quality breeds in livestock etc. The research in the field of agriculture and allied sectors in the country is planned after the independence to maximize production to substitute imports. For example, most of the mango varieties in the country are developed for serving the fresh consumption and the leading varieties are

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[32] Detailed exposition can be seen from Mehta et al 2002, Mehta, 2005).

[33] Analysing filed data, a World Bank Study concludes that the horticultural exports from India face three major impediments. The 'logistics tax' imposed by high delivery costs which significantly erode the production cost advantage enjoyed by Indian farmers; the gap between the high standards required by governments and buyers, especially in richer countries and the low standards and weak conformity assessments in India; and trade policy barriers in foreign markets. The study found that on an average, the india's international transporation costs are 20-30 per cent higher than those faced by other countries and an improvement in the efficiency of the transportation and logistics system (both domestic as well as the international transport costs) by 20 per cent would reduce final price by as much as twelve percentage points (Mattoo et al, 2007)

[34] Several studies pointed out the problem with multiple laws the sector is subjected to and stressed the need for developing a single law. For e.g. see Dev and Rao (2005).

relatively sweeter for consumption in other importing countries. Therefore, though cultivated in the largest area (1.6 m.ha) among fruit crops, the exports are too few. Similar examples can be cited in case of many crops. Most of the breeds of buffalo are developed to give the maximum milk and do not suit for meat purpose. This has to change as there are some surpluses now and research needs to be focused on preservation and processing qualities. The tools of biotechnology may also be harnessed for the purpose of enhancing these qualities. The lack of cold chain facilities, refrigerated vans, pre-cooling facilities is thoroughly documented and do not need any repetition. The research on these preservation techniques also needs to be stepped up as competitive advantage can be achieved through this also. For example, development of snap freezing of vegetables in New Zealand has improved its advantages in the exports by virtue of protecting from nutrient loss. In this context, a networking of research institutes working on issues related to food processing sector needs to be formed and coordinated at a higher level to utilize the high quality manpower the country possesses. The booming of the real estate sector in the country in the recent period has made acquiring land for the food processing units a very difficult job in view of the escalated cost. The small and medium entrepreneur's inability to purchase at the exorbitant prices often leads to cancellation of the project. Therefore, there is a need to take care of this recent dimension to encourage food processors. The government can establish a few special economic zones with small area to encourage food processing industries.

Last, but not the least, some of the institutional issues needs to be sorted out for progress of the sector. Some of them are the impediments to contract farming by food processors in the form of APMC act, lack of enforcing mechanism for the contracts, inability to get loans from warehouse receipt etc. They need to be removed on an urgent basis. The usefulness of contract farming in solving the needs of processors in getting quality raw material has been proved[35] in the Indian conditions. This institutional arrangement may be harnessed to promote food processing. The human resource development is the most important aspect of the entire process. The lack of skilled workers is a serious problem for the sector and availability of persons with skills in using and repairing the machinery used is also a felt need for the sector. The establishment of National Institution of Food Technology and Management at Kundli, Haryana and upgrading of Paddy Processing Centre at Tanjavur in Tamil Nadu will go a long way. However, the establishment of more number of Food Processing Training Centres (FPTCs) will help in training the entrepreneurs and workers in the unorganized sector. The growth of the sector from the present stage requires specialized skills. The human resource development strategy should aim to train the present workforce to work in the upgraded technology and retain their jobs. This is especially true for women, who are generally displaced with new technology and better working conditions.

[35] See for e.g Dev and Rao (2005), Kumar (2006)

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Appendices

Table A2.1: Share of the Organized and Unorganized Segments in the Food, Beverages and Tobacco Industries

Item	Units	1994-95			2000-01		
		Organized sector	Un-organized sector	Total	Organized sector	Un-organized sector	Total
Number of enterprises	Share (%)	0.75	99.25	100.00	0.52	99.48	100.00
	Numbers	29005	3819411	3848416	26685	5115191	5141876
Output	Share (%)	79.13	20.87	100.0	77.46	22.53	100.0
	Value in Rs. crores at 1993-94 prices	68967	18195	87162	105741	30766	136507
Employ-ment	Share (%)	17.75	82.25	100.0	15.05	84.95	100.0
	Total numbers	1798505	8335699	10134204	1815772	10250795	12066567
Fixed assets	Share (%)	62.32	37.68	100.00	66.14	33.86	100.0
	Value in Rs. crores at 1993-94 prices	13662	8261	21923	28960	14824	43784

Table A2.2: Structure of MVA in selected country groups, selected years [a]/ (Percentages)

Country groups	Food products, beverages					Tobacco					Food products, beverages and tobacco				
	1985	1990	1995	2000	2005	1985	1990	1995	2000	2005	1985	1990	1995	2000	2005
Industrialized countries	12.0	11.2	11.0	8.9	7.8	1.3	1.2	1.2	0.8	0.4	13.3	12.4	12.2	9.7	8.2
EU b/	10.9	10.7	11.6	10.7	10.9	1.7	1.5	1.4	1.3	0.4	12.6	12.2	13	12	11.3
Japan	10	8.6	9	8.6	7.5	0.3	0.2	0.2	0.2	0.2	10.3	8.8	9.2	8.8	7.7
North America	11.7	10.9	9.6	6.1	5.0	1.8	1.6	1.4	0.7	0.2	13.5	12.5	11	6.8	5.2
Eastern Europe and former USSR	18.8	18.7	21.5	18.8	15.9	1	0.8	1.2	0.9	0.8	19.8	19.5	22.7	19.7	16.7
Developing countries	15.2	14.5	14	13.3	11.8	3.6	3.1	3.1	3.1	2.5	18.8	17.6	17.1	16.4	14.3
NICs	12.2	11.9	11.8	10.6	9.5	2.5	2.2	2		20.7	14.7	14.1	13.8	12.6	30.2
Second generation NICs	18.6	16	14.7	15	15.5	6.5	4.8	5.3	5.5	2.5	25.1	20.8	20	20.5	18.0

Source: UNIDO (2005)

a/ Percentage shares of individual branches in total MVA at constant 1990 prices. China, but not the Hong Kong SAR and Taiwan province, is excluded b/ After 1990 including estimates for the eastern part of Germany

Table A2.3: Growth Rate in Number of Factories in the Organised Food Processing Sector

NIC Code	1981-82 to 1992-93	1993-94 to 2003-04	1981-82 to 2003-04
1511: Production, processing& preservation of meat and meat products	2.44	8.42	3.74
1512: Processing and preserving of fish and fish products.	-1.1	1.07	2.28
1513: Processing and preserving of fruit and vegetables	2.55	6.96	5.14
1514: Manufacture of vegetable and animal oils and fats	0.06	-3.92	-0.52
1520: Manufacture of dairy products	5.47	4.78	5.67
1531: Manufacture of grain mill products.	3.06	1.79	2.35
1532: Manufacture of starches and starch products.	0.56	10	4.4
1533: Manufacture of prepared animal feeds.	8.37	3.83	7.6
1541: Manufacture of bakery products.	3.42	1.78	2.82
1542: Manufacture of sugar.	-6.38	-3.91	-4.33
1543: Manufacture of cocoa, chocolate and sugar confectionary.	5.67	4.41	5.44
1544+1549: Manufacture of macaroni, noodles, conscious and similar farinaceous products. Manufacture of other food products n.e.c.	1.22	1.11	0.82
1551: distilling, rectifying and blending of spirits, ethyl alcohol production from fermented materials.	4.77	-0.04	2.97
1552: Manufacture of wines.	7.92	5.83	5.9
1553: Manufacture of malt liquors and malt	4.18	3.68	3.98
1554: Manufacture of soft drinks, production of mineral waters.	1.27	2.23	1.98
15: Manufacture of food products and beverages.	1.42	1.07	1.39
1600: Manufacture of tobacco products.	-0.16	-12.3	-5.48
151 Meat, fish, fruits, vegetables and oils	0.14	-2.29	0.19
152 Dairy products	5.47	4.78	5.67
153 Grain mill products	3.06	2.19	2.56
154 Other food products	-0.85	0.37	-0.26
155 Beverages	2.60	2.0	2.56
All industries	1.64	0.22	1.72

Table 2.4: Structural Ratios in Food Processing and All industries in 1994-95 and 2000-01

Ratio	15			16			15+16			All industries		
	Org	Unorg	Total	Org	Unorg	Total	Org	Unorg	Total	Org	Unorg	Total
	1994-95											
Output per enterprise in lakh Rs	300	0.65	3.09	65.8	0.11	0.52	237.8	0.48	2.26	373.97	0.49	3.63
Fixed capital per enterprise in lakh Rs.	61.9	0.28	0.78	6.09	0.08	0.11	47.1	0.22	0.57	212.93	0.25	2.03
Persons per enterprise in numbers	59.5	2.32	2.79	68.9	1.89	2.31	62.01	2.18	2.63	73.99	2.29	2.89
Fixed capital per person in lakh Rs.	1.04	0.12	0.28	0.09	0.04	0.05	0.76	0.1	0.22	2.88	0.11	0.7
Output to fixed capital ratio in Rs.	4.84	2.3	3.93	10.8	1.45	4.58	5.05	2.2	3.98	1.76	2	1.78
Output per person in lakh Rs.	5.04	0.28	1.11	0.95	0.06	0.23	3.84	0.22	0.86	5.05	0.21	1.26
	2000-01											
Output per enterprise in lakh Rs.	413.79	0.95	4.22	240.3	0.09	0.4	396.26	0.60	2.65	453.51	0.71	4.17
Fixed capital per enterprise in lakh Rs.	115.2	0.45	1.35	49.17	0.07	0.13	108.53	0.29	0.85	247.49	0.49	2.38
Persons per enterprise in numbers	55.55	2.27	2.69	179.2	1.62	1.85	68.05	2.00	2.35	60.85	2.18	2.63
Fixed capital per person in lakh Rs.	2.07	0.2	0.5	0.27	0.04	0.07	1.59	0.15	0.36	4.07	0.23	0.91
Output to fixed capital ratio in Rs.	3.59	2.14	3.12	4.89	1.37	3.03	3.65	2.08	3.12	1.83	1.44	1.75
Output per person in lakh Rs.	7.45	0.42	1.57	1.34	0.06	0.22	5.82	0.3	1.13	7.45	0.32	1.59

Note: All are calculated with constant 1993-94 prices

2.5: Structural Ratios in Food Processing Sector Relative to Total Manufacturing

Ratio	15			16			15+16			All industries		
	Org	Unorg	Total	Org	Unorg	Total	Org	Unorg	Total	Org	Unorg	Total
	1994-95											
Output per enterprise in lakh Rs	80	133	85	18	22	14	64	98	62	100	100	100
Fixed capital per enterprise in lakh Rs.	29	112	38	3	32	5	22	88	28	100	100	100
Persons per enterprise in numbers	80	101	97	93	83	80	84	95	91	100	100	100
Fixed capital per person in lakh Rs.	36	109	40	3	36	7	26	91	31.4	100	100	100
Output to fixed capital ratio in Rs.	275	115	221	614	73	257	287	110	224	100	100	100
Output per person in lakh Rs.	100	133	88	19	29	18	76	105	68.3	100	100	100
	2000-01											
Output per enterprise in lakh Rs.	91	134	101	53	13	10	87	85	64	100	100	100
Fixed capital per enterprise in lakh Rs.	47	92	57	20	14	6	44	59	36	100	100	100
Persons per enterprise in numbers	91	104	102	294	74	70	112	92	89	100	100	100
Fixed capital per person in lakh Rs.	51	87	55	7	17	8	39	65	40	100	100	100
Output to fixed capital ratio in Rs.	196	149	178	267	95	173	199	144	178	100	100	100
Output per person in lakh Rs.	100	131	98.7	18	19	14	78	94	71	100	100	100

Note: All are calculated with constant 1993-94 prices

Table 2.6: Structural Ratios in Organized Food Processing Sector in TE 1983-84 to TE 2003-04

Item	Food industries			Tobacco industries			All industries		
	TE 1983-84	TE 1993-94	TE 2003-04	TE 1983-84	TE 1993-94	TE 2003-04	TE 1983-84	TE 1993-94	TE 2003-04
In constant 1993-94 prices									
Output per enterprise in lakh Rs.	164.14	268.96	462.73	41.49	69.82	202.34	201.65	334.04	520.30
Fixed capital per enterprise in lakh Rs.	18.96	44.44	74.75	1.12	4.58	30.66	97.50	168.34	267.80
Persons per enterprise in numbers	73.93	58.13	56.39	48.67	66.73	180.03	80.31	72.48	61.60
Fixed capital per person in lakh Rs.	0.28	0.77	1.33	0.02	0.068	0.17	1.21	2.32	1.94
Output to fixed capital ratio in Rs.	8.46	5.98	6.02	36.97	15.24	6.60	2.08	1.99	1.94
Output per person in lakh Rs.	2.19	4.70	7.98	0.85	1.046	1.12	2.51	4.61	8.44
As a percent of all industries									
Output per enterprise in lakh Rs.	81	80.5	89	20.6	21	39	100	100	100
Fixed capital per enterprise in lakh Rs.	19	26.4	28	1.15	2.7	11	100	100	100
Persons per enterprise in numbers	92	80.2	92	60.6	92	292	100	100	100
Fixed capital per person in lakh Rs.	23	33.2	69	1.65	2.9	8.8	100	100	100
Output to fixed capital ratio in Rs.	407	301	310	1777	766	340	100	100	100
Output per person in lakh Rs.	87	102	95	33.9	23	13	100	100	100

Table A2.7: Output per Enterprise and Fixed Assets per Enterprise in TE 2003-04 Relative to TE 1983-84

Output per enterprise	Fixed assets per enterprise
1513: Processing and preserving of fruit and vegetables (1.48)	**152** Dairy products (1.4)
152 Dairy products (1.75)	**1520:** Manufacture of dairy products (1.4)
1520: Manufacture of dairy products(1.75)	**1531**: Manufacture of grain mill products (1.7)
1544+1549: Manufacture of macaroni, noodles, conscious and similar farinaceous products (1.88)	**153** Grain mill products (2.1)
1541: Manufacture of bakery products (2.21)	**1533:** Manufacture of prepared animal feeds (2.3)
1553: Manufacture of malt liquors and malt (2.35)	**All industries (2.7)**
154 Other food products (2.55)	**1541:** Manufacture of bakery products (2.8)
1551: Distilling, rectifying and blending of spirits, ethyl alcohol production from fermented materials (2.56)	**1544+1549:** Manufacture of macaroni, noodles, conscious and similar farinaceous products (3.8)
1511: Production, processing& preservation of meat and meat products (2.58)	**15:** Manufacture of food products and beverages (3.9)
1531: Manufacture of grain mill products (2.64)	**1551**:distilling, rectifying and blending of spirits, ethyl alcohol production from fermented materials (3.9)
15: Manufacture of food products and beverages (2.82)	**1553:** Manufacture of malt liquors and malt (3.9)
1552: Manufacture of wines (2.83)	**154** Other food products (4.6)
153 Grain mill products (2.84)	**1552:** Manufacture of wines (4.8)
All industries (2.58)	**1600:** Manufacture of tobacco products (4.88)
1512: Processing and preserving of fish and fish products (3.13)	**1532:** Manufacture of starches and starch products (4.9)
1533: Manufacture of prepared animal feeds (3.5)	**1513:** Processing and preserving of fruit and vegetables (5)
155 Beverages (3.67)	**1511**: Production, processing& preserva tion of meat and meat products(5.7)
151 Meat, fish, fruits, vegetables and oils (4.31)	**1514**: Manufacture of vegetable and animal oils and fats (6.4)
1600: Manufacture of tobacco products (4.88)	**1512:** Processing and preserving of fish and fish products (6.8)
1554: Manufacture of soft drinks, production of mineral waters (4.99)	**151** Meat, fish, fruits, vegetables and oils (6.9)
1514: Manufacture of vegetable and animal oils and fats (5)	**155** Beverages (6.9)
1543: Manufacture of cocoa, chocolate and sugar confectionary (5.32)	**1542:** Manufacture of sugar (11)
1542: Manufacture of sugar (5.94)	**1543:** Manufacture of cocoa, choco late and sugar confectionary (12)
1532: Manufacture of starches and starch products (12.4)	**1554:** Manufacture of soft drinks, production of mineral waters (13)

Table A2.8: Persons per Enterprise and Fixed Assets per Persons in TE 2003-04 Relative to TE 1983-84

Persons per enterprise	Fixed assets per person
152 Dairy products (0.68)	**All industries (1.6)**
1520: Manufacture of dairy products (0.68)	**1531**:Manufacture of grain mill products(1.85)
15: Manufacture of food products and beverages (0.74)	**152** Dairy products (2.04)
154 Other food products (0.74)	**1520:** Manufacture of dairy products (2.04)
All industries (0.77)	**1533:** Manufacture of prepared animal feeds (2.05)
1513: Processing and preserving of fruit and vegetables (0.84)	**153** Grain mill products (2.21)
1552: Manufacture of wines (0.87)	**1541:** Manufacture of bakery products(2.9)
1551: distilling, rectifying and blending of spirits, ethyl alcohol production from fermented materials (0.89)	**1553:** Manufacture of malt liquors and malt (3.77)
1514: Manufacture of vegetable and animal oils and fats (0.92)	**1512:** Processing and preserving of fish and fish products (3.78)
1544+1549: Manufacture of macaroni, noodles, conscious and similar farinaceous products (0.92)	**1544+1549:** Manufacture of macaroni, noodles, conscious and similar farina ceous products (4)
1541: Manufacture of bakery products (0.94)	**1551**: distilling, rectifying and blending of spirits, ethyl alcohol production from fermented materials (4.44)
1531: Manufacture of grain mill products (0.95)	**1532:** Manufacture of starches and starch products (4.52)
153 Grain mill products (0.97) beverages (4.86)	**15:** Manufacture of food products and
1553: Manufacture of malt liquors and malt (1.05)	**1511**:Production, processing& preserva tion of meat and meat products (5.06)
1532: Manufacture of starches and starch products (1.07)	**1552:** Manufacture of wines (5.42)
1511: Production, processing& preservation of meat and meat products (1.12)	**155** Beverages (5.56)
1533: Manufacture of prepared animal feeds (1.14)	**154** Other food products (5.59)
151 Meat, fish, fruits, vegetables and oils (1.15)	**151** Meat, fish, fruits, vegetables and oils (6)
1543: Manufacture of cocoa, chocolate and sugar confectionary (1.15)	**1513:**Processing and preserving of fruit and vegetables (6.06)
155 Beverages (1.27)	**1514**:Manufacture of vegetable and animal oils and fats (7.05)
1542: Manufacture of sugar (1.4)	**1542:** Manufacture of sugar (7.85)
1554: Manufacture of soft drinks, production of mineral waters (1.51)	**1554:** Manufacture of soft drinks, produc tion of mineral waters (8.4)
1512: Processing and preserving of fish and fish products (1.81)	**1600:** Manufacture of tobacco products (8.5)
1600: Manufacture of tobacco products (3.7)	**1543:** Manufacture of cocoa, chocolate and sugar confectionary (10.7)

Table A2.9: Output per Fixed Assets and Output per Persons in TE 2003-04 Relative to TE 1983-84

Output per fixed assets	Output/persons
1600: Manufacture of tobacco products (0.18)	**1600:** Manufacture of tobacco products (1.32)
1513: Processing and preserving of fruit and vegetables (0.29)	**1512:**Processing and preserving of fish and fish products (1.74)
1554: Manufacture of soft drinks, production of mineral waters (0.39)	**1513:**Processing and preserving of fruit and vegetables (1.76)
1543: Manufacture of cocoa, chocolate and sugar confectionary (0.44)	**1544+1549:** Manufacture of macaroni, noodles, conscious and similar farinaceous products (2.03)
1511: Production, processing& preservation of meat and meat products (0.45)	**1553:** Manufacture of malt liquors and malt (2.24)
1512: Processing and preserving of fish and fish products (0.46)	**1511**:Production, processing& preservation of meat and meat products (2.29)
1544+1549: Manufacture of macaroni, noodles, conscious and similar farinaceous products (0.49)	**1541:** Manufacture of bakery products (2.34)
155 Beverages (0.53)	**152** Dairy products (2.58)
154 Other food products (0.54)	**1520:** Manufacture of dairy products (2.58)
1542: Manufacture of sugar (0.54)	**1531**: Manufacture of grain mill products (2.78)
1552: Manufacture of wines (0.59)	**155** Beverages (2.82)
1553: Manufacture of malt liquors and malt (0.6)	**153** Grain mill products (2.85)
151 Meat, fish, fruits, vegetables and oils (0.62) fermented materials (2.89)	**1551**: distilling, rectifying and blending of spirits, ethyl alcohol production from
1551: distilling, rectifying and blending of spirits, ethyl alcohol production from fermented materials. (0.71)	**1533:** Manufacture of prepared animal feeds (3.08)
15: Manufacture of food products and beverages (0.71)	**1552:** Manufacture of wines (3.23)
1514: Manufacture of vegetable and animal oils and fats (0.79)	**1554:** Manufacture of soft drinks, production of mineral waters (3.31)
1541: Manufacture of bakery products (0.8)	**All industries (3.36)**
All industries (0.93)	**154** Other food products (3.4)
152 Dairy products (1.25)	**15:** Manufacture of food products and beverages (3.74)
1520: Manufacture of dairy products (1.25)	**151** Meat, fish, fruits, vegetables and oils (3.75)
153 Grain mill products (1.33)	**1542:** Manufacture of sugar (4.24)
1533: Manufacture of prepared animal feeds (1.5)	**1543:** Manufacture of cocoa, chocolate and sugar confectionary (4.64)
1531: Manufacture of grain mill products (1.52)	**1514**: Manufacture of vegetable and animal oils and fats (5.46)
1532: Manufacture of starches and starch products (2.55)	**1532:** Manufacture of starches and starch products (11.6)

Table A3.1: Employment at Five-digit Level in Organised Food Processing in 2003-04

Sub-class	Description	Per cent in total	Sub-class	Description	Percent in total
15116	Processing and canning meat	0.09	15422	Manufacture of gur from other than sugar cane	0.44
15119	Meat and meat products n.e.c	0.10	15424	Manufacture of khandasari from sugar cane	2.41
15121	Sundry of fish	0.06	15427	Manufacture of boora and candy other than from sugar cane	0.01
15124	Processing and canning fish	1.76	15429	Manufacture of other indigenous sugar cane/sugar beet / palm juice products	0.79
15127	Processing and preserving of fish crustacean and similar foods	0.54	15431	Manufacture of cocoa products	0.14
15129	Fish and fish products n.e.c	0.21	15432	Manufacture of sugar confectionery	0.25
15132	Artificial dehydration of fruit and vegetables	0.12	15433	Manufacture of sweetmeats	0.19
15134	Manufacture of fruits/vegetable juice and their concentrates, squashes and powder	0.22	15434	Manufacture of chewing gum	0.04
15135	Manufacture of sauces, jams, jellies and marmalades	0.09	15435	Preserving in sugar of fruits, nuts, fruit peals and other parts of plants	0.03
15136	Manufacture of pickles, chutneys, murabbas etc.	0.12	15439		0.09
15137	Canning of fruit and vegetables	0.66	15440	Manufacture of macaroni, noodles, conscious and similar farinaceous products	0.27

Table A3.1: Contd....

Sub-class	Description	Per cent in total	Sub-class	Description	Percent in total
15139	Fruit and vegetables preservation	0.84	15491	Processing and blending of tea including manufacture of instant tea	8.49
15141	Manufacture of hydrogenated oils and vanaspati ghee etc	0.46	15492	Coffee curing, roasting, grinding and blending etc.	0.44
15142	Manufacture of vegetable oils and fats	2.29	15493	Processing of edible nuts	15.28
15143	Manufacture of vegetable oils and fats through solvent extraction process	1.79	15495	Grinding and processing of spices	1.14
15144	Manufacture of animal oils and fats	0.43	15496	Manufacture of papads appalam and similar food products	0.23
15149	Vegetable and animal oil and fats n.e.c	0.84	15497	Manufacture of vitaminised high protein flour, frying of dals & other cereals incl. roasting of nuts	0.26
15201	Manufacture of milk powder, ice-cream powder and condensed milk except baby milk powder	0.31	15499	Other semi processed, processed or instant food except farinaceous products and malted foods and Manufacture activities like Manufacture of egg powder, sambar powder etc	2.57
15203	Manufacture of butter, cream, ghee, cheese and khoya etc.	0.29	15511	Distilling, rectifying and blending of spirits; ethyl alcohol production from fermented materials	1.07
15204	Manufacture of pasteurized milk whether or not in bottles / polythene packs etc.	2.74	15512	Manufacture of country liquor	0.47
15205	Manufacture of ice-cream and kulfi etc.	0.26	15519		0.08

Table A3.1: Contd....

Sub-class	Description	Per cent in total	Sub-class	Description	Percent in total
15209	Manufacture of other dairy products	1.49	15520	Manufacture of wines	0.59
15311	Flour milling	1.40	15531	Manufacture of beer	0.25
15312	Rice milling	16.24	15532	Manufacture of malt liquor other than beer	0.74
15313	Dal milling	1.10	15533	Manufacture of malt	0.15
15314	Processing and grinding of grain	0.40	15539		0.21
15316	Manufacture of breakfast foods obtained by roasting or swelling cereal grains	0.05	15541	Manufacture of aerated drinks	0.92
15319	Other grain milling and processing activities	2.54	15542	Manufacture of synthetic flavored concentrates and syrup	0.08
15321	Manufacture of starch	0.51	15543	Manufacture of mineral water	0.40
15322	Manufacture of sago and sago products	0.63	15544	Manufacture of ice	0.38
15323	Manufacture of glucose & glucose syrup, maltose	0.01	15549	Manufacture of beverages n.e.c	1.24
15331	Manufacture of cattle feed	0.90		**Total**	**100**
15332	Manufacture of poultry feed	0.81			
15339	Manufacture of other animal and bird feed	0.66			
15411	Bread making	0.71			
15412	Manufacture of biscuits , cakes and pastries	1.68			
15419	Manufacture of other bakery products	0.54			
15421	Manufacture of refining sugar	16.49			

Source: CD- ROM supplied by the CSO

Table A3.2: Share of Food Processing in Total Employment Across States in TE 2003-04

States	151	152	153	154	155	15	16	5+16	All industries
Andhra Pradesh	3.38	1.01	8.56	4.24	1.29	**18.47**	32.49	50.95	100.00
Bihar	0.32	2.63	4.03	11.13	1.75	**19.86**	4.79	24.65	100.00
Gujarat	2.92	1.41	1.53	2.93	0.22	9.01	0.70	9.71	100.00
Haryana	0.57	0.68	7.01	4.07	0.90	13.22	0.15	13.37	100.00
Himachal Pradesh	2.89	0.00	1.15	1.90	4.13	10.07	2.23	12.30	100.00
J & K	1.41	0.74	4.84	4.07	5.87	16.93	8.35	25.28	100.00
Jharkhand	0.21	0.16	0.43	0.15	0.30	1.25	4.72	5.97	100.00
Karnataka	1.43	1.09	2.05	9.85	1.29	15.69	1.21	16.90	100.00
Kerala	1.77	0.92	1.33	42.86	1.00	**47.89**	6.88	54.76	100.00
Madhya Pradesh	4.54	1.18	2.17	2.88	1.41	12.17	4.94	17.11	100.00
Maharashtra	1.89	1.43	1.75	9.56	0.99	15.62	7.76	23.38	100.00
Orissa	1.04	0.58	11.53	2.61	1.39	17.13	3.84	20.98	100.00
Punjab	1.97	2.07	15.87	3.40	2.05	**25.36**	0.00	25.36	100.00
Rajasthan	2.31	1.48	1.34	1.41	1.59	8.14	1.37	9.51	100.00
Tamil Nadu	1.10	0.76	2.86	6.61	0.54	11.88	0.46	12.34	100.00
Uttar Pradesh	1.59	1.26	3.95	18.51	2.28	**27.58**	2.08	29.66	100.00
Uttaranchal	2.46	1.05	7.63	15.48	1.19	**27.80**	0.00	27.80	100.00
West Bengal	0.87	0.35	2.18	6.50	0.71	10.60	3.17	13.77	100.00
Chattisgarh	1.47	0.07	10.30	1.13	0.92	13.88	1.66	15.54	100.00
All India	1.83	1.04	3.95	8.70	1.09	16.61	6.20	22.81	100.00

Table A3.3: Share of Different Activities in the Employment in Organised Food Processing Sector in TE 2003-04

States	151	152	153	154	155	15
Andhra Pradesh	18.29	5.46	46.34	22.94	6.97	100.00
Bihar	1.63	13.24	20.29	56.03	8.81	100.00
Gujarat	32.36	15.68	16.93	32.54	2.49	100.00
Haryana	4.28	5.11	53.01	30.82	6.78	100.00
Himachal Pradesh	28.69	0.00	11.44	18.84	41.03	100.00
Jammu&Kashmir	8.35	4.34	28.58	24.05	34.68	100.00
Jharkhand	16.97	12.93	34.05	11.73	24.31	100.00
Karnataka	9.09	6.93	13.04	62.73	8.20	100.00
Kerala	3.70	1.92	2.78	89.50	2.09	100.00
Madhya Pradesh	37.26	9.69	17.83	23.64	11.57	100.00
Maharashtra	12.11	9.16	11.19	61.17	6.36	100.00
Orissa	6.05	3.36	67.29	15.21	8.09	100.00
Punjab	7.78	8.18	62.58	13.39	8.08	100.00
Rajasthan	28.43	18.21	16.51	17.27	19.59	100.00
Tamil Nadu	9.27	6.44	24.06	55.68	4.54	100.00
Uttar Pradesh	5.75	4.57	14.33	67.09	8.26	100.00
Uttaranchal	8.85	3.76	27.44	55.69	4.26	100.00
West Bengal	8.24	3.32	20.53	61.26	6.65	100.00
Chattisgarh	10.57	0.48	74.17	8.13	6.65	100.00
All India	11.02	6.27	23.78	52.36	6.57	100.00

Table A3.4: Share of Different Types of Establishments in Food Processing Employment in 1994-95 in Unorganised Segment

Sub-sector	OAME	NDME	DME	Total
Meat and meat products	81.03	17.96	1.01	100
Fish and fish products	65.19	0.427	34.4	100
Fruits and vegetables	54.33	26.44	19.2	100
Vegetable and animal oils & fats	57.36	28.19	14.4	100
Dairy products	84.1	14.23	1.67	100
Grain mill products	79.48	18.03	2.49	100
Starches and starch products	40.36	47.88	11.8	100
Prepared animal feeds	43.71	26.16	30.1	100
Bakery products	28.74	36.49	34.8	100
Sugar	30.3	10.75	58.9	100
Cocoa, chocolate & sugar confectionery	46.2	30.94	22.9	100
Macaroni, noodles and other products	80.5	6.67	12.8	100
Spirits and ethyl alcohol	97.67	2.29	0.04	100
Wines	100	0	0	100
Malt, liquors and malt	100	0	0	100
Soft drinks and mineral waters	70.57	25.03	4.4	100
Food and beverages	70.8	15.51	13.7	100
Tobacco products	89.64	4.24	6.12	100
Food, beverages and tobacco	76.02	12.39	11.6	100
All industries	68.25	14.72	17	100
2000-01				
Food and beverages	71.15	15.44	13.41	100
Tobacco industries	91.24	1.68	7.08	100
All industries	67.59	15.00	17.42	100

Table A3.5: Proportion of Different Workers in Food Processing in 1994-95 in Unorganised Segment

Sub-sector	Hired workers	Paid HH workers	Unpaid HH workers	Other workers	Total employees
1994-95					
Meat and meat products	9.64	0.52	42.66	47.17	100
Fish and fish products	33.45	0.00	34.50	32.05	100
Fruits and vegetables	25.75	0.69	27.33	46.23	100
Vegetable and animal oils & fats	24.58	0.50	33.11	41.81	100
Dairy products	7.21	0.44	46.25	46.11	100
Grain mill products	10.46	0.88	39.08	49.58	100
Starches and starch products	30.72	0.00	25.33	43.95	100
Prepared animal feeds	37.79	1.33	21.24	39.64	100
Bakery products	43.46	4.19	29.55	22.80	100
Sugar	45.65	3.15	23.89	27.32	100
Cocoa, chocolate & sugar confectionery	30.41	1.57	32.89	35.13	100
Macaroni, noodles and other products	12.49	0.23	47.02	40.26	100
Spirits and ethyl alcohol	1.54	0.82	39.38	58.25	100
Wines	0.00	0.00	21.62	78.38	100
Malt, liquors and malt	0.07	0.00	52.01	47.92	100
Soft drinks and mineral waters	16.84	0.24	32.21	49.77	100
Common salt	71.08	1.59	8.42	18.91	100
Food and beverages	17.23	1.04	38.78	42.94	100
Tobacco products	6.61	0.28	43.71	49.40	100
Food, beverages and tobacco	14.29	0.83	40.15	44.73	100
All industries	20.49	0.96	34.43	44.13	100
2000-01					
Food and beverages	18.13	55.23	26.64	100	
Tobacco products	6.68	70.09	23.22	100	
All industries	22.51	58.85	23.65	100	

Table A4.1: Proportion of Women in Food Processing Sector across States in Organised Sector in TE 2003-04

State	Meat, fish, fruits, vegetables and oils	Dairy products	Grain mill products	Other food products	Beverages	Food and beverages	Tobacco products	Food, beverages and tobacco products	All industries
A P	23.15	7.82	18.77	29.43	18.33	22	68.28	40.49	24.61
Bihar	5.71	0.9	0	0.01	0	0.2	0.24	0.21	2.33
Gujarat	15.39	1.2	6.31	3.66	3.04	6.87	25.32	8.31	4.85
Haryana	3.40	0.11	0	0.79	0.22	0.63	11.25	0.86	4.94
H P	14.49	0	13.66	7.9	0.98	7.41	2.26	6.83	8.78
J &K	0.76	0.81	0	48.85	9.31	20.05	9.97	15.71	7.96
Jharkhand	4.63	1.75	7.98	2.51	6.18	5.65	2.75	4.38	4.94
Karnataka	28.13	15.3	17.01	39.1	30.93	34.12	51.37	35.78	38.22
Kerala	41.18	15.8	7.37	90.91	27.16	86.09	68.48	84.72	59.04
M P	2.80	0	6.27	8.61	2.56	4.80	16.41	8.10	7.65
Maharashtra	14.09	1.89	11.53	5.58	5.18	6.70	93.19	47.38	17.29
Orissa	20.15	2.1	35.96	24.72	0.32	29.62	12.6	28.7	8.32
Punjab	6.94	2.25	0.02	0.31	0.17	0.97	0	0.97	2.33
Rajasthan	0.26	1.59	0.34	7.14	1.204	2.13	52.11	5.12	2.53
Tamil Nadu	44.29	5.88	42.92	62.88	39.53	52.84	30.79	51.93	38.53
U. P	3.08	0.14	0	0.69	0.01	0.65	1.11	0.68	2.56
Uttaranchal	5.38	0	0.83	0.28	0	0.73	0	0.73	1.82
West Bengal	7.28	0.87	18.67	1.64	0.284	4.4	3.62	4.26	1.80
Chattisgarh	2.82	0	17.67	14.97	0.22	14.68	7.96	13.95	3.80
Total 19 states	18.44	4.23	17.31	40.34	11.15	30.26	68.11	38.12	19.7
All India	18.16	4.23	16.97	35.72	11.47	27.94	68.15	35.67	19.40

Table A4.2: Proportion of Female Workers of Different Categories in Food Processing Sector in 1994-95 in Unorganised Segment

Sub-sector	Hired workers	Paid HH workers	Unpaid HH workers	Other workers	Total employees
Meat and meat products	2.1	4.5	76.1	17.3	100
Fish and fish products	45	0	21	34.1	100
Fruits and vegetables	27	1.1	51.1	20.5	100
Vegetable and animal oils & fats	7.1	0.5	83.1	9.26	100
Dairy products	1.2	0.2	92.9	5.76	100
Grain mill products	3.1	0.8	79.5	16.7	100
Starches and starch products	19	0	40.7	40.7	100
Preaperd animal feeds	32	0	64.6	3.75	100
Bakery products	16	0.7	68.6	14.4	100
Sugar	33	1.6	44.5	20.9	100
Cocoa, chocolate & sugar confectionery	1.9	0.9	83.6	13.6	100
Macaroni, noodles and other products	12	0.3	69.6	18	100
Spirits and ethyl alcohol	0.8	2.4	59.7	37.1	100
Wines	0	0	29.8	70.2	100
Malt, liquors and malt	0	0	87.4	12.6	100
Soft drinks and mineral waters	1.3	0.4	80.2	18	100
Food and beverages	9.8	0.6	71.8	17.8	100
Tobacco products	5.7	0.2	55.9	38.1	100
Food, beverages and tobacco	7.9	0.4	64.5	27.1	100
All industries	9.6	0.7	64	25.8	100

Table A4.3: Share of Women in total employment in Food and Beverages across Select Countries

Country	Year	Food Products	Beverages	Tobacco
China	1990	26.0	22.4	48.7
	1997	48.1	24.2	39.0
Denmark	1990	44.6	25.4	57.0
	1998	43.3	23.1	49.8
India	1990	NA	NA	NA
	1997	15.5	6.3	34.9
	2003*	17.4		22.1
Indonesia	1990	NA	NA	NA
	1999	41.0	34.8	82.1
	2003*	38.1		82.0
Italy	1990	29.0	19.2	10.1
	1998	31.9	17.3	28.8
Japan	1990	NA	NA	NA
	1999	58.8	30.8	33.8
Kenya	1990	18.6	5.7	13.9
	1999	26.5	12.5	6.2
Malaysia	1990	34.7	33.3	46.5
	1999	37.9	38.2	15.6
	2003*	32.0		57.8
Nepal	1990	12.6	12.1	5.8
	1996	7.9	9.1	6.6
Philippines	1990	NA	NA	NA
	1995	33.4	9.1	45.0
	2003*	33.9		43.7
Republic of Korea	1990	48.8	25.4	30.6
	1999	50.3	24.0	19.1
Sri Lanka	1990	33.3	23.6	55.2
	1998	34.3	11.9	70.9
United Kingdom	1990	40.9	24.9	38.2
	1997	40.7	29.8	40.0

Source: UNIDO (2005)

Table A5.1: Advances, Adequacy of Income and Continuation of Employment in Different Food Processing Activities

Sl. no	Item	Cashew processing	Mango jelly making	Fish processing	Pickles making	Total
1	Per cent reporting that they needed to work over time some times	28.00	30.91	96.00	59.13	53.18
	Per cent reporting that they are paid remuneration for working overtime	0.00	8.82	10.31	5.80	7.49
	Average remuneration per day for additional work	0.00	16.67	25.60	15.00	21.17
2	Per cent reporting payment of advances	98.00	67.27	40.00	7.83	52.00
3	Income is sufficient to meet their needs	16.00	29.09	13.00	20.87	20.00
4	Income not covering health expenditure	69.00	43.64	68.00	52.17	57.65
	Income not covering education expenditure	47.00	23.64	24.00	26.96	30.12
	Income not covering food expenditure	15.00	20.91	17.00	20.00	18.35
	Income not covering clothing expenditure	22.00	0.00	27.00	0.00	11.53
	Income not covering their debt repayment	12.00	0.00	11.00	0.87	5.65
5	Per cent reporting that their income will increase in the next 12 months	87.00	21.82	29.29	26.09	40.09
	Average likely increase in the income in the next 12 months per annum	1302	3338	1321	3613	1996
6	Per cent reporting chance of becoming regular	6.00	0.00	0.00	0.00	1.41
	Per cent reporting continuation of work depending on season	0	64.55	31.00	70.43	43.06
	Per cent hopeful of continuation of work	97.00	10.91	65.00	6.09	42.59
	Per cent not hopeful of continuation of work	3.00	24.55	4.00	23.48	14.35
7	Per cent reporting no chance of continuation of work, if pregnant	0.00	54.55	1.00	73.04	34.12
	Per cent reporting that pregnant workers can join after delivery	31.00	7.27	4.00	11.30	13.18
	Per cent reporting that workers can join one year after delivery		10.00	34.00	2.61	11.29
8	Per cent reporting that there are alternative jobs	1.00	67.27	66.00	57.39	48.71
	Per cent reporting that the present job is very important	94.00	3.64	17.00	6.96	28.94
	Per cent reporting that the present job is important	4.00	29.09	16.00	35.65	21.88

Table A7.1: Membership in Trade Unions and Other Organisations for All Workers

Sl. no	Item	Cashew processing	Mango jelly making	Fish processing	Pickles making	Total
1	Per cent reporting presence of union	100.00	0.00	0.00	0.00	23.53
2	Per cent reporting the union to be highly useful	67.00	0.00	0.00	0.00	15.80
	Per cent reporting the union to be useful	33.00	0.00	0.00	0.00	7.80
3	Whether member of union	98.00	0.00	0.00	0.00	23.06
4	Per cent participating as a leader	1.00	0.00	0.00	0.00	0.23
	Per cent participating actively	38.00	0.00	0.00	0.00	8.94
	Per cent reporting occasional attendance of meetings	55.00	0.00	0.00	0.00	12.94
	Per cent reporting to have never attended	6.00	0.00	0.00	0.00	1.41
6	Per cent reporting no need of a union	0.00	40.00	7.00	50.43	25.65
	Per cent reporting need to start a union	0.00	2.73	88.00	1.74	21.88
	Per cent reporting to have no idea about union	0.00	36.36	0.00	42.61	20.94
	Per cent reporting that it is not possible to start union, though needed	0.00	14.55	4.00	4.35	5.88
7	Per cent reporting no membership in any other organisation	64.29	71.30	73.00	37.39	60.24
	Per cent reporting membership in self-help groups	35.71	28.70	26.00	61.74	38.35
8	Per cent reporting benefits from union as bargain for wage increase, fighting for improving working conditions, approaching government for benefits from schemes and talking to management in case of problems like injury etc.	86.00	0.00	0.00	0.00	20.24

Table A7.2: Dynamics of Wage Increase and Related Issues for All Workers

Sl. no	Item	Cashew processing	Mango jelly making	Fish processing	Pickles making	Total
1	Per cent reporting wage increase in this year	1.00	54.55	2.00	64.35	32.24
2	Per cent reporting wage increase last year	30.00	36.36	7.00	31.30	26.59
3	Per cent reporting no wage increase in the last few years	0.00	0.00	87.00	0.00	20.47
4	Per cent reporting wage increase three years back	69.00	1.82	2.00	4.35	18.35
5	Per cent reporting that they have no idea of their next wage increase	3.00	81.82	96.00	69.57	63.29
6	Per cent reporting that their wage will increase next year	87.00	14.55	1.00	24.35	31.06
7	Per cent reporting that owners take a decision on wage increase	4.00	67.27	44.00	73.04	48.47
8	Per cent reporting that their union demands for wage increase	96.00	0.00	0.00	0.00	22.82
9	Per cent reporting that workers informally ask the owners for increase in wages	0.00	31.82	19.00	26.96	20.00

Table A8.1: Formal Social Security Benefits for Workers in Factory and Non-factory Sectors of Food Processing

Sl. no	Item	Factory sector	Non-factory sector	Total
1	Per cent receiving old age pension	7.50	3.11	5.18
2	Per cent receiving widow pension	7.50	3.11	5.18
3	Per cent receiving family survival benefit	0.50	0.44	0.47
4	Per cent receiving maternal benefit scheme	9.00	9.78	9.41
5	Per cent receiving P.H pension	2.00	0.44	1.18
6	Per cent receiving EUS	0.0	0.00	0.00
7	Per cent receiving girl child protection scheme	0.50	0.89	0.71
8	Financial assistance at the time of death of any of the family member during last 3 years	0.00	0.00	0.00

Table A8.2: Benefits from Poverty Alleviation Programmes to Workers in Food Processing Activities

Sl. no	Item	Factory sector	Non-factory sector	Total
1	SHGs under IKP	34.50	34.22	34.35
2	Free text books	23.00	40.00	32.00
3	Mid-day meal scheme	19.00	28.44	24.00
4	ICDS	14.50	21.78	18.35
5	Scholarships	3.00	10.22	6.82
6	Free uniforms	0.50	9.33	5.18
7	SGRY	8.00	0.00	3.76
8	Per cent reporting to be getting income presently from SHGs under IKP scheme	18.50	27.11	23.06
9	Per cent reporting to have white ration card	96.5	98.7	97.6

Table A8.3: Expectations of All Workers in Factory and Non-factory Sectors of Food Processing from Employers and State

Sl. no	Item	Factory sector	Non-factory sector	Total
1	**Expectations from employer: Per cent asking for**			
	a. Increase wages every year	67.50	83.56	76.00
	b. Increase in work days and all round the year	55.00	54.22	54.58
	c. Provide bonus to workers	28.50	0.00	13.41
	d. Provide all facilities at the workplace	17.00	3.56	9.88
	e. Pay P.F and ESI to all workers	17.50	0.00	8.24
	f. Provide advances	4.50	11.11	8.00
	g. Reduce working hours or pay overtime allowance	3.00	12.44	8.00
	h. Management should be responsible for treatment to injuries	17.00	0.00	8.00
	i. Management should bear medical and travel expenses	17.00	1.33	8.71
2	**Expectations from government: Per cent asking for**			
	a. Provision of financial assistance for petty business	11.50	73.78	44.47
	b. Provision of house sites and construction of houses	46.00	25.33	35.06
	c. Taking action on managements to create more days of employment	22.50	11.56	16.71
	d. Provision of loan facilities without guarantees	33.50	7.56	19.76
	e. Provision of education, health, hygiene and power	29.50	3.11	15.53
	f. Provision of old age, widow, P.H pensions to all the eligible	21.50	4.00	12.24
	g. Provision of employment security	15.50	5.33	10.12
	h. Provision of marketing opportunities including exporting avenues	0.50	13.78	7.53
	i. making laws for payment of overtime allowance	3.00	9.78	6.59

Value Addition: The value addition in the manufacture of food products and beverages is a very low 16 per cent in the triennium ending 2003-04 compared to a value addition of 23 per cent in all the organized manufacturing industries in the country and the growth in value addition is also very slow (Table A2.7). Here value addition is defined as the ratio of value of output over value of inputs and the value of inputs. It increased by a meager 30 per cent since the triennium ending 1983-84 and 8 per cent over the triennium ending 1993-94. It would have been much lower, if not for the beverages. If we include tobacco industries to this, the value addition increases to 18 per cent. This is very low compared to as much as 23 per cent in China, 45 per cent in the Philippines and 188 per cent in the UK. The value addition is found to be high in dairy products (61 per cent), cocoa, chocolate and sugar confectionery (46 per cent), soft drinks and mineral waters (40 per cent), wines (37 per cent), fruits and vegetables (33 per cent), distilling, rectifying and blending of spirits, ethyl alcohol production from fermented materials (27 per cent) and sugar (23 per cent) in the triennium ending 2003-04. The value additions in major activities in the food processing sector of the country like vegetable and animal oils and fats, grain mill products are only 5 and 7 per cent respectively. However, the good news is that the value addition is increasing in activities like processing and preserving of fruits and vegetables, dairy products, cocoa, chocolate and confectionery etc.

The value addition has to increase substantially in the country, if the expectations from this sunrise industry are to be fulfilled. The country is now witnessing increase in the ready-to-eat segment in various food items. If this trend gathers momentum, the value addition may go up and the gross value added in the sector will increase. The secondary and tertiary processing should be undertaken in the place of presently undertaken primary processing.

Table A9.1: Value Addition in Organized Food Processing Sector

Sub-sector	TE 1983-84	TE 1993-94	TE 2003-04
1511: Production, processing& preservation of meat and meat products	17.1	16.6	14.97
1512: Processing and preserving of fish and fish products.	8.75	15.3	8.881
1513: Processing and preserving of fruit and vegetables	18.8	37.8	33.12
1514: Manufacture of vegetable and animal oils and fats	7.19	7.28	5.411
151 Meat, fish, fruits, vegetables and oils	7.64	8.54	6.322
1520 Manufacture of dairy products	NC	8.17	60.64
152 Dairy products	NC	8.17	60.64
1531: Manufacture of grain mill products.	8.27	7.59	6.551
1532: Manufacture of starches and starch products.	NC	NC	16.66
1533: Manufacture of prepared animal feeds.	14.2	11.2	11.01
153 Grain mill products	5.84	5.49	7.369
1541: Manufacture of bakery products.	21.4	22.4	19.52
1542: Manufacture of sugar.	23.6	24.3	22.87
1543: Manufacture of cocoa, chocolate and sugar confectionary.	22	38.4	45.76
1544+1549: Manufacture of macaroni, noodles, conscious and similar farinaceous products. Manufacture of other food products n.e.c.	26	29.2	20.41
154 Other food products	24.2	25.8	22.59
1551: Distilling, rectifying and blending of spirits, ethyl alcohol production from fermented materials.	35.4	33	27.4
1552: Manufacture of wines.	24.5	37.3	36.95
1553: Manufacture of malt liquors and malt	30.9	37.5	27.74
1554: Manufacture of soft drinks, production of mineral waters.	36.9	41.5	39.61
155 Beverages	33.8	36.1	33.18
15 Food products and beverages	12.4	14.9	16.08
15+16 Food products, beverages and tobacco industries	14.4	16.6	17.92
16 Tobacco industries	35.2	41.3	70.67
All Industries	30.5	30.6	23.59

Note: N.C – Not calculated

Table A9.2: Distribution of World Value Added in Food and Beverages in Selected Years (Per cent) a/

Branch (ISIC)	Year	Industrialized countries							Developed countries				
				Western Europe									
		All countries	Eastern Europe and former USSR	EU b/	Others	Japan	North America	Others	All countries	NICs	Second generation NICs	Others	World
FP & BV													
(311/2/3)	1985	83.6	15.4	28.6	1.3	13.9	22.0	2.4	16.4	8.3	2.7	5.4	100.0
	1990	82.6	13.3	30.2	1.3	13.6	21.8	2.4	17.4	8.9	3.3	5.2	100.0
	1995	74.8	7.1	33.7	1.4	20.2	18.7	3.0	25.2	9.8	5.6	9.8	100.0
	2000	71.4	7.1	33.9	1.3	17.3	17.8	3.1	28.6	10.5	5.6	12.5	100.0
	2005	69.3			1.3	15.4	18.3	3.1	30.7	10.7	5.4	14.6	100
Tobacco													
(314)	1985	70.7	6.0	34	1.1	3.0	26.0	0.6	29.3	12.7	7.2	9.4	100.0
	1990	70.4	4.8	34.6	1.1	2.9	26.4	0.6	29.6	13.0	8.0	8.6	100.0
	1995	48.0	3.0	32.8	5.5	6.8	16.3	1.6	52.0	10.1	11.5	30.4	100.0
	2000	40.5	2.8	33.2	6.0	5.6	11.4	1.6	59.5	9.8	10.6	39.1	100.0
	2005	32.8			5.7	5.1	8.9	1.6	67.2	8.4	9.4	49.4	100.0

a/ : At constant 1990 prices. China, but not the Hong Kong SAR and Taiwan Province, is excluded
b/ : After 1990 including estimates for the eastern part of Germany
Source: UNIDO (2005)