7 CONCLUSIONS AND RECOMMENDATIONS

Food processing is a sunrise industry of the Indian economy and has been identified as thrust area for development. Food processing sector covers a wide range of items like fruits and vegetables; meat and poultry; milk and milk products, alcoholic beverages, fisheries, plantation, grains, confectionery, chocolates and cocoa products, mineral water, high protein foods etc. Based on the basic raw material usage, the food industry can broadly be classified into plant based and animal based. Meat industry is one of the important segments of food processing industry in general and livestock/animal based industry in particular. India has immense potential for production and export of meat due to sufficient resources, available markets and huge livestock population.

Over the last two decades the value of meat output has been increasing at a rate of about 6 percent a year. Rising demand for meat has been the driving force behind it. Between 1980 and 2000, while per capita consumption of foodgrains increased by 4 percent, consumption of milk and meat increased by 50 percent and 25 percent respectively. In quantitiy terms, per capita milk consumption increased from 40 kg in 1980 to 66 kg in 2000, and meat consumption increased from 4 kg to 5 kg during this period. Most of the meat output (96%) is consumed domestically, yet per capita meat consumption in India is much less as compared to developed (77 kg) and developing (27 kg) countries.
The demand for meat is expected to grow faster with sustained economic growth, rising per capita incomes, strengthening urbanization trends and increasing awareness of the nutritive value of meat and meat products. By 2020 demand for milk is estimated at 143 million tonnes and that of meat and eggs at 8 million tonnes (Kumar, 1998). These opportunities can be capitalised for the benefit of producers as well as consumers and would largely be determined by the pace of development and diffusion of the technologies in processing of livestock based products (Mishra, 1995).

The increase in demand has been accompanied by increase in production. Total meat production increased from 2.7 million tonnes in 1980 to 4.7 million tonnes in 2000 with annual growth of 3.41 percent. The growth in meat production has largely number driven as yield growth is negligible in case of almost all the species. Cattle, buffalo, goat, sheep, pig and poultry are important meat species. While goat, sheep, pig and poultry are exclusive meat animals, cattle and buffalo provide meat as an adjunct to milk. Animal slaughtered are of poor quality. The structure of meat production however is undergoing a gradual shift from ruminant to non-ruminant (pig and poultry) meat production. The share of non-ruminant increased from 15 percent in 1980 to 23 percent in 1999.

Meat and meat products comprise more than 90 percent of the livestock export earnings. Buffalo and sheep meats constitute the bulk of the meat exports. There is a rising demand for buffalo meat in the East Asian countries, and India has a sufficient potential to produce buffalo meat. Similarly, there is a prospective export market for goat and sheep meat in the Middle East countries. Buffalo meat export is internationally competitive and India has more than half of the world buffalo population. This indicates substantial export potential. Nevertheless a considerable production potential is wasted due to slaughtering males at a very young age. To
harness this potential the industry should strengthen backward linkages with the producers by offering them an assured market for male buffaloes.

Although most of the developing countries including India have never been major players in the world meat trade, trade liberalization is opening up opportunities for export of meat and meat products. Since the beginning of the process of trade liberalization in early 1990s, the share of developing countries in global meat exports increased from 14 percent in 1992 to 16 percent in 2000. The growth in meat exports from developing countries was double the rate of developed countries. India’s share in world meat export increased from 0.24 percent to 0.54 percent during this period.

The growth of meat industry is constrained by a number of socio-cultural and economic factors at different levels of production, processing, handling and marketing. Exports are constrained by protectionist policies and sanitary and phyto-sanitary standards. Meat yields of most of the animals are abysmally low. Average meat yield of cattle, buffalo, sheep, goat and pig is around the world average. Traditional slaughter practices are still in vogue. Slaughterhouses are old, unhygienic and lack basic facilities like water, light, ventilation, drainage, waste disposal and effluent treatment. These contribute to poor meat quality and low recovery of various by-products such as hide, blood, bonemeal, internal organs and trimmings.

In order to harness the emerging opportunities in domestic as well as export markets the Government of India has taken various initiatives to improve the efficiency of meat industry and export competitiveness. Some of these include financial assistance for the modernization of slaughterhouses in meat industry, creation of export processing zones, strengthening of vertical linkages, improvements in sanitary and phyto-sanitary standards etc. As a result, a number of
modern export oriented meat processing units are established to augment available domestic and export market potentials.

Although the level of meat processing is extremely low, it has been increasing. The growth in processed meat segment has been drastic during 1990s (12.8%) as compared to 1980s (3.3%). But most of this occurred due to input growth. The contribution of technology was negligible during 1980s as well as 1990s. On an average TFP grew at a rate of 1.01 percent during 1980-81 to 1999-2000. The average technical efficiency score is estimated at 0.59 under CRS model and 0.93 under VRS model. The efficiency indices value equal to unity which imply that the industry is on frontier while values below unity imply that the industry is below the frontier or technically inefficient.

The efficiency score based on VRS model indicate that performance scores are equal to one during more number of years than the CRS model. Thus the industry was technically efficient under variable returns to scale during most of the years. On the other hand, average scale efficiency for the entire period is 0.64. There was considerable under-utilization of input resources during 1980s. Nevertheless, over time resource utilization has improved perhaps due to rising trends in the exports. This had significant positive impact on labour absorption as well as labour productivity. While the capital investment in industry improved, capital productivity has remained stagnant.

A glimpse of the salient findings is given below:

- Meat production in the country has been increasing but the growth is largely number driven casting doubts on its sustainability. The industry can play an important role in improving meat yields by investing in R&D. Proper steps should be taken to produce quality animal for the purpose of meat production. The facilities of veterinary treatment should be
enhanced at village level. Animal health and nutrition should be given priority to make the meat animals disease-free and to increase their weight.

- Buffalo meat export is internationally competitive and India has more than half of the world buffalo population. This indicates substantial export potential. Nevertheless, a considerable production potential is wasted due to slaughtering males at a very young age. To harness this potential the industry should strengthen backward linkages with the producers offering them an assured market for male buffaloes. It may be done either by developing their own cattle stock/yard or through contract or cooperative rearing to meet the increasing demand of raw material on one hand and to check the uncertainty in the supply of animal which causes under utilization of plant capacity.

- Poultry meat production has increased tremendously but without any commensurate increase in exports because of lack of price competitiveness. Also there is an imminent threat of dumping/cheap imports of poultry legs from the USA, which is preferred by the Indian consumers. These imply bringing down cost of poultry meat production through reducing feed prices and improving feed efficiency.

- Indian meat industry is likely to come under significant adjustment pressure from trade liberalization that demands stringent food safety measures. This would require considerable investment in processing infrastructure and technological improvements.

- The increase in meat output is basically due to increase in input use. In order to improve the industry’s productivity and efficiency, there is a need for investment in technological know-how. This would help to improve capacity utilization and expansion.
At present the effects of expansion of meat industry on labour employment and productivity appears to be favourable. Nevertheless the industry is becoming more capital intensive. Thus while introducing meat processing technologies it should be kept in mind that the technological change should have minimum adverse effect on employment.

To conclude, India has great potential for production and export of meat and meat products. Meat yields are low and a technological breakthrough for quality meat production is seriously lacking. As the potential off-take for small ruminant is nearly fully utilized, we should utilize the potential of large ruminant, whose slaughter rate has been low. Since buffalo is not subject to a slaughter ban, its potential should be utilized as buffalo meat also has enough price competitiveness for export. This has to take place through policy intervention and public awareness.