Waste Management in Food Processing Industry

(Recovery of Food Waste, Recovery of Fruit and Vegetable Wastes, Recovery of Protein, Fat Extraction, Silage Production, Uses of Enzymes, Treatment of Diary Wastes, Treatment of Wheat Starch Effluent, Production of Earthworm Proteins, Utilization of Waste in Animal Feeds)
The Food Industry is a complex, global collective of diverse businesses that supplies most of the food consumed by the world population. Only subsistence farmers, those who survive on what they grow, and hunter-gatherers can be considered outside of the scope of the modern food industry.

Food industry produces large volumes of wastes, both solids and liquid, resulting from the production, preparation and consumption of food. These wastes pose increasing disposal and can pose severe pollution problems and represent a loss of valuable biomass and nutrients.
Many standard industrial waste treatment texts sufficiently address a few major technologies for conventional in plant environmental control strategies in the food industry. Environmental legislation has significantly contributed to the introduction of sustainable waste management practices worldwide. Considering the challenges in the area of food industry, efforts are to be made to optimize processing technologies to minimize the amount of waste. Food processing wastes have a potential for conversion into useful products of higher value as by product, or even as raw material for other industries, or for use as food or feed after biological treatment.
There are many examples of utilizing waste materials from plant material processed by canneries, there are many other types of waste that can be utilized. In many canneries, the organic from the processing system is combined with the other types of non-usable wastes, such as hardware, glass, cans, nails etc. Food industry should also have to concentrate on waste avoidance as well as utilization of process wastes. All the combined efforts of waste minimization during the production process, environmentally friendly preservation of the product, and utilization of by products would substantially reduce the amount of waste, as well as boost the environmental aspect of food processing industry.
Market Outlook

The food processing industry is one of the largest industries in India and ranks fifth in terms of production, consumption and exports. As per the latest data available, food processing sector is expected to reach US$ 258 billion in FY15.

In FY16*, food processing industry constituted 14 per cent to India’s GDP through manufacturing.
Food Processing Industry’s Contribution to India’s GDP through Manufacturing

- Food Processing: 86.0%
- Others: 14.0%

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During FY11–16, India's exports of processed food and related products (inclusive of animal products) grew at a CAGR of 11.74 per cent, reaching US$ 16.2 billion. In FY17* India’s exports stood at US$ 1.3 billion.
Export in US$ Billion

CAGR: 11.74%

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<thead>
<tr>
<th>Year</th>
<th>Export (US$ Billion)</th>
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<tbody>
<tr>
<td>FY11</td>
<td>9.3</td>
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<td>FY12</td>
<td>17.3</td>
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<td>FY16</td>
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<td>FY17*</td>
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The Indian food retail market is expected to reach Rs. 61 lakh crore (US$ 915 billion) by 2020.

The Indian food processing industry accounts for 32 per cent of the country’s total food market, one of the largest industries in India and is ranked fifth in terms of production, consumption, export and expected growth.
1. Utilization of Food Industry Wastes

2. Ultrafiltration in the Recovery of Food Waste

3. Recovery of Fruit and Vegetable Wastes

4. Recovery of Protein
5. THE SCREENING OF VEGETABLE WASTES

6. FAT EXTRACTION

7. TREATMENT OF FATTY EFFLUENTS

8. RECOVERY AND UTILIZATION OF PROTEIN

9. CONVERSION OF BONE TO EDIBLE PRODUCTS
10. UTILIZATION OF WASTE IN ANIMAL FEEDS

11. PRODUCTION OF EARTHWORM PROTEINS

12. PECTATE GELLING AGENTS IN FOODS

13. ANAEROBIC TREATMENT OF FOOD PROCESSING WASTES AND AGRICULTURAL EFFLUENTS
14. UNDERUTILIZED PROTEINS FOR BEVERAGES

15. COFFEE AND TEA WASTES

16. AEROBIC PROCESS FOR THE TREATMENT OF A WHEAT STARCH EFFLUENT

17. TEXTURIZATION OF RECOVERED PROTEINS
18. BY-PRODUCTS FROM MALTING, BREWING AND DISTILLING

19. USE OF MICROBIOLOGICAL AGENTS IN UPGRADING WASTE FOR FEED AND FOOD

20. THE USES OF ENZYMES

21. THE TREATMENT OF DIARY WASTES
22. Silage Production

23. The Mechanical Recovery of Meat

24. Recovery From Effluents

25. Utilization of Food Waste in Pet-Food Industry

26. Canning and Food Processing Wastes as Feedstuffs and Fertilizer
Niir Project Consultancy Services (NPCS) can provide Process Technology Book on

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- We adopt a systematic approach to provide the strong fundamental support needed for the effective delivery of services to our Clients’ in India & abroad.

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