



Food and Beverage

Medium Risk Sector



Manufacturing, processing and preservation of food, beverages and animal feeds.

For preliminary production processes refer to the related sectors.

Related Sectors:

- Livestock Farming
- Crops and Gardening
- Fishing and Hunting
- Water Supply



Production Processes

The value chain in the food and beverages industries usually begins with the outputs of the agricultural and fisheries sector and proceeds to deliver products for wholesale and further processing or immediate consumption. This involves the production, processing and preservation of meat, fish, fruit, vegetables, oils and fats, the manufacture of dairy products and the milling of grain, as well as the manufacture of alcoholic and non-alcoholic beverages. In the food and beverages sector, the value chain consists of businesses of all sizes on both the production and distribution sides.

The **food industry** employs an innumerable range of processes, which are part of one of the following links in the value chain: Firstly, there is a facility where the raw material is delivered and **stored** before further processing. Typical **food processing** steps involve the butchering of animals, dressing of fish, extraction of plant products, heat or chemical treatment, milling and malting, fermentation of dairy products, crystallization, refining and other methods. Finally, the products are **preserved**, for example by sterilizing or pasteurizing, refrigerating or freezing, smoking, pickling, salting, drying or by using additives. The end product is then **packaged** and prepared for sale or further processing.

The **beverage industry** can be categorized roughly into the manufacture of alcoholic and non-alcoholic beverages. Beer is made of malted barley or other cereals, hops, yeast and water. Wine and cider are made of crushed and stemmed grapes or apples respectively. The steps involved in making beer or wine/cider are very different, although both use the process of fermentation. In the beer industry it is fermentation by yeast, and in the wine and cider industry it is alcoholic fermentation. Several ingredients, primarily fruit juices and sugar, as well as colorants and other substances, are mixed to make soft drinks or mineral waters. Depending on the product, the liquids are sometimes carbonated before bottling takes place. To produce tea, coffee and cocoa, the raw products undergo fermentation, roasting and other treatments. The actual beverage is then produced by the consumer.

Sustainability Issues

L	Energy
H	Water Use
M	Emissions to Water
L	Waste
M	Emissions to Air
M	Ecosystems
L	Workplace Health & Safety
L	Disaster Risk
L	Site Contamination

Sector Rating

- H High risk issue
- M Medium risk issue
- L Low risk issue

Risks & Opportunities

- **Beverage production requires large amounts of fresh water, which is also used for cleaning activities, cooling and heating.**

A reliable and sustainable supply of fresh water is essential for ensuring continuity of production. Fresh water of high quality could be required in order to meet quality standards for products. There may be potential for optimizing the efficiency of water use, for preventing shortages and for addressing conflicts with other users of the same water resources.

- **Effluents from the food industry may contain significant quantities of organic material or highly toxic substances.**

High levels of nutrients and microbes can result in water pollution. Washing fruit or vegetables can contaminate water with pesticides, while the cleaning of production plants may lead to the pollution of water with biocides and detergents.

- **Food processing may also emit unpleasant odors.**

The processing of meat is usually related to unpleasant odors which may be a nuisance for people living in the vicinity.