



## FOOD WASTE REDUCTION THROUGH PRESERVATION TECHNIQUES

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### **Abstract:**

The percentage of food waste is increases day by day. Food wastage is nothing but uneaten food and this food is wasted by people. Food waste or food loss is food that is discarded or cannot be used. The causes of food waste or losses are numerous, and occur at the stages of production, processing, retailing, transport, and consumption. India produces around 250 million tonnes of food grain in a year, but its annual consumption remains far lower at 220 million to 225 million tonnes. There are strategies which should be implemented at household as well as large scale to avoid this food loss and food waste. Food storage, food preservation and food processing are the best methods to save extra food by proper scientific way so that the food can be utilized in a period of emergency. These small steps can save food loss and food waste in a large extent.

**Keywords:** *food waste, food loss, food preservation*

### **Introduction:**

Food is the basic need of human life. A human or any living thing can live without any luxioury of life but they cannot survive without food. Food is the any substance consumed to provide nutritional support for the body. It is usually of plant or animal origin, and contains essential nutrients, such as fats, proteins, vitamins, or minerals. The substance is ingested by an organism and assimilated by the organism's cells to provide energy, maintain life, or stimulate growth. But, quantity of food waste is increasing day by day. This food is wasted by people. Food wastage is nothing but uneaten food and food preparation wastes from residences, family functions, and shops such as grocery stores, restaurants, and production houses, institutional cafeterias and kitchens.

The word “waste”, it gives us whole picture about something wrong. So, talking about food wastage is the highly important topic or issue for the future of mankind. After, water food is a precious property of human being and without this it is difficult to imagine the progress of our future





generations (<http://www.speakingtree.in/spiritual-forums/god-and-i/anna-purn-brahma-why-food-is-god>).

Food waste or food loss is food that is discarded or cannot be used. The causes of food waste or losses are numerous, and occur at the stages of production, processing, retailing, transport, and consumption (<http://en.wikipedia.org/wiki/Food>).

More than half of households say they throw away food because they've cooked too much. India produces around 250 million tonnes of food grain in a year, but its annual consumption remains far lower at 220 million to 225 million tonnes. The country has failed to take advantage of the higher production levels as it is reported that more than 250 million people go to bed hungry each day. Around the world, a staggering one-third of food — or about 1.3 billion tonnes each year — is wasted, a study commissioned by the U.N. Food and Agriculture Organization estimated last year.

There are some strategies which can be implemented at household level as well as large scale level to avoid the loss of food.

#### **Strategies at household level to stop food wastage**

- Make it a habit not to waste any food in your plate while you have your meal – be in breakfast, lunch or dinner.
- Cook the food keeping in mind that there is no excess.
- While cooking select vegetables, cereals and others in order of their shelf life.
- If there is any party hosted by family, plan for the extra food to be transported to a place like an orphanage / old age shelter. There is no better thing than sharing your happiness with these people as well.
- Maintain a healthy temperature in the refrigerator so that the food remains fresh for a longer time.
- Use a FIFO - first in, first out system for perishables to avoid mystery leftovers lurking in your kitchen cabinets (<http://indiacivic.com/thinkaloud/act-fact-food-wastage-india/>).

#### **Food Recycling**





Food recycling is the process of using a leftover food again rather than throwing it away. Food waste from a household kitchen, any waste from food preparations, any uneaten or leftover food and any food remaining on plates after meals can be recycled and avoid food waste.

### **Food Preservation**

Proper techniques of food preservation and storage should be implemented to save the extra production. Food wastage can also be prevented at food processing plants (<http://food.ndtv.com/cooks/9-ways-to-avoid-food-wastage-at-home-693298>).

There are some methods which are popularized for preserving food. By implementing these methods the food loss can be minimize at the household as well as on industrial levels.

### **Methods of Preserving Food**

Various actions of micro-organisms results in the loss of edibility or nutritive value of food. By canning, pickling or drying the life span of some foods can be increased. Studies have revealed that many of the chemical food additives contain harmful substances. Therefore, it is better to opt for food preservatives that occur naturally, which are free of toxins. Food preservation is a method of storing both raw and cooked food for an extended time by using food preservatives. Food packaging on the other hand, protects food and provides information regarding the packaged food. Food preservatives are substances added to food products to prevent decomposition due to adverse chemical change or microbial action. The main objective behind using food preservatives is to preserve the appearance, texture, flavor, edibility and nutritive value of the foods and also to prevent from food poisoning.

### **Methods for Preserving Food**

**Drying:** This is one of the oldest methods of food preservation. This process acts by reducing the moisture content in the food which in turn arrests bacterial growth. Drying is largely used for preserving fruits and vegetables. The additional advantage of drying is that it reduces the size and weight of the food product, therefore making it more portable. Sun drying, oven drying, and drying with the help of a dehydrator are the various ways used





to reduce the water content of food.

**Freezing:** Micro-organisms require a certain level of temperature for their survival. Freezing foods lowers the temperature to levels that make the environment unsuitable for microbial growth. This is the principle on which home refrigerators work. Cold stores are used to preserve large amounts of food stuff for a longer period of time, so that they can be used during a natural calamity or national emergency. The only drawback of this food preserving technique is its dependence on electricity.

**Canning:** In this process, the food is first processed and then sealed in airtight containers. While the micro-organisms are killed by processing the food, their entry and proliferation is restricted by canning it in an airtight environment. The various methods used to process the food before it is canned are pasteurization, boiling, freezing or vacuum treatment.

**Vacuum Treatment:** In this method food is stored in airtight containers that strips bacteria of the oxygen that helps it carry on with its metabolism. Hence, the growth of these micro-organisms is arrested and food is preserved.

**Sugaring:** Sugaring is used to preserve fruits like apples, apricots and plums in sugary syrup that dehydrates the foods. The skin of certain fruits are cooked in sugar till they crystallize and then they are stored in a dry environment.

**Salting:** Salt is a natural food preservative that draws out moisture from the food as well as from the cells of the micro-organisms that may be present in it. Lack of moisture kills these organisms and hence prevents food spoilage. Salt is commonly used as a preservative in meat products.

**Pickling:** Cucumber, beef, peppers and some vegetables may be preserved by pickling. This technique involves dipping the food in some liquid chemical that prevents the growth of micro-organisms but still maintains edibility of the food. The preserving liquids used are vinegar, brine, alcohol and some other oils. This process is known as chemical pickling. The other way of pickling is by fermentation. In fermentation pickling, the preservation agent





is produced by the food itself during the process of fermentation (<http://www.thinkeatsave.org/index.php/top-tips-on-reducing-food-waste>).

These methods of preservation increase the shelf life of food products. The over production of crops if properly stored and preserved can be utilized for the marginalized people instead of wasting in a garbage bags. The awareness of this technical knowledge in this area is needed. The proper implementation of food security programme given by the government is needed.

The whole idea about life circle about the various kinds and types of food that we eat in our daily life without which we cannot even imagine life on this beautiful planet. By taking small initiative you can make a big difference.

**References:**

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