

Management and Utilization of Food Waste

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Abstract:

Food Waste is a serious issue which has engulfed the whole of the world. The result of food wastage is that food is getting wasted and there is a food shortage across the world causing acute starvation, malnutrition and famines. Unfortunately we, human beings are responsible for this acute shortage and wastage of food. This paper deals about the academic aspect of consumer food waste by deeply studying the way of food practices and food handling. Therefore it is very necessary to have a detailed understanding of the reason behind the wastage of food within a food chain.

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Introduction

Food that was purchased but not consumed and ends up in a garbage is the most common way of food wastage. Defining food waste is not always straightforward since distinguishing between edible and nonedible parts of food is subjective. Very first definition of food waste, given by UN Food and Agriculture Organization (FAO) is “any healthy or edible substance that instead of being consumed by human is getting wasted, lost, degraded, or consumed by parasites at every stage of the food supply chain”.

A distinction between food waste and food loss was proposed by Swedish Institute for Food and Biotechnology (SIK), Food losses “take place during agricultural production, post-harvest, and processing stages in the food supply chain.” On the other side food waste occurs “at distribution, sale and final consumption:” simply the food which is not consumed by the consumer, including the non-edible parts of food is considered to be “food wastes”.

All food products, starts from the farm and progressing through processing, distribution, retail, and finally consumption and/or dumping. Unfortunately, there will always be a certain amount of waste produced in the food supply chain.

Food waste is a serious concern for governments, NGOs, institutions and the general public because of growing environmental, social and economic concerns and acute starvation. Food wasted on household level are very high. To prevent this management of food and food wastage vigilance is very important.

Management activity for food scraps:

Source reduction: Household food wastage and Food processing industries are the main areas where food management is required.

Evaluation of the reasons of how and why the food is being wasted and source of generation of food waste. This will help in knowing the impact of food waste as well as knowing the way of management of food.

Kitchen waste should be reduced (pre-consumer for the food service industry). Storage of food should be done in a way to prevent from spoilage of food, quantity should be estimated before preparing food. Also utilizing the vegetable and fruit peels which are generally discarded.

Reducing post-consumption wastage of food. Reusing the leftover in a different way.

Feed Hungry People - A 2009 U.S. Department of Agriculture Hunger Survey (Nord, et al. 2010) found that Oregon is one of the most hungry state in the nation, with more than half a million Oregonians facing “food insecurity.”

Therefore instead of throwing and wasting food leftovers, it should be fed to the needy. Food can also be donated to small kitchens and food banks so that they can reuse it.

Feed Animals – the residues of food can be used to feed livestock or processed into commercial animal or pet food. This is a way of recycling the food which was to be wasted. This is certainly a viable option for recycling food scraps and can provide economic and environmental benefits.

Industrial/ Commercial Uses – To create products and energy food residuals can also be used in certain industrial and commercial processes. A number of industrial technologies can use different properties of food waste to create new products. Some of these technologies include:

Rendering: Process in which animal food product such as meat, animal fat and oil is processed and converted into various other product such as animal fodder, cosmetics etc.

Biodiesel production facilities: Here fats, oils and grease are processed to form biodiesel which in turn can be used as an automobile fuel.

Anaerobic digestion facilities (biogas plants): In biogases plants food waste and manures are used to break down biodegradable material anaerobically to evolve methane gas and liquid and solid substrates. Thus the term “biogas plants” is given to them. Methane is burnt to generate electricity while the solid and liquid residues can be utilized as livestock bedding or compost feedstock etc.

Composting – Here, breakdown of microorganism takes place in the presence of oxygen i.e. aerobically. Composting do not aid in generating electricity, as they produce methane in few quantity. Composting can serve as an efficient method for recycling organic materials that might otherwise be disposed of in a landfill and get wasted.

Review of Literature

Saravanan, et al. (2013) to minimize potential human and environment risks it is important to improve solid waste management in order. Almost 60 percent of solid waste contains biodegradable waste which could easily converted into manure. Cheap, eco-friendly, wealth creating and sustainable option of waste management is effective microorganisms. This will help in reducing waste landfill accumulation, generation of new jobs in this area and many more related advantages.

Turon, et al. (2014) for the chemical industry, creating a smoother transition to the bio-economic era food supply chain waste supply a low cost and readily available feedstock. Integration of bio refinery concepts in traditional food industry plants for the valorization of food waste will create various innovative to industrial sectors.

Jessica, et al. (2015) future research could help in exploring the overall picture in detail, by focusing on a specific target group, situation, food category, etc., and therewith providing results with greater practical application.

Ghosh, et al. (2016) to resolve food waste problems and promote food waste utilization strategies in any country will require effective communication and cooperation between all stakeholders. In many European countries utilization and management strategies like bioenergy production and regulating landfill costs to discourage waste generation is adopted. Ecofriendly technologies has to be

developed in order to manage the waste food products and convert them into usable forms thereby reducing landfill accumulation.

Koc, (2017) one of worrisome issue for people and environment is food wastes. Through chemical, biological and thermal method Food wastes and by-products can be converting into valuable. The appropriate conversion method is selected with respect to composition of food wastes and by-products and the aim of recovery process.

Paritosh, et al. (2017) the conversion of discarded food into energy via anaerobic processes in terms of methane is economically viable. In the collection and transportation of food waste difficulties may be raised. Nevertheless, the stumpy or no cost of food waste along with the environmental aids considering the waste discarding would

Conclusion

Food wastes are one of most worried issue for both people and environment. Because of social, economic and environmental reason the management and utilization of food waste is very important. Food wastes and by-products can be converting into valuable products through thermal, chemical and biological methods. The activity like feed hungry people, commercial uses of food waste are quite important for the management of food waste. For the aim of recovery process appropriate conversion method must be selected with respect to composition of food wastes..



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