Food waste prevention through source reduction, food redistribution for human consumption and upcycling to animal feed

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Roughly one-third of all food produced to be consumed by humans, is lost or wasted, corresponding to economic costs of approximately € 890 billion per year, social costs of € 801 billion and environmental costs of € 623 billion. Although these figures are based on rough estimations of food wastage quantities, and entail a degree of data uncertainties, they still reveal, in the most prominent manner, the economic, social, and environmental dimensions of the food waste issue. In economic, social, and environmental terms, every player of the food supply chain, i.e. production, processing, transportation, wholesales, retails, consumption has a key though differentiated role. Food supply management should be grounded on sustainable use of resources, tracking down materials or recovering of energy from waste, and waste prevention strategies. This paper attempts to present the policies, strategies, and practices, such as redistribution of food surplus or the upcycling of food waste to animal feed, that are being strongly suggested or have been piloted worldwide, to address the food wastage issue. The ultimate aim is to point out the need for the development of a holistic and cross disciplinary approach, which will involve the adoption of a sustainable production and consumption aspect, and the integration of the circular economy concept throughout the food supply chain.

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