

Identification and Assessment of Food Waste Prevention Practices Throughout The Food Supply Chain

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Abstract Food waste generation is an issue that poses grave environmental, social and economic repercussions for the entire European Union (EU). According to the findings of the UNEP Food Waste Index Report (2020), approximately 931 million tonnes of food waste were generated in 2019. To tackle this issue, last decade, hundreds of different actions, practices, and innovations have been designed and employed, posing various levels of efficiency and transferability. This paper identifies and classifies a total of 170 food waste prevention actions.

Keywords: food waste; prevention; best practices

1. Introduction

This study aims at the development of comprehensive, consensus-based, multi-stakeholder guidance for food waste prevention actions. More specifically, it is anticipated to comprise a pivotal tool for decision makers, as it offers an overview of the current food waste prevention practices, initiatives and programmes, and facilitates the selection of those that suit best to each stage of the food supply chain, within the current socio-economic and environmental context of Mediterranean countries.

2. Methodology

For the achievement of the aforementioned goals, a thorough review was carried out, in order to investigate and record all available food waste prevention programs and initiatives at National, EU and International level. The review was achieved through evaluation of existing data and programs, using suitable tools for meta-data analysis, including interviews and questionnaires.

The review study is based on programs derived from various stakeholders, i.e. food industry, retailers and food manufacturers, non-profit organizations, academia, restaurants and food service providers, local and regional governments, and National Authorities.

In addition, qualitative and quantitative data regarding the type of initiative, the framework of implementation, its effectiveness, and prevented food waste quantities (when available) are collected through five (one per category) questionnaires.

3. Results

A total of 170 food waste prevention actions were identified and classified according to the 5 categories of Caldeira *et al.* (2019): food redistribution, food utilization, improvement of food supply chain, change in consumer behaviour, and development of governance tools (Table 1). In addition, data regarding the type of initiative, the framework of implementation, its effectiveness, and prevented quantities (when available) are collected through a questionnaire.

Table 1: Number of cases per category of food waste prevention practices

Category	Nr of identified initiatives, actions, programmes
Food redistribution	58
Food utilization	9
Improvement of food supply chain	42
Change in consumer behaviour	68
Development of governance tools	26

The food waste prevention actions are assessed based on certain performance indicators and their long-term

effectiveness. The transferability of these programs and initiatives is also assessed.

The best Greek local programs are assessed for their transferability at the national level whereas, the best

international programs will be assessed for their transferability to Greece.

References

Caldeira, C., De Laurentiis, V., Sala, S., Assessment of food waste prevention actions: development of an evaluation framework to assess the performance of food waste prevention actions, EUR 29901 EN; Luxembourg (Luxembourg): Publications Office of the European Union; 2019, ISBN 978-92-76-12388-0, doi:10.2760/9773, JRC118276

United Nations Environment Programme (2021). Food Waste Index Report 2021. Nairobi.