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Editorial

Special Issue "Sustainable Food Production and Consumption"

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1. Editorial on Special Issue

This Special Issue (SI) "Sustainable Food Production and Consumption" intends to be the union of multidisciplinary areas of knowledge, under the sustainability pillar, based on knowledge about one of the most relevant agents for overall environmental impacts: food production and consumption.

The SI aims to highlight sustainability assessment within agri-food production, food consumption, and food waste reduction to meet the needs of updating knowledge and developing new skills required by multiple social and economic agents. The purpose is to shine a light on the significance of research and practical initiatives engaged in the United Nations Agenda 2030 for Sustainable Development, specifically in protecting the planet by promoting sustainability in food production and consumption aiming at informing and influencing policy and practice globally.

The research needs to move on towards combined efforts to sustainable food systems that are translated by the articles presented below.

Reducing food loss and waste is prioritized in the UN sustainable development goals (SDG) target 12.3 to contribute to "ensure sustainable consumption and production patterns". It is expected to significantly improve global food security and mitigate greenhouse gas (GHG) emissions.

Food waste occurs in all stages of the food supply chain, namely at home and in the food service sector and has a huge impact on loss of sustainability. This special issue includes 8 out of 14 papers dedicated to different approaches of food waste in different settings.

The paper from Iva Pires et al. (contribution number 1) stated that Portuguese canteen users showed an accurate perception of their plate waste and excessive portions were identified by consumers as the main reason for plate waste.

Ronja Teschner et al. (contribution number 2) analyzed how and to what extent different state and non-state actors in Switzerland incorporate sustainability aspects in their dietary guidelines. It examines how these DGs account for different dimensions at the basis of sustainability thinking, including the classic environmental, economic, and social dimensions as well as issues of health and governance.

Margarida Liz Martins et al. (contribution number 3) reported that food waste at care institutions is a matter of great concern, that requires regular monitoring, representing 36.1% of meals served, composed of 24.1% leftovers and 12.0% plate waste. The wasted meals would be enough to feed 1486 older adults and would correspond to annual losses of approximately €107,112. High values of leftovers are related to the food service system and staff, pointing to the need for improvements during the planning and processing of meals. On the other hand, high plate waste values are associated with consumers, indicating the low adequacy of the menu in reagards to older adults' habits and preferences.

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In Norway, Kai Victor Hansen et al. (contribution number 4) referred that approximately 992.6 tons of food per year could potentially be saved with only a single change, ultimately ameliorating the unsustainable food consumption problem among residents of nursing homes.

The paper from Nouf Sahal Alharbi et al. (contribution number 5) reported that tray waste arising at the ward level of hospitals across Saudi Arabia, equated to 4831 tons of food, 3535 tons of plastic, 1414 tons of paper, and 235 tons of metal each year. As all of this waste ends up in landfills, without any form of recycling, the paper published proposes the need for a more comprehensive, political approach that unites all food system stakeholders around a shared vision of responsible consumption and sustainable development.

Another paper by Se-Hak Chun and Ariunzaya Nyam-Ochir from Mongolia (contribution number 6) showed that food quality, service quality, price, and the atmosphere of a restaurant positively influences customer satisfaction and their intention to revisit global fast-food restaurants.

Also, Taíse Portugal et al. (contribution number 7) evaluated household food waste by Portuguese families and reported a positive attitude concerning buying, consumption, and wastage, revealing a particular awareness of food waste and its social and environmental impact.

Xuezhen Guo et al. (contribution number 8) stated that findings with policy implications is that priorities for Food Loss and Waste reduction vary, dependent on prioritized sustainability criteria (e.g., GHG emissions versus protein losses).

The paper from Philipp Schepelmann et al. (contribution number 9) provided an integrated assessment of environmental and socio-economic effects arising from the final consumption of food products by European households by applying environmentally extended input–output analysis (EE-IOA). Results shows that European food consumption generates relatively less environmental pressures outside Europe (due to imports) than average European consumption. The results highlight the importance of directing specific research and policy efforts towards food consumption to support the transition to a more sustainable food system in line with the objectives of the EU Farm to Fork Strategy.

The work from Manuel Navarro Gausa et al. (contribution number 10) describes tools to engage different stakeholders, such as architects, product designers, and citizens, from a cultural point of view. The research focus and educational campaign and an open platform where prototypes, new materials, and products are developed as inspiration for change. The Creative Food Cycles (CFC) project is described to address the topic of food as a cross-cutting factor and powerful accelerator toward the co-design of sustainability in cities. Food waste and food losses are shown to be a powerful tool for raising awareness of sustainable development at the community level.

The paper from Brent Stoffle et al. (contribution number 11) describes the sustainable adaptations to the littoral, which included both marine and terrestrial components, by the people of Barbados and The Bahamas, in the Caribbean that have lived in a sustainable way for five generations. The analysis is based on interviews conducted towards the practices of sustainable food use and environmental preservation. The findings document the need for local gardens and exchanges to prepare for perturbations caused by climate change, economic withdrawal, and development intrusion.

The research from Miguel Vigil et al. (contribution number 12) presented techniques to address two major issues regarding fresh-cut vegetables washing operations: the current low water recirculation rate and the use of chlorinated compounds as sanitizing agents. The authors perform a life cycle assessment (LCA) to assess the environmental effects of these new solutions and to compare those impacts with the burden derived from the current strategy. The novel technologies show to decrease the environmental burden, mainly due to the enhanced water recirculation and the subsequent decrease in energy consumption for pumping and cooling the water stream.

At the end, Gerald C. Shurson et al. (contribution number 13) looked at food waste as a major barrier to achieving global food security and environmental sustainability. The

author identifies the potentials from repurposing food waste streams into animal feed, from pre-harvest to post-consumer stages of supply chains. The need for risk assessments is explicitly mentioned together with the development of extensive biosecurity protocols, especially for pathogenic viruses, to minimize the risk of pathogen and prion transmission. Overall, it is mentioned the need for a wide range of society agents (as governments, citizens and entrepreneurs) to build food waste collection and processing infrastructures economically and environmentally sustainable.

2. List of Contributions

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