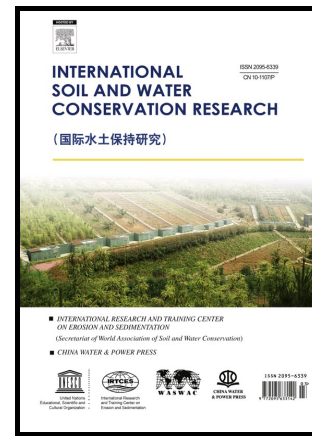


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ABSTRACT

Globally, attention has been drawn to the increasingly alarming rates of food loss and waste (FLW) along the food supply chain (FSC) and its contributions to the depletion of the natural resources and rise in greenhouse gas emissions. Within the past decade, discovery of the rippling impacts of this interrelationship has generated an increased sense of urgency in efforts amongst scholars, global leaders, government and non-government agencies to research, and formulate comprehensive plans and goals to address and reduce the rates of global FLW. Not only does FLW lessen the quantity of available food, but also, the availability of the many natural resources required to produce food. This will become an important factor when the world population increases by more than 30% by the year 2050. Although advances have been made, still 1.3 billion tons of food are wasted every year due to various underlying causes and challenges. This enormous quantity of wasted food also represents an increase in usage of natural resources. In the United States (U.S.), food and agriculture consume up to 16% of energy, almost half of the land, and account for 67% of the nation's freshwater use (NRDC, 2017). The rate of natural resource depletion is not sustainable, and it endangers the ecosystem. Multiple reports have cited the first and last stages of the FSC as the most significant contributors of FLW and environmental resource depletion. This literature review attempts to provide a comprehensive assessment of the intricacies of the FSC, the multi-variable causes of global FLW at the production and consumption stages, its environmental implications and the necessary sustainability compliant actions.

Key words: global sustainability, food loss and waste, food security, environmental impact, sustainable food future, food supply chain, natural resources

1. Introduction

Worldwide, one-third of all food produced is lost or wasted, equating to approximately 1.3 billion tons (Gustavsson et al., 2011). This is particularly concerning considering that it is predicted that by the year 2050, global food production must increase significantly to close the food gap (EPA, 2018) which will include a predicted 2 billion additional people to be fed around the world (United Nations, 2018). Knowing this, current systemic practices within the food supply chain must undergo a sharp shift from the norm. To achieve a sustainable food future, via a sustainable agricultural system, we must first understand where the greatest impacts on food loss and waste can be made by exploring where and why it occurs. With that, we can look to other models of success for potential solutions and effective practices that lead to reduced food loss/waste, conservation of our natural resources and achievement of a sustainable food future.

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