

## **Exploring Food Waste Behaviours and their associated Carbon Footprints between Students in Dormitories and Private Apartments**

Oludipe E.O, Medvedeva A. A.

Scientific supervisor – Professor Nadtochii L. A.

ITMO University

xan.medvedeva0904@yandex.ru

The work was completed within the research topic No. 625119 “Sustainable Development of Oilseed Waste into Functional Protein and Dietary Fiber Supplements”.

**Abstract:** Food waste is a serious global problem that has significant economic, social, and environmental impacts and is a major contributor to greenhouse gas emissions and climate change. A large amount of food waste also occurs at the consumer level, with particular demographic groups, such as university students, having distinct consumption and food waste behavior patterns. These patterns are usually influenced by factors such as living conditions, lifestyle, finances, and cooking [3]. Although studies have been conducted on general consumer food waste, a comparison of food waste behaviors and their direct environmental impact, namely the carbon footprint, between students in different types of accommodation, namely dormitories and private apartments, has yet to be explored. Students in dormitories share common kitchen facilities and communal catering, while students in private apartments have individual or shared cooking facilities and complete autonomy over their food purchasing and preparation. It is essential to understand these behavioral differences to develop effective strategies to reduce food waste and its carbon footprint in the student community. This research proposes to make a preliminary study of the food waste behaviors and measure the carbon footprints of students living in dormitories compared to those living in private apartments.

**Key words:** food waste, carbon footprint, student behavior, dormitories, private apartments.

Food waste is a global issue with economic, social, and environmental consequences and is a leading cause of greenhouse gas emissions and global warming [1]. University students are a substantial demographic group whose consumption behaviors and food waste are shaped by distinctive factors such as transient lifestyles, financial limitations, and differing degrees of food-related autonomy. Although previous studies have investigated overall household food waste, a significant research gap exists with respect to the distinct behavioral differences and direct environmental consequences of food waste between students living in different ways, namely students living in university dormitories, who share facilities and are provided with catering services, and students living in self-owned apartments, who enjoy full autonomy over food purchasing, storage, and preparation [3].

To address these issues, this study will use a mixed-methods to explore these differences. The first aim is to measure and compare the quantity and composition of food waste produced by students in dormitories and private apartments by actually sorting and weighing the waste over a period of two weeks. The second aim is to estimate the carbon footprint of the wasted food. The final aim is to use structured and semi-structured interviews to examine the shopping and storage behaviors of students in both settings.

The outcome of this research is expected to indicate a significant difference in the quantity and type of food waste, and therefore its carbon footprint, between students residing

in dormitories and those residing in private apartments. It is also expected that students living in private apartments may produce different kinds of waste, possibly including more fresh produce, while students in dormitories may produce more waste from prepared meals. The results will thus help to pinpoint the hotspots of behavioral waste. It is thus expected that the results of this research will promote sustainable food behavior among students.

#### **Literature:**

1. Conrad, Z., Niles, M. T., Neher, D. A., Roy, E. D., Tichenor, N. E., & Jahns, L. (2018). Relationship between food waste, diet quality, and environmental sustainability.  
<https://doi.org/10.1371/journal.pone.0195405>
2. Quested, T. E., Marsh, E., Stunell, D., & Parry, A. D. (2013). Spaghetti soup: The complex world of food waste behaviours.  
<https://doi.org/10.1016/j.resconrec.2013.04.011>
3. Secondi, L., Principato, L., & Laureti, T. (2015). Household food waste behaviour in EU-27 countries: A multilevel analysis.  
<https://doi.org/10.1016/j.foodpol.2015.07.007>