

# SUSTAINABLE MANAGEMENT OF VEGETABLE HARVEST SIDE-STREAMS: PRACTICES AND OPPORTUNITIES

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## Introduction

Republic of Kosovo, which covers an area of 10.877 km<sup>2</sup>. The elevation ranges from 265 m to 2656 m above sea level. The Kosovo climate is moderate continental, with warm summers and cold winters. In some years, the summers are very hot and dry, and the winters may be extremely cold. Waste has become a big issue in recent years due to its vast volume. Currently, waste management in Kosovo solely includes collection without separation at the source and disposal in landfills, which are nearly full and do not always adhere to separation criteria.

In the municipality of Viti, the majority of inhabitants reside in villages, where the analysis indicates that organic waste is predominantly produced from domestic kitchens and agricultural activities. Many residents regard agriculture as a secondary occupation, with a significant portion engaged in familial or larger-scale agricultural activities, particularly cultivation of vegetables in open field and greenhouse.

This study aims to assess the management practices of vegetable harvest side streams and explore their potential for sustainable utilization.

## Material and methods

The research was conducted in July 2025, involved 14 farmers in the Municipality of Viti, Republic of Kosovo. The Viti municipality is part of northeastern Kosovo. Agriculture is a primary or secondary activity for almost every family in this municipality, and the vast majority of the population lives in rural areas..

Data was collected through interviews and the recording of quantitative data. Data collection and measurements were carried out on farms that had vegetable residues available during the sampling period

The measurement carried out within a greenhouse and open field, and were taken per 1 x 1 m, The study analyzed various management practices applied by farmers and examined the potential environmental and economic benefits of alternative sustainable utilisation of vegetable side streams.

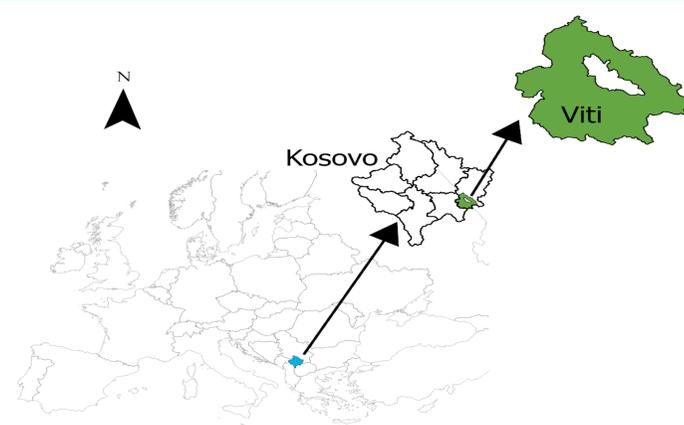
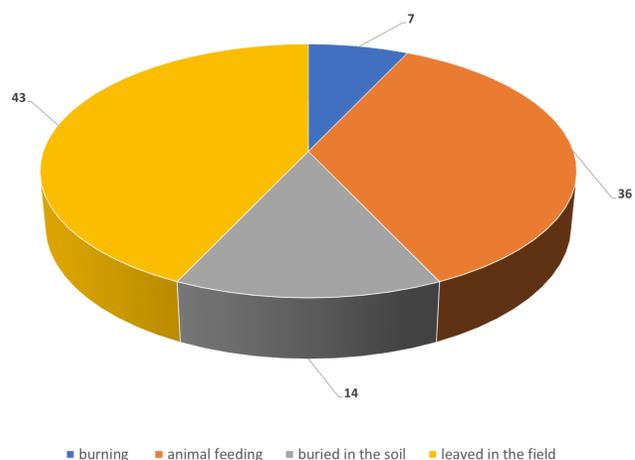


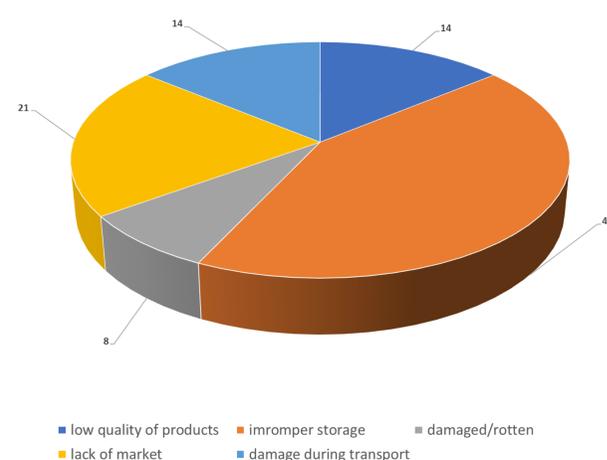
Photo.1. Viti municipality

## Results and discussion



Graph 1. Agricultural product management practices by farmers (%)

Findings revealed diverse management approaches: approximately 43% of farmers left the side streams in the field, assuming natural composting would occur, while 36% utilized them as animal feed, contributing to livestock development. Around 14% buried the side streams of vegetables in the soil, and 7% resorted to burning them. Farmers have reported that the causes of vegetable loss are rotting from improper vegetable storage (43%), a lack of market (21%), damage during transportation (14%), low-quality products (14%), and rotten/damaged vegetables in the field (8%).



Graph 2. Reason for the creation of agricultural side streams (%)

The Municipality of Viti has a considerable amount of side streams following vegetable harvesting; recycling or composting these side streams provides a usable alternative. The investigation demonstrates that all factors, including crop variety, production intensity, and vegetable management and care, have an impact on the volume of side streams. Last but not at least, the size of the field has a significant impact on the amount of side streams produced.

## Conclusion

The research underscores the importance of avoiding burning and promoting composting and other side streams management techniques as sustainable alternatives. Such practices not only reduce reliance on chemical fertilizers but also create opportunities for financial gain. In addition, this approach aligns with the principles of a green economy by facilitating the consistent treatment of side streams, ultimately benefiting both the local community and the environment.

FoodWaStop Conference

“CA22134 – Sustainable Network for agrofood loss and waste prevention, management, quantification and valorisation, February 5-6 2026, University of Zadar (Zadar, Croatia)