

Globally, in 2019, approximately 931 million tonnes of **food waste** were generated, enough to mitigate the global challenge of meeting the increased demand for food due to the growing world population, according to UNEP's [Food Waste Index](#) report. Food is grown, processed, transported, distributed, prepared, consumed, and even disposed of. Our current food systems – all activities from production to consumption and disposal of food – account for up to 37% of all greenhouse gas emissions and estimates suggest that 8-10% are associated with food that is not consumed. When food is disposed of in landfills, a considerable portion of this waste transforms into methane, a potent greenhouse gas with a global warming potential 25 times greater than that of carbon dioxide. Therefore, reducing food loss and waste would significantly contribute to climate mitigation.



nusaned is a Lebanese-based Non-Governmental Organization (NGO). Their aim is to empower and enable marginalized Lebanese communities by supporting sustainable development through a community-based approach. By offering access to food security, shelter, and continuous opportunities for creating productive economies, Nusaned works on building sustainable communities that are self-sustaining.



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UNEA'S RESOLUTIONS (4/2, 2/9) ON PREVENTING AND REDUCING FOOD WASTE

UNEP is committed to promoting sustainable practices and innovative solutions to reduce food loss and waste in accordance with the United Nations Environment Assembly (UNEA) Resolution (4/2) 'Promoting sustainable practices and innovative solutions for curbing food loss and waste'. UNEP focuses on capacity building and advocacy facilitating experience and knowledge exchange to improve the enabling conditions necessary to achieve the goal of halving food loss and waste. UNEA Resolution (2/9) on 'Prevention, Reduction and Reuse of Food Waste' emphasises the importance of collaborative efforts especially with other international organizations.

FOOD WASTE IN THE CONTEXT OF LEBANON



In Lebanon, the issue of food waste is a pressing concern, as outlined in UNEP's [State of Food Waste in West Asia](#). On average, each person in the country produces approximately 105 kg of food waste annually at the household stage, leading to a staggering total of 717,491 tonnes of food waste each year. This significant volume of food waste represents a valuable opportunity to alleviate hunger and address Lebanon's increasing food insecurity.

[Restaurants in Beirut are major contributors to food waste](#), generating a substantial 1,620 tons annually. This not only contributes to the waste problem but also results in the release of 4,110 tons of CO2 emissions. This waste constitutes 0.15% of Lebanon's total organic waste, with Lebanese restaurants producing 34 kg more organic waste daily compared to others serving international cuisines. In 2019, the amount of restaurant food waste per capita (27.65 kg/year) ranked second, following households (104.66 kg/year) and surpassing retailers (15.64 kg/year).



UNEP collaborated with the Lebanese NGO “Nusaned” to implement the pilot project Nudawwer in Beirut. Nudawwer (arabic word) refers to a circular or continuous movement in Arabic and the root of the word may also be associated with recycling. Throughout the project duration (July 2022 – December 2023), the emphasis is on drawing lessons learned from the testing phase to instil circularity, particularly the concepts of prevention and reduction, rather than just promote recycling practices within the community.

MAR MIKHAEL - GEMMAYZE NEIGHBOURHOOD

The project is implemented in the mainly residential and commercial neighbourhood of Mar Mikhael - Gemmayze. Mar Mikhael-Gemmayze are located at the eastern boundary of Beirut in the Medawar district which has a total population of 8,112.



NUDAWWER FOOD CIRCLE

The aim of the food circle is to understand the challenge of food waste in the neighbourhood and test methods to reduce and treat organic waste through addressing restaurants in the neighbourhood. The food circle focuses on involving restaurants in reducing food waste through sorting at the source, composting the unavoidable food waste, and identify options for valorising the compost.

DIFFERENT PHASES OF THE FOOD CIRCLE COMPONENT



FOOD CIRCLE GOOD PRACTICES

Nudawwer’s model is based on involving several stakeholders in the process of reducing food waste. The system is designed with an aim to be self-sufficient, local, and environmentally conscious, as all the actors both provide and receive valuable resources, be it recyclables, vouchers, compost or promotional and educational awareness campaigns. Among the good practices from the food circle exercise are:

- Conduct weekly walk-through audit
- Engage in meetings/interviews with staff and beneficiaries
- Train and inform involved stakeholders
- Implement regular **waste composition analysis**
- Leverage **meal tracking** for continuous improvement
- Ensure compost quality control

Waste Composition Analysis allows for a further analysis of the mixed waste stream to identify materials that should not reach the Municipal Solid Waste (MSW). The materials found are sorted into different categories, weighed and recorded to provide recommendations based on the findings which may contribute to identifying more efficient sorting methodologies and altering a recipe by decreasing the usage of an ingredient that gets thrown away.

Meal Tracking Analysis compares meals prepared to the waste generated during their preparation. The waste factor shows statistically how much waste was created with every meal produced.

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United Nations Environment Programme

The United Nations Environment Programme (UNEP) is the leading environmental authority in the United Nations system. UNEP uses its expertise to strengthen environmental standards and practices while helping implement environmental obligations at the country, regional and global levels. UNEP’s mission is to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations.



The SwitchMed programme is funded by the European Union (EU) and implemented by UNEP. It aims at achieving a Circular Economy in the southern Mediterranean by changing the way goods and services are produced and consumed. To achieve this, the SwitchMed provides tools and services directly to the private sector, supports an enabling policy environment, and facilitates exchange of information among partners and key stakeholders. www.switchmed.eu