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منظمة
الأغذية والزراعة
للأمم المتحدة

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FAO REGIONAL CONFERENCE FOR AFRICA

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How to fight against food loss and waste¹

Executive Summary

Significant levels of food loss and waste (FLW) occur in Africa. FLW imposes a significant burden on achieving sustainable development by causing a loss of invested economic resources and reduced income of actors across the food value chain. High levels of FLW are a symptom of poorly functioning agrifood systems leading to a loss of resources used to produce the lost or wasted food – including water, land, energy, labour and capital. In addition, the production, processing, transportation and storage of food and the disposal of food waste in landfills lead to greenhouse gas emissions, contributing to climate change. FLW also contributes to food insecurity and malnutrition.

The causes of FLW in the region are country- and location-specific, but in general they include, *inter alia*, inadequate and fragmented policies and strategies, poor infrastructure, lack of data, weak institutional frameworks, lack of access to finance, a weak private sector, lack of technology, poor linkages to markets and poor coordination among food supply chain actors, lack of awareness, weak human capacity and sociocultural norms.

In this regard, a holistic systems approach should be adopted to fill knowledge and capacity gaps, to strengthen policy, regulatory and institutional frameworks, and to incentivize and stimulate action by food supply chain actors to reduce FLW. Interventions to reduce FLW should be based on a clear understanding of the objectives to be achieved – for example, food security or reduction of environmental damage. In addition, they should be informed by evidence on the magnitude and causes of FLW and the critical points where FLW occurs across the food value chain. FLW reduction is expected to play a critical role in the transformation of agrifood systems in the region to make them MORE efficient, inclusive, resilient and sustainable.

¹ **Definitions: Food loss and waste** is defined as the decrease in food quantity or quality along the supply chain. **Food loss** is the decrease in the quantity or quality of food along the food supply chain up to, but excluding, the point where there is interaction with the final consumer and thus excludes retail, food service providers and consumers. **Food waste** is the decrease in the quantity or quality of food resulting from decisions and actions by retailers, food service providers and consumers. Food waste results from consumer purchasing decisions or decisions by retailers and food services that affect consumer behaviour.

Documents can be consulted at www.fao.org

Matters to be brought to the attention of the Regional Conference

The Regional Conference is invited to:

- a. urge Members to recognize the importance of reducing FLW to improve the efficiency, inclusiveness, resilience, and sustainability of agrifood systems, and the achievement of the Sustainable Development Goals and 2030 Agenda for Sustainable Development;
- b. call on Members to integrate FLW reduction in their national and regional policies, programmes and strategies dealing with agrifood systems, including those related to climate change;
- c. encourage Members to invest in creating an enabling environment to support private sector action and facilitate collaboration with all other actors to support FLW reduction at national and subnational levels; and
- d. request FAO to support countries in their efforts to reduce FLW, including gathering and analysing FLW data and information, developing policies and strategies, supporting investments in processing and storage technologies, awareness-raising, and capacity building.

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I. Introduction

1. In 2011, FAO made a broad estimate² suggesting that around one-third of the world's food is lost or wasted annually, corresponding to about 1.3 billion tonnes of food per year.³ This estimate is still widely quoted, although it has been superseded by more precise estimates through the development of the food loss index (Sustainable Development Goal [SDG] indicator 12.3.1.a) under FAO's custodianship and of the food waste index (SDG indicator 12.3.1.b) under the United Nations Environment Programme (UNEP)'s custodianship. The first estimates for the food loss index were published in 2019, indicating that approximately 14 percent of the world's food, valued at USD 400 billion, is lost on an annual basis between harvest and retail markets.⁴ In addition, an estimated 17 percent of food is wasted at the retail and consumer levels, according to data from UNEP.⁵

2. The causes of FLW range from direct causes that generate it at specific stages of the food supply chain, secondary causes across various steps of the chain and systemic causes across the entire food system.⁶ Important causes of on-farm losses include inadequate harvesting time, climatic conditions, practices applied at harvest and handling and challenges in marketing produce. Significant losses through the supply chain are caused by inadequate storage, handling, packaging and transportation conditions, and decisions made at earlier stages of the supply chain, which predispose products to a shorter shelf life.⁷

3. FLW imposes a significant burden on achieving sustainable development, by causing a loss of invested economic resources and reduced income of actors across the food value chain. In addition, considering that agriculture occupies 40 percent of land, uses 70 percent of global freshwater and generates over 25 percent of global greenhouse gas (GHG) emissions,^{8, 9, 10} FLW produces unjustified and unnecessary GHG emissions and leads to inefficient use of energy, human labour, water and other environmental resources.

4. The vision of food as a systemic issue lies at the heart of the United Nations (UN) SDG 2 of Zero Hunger. The SDGs¹¹ call for major transformations, notably in agriculture and food systems, to end hunger, achieve food security and improve nutrition by 2030. FLW reduction is enshrined in SDG 12 (Responsible Consumption and Production), which includes a specific target, i.e. target 12.3 which calls for halving per capita global food waste at retail and consumer levels and reducing food loss along production and supply chains, including post-harvest loss by 2030.

5. The African Union's *Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods* set the ambitious Commitment 3 – to halve the current levels of post-harvest losses by the year 2025, from 2015 benchmark.

6. Since 2020, the UN General Assembly designated 29 September as the “International Day of Awareness of Food Loss and Waste”, to raise awareness about the problem. The UN Food Systems

² FAO. 2011. *Global food losses and food waste – extent, causes and prevention*. Rome: UN FAO. Available at <https://www.fao.org/3/i2697e/i2697e.pdf>

³ FAO. 2019. *The State of Food and Agriculture 2019 – Moving forward on food loss and waste reduction*.

⁴ FAO. 2019. *Idem*.

⁵ UNEP. 2021. *Food Waste Index Report 2021*.

⁶ FAO. 2022. *Voluntary Code of Conduct for Food Loss and Waste Reduction*. Rome, FAO. <https://doi.org/10.4060/cb9433en>

⁷ FAO. 2019. *Idem*

⁸ FAO, 2019. *The State of Food and Agriculture 2019 – Moving forward on Food Loss and Waste Reduction*. Rome, FAO. Available at <https://www.fao.org/3/ca6030en/ca6030en.pdf>

⁹. Sustainable Food and Agriculture. Land use in agriculture by the numbers. Available at <https://www.fao.org/sustainability/news/detail/en/c/1274219/>.

¹⁰ T. Searchinger, R. Waite, P. Dumas. 2019. *Creating a sustainable Food Future. A Menu of Solutions to Feed Nearly 10 Billion People by 2050*. World Resources Report. Available at <https://www.wri.org/research/creating-sustainable-food-future>.

¹¹ Transforming our world: the 2030 Agenda for Sustainable Development (UN General Assembly Resolution A/RES/70/1)

Summit, in 2021, further raised the profile of FLW reduction as an effective means for agrifood systems transformation and progress on multiple SDGs. Many African countries have internalized FLW in their national pathways that emerged from the Summit.¹²

7. As the specialized UN agency for food and agriculture, FAO is committed to address the FLW challenge through a sustainable agrifood systems approach. Through this approach, FAO promotes agrifood systems that deliver food security and nutrition for all, while safeguarding the economic, social and environmental aspects for future generations. This entails ensuring profitability and economic viability (economic sustainability), equitable distribution of benefits within the society (social sustainability) and a positive or neutral impact on the natural environment (environmental sustainability).

8. FLW reduction is identified as one of the 20 FAO Programme Priority Areas (PPAs) within the FAO Strategic Framework 2022-31 and it aligns to the aspiration of Better Nutrition (BN). The FAO Regional Office for Africa (FAO RAF) places FLW under its Regional Priority 2 *Efficient and equitable food and nutrition systems*. The PPA BN4 “Reducing food loss and waste” is seen as contributing primarily to SDG targets 2.1, 2.2 and 12.3. Improvements to agrifood systems that reduce FLW can contribute to many other SDGs namely, SDG 1, SDG 6, SDG 8, SDG 11, SDG 12, SDG 13 and SDG 14. On the other hand, progress on many other SDGs can expedite FLW reduction (SDG 5, SDG 7, SDG 9 and SDG 17).¹³

II. Status of food FLW in the African region

9. As indicated in Section I, significant levels of FLW occur in Africa. For Sub-Saharan Africa (SSA), current estimates indicate a level of close to 20 percent (Figure 1), which is well above the global average. As also shown in Figure 1, there are variations in the estimated levels of losses, with the lowest levels in Northern Africa and the highest in Western Africa.

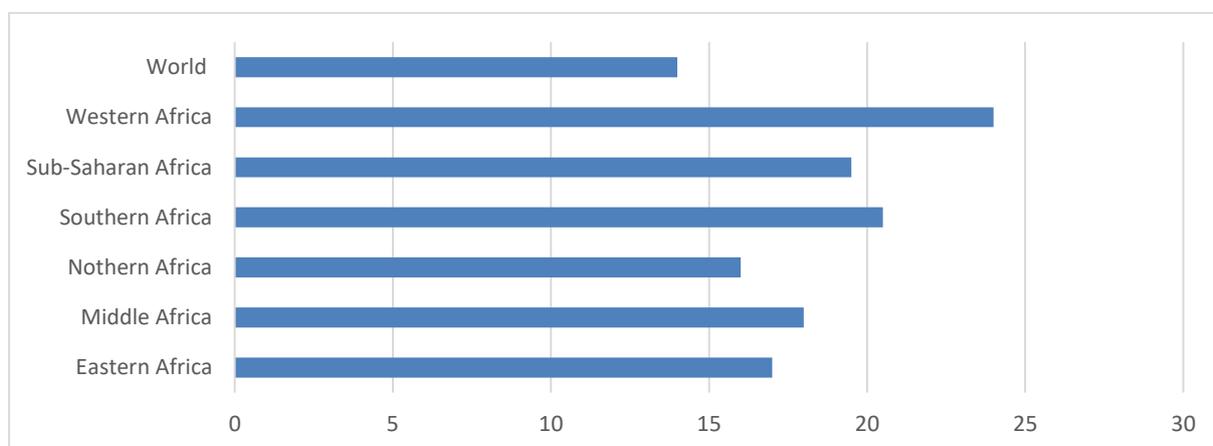


Figure 1: Percentage food losses in Africa (from SDG Indicators Portal¹⁴)

10. The levels of losses encountered in the region are sector dependent. For example, post-harvest losses (PHL) reported for grains range from 10 percent for millets to 17 percent for maize,¹⁵ while for fruits and vegetables some reports mention PHL as high as 50 percent.¹⁶ Results from studies conducted

¹² <https://datalab.review.fao.org/datalab/dashboard/food-systems-summit/>

¹³ FAO. 2019. Idem

¹⁴ From SDG Indicators (SDGi) Portal, SDGi 12.3.1.a, as of 31 January 2024: <https://www.fao.org/sustainable-development-goals-data-portal/data/indicators/1231-global-food-losses/en>

¹⁵ <https://www.apflis.net/en>

¹⁶ FAO. 2019. Idem

by FAO indicate that harvesting is the most frequently identified critical loss point for all types of food.^{17,18}

11. Regarding food waste, indicative of the levels in the Africa region, the UNEP report¹⁹ provides very rough estimates of the annual household food waste in a selection of countries of the region: 76 kg/capita in Libya; 92 kg/capita in Ethiopia; 84 kg/capita in Ghana; 100 kg/capita in Kenya; 189 kg/capita in Nigeria; 164 kg/capita in Rwanda; and 78 kg/capita in Zambia.

12. A wide range of factors cause FLW in the region. These include inadequate and fragmented policies and strategies, poor infrastructure, a weak institutional framework, lack of access to finance and a weak private sector. Other factors include lack of technology in terms of availability, affordability, appropriateness and accessibility, poor storage and cold chain facilities, poor linkages to markets and poor coordination among food supply chain actors, lack of awareness, weak human capacity and sociocultural norms such as those related to food preparation for special celebrations.^{20,21,22}

13. Poor data and reporting are also factors affecting the continent's ability to fight FLW. Out of the 49 Members that submitted data in the 2023 e-Biennial Review, 35 or 71 percent reported on PHLs in different categories. As indicated in Figure 2, this includes: nine countries (26 percent) that do not report all the five national priority commodities; 20 countries (57 percent) that reported all the five national priority commodities with zeros as data; 19 countries (54 percent) that provided some of the five national commodities data with empty boxes, eight countries (23 percent) that reported some data with empty boxes and with zeros as data, and 13 countries (37 percent) that reported the five national priority commodities with their respective data.²³

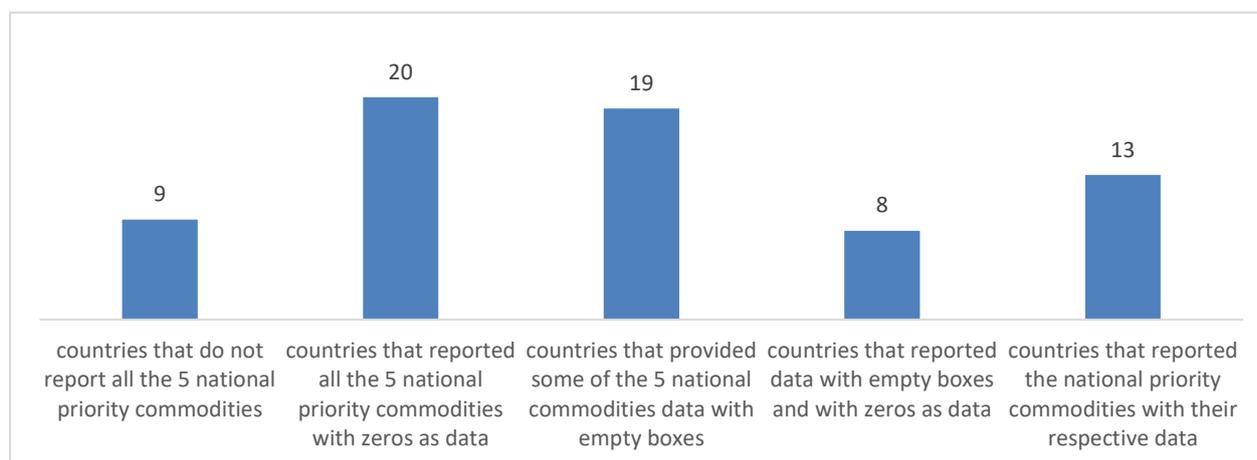


Figure 2: Categories of data submitted for the PHL.

14. FLW has significant negative consequences in the region. Indicative of the economic impact, it has been estimated that the value of post-harvest losses of grains in SSA is approximately USD 4 billion

¹⁷ FAO. 2019. Idem

¹⁸ FAO, IFAD and WFP. 2021. *Food loss analyses to identify critical loss points, main causes of losses and to recommend solutions to reduce post-harvest losses – Grain supply chains in Burkina Faso, the Democratic Republic of the Congo and the Republic of Uganda – Technical brief*. Rome.

<https://www.fao.org/3/cb1167en/cb1167en.pdf>

¹⁹ UNEP. 2021. *Food Waste Index Report 2021*.

²⁰ African Union Commission. 2018. *Post-harvest Loss Management Strategy*.

https://au.int/sites/default/files/documents/34934-doc-au_post-harvest_loss_management_strategy.pdf

²¹ African Union Commission. 2019. *Post-Harvest Loss: The African Union Commission's Post-Harvest Management Strategy*. <https://www.nepad.org/file-download/download/public/117360>

²² FAO. 2019) Report of the Technical Consultation on the Code of Conduct for Food Loss and Waste Reduction, 17 September 2019, Addis Ababa. <https://www.fao.org/3/cb0655en/cb0655en.pdf>

²³ Sourced from the 4th Biennial Review Report of the African Union CAADP process.

per year.²⁴ From a food security and nutrition perspective, close to 281.6 million people or 19.7 percent of the population in Africa face hunger, while 1.04 billion people or 77.4 percent of the population cannot afford a healthy diet.²⁵ Regarding the environment, FAO's environmental footprint study²⁶ indicated that FLW in SSA generates 140 million tonnes CO₂ equivalent (compared to a global figure of 3.3 Gt) or about 180 kg CO₂ equivalent per capita annually, while about 180 million hectares of land and around 10 km³/year of water are used to produce food that is ultimately lost or wasted in SSA.

III. Priority needs and core requirements to fight food loss and waste, and examples of FAO interventions in the African region.

15. FLW reduction should be regarded as an entry point for transforming agrifood systems to make them MORE efficient, inclusive, resilient and sustainable (socially, economically and environmentally). In fashioning interventions for FLW reduction, three dimensions need to be considered.²⁷ Firstly, it is important to know, as accurately as possible, how much food is lost and wasted, as well as where in the food supply chain losses and waste are concentrated, and the reasons why they occur. Secondly, it is critical to be clear about the broad public objectives and underlying reasons for reducing FLW; for example, whether it is to promote food security and nutrition, foster economic efficiency or reduce damage to the environment. Thirdly, it is important to understand how FLW, as well as the measures to reduce it, affect the objectives being pursued.²⁸

16. Based on the factors and constraints driving FLW in the region (as briefly summarized in Section II), a wide range of interventions are required to address the problem. These include *inter alia*: strengthening policy, regulatory and institutional frameworks to create an enabling environment, and incentivize and stimulate action by food supply chain actors; ensuring that FLW strategies and policies are coherent with other relevant national and regional policies and strategies (for example those dealing with climate change, energy, gender issues, food safety and youth employment), and they are designed to minimize trade-offs in the underlying objectives; facilitating multi-stakeholder collaboration, including among the public and private sectors, civil society and academia; measuring, assessing and monitoring FLW; raising awareness on FLW and addressing capacity gaps among the public sector and food supply chain actors.

17. The final mix of required interventions is context specific and must be adjusted accordingly. In all cases, the needs of women, youth and groups requiring special focus should be taken into consideration. By shifting from linear to more circular agrifood systems, food waste is reduced through recovery and redistribution of safe food or its transformation into new food products, and through the use of food waste as raw material for other products like animal feed and compost.

18. FAO has been a steadfast partner in Africa's journey towards agricultural transformation and food security. Examples of FAO actions to address FLW include:

- a. Supporting development of the Zero Postharvest Loss strategy of Liberia. The strategy will be aligned to the *Voluntary Code of Conduct for Food Loss and Waste Reduction*, developed by FAO at the request of Members to provide a framework of actions and principles that national and subnational authorities, food supply chain actors and other actors should apply in reducing FLW.

²⁴ World Bank. 2011. Missing food: the case of postharvest grain losses in Sub-Saharan Africa. World Bank, Other Operational Studies 2824. Washington, DC. (also available at <https://ideas.repec.org/p/wbk/wboper/2824.html>).

²⁵ FAO, IFAD, UNICEF, WFP and WHO. 2023. *The State of Food Security and Nutrition in the World 2023. Urbanization, agrifood systems transformation and healthy diets across the rural–urban continuum*. Rome, FAO <https://doi.org/10.4060/cc3017en>

²⁶ <https://www.fao.org/3/i3347e/i3347e.pdf>

²⁷ FAO. 2019 *Op. Cit.*

²⁸ FAO. 2019. *Op. Cit.* p 7

- b. FAO has prepared materials (presentations, flyers and guidelines) that are being disseminated widely to raise awareness and empower stakeholders at various levels, from schools to households, to make a positive impact in the fight against food waste. The FAO Technical Platform on the Measurement and Reduction of Food Loss and Waste²⁹ is a global platform with technical resources for awareness-raising, capacity building and knowledge exchange.
- c. In the Democratic Republic of the Congo, FAO is implementing an integrated programme to address PHL and promote resilience in key landscapes. Activities encompass rapid assessment of PHL, customized training and multi-stakeholder platforms. FAO is also collaborating with the UN Industrial Development Organization (UNIDO) to empower young entrepreneurs with an emphasis on value chain development and digitalization of marketing.
- d. FAO has developed an app for food loss measurement, Food Loss Application (FLAPP). By providing information on food loss through video advisories, FLAPP empowers farmers, companies, producer associations and cooperatives to make informed decisions, providing evidence-based solutions. The app enhances FAO's ability to analyse where and why food loss occurs at the farm level, to help design targeted policies. Currently reporting on ten countries (including Ghana, Ethiopia, Rwanda, and Tanzania in SSA) and seven commodities, the app is expected to expand its coverage, both in terms of countries and commodities.
- e. FAO is a custodian of the African Postharvest Losses Information System (APHLIS) which is a scientific model producing calculated estimates of PHL of food crops across sub-Saharan Africa based on peer-reviewed academic literature and information on relevant seasonal factors from local experts.
- f. FAO is a key partner in continued coordinated efforts to reduce FLW, including but not limited to the Africa-wide Postharvest food loss reduction Congress and Exhibition of the African Union.

IV. Conclusions

19. With a high number of people affected by hunger and food insecurity in Africa, a considerable amount of FLW represents a huge drag on the achievement of sustainable development and food security targets. In addition to the resources invested in the production of the food that is lost or wasted, FLW has significant negative impacts on environmental sustainability in the region through unnecessary release of GHG emissions and unsustainable exploitation of natural resources. This calls for urgent multisectoral action at both national and continental levels, involving all relevant stakeholders, including governments, farmers, businesses and consumers.

20. Food loss and waste reduction should be regarded as an entry point for transforming agrifood systems to make them MORE efficient, inclusive, resilient and sustainable. In designing interventions to address FLW, it is important to know, as accurately as possible, how much food is lost and wasted, where in the food supply chain losses and waste are concentrated and the reasons why they occur. It is critical to be clear about the broad public objectives and underlying reasons for reducing FLW – for example, whether it is to promote food security and nutrition, foster economic efficiency or reduce damage to the environment.

21. Reducing FLW will require awareness and adequate capacities for food supply chain actors to take the measures required, as well as strong policy support and an adequate institutional framework to create an enabling environment and incentivize action by food supply chain actors. A holistic, evidence-based, systematic approach should be adopted to address these issues.

²⁹ <https://www.fao.org/platform-food-loss-waste/background/en>