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How to fight food loss and waste in Asia and the Pacific region

Executive Summary

Significant levels of food loss and waste (FLW) occur in Asia and the Pacific region, contributing to food insecurity and malnutrition, greenhouse gas emissions, environmental pollution, degradation of natural ecosystems, biodiversity loss, and waste of resources, such as agricultural inputs, energy, water and land, that are used in food production.

In April 2018, FAO Members in Asia and the Pacific region requested guidance and technical assistance on reducing FLW at the 34th Regional Conference for Asia and the Pacific (APRC 34) held in Fiji. In September 2020, during APRC 35, the Regional Conference recommended that FAO support climate-smart investments, and reduce FLW through innovations and digital technologies.

FLW reduction is expected to play a critical role in the transformation of agrifood systems to become MORE efficient, inclusive, resilient and sustainable, thereby enhancing food security and nutrition, reducing environmental degradation and the climate footprint from food production and consumption, and improving economic returns for actors involved in the food supply chain.

The causes of FLW in the region are country-specific, but in general they include, inter alia, technical reasons relating to inadequate practices and infrastructure, lack of knowledge and awareness, limited investment in educational and extension support systems, equipment malfunction, faulty cold or cool storage, and fragmented policies, strategies, and programmes 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 supply chain. 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 “from farm to fork” and beyond to encourage waste management.

This and other documents can be consulted at www.fao.org

An intervention framework is proposed with the following five mutually reinforcing and interdependent pillars: raising awareness and enabling collaboration and partnerships; identifying and addressing FLW at critical points along food supply chains; enabling investments in FLW prevention and reduction; monitoring and facilitating national and regional progress towards Sustainable Development Goal (SDG) target 12.3; and putting in place coherent governance frameworks, including policies, strategies, institutions and regulatory frameworks.

Suggested action by the Regional Conference

The APRC is invited to recommend the following actions from Members:

- a. recognize the importance of reducing FLW to improve the sustainability, resilience, inclusiveness and efficiency of agrifood systems and achieve the SDGs, and prioritizing FLW reduction in their national-level programmes, policies and strategies;
- b. invest in creating an enabling environment to support private sector action and, where required, support and facilitate private–public partnerships and collaboration with all other actors to support FLW at national and subnational levels; and
- c. endorse the intervention framework presented in this paper.

The Regional Conference may wish to recommend the following actions from FAO:

- a. provide demand-driven policy and technical support to countries in their FLW measurement and FLW reduction efforts, drawing on its technical competence and comparative advantage, and contributing to its work in support of the *four betters* (*better production, better nutrition, a better environment, and a better life*).

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I. Introduction

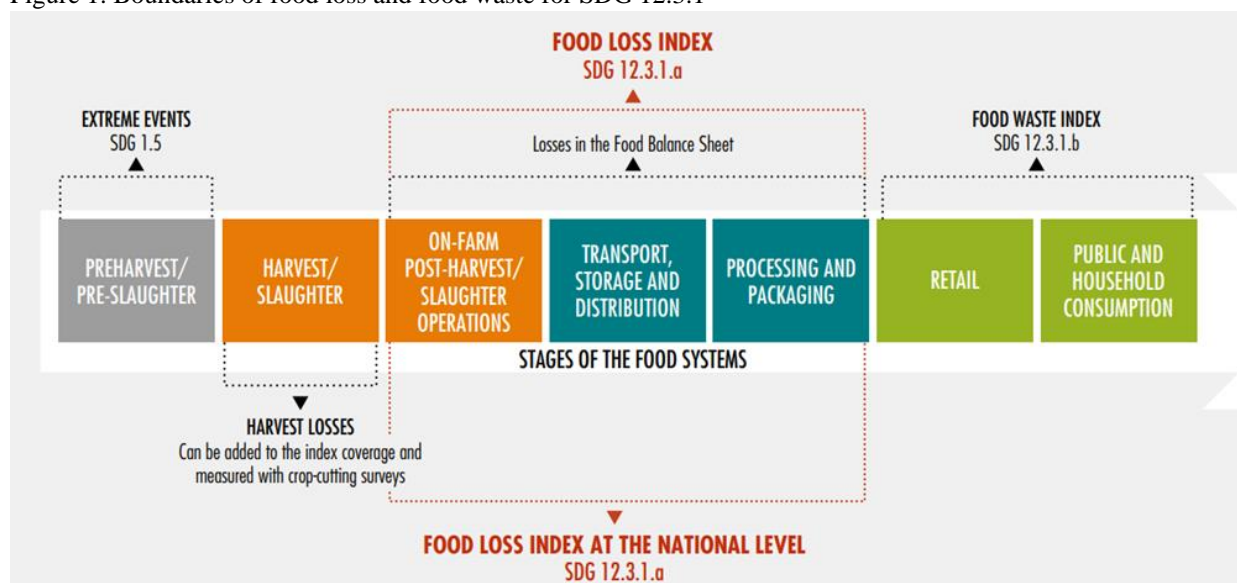
Context

1. In April 2018, FAO Member Nations in Asia and the Pacific expressed interest in and requested guidance and technical assistance on reducing food loss and waste (FLW) at APRC 34 held in Fiji. In September 2020, during APRC 35 (held virtually), Members recommended that FAO support climate-smart investments and reduce FLW through innovations and digital technologies. As emphasized in the UNFSS +2 stock taking moment, 70% of national pathway documents identified FLW as an important issue.¹ The discussions and recommendations reflect growing international attention on the issue of FLW, as firmly reflected in the 2030 Agenda for Sustainable Development. Specifically, Target 12.3 of the SDGs calls for halving, by 2030, per capita global food waste at the retail and consumer levels and reducing food losses along production and supply chains, including post-harvest losses.²

Defining food loss and waste

2. 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. Figure 1 below shows the boundaries between food loss and waste.

Figure 1. Boundaries of food loss and food waste for SDG 12.3.1



Source: FAO. 2019. The State of Food and Agriculture 2019: Moving forward on food loss and waste reduction. Rome, FAO. <https://www.fao.org/3/ca6030en/ca6030en.pdf>

3. The Food Loss Index (SDG Indicator 12.3.1.a), which is under the custodianship of FAO, is used to measure food loss, and the Food Waste Index (SDG Indicator 12.3.1.b), which is under the custodian of the United Nations Environment Programme (UNEP), is used to measure food waste.³

¹ <https://www.unfoodsystemshub.org/fs-stocktaking-moment/programme/food-loss-and-waste-prevention-and-reduction--a-key-lever-for-food-systems-transformation/en>

² FAO. 2019. The State of Food and Agriculture 2019: Moving forward on food loss and waste reduction. Rome, FAO. <https://www.fao.org/3/ca6030en/ca6030en.pdf>

³ See the indices at: <https://www.fao.org/sustainable-development-goals-data-portal/data/indicators/1231-global-food-losses/en>

These indicators provide countries with definitions and approved international methodologies to measure food loss and waste at the national level and food loss across the agricultural supply chain.

General cause of food loss and waste

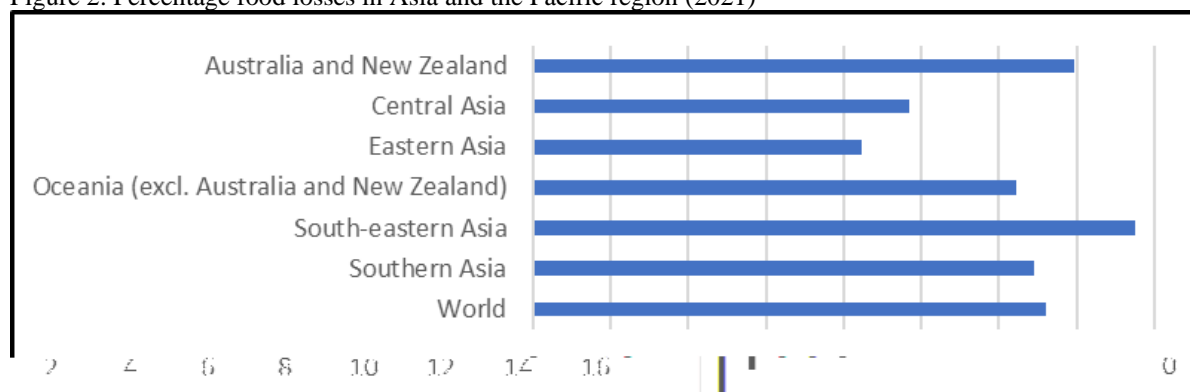
4. The causes of FLW range from direct causes that generate FLW at specific stages of the food supply chain, secondary causes across various steps of the chain, and systemic causes across the entire food system.⁴ Important causes of on-farm losses include inadequate harvesting time, climatic conditions, practices applied at harvest and handling, and challenges in marketing produce. Significant losses through the supply chain are caused by inadequate cool and dry storage, handling, packaging and transportation conditions, and decisions made at earlier stages of the supply chain, which predispose products to a shorter shelf life.

5. The causes of food waste at the retail level are linked to limited shelf life, the need for food products to meet aesthetic standards in terms of colour, shape and size, and variability in demand. Consumer food waste is often caused by poor purchase and meal planning, excess buying (influenced by over-large portioning and package sizes), confusion over date labels (“best before” and “use by”) and poor in-home storing.⁵

Extent of food loss and waste

6. Significant levels of FLW occur in the food supply chain from production to consumption. Across the globe, approximately 13 percent of the world’s food, valued at USD 400 billion, is lost annually between harvest and up to (although not including) the retail market.⁶ In Asia and the Pacific region, the values range from 8.46 percent in Eastern Asia to 15.52 percent in South-eastern Asia (Figure 2)

Figure 2. Percentage food losses in Asia and the Pacific region (2021)



Source: FAO. 2023. *SDG Indicators Portal, SDG 12.3.1.a*, as of 15 November 2023. <https://www.fao.org/sustainable-development-goals-data-portal/data/indicators/1231-global-food-losses/en>

7. With regard to food waste, UNEP report estimates that 17 percent of food produced globally is wasted at the retail and consumer levels.⁷ The report estimates that food waste from retail establishments, the food service industry, and households totals 931 million tonnes each year, of

⁴ FAO. 2022. *Voluntary Code of Conduct for Food Loss and Waste Reduction*. Rome, FAO. <https://doi.org/10.4060/cb9433en>

⁵ FAO. 2019. *The State of Food and Agriculture 2019: Moving forward on food loss and waste reduction*. Rome, FAO. <https://www.fao.org/3/ca6030en/ca6030en.pdf>

⁶ FAO. 2023. *SDG Indicators Portal, SDG 12.3.1.a*, as of 15 November 2023. <https://www.fao.org/sustainable-development-goals-data-portal/data/indicators/1231-global-food-losses/en>. FAO. 2019. *The State of Food and Agriculture 2019: Moving forward on food loss and waste reduction*. Rome, FAO. <https://www.fao.org/3/ca6030en/ca6030en.pdf>

⁷ UNEP. 2021. *Food Waste Index Report 2021*. Nairobi. <https://www.unep.org/resources/report/unep-food-waste-index-report-2021>

which about 61 percent occurs at the household level, 26 per cent from the food service industry, and 13 per cent from retailers.⁸

8. Studies and assessments from individual countries of the region corroborate these significantly high levels of FLW in the region. For example, it is reported that, excluding food lost during agricultural production, approximately 57 million tonnes of food were squandered across Indonesia in 2019 and are expected to increase by 54 percent by 2030.⁹ On the other hand, Australia produces 7.6 million tonnes, or 312 kg per capita, of food waste every year, costing the economy an estimated AUD 36.6 billion (~ USD 25 billion).¹⁰

Impact of food loss and waste

9. FLW levels are an expression of inefficiencies that generate significant economic, social and environmental impacts on the global, regional, national and local agrifood systems. FLW has negative impacts on food security and nutrition. It contributes significantly to greenhouse gas emissions, environmental pollution, degradation of natural ecosystems and biodiversity loss, and represents a waste of resources, such as inputs, energy, water and land, that are used in food production. Globally, FLW represents nearly a quarter of all the water used in agriculture¹¹ and is responsible for an estimated 8 to 10 percent of annual greenhouse gas emissions.¹² In the region, FLW has similar significant environmental impacts due to such factors as the high levels of production and consumption of crops such as rice, which have high carbon-intensity production methods (e.g. paddies are major emitters of methane) and high levels of FLW.¹³

10. The recent FAO regional report on Food Security and Nutrition¹⁴ shows that major challenges remain to achieve the 2030 SDGs, specifically SDGs 1, 2 and 3, which respectively aim to end poverty, end hunger, and achieve healthy lives and well-being for all. FLW occurs in the region against a backdrop of significant levels of food insecurity and malnutrition. With 370.7 million undernourished people,¹⁵ the region accounts for half of the world's hungry people. Simulations at the global level show that if we reduced FLW by 50%, there would be enough fruits and vegetables to meet nutritional recommendations.¹⁶

⁸ UNEP. 2021. *Food Waste Index Report 2021*. Nairobi. <https://www.unep.org/resources/report/unep-food-waste-index-report-2021>

⁹ Bappenas UNDP and Embassy of Denmark in Jakarta. 2021. *The economic, social and environmental benefits of a circular economy in Indonesia*. In Ministry of National. Planning and Development Indonesia <https://lcdi-indonesia.id/wp-content/uploads/2021/02/Full-Report-The-Economic-Social-and-Environmental-Benefits-of-a-Circular-Economy-in-Indonesia.pdf>

¹⁰ Food Innovation Australia Limited. 2021. *The National Food Waste Strategy Feasibility Study – Final Report*. <https://www.dceew.gov.au/environment/protection/waste/food-waste>

¹¹ Kummu, M., de Moel, H., Porkka, M., Siebert, S., Varis, O. & Ward, P.J. 2012. *Lost Food, Wasted Resources: Global Food Supply Chain Losses and Their Impacts on Freshwater, Cropland, and Fertiliser Use*. *Science of the Total Environment* 438: 477–89. <https://www.sciencedirect.com/science/article/pii/S0048969712011862>

¹² FAO. 2015. *Food Wastage Footprint & Climate Change*. Rome, FAO.

<https://www.fao.org/3/bb144e/bb144e.pdf>; Intergovernmental Panel on Climate Change (IPCC), 2019. *Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems* [P.R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.O. Pörtner, D.C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M. Belkacemi, J. Malley, (eds.)]. <https://doi.org/10.1017/9781009157988.001>

¹³ FAO. 2013. *Food Wastage Footprint: Impacts on Natural Resources*. Rome, FAO. <https://www.fao.org/3/i3347e/i3347e.pdf>

¹⁴ FAO. 2023b. *Asia and the Pacific – Regional Overview of Food Security and Nutrition 2023: Statistics and trends*. Bangkok, FAO. <https://www.fao.org/documents/card/en/c/cc3017en>

¹⁵ 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>

¹⁶ <https://www.unfoodsystemshub.org/fs-stocktaking-moment/programme/food-loss-and-waste-prevention-and-reduction--a-key-lever-for-food-systems-transformation/en>

11. Halving food waste and reducing food losses, as called for by SDG 12.3.1, is expected to play a critical role in agrifood systems transformation in the region. It would help enhance food security and nutrition, reduce environmental degradation and the climate footprint from food production and consumption, contribute to the Nationally Determined Contributions for climate change, reduce the inefficient and unsustainable use of natural and other resources that are used for food production (e.g. fuel, land and water), and improve economic returns for actors involved in the supply chains.

II. Addressing food loss and waste in Asia and the Pacific region

Cause of food loss and waste in the region

12. The causes of FLW in the region are country-specific, but in general they include technical reasons relating to existing practices, infrastructure and lack of knowledge and awareness regarding FLW. Limited investment in educational and extension support systems for reducing FLW is a major underlying issue in many developing countries across the region.

13. As emphasized in the *FAO Regional Strategy for Food Loss and Waste Reduction in Asia and the Pacific*,¹⁷ identified causes for losses in the region include: equipment malfunction; faulty cold or cool storage; inefficiencies during harvesting, drying, milling, processing and transporting; lack of infrastructure such as public roads; out-grading of produce due to aesthetic standards; shortage of packaging materials and related machinery; inadequate infrastructure at aggregation points such as lack of shade for the produce, long waiting times, and challenges related to market access; lack of investments in local market supply chains versus export supply chains; and lack of awareness on solutions available and cost-benefit analyses to drive action. For food waste, the key reasons include higher food waste levels for low-income consumers who purchase low-quality food that ends up unused or thrown away, and lower food waste levels for price-oriented quantity purchasing or food waste due to high disposable income. Other causes are consumers' confusion about "use-by" and "best before" dates, and significant levels of inefficiency in catering services for all age groups and different contexts, coupled with rigid food procurement specifications. A recent report¹⁸ shows a trajectory of tremendous increases in food waste in the food service sector in Asia due to increasing urbanization and eating out in buffets as incomes increase.

14. In summary, lack of knowledge or awareness about food waste or inadequate food skills and health literacy are major contributors to food waste. Few are aware of the amount of waste generated, the monetary loss associated with it, the impact of inappropriate portion sizes, and strategies to reduce it. Although policies, strategies and programmes to reduce FLW have been initiated, these efforts are scattered and fragmented. Comprehensive government, donor agency and private sector FLW reduction policies, programmes and initiatives are still lacking.

An intervention framework for reducing food loss and waste in the region and examples of ongoing actions

15. In designing interventions for FLW reduction, three dimensions need to be considered.¹⁹ First, 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 the losses and waste are concentrated and the reasons why they occur. Second, 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. Third, it is important to understand how FLW, as well as the measures to reduce it, affect the objectives being pursued.

¹⁷ Bennett, A., Dubey, S., Lee, W.T.K., Damen, B. & Bucatariu, C. 2022. *FAO Regional Strategy on Food Loss and Waste Reduction in Asia and the Pacific*. Bangkok, FAO. <https://doi.org/10.4060/cb8959en>

¹⁸ Rabobank. 2021. *No Time to Waste: Managing Food Waste in Asia's Food Retail and Foodservice Channels*. <https://research.rabobank.com/far/en/sectors/consumer-foods/managing-food-waste-in-asia-s-food-retail-and-foodservice-channels.html>

¹⁹ FAO. 2022. *Voluntary Code of Conduct for Food Loss and Waste Reduction*. Rome, FAO. <https://doi.org/10.4060/cb9433en>

16. FLW reduction should be regarded as an entry point for transforming agrifood systems to make them MORE efficient, inclusive, resilient and sustainable. As such, 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 “from farm to fork”. One aspect of the transformation that is called for is a shift from linear to more circular agrifood systems in which resources are used more efficiently and food waste streams are re-used, providing economic and environmental benefits. In applying a circular model, the priority is to prevent FLW from occurring in the first place, failing which the options in order of priority are: recovery and redistribution to food banks or similar institutions, or transformation into new food products; diversion into animal feed or transformation into non-food products; recycling through treatments such as composting and anaerobic digestion; incineration to generate energy; and disposal of the material by incineration or landfill.

17. Taking into consideration the above-mentioned causes and specific constraints driving FLW in the region, and informed by country studies, a detailed literature review, as well as past and ongoing FAO activities at the national, regional and global levels, the FAO Regional Strategy on Food Loss and Waste Reduction in Asia and the Pacific was developed.²⁰ It presents an intervention framework with the following five mutually reinforcing and interdependent pillars:

Pillar 1: Raise awareness and enable state and non-state collaborations and partnerships on FLW prevention and reduction.

18. This involves raising awareness on the levels, types and impacts of FLW; raising awareness on solutions to address FLW; and launching awareness campaigns to facilitate the shift towards changed behaviour of supply chain actors and consumers. It also supports state and non-state actor collaborations and partnerships, as well as knowledge transfer on FLW prevention and reduction through regional, national and local face-to-face and virtual events that include capacity development. The FAO Technical Platform on Measuring and Reduction of Food Loss and Waste is a global platform for key technical resources on FLW that can support awareness raising, capacity building and knowledge exchange.²¹ The UN General Assembly designated 29 September of each year as the International Day of Awareness of Food Loss and Waste, providing an opportunity to raise awareness on the importance of the FLW problem and its possible solutions at all levels in the region.

Pillar 2: Identify and address food loss and waste at critical points along supply chains and at the consumer level.

19. This involves building the evidence base underpinning FLW reduction policies, strategies and programmes and identifying the causes, quantities and consequences (social, environmental and economic) of FLW. Several activities on measuring food losses have been a key component of FAO’s regional work on reducing post-harvest losses. For example, pilots were implemented for loss measurement and reduction for fruits and vegetables in Malaysia (2023), bananas and fish in Thailand (2022), and an evidence base has also been generated for bananas in Timor-Leste and for tomatoes in the Philippines and Cambodia on the impact of post-harvest activities that can inform the scale-up of actions of organized groups of small farmers in the region to reduce food losses. As another example, FAO through a project funded by the Government of Japan and implemented in Thailand, has generated a sound evidence base that has informed strategic approaches and actions to reduce food loss in the processing and distribution operations of micro, small and medium-sized enterprises and food waste of their retail products in five subsectors – animal, dairy and fish products, rice, and snacks.²² Finally, FAO has developed the Food Loss Application (FLAPP) a food loss measurement app, which employs rigorous research and a proven new methodology based on the collection of measurement surveys to measure food loss levels quickly. By providing accessible information on food loss through video advisories, FLAPP empowers farmers, companies, producer associations and

²⁰ Bennett, A., Dubey, S., Lee, W.T.K., Damen, B. & Bucatariu, C. 2022. *FAO Regional Strategy on Food Loss and Waste Reduction in Asia and the Pacific*. Bangkok, FAO. <https://doi.org/10.4060/cb8959en>

²¹ <https://www.fao.org/platform-food-loss-waste/background/en>

²² FAO 2023. *Developing Capacity to Reduce Food Loss and Waste in Thailand*. <https://www.fao.org/3/cc4736en/cc4736en.pdf>

cooperatives to make informed decisions, and provides evidence-based solutions to minimize losses. Using crowd-sourced data from farmers, the app enhances FAO's ability to analyse where and why food loss occurs at the farm level, to help design targeted policies.

Pillar 3: Enable investments for FLW prevention and reduction.

20. This involves the following actions: supporting and advising on FLW technologies and investments; promoting and facilitating enhanced market access, storage, logistics, infrastructure and processing facilities within investment programmes and projects; engaging with regional and global private sector initiatives to foster collaboration between companies for FLW data improvement and solutions implementation; expanding the evidence base on business cases for commodity-specific and sector-specific FLW interventions, and convening regional consultations for state and non-state actors to explore and document FLW lessons learned and successes in the region; engaging with state and non-state actors to assess trade-offs in FLW reduction for economic, social and environmental objectives; holding consultations focused on FLW prevention and reduction with international financial institutions and development banks such as the International Fund for Agricultural Development (IFAD), the Asian Development Bank (ADB), and the World Bank (WB), sensitizing them on the need for investments in FLW reduction; and mainstreaming FLW into projects targeting improved environmental benefits through funding mechanisms such as the Green Climate Fund (GCF) and the Global Environment Facility (GEF).

Pillar 4. Monitor and facilitate national and regional progress towards SDG target 12.3.

21. Pillar 4 is focused on SDG target 12.3 and the indicator 12.3.1.a, the National Food Loss Index and the Global Food Loss Index that have been developed by FAO. Actions to be undertaken include: supporting rollout of the Global Food Loss Index and the National Food Loss Index through targeted training, technical assistance and pilot testing of data collection/estimation approaches (collaboration with Pillars 2 and 3 is essential for identifying needs and providing timely specialized technical support and advice); supporting and building the capacity of national governments in improved monitoring and reporting on SDG indicator 12.3.1.a, focused on the Food Loss Index; promoting and facilitating the use and uptake of methodologies for collecting primary data on the causes and required investments to reduce food losses; and providing targeted and specialized technical support for countries on how to adopt, apply and tailor the statistical methodology for national data collection and analysis to provide statistically representative data on a selected range of commodities.

22. Like many other regions, Asia and the Pacific region has insufficient FLW data due to a lack of skills, resources, and government commitments in FLW data collection. This also reflects delays in developing the new international methodologies for measuring FLW, via SDG indicators 12.3.1.a and 12.3.1.b. These methodologies, following international consultations and pilot studies, were endorsed by UN Member States in November 2018, vis-à-vis the International Advisory and Expert Group on SDGs. Training materials and capacity development activities were developed in 2019. The onset of the COVID-19 pandemic introduced movement constraints that delayed many existing national statistical initiatives, and postponed new statistical projects to collect and compile new survey-based SDG indicators, such as those on food loss and waste (SDG Indicator 12.3.1).

23. Recognizing the gaps and delays in data collection, FAO has supported countries in their efforts to pilot and implement SDG indicator 12.3.1a and collect food loss data. A pilot survey by the Ministry of Agriculture and Cooperatives of Thailand for mung bean and banana losses in 2019 shed light on the role of farmer cooperatives in reducing losses through shared labour and sorting and distribution facilities. Fruit and vegetable loss pilots in Malaysia in 2023 identified the role of pre-orders in scheduling planting, harvesting and delivery of mustard greens, reducing their losses to nearly 0, and also identified the role of packaging of pineapples in reducing losses during transportation and handling. Supported by FAO, the pilots in Malaysia created short questionnaire modules that can be adapted to other countries in measuring fruit and vegetable losses. Pilots in Bangladesh identified the management of public stockpiles for rice and cereals as critical in reducing the country's food losses. Preliminary assessments in Indonesia and Thailand highlight the need to improve access to technologies and markets to reduce fish losses, particularly for small-scale fishers.

24. Within the region, and globally, India remains a leader in food loss measurement. As a pioneer in food loss measurement, India also plays an active role in contributing to the development of SDG Indicator 12.3.1.a. India conducted its third national survey on food loss measurement in 2020–22, following surveys in 2005–06 and 2012–13.

Pillar 5: Support Asia and the Pacific Member Nations to develop and implement coherent governance frameworks for addressing FLW prevention and reduction.

25. Pillar 5 involves providing technical support for the review, design and implementation of strategies, policies, laws and action plans on reducing FLW at the regional and national levels based on the evidence generated and enriched under the other four pillars.

26. FAO has developed the Voluntary Code of Conduct for Food Loss and Waste Reduction,²³ which provides a framework for designing the policies, strategies and institutions to reduce FLW while promoting MORE efficient, inclusive, resilient and sustainable agrifood systems and achievement of the SDGs. Members endorsed the Voluntary Code of Conduct for Food Loss and Waste Reduction in 2021 and follow-up actions for FAO to support them in its implementation.

27. As indicated above, clarity about the underlying objective(s) being pursued is essential for identifying the most appropriate policies and entry points for reducing FLW. For example, if the focus is on economic efficiency, an attractive option is to enable the business case for FLW reduction, wherever it may present itself along the supply chain or geographically, calling for public interventions in the form of investments or policies that create incentives for private actors to reduce FLW or remove the barriers that prevent them from doing so.²⁴

28. Once the underlying objective for FLW reduction is clear, governments should adopt explicit FLW reduction targets aligned with SDG Target 12.3. Governments should take the lead and facilitate the development of a forward-looking national strategy and action plan outlining an overall vision and roadmap for achieving the set targets, and track progress towards agreed targets, outcomes and impacts over time (See Box 2 with examples of strategies in Asia-Pacific countries).

Box 2. Examples of national FLW reduction strategies

- China launched its “Promote FLW reduction” strategy in 2016, aimed to reduce FLW by 40 percent by 2020.
- Japan launched the Food Recycling Law in 2001 and set recycling rate targets for manufacturers (95 percent), wholesalers (70 percent), retailers (55 percent) and restaurants (50 percent). The Act on Promotion of Food Loss and Waste Reduction set a target of halving food loss by 2030.
- Malaysia aims to reduce FLW by half by 2030, with an FLW reduction policy as part of its 3rd Action Plan for Nutrition in Malaysia 2016–2025.
- The Philippines, in 2017, set a five-year target of 2 percent reduction in rice and corn post-harvest losses and 10 percent reduction of fisheries post-harvest losses.

29. Policy coherence is key. This requires mainstreaming FLW in all policy frameworks that are related to agri-food systems and aligning and fostering coherence and coordination across the policies, institutions and legislation relevant to FLW reduction. Frameworks and actions should be designed to minimize trade-offs in reaching the underlying objectives and in satisfying economic, social and environmental sustainability. The issue of FLW should be kept high on the international agenda in order to unlock the potential of food as a major solution for the benefit of people and the planet. In

²³ FAO. 2022. *Voluntary Code of Conduct for Food Loss and Waste Reduction*. Rome, FAO. <https://doi.org/10.4060/cb9433en>

²⁴ FAO. 2019. *The State of Food and Agriculture 2019: Moving forward on food loss and waste reduction*. Rome, FAO. <https://www.fao.org/3/ca6030en/ca6030en.pdf>

view of its strong links with climate change, FLW is one of the central issues that should be carried forward to COP 28.²⁵

III. Conclusion

Conclusions:

- a. Significant levels of FLW occur in Asia and the Pacific region, with negative consequences on food security and nutrition, the economy, the environment, natural resources, and livelihoods. FLW reduction can help curb food insecurity and malnutrition, address environmental degradation, adverse impacts of climate change and unsustainable exploitation of natural resources, while fostering economic development and providing livelihood opportunities.
- b. FLW reduction should be regarded as an entry point for transforming agrifood systems to make them more efficient, inclusive, resilient and sustainable.
- c. 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. 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. It is equally important to understand how FLW, as well as the measures to reduce it, affect the objectives being pursued.
- d. In reducing FLW, a holistic, evidence-based, systematic 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 “from farm to fork”. A shift from linear to more circular agrifood systems can facilitate FLW prevention and reduction with economic and environmental benefits.
- e. Reducing food loss and waste will require strong policy support and an adequate institutional framework to create an enabling environment, as well as awareness and adequate capacities for food supply chain actors to take the measures required.

²⁵ <https://www.unfoodsystemshub.org/fs-stocktaking-moment/programme/food-loss-and-waste-prevention-and-reduction--a-key-lever-for-food-systems-transformation/en>