

Food Loss and Waste under COVID-19 crisis pandemic

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Abstract: "FLW" (Food Losses and Waste), play a very important role in efforts to fight hunger, increase income and improve food security in the poorest countries. They have an impact on food security for the poorest populations, on the quality and food security of food, on economic development and on the environment. The specific causes of these losses vary across different regions of the world and are closely linked to the geographic location and specific conditions of each country. Food and Agriculture Organization of the United Nations "FAO", is partnering with governments, international organizations, the private sector and civil society to raise awareness on the issues and to implement actions to address the root of the problem. FAO is also working with governments to develop policies to reduce food loss and waste.

In this context, the "LCVRN" (Characterization and Valorisation of Natural Resources Research Laboratory), represented by its director participates in the various activities organized by the FAO. During the March-April 2020 period, virtual meetings were organized with the aim of discussing the systems used by different actors around the world to manage FLWs during the crisis linked to the COVID 19 pandemic. Here we bring you a summary on the LCVRN's participation in this work.

Key words: FLW, FAO, COVID19, food security, actions.

Jel Classification Codes: Q1, Q5, C23

الملخص: تلعب "FLW" (الفاقد والهدر من الأغذية) دورا مهما للغاية في الجهود المبذولة لمكافحة الجوع وزيادة الدخل وتحسين الأمن الغذائي في البلدان الأشد فقرا. ولها تأثير على الأمن الغذائي لأفقر السكان ، وعلى جودة الغذاء والأمن الغذائي ، وعلى التنمية الاقتصادية وعلى البيئة. تختلف الأسباب المحددة لهذه الخسائر عبر مناطق مختلفة من العالم وترتبط ارتباطا وثيقا بالموقع الجغرافي والظروف المحددة لكل بلد. الجوع في العالم أخذ في الازدياد؛ ومع ذلك، «يُقدر أن ثلث إجمالي الأغذية المأثمة، نتيجة عالميا فقد أو تهدر. لدينا جميعا دور نلعبه في الحد من فقد الطعام وهدره، ليس فقط من أجل الغذاء ولكن من أجل الموارد التي تدخل فيه. وفي هذا السياق ، يشارك مخبر بحث تشخيص وتثمين الموارد الطبيعية "LCVRN"، الذي يمثله مديره ، في الأنشطة المختلفة التي تنظمها منظمة الأغذية والزراعة. خلال الفترة من مارس إلى أبريل 2020، تم تنظيم اجتماعات افتراضية بهدف مناقشة الأنظمة المستخدمة من قبل مختلف الجهات الفاعلة في جميع أنحاء العالم لإدارة عمال الاستقبال أثناء الأزمة المرتبطة بوباء COVID. نقدم هنا ملخصا عن مشاركة LCVRN في هذا العمل.

الكلمات المفتاحية: الفاقد والهدر من الأغذية، منظمة الأغذية والزراعة، كوفيد 19، الأمن الغذائي، الأسهم.

تصنيفات JEL: Q1، Q5، C23

1. Introduction:

The issue of food losses is of high importance in the efforts to combat hunger, raise income and improve food security in the world's poorest countries. Food losses have an impact on food security for poor people, on food quality and safety, on economic development and on the environment. Food losses refer to the decrease in edible food mass throughout the part of the supply chain that specifically leads to edible food for human consumption (figure 1). Food losses take place at production, postharvest and processing stages in the food supply chain (**Parfitt et al., 2010**). Food losses occurring at the end of the food chain (retail and final consumption) are rather called “food waste”, which relates to retailers’ and consumers’ behaviour (**Parfitt et al., 2010**). “Food” waste or loss is measured only for products that are directed to human consumption, excluding feed and parts of products which are not edible. Per definition, food losses or waste are the masses of food lost or wasted in the part of food chains leading to “edible products going to human consumption” (**Gustavsson et al., 2012**). Therefore food that was originally meant to human consumption but which fortuitously gets out the human food chain is considered as food loss or waste even if it is then directed to a non-food use (feed, bioenergy...). This approach distinguishes “planned” non-food uses to “unplanned” non-food uses, which are hereby accounted under losses.

The exact causes of food losses vary throughout the world and are very much dependent on the specific conditions and local situation in a given country. In broad terms, food losses will be influenced by crop production choices and patterns, internal infrastructure and capacity, marketing chains and channels for distribution, and consumer purchasing and food use practices (**FAO, 2016**). Irrespective of the level of economic development and maturity of systems in a country, food losses should be kept to a minimum. Food losses represent a waste of resources used in production such as land, water, energy and inputs. Producing food that will not be consumed leads to unnecessary CO₂ emissions in addition to loss of economic value of the food produced. Economically avoidable food losses have a direct and negative impact on the income of both farmers and consumers. Given that many smallholders live on the margins of food insecurity, a reduction in food losses could have an immediate and significant impact on their livelihoods. For poor consumers (food insecure or at-risk households), the priority is clearly to have access to food products that are nutritious, safe and affordable. It is important to note that food insecurity is often more a question of access (purchasing power and prices of food) than a supply problem. Improving

the efficiency of the food supply chain could help to bring down the cost of food to the consumer and thus increase access. Given the magnitude of food losses, making profitable investments in reducing losses could be one way of reducing the cost of food. But that would, of course, require that financial gains from reduced losses are not outweighed by their costs.

The COVID-19 pandemic continues to wreak havoc globally, generating significant challenges that could result in risks to food security and nutrition in many countries. Countries are ordering lockdowns, restricting movement and observing physical distancing to curb the pandemic. Disruptions in supply chains resulting from blockages on transport routes, transport restrictions and quarantine measures are resulting in significant increases in food loss and waste, especially of perishable agricultural produce such as fruits and vegetables, fish, meat and dairy products. In addition, labour shortages, owing to the restriction of movement of key stakeholders in production and transport, are significantly impacting food supply and demand owing to food shortages in some markets, further contributing to food loss and to the unnecessary waste of food supplies in these difficult times. Upstream segments of the food value chain in middle- and high-income countries have also been severely affected by increased pre- and post-harvest food waste (FAO, 2020).

During the March-April 2020 period and until 30 July, virtual meetings were organized with the aim of discussing the systems used by different actors around the world to manage FLWs during the crisis linked to the COVID pandemic¹⁹. In the following we will provide some details on this activity organized by FAO and entitled “International innovation in Agri-Food systems to achieve the SDGs.

2. Activity summary

2.1. Introduce SDG target 12.3.1a on the Food Loss Index (FLI)

On Wednesday 25 March 2020, the webinar on Food Post-Harvest Losses was held. FAO experts have discussed quality management procedures to reduce post-harvest food losses, introduce SDG target 12.3.1a on the Food Loss Index (FLI) and the statistical methods to measure losses, and explore ways to reduce post-harvest food losses in South East Asian Countries. This aims to highlight new products and services designed by FAO to support member countries and meet the needs of data producers and users. We focus on the results of the

Nacira Chourghal

Statistical Capacity Assessment carried out in 2019, and bring you up to date on just-released FAOSTAT dataset, new partnerships, and next webinar planned on SDG 12.3.1.

2.2. Workshop to discuss the “Zero Draft CoC 150520” on the 21st of May 2020

The workshop aims to discuss and finalize the code of conduit (CoC) on food loss and waste (FLW) reduction, a draft of which was produced during “the Regional Consultation on FLW in the Near East and North Africa that was organised by FAO in Cairo, Egypt from 16-17 December 2019”. A few days before this event we were asked to read the document carefully and to provide any comments and suggestions. A very rich debate was conducted during the workshop which ended with the approval of the project.

The objectives of this CoC are to:

- a) Present a set of internationally agreed, locally adaptable guiding principles and standards for responsible practices that different stakeholders can apply to effectively prevent, reduce and manage FLW while promoting more sustainable and inclusive food systems, hence aiding in the achievement of sustainable development.
- b) Provide States and other actors with a benchmark and a framework for developing global, regional and national strategies, policies, institutions, legislation and programmes on the prevention, reduction and management of FLW.
- c) The CoC thus provides guidance as to what constitute acceptable practices against which different stakeholders can gauge the actions they take to prevent, reduce and manage FLW. It also facilitates joint action, the harmonization of approaches, and the assessment of progress, which together are essential for achieving SDG 12.3 and the other inter- related SDGs.

2.3. Preventing Food Loss and Waste During COVID-19: Innovation for more sustainable Food Systems 4june 2020

Food loss and waste (FLW) is a reflection of the inefficiency, unsustainability and inequality of contemporary food systems. In the Near East and North Africa, prior to COVID-19, food systems needed transformation to reach SDGs by 2030 and sustainably deliver safe, nutritious food to growing populations (figure 2). With COVID-19, the vulnerabilities of NENA food systems are ever more apparent, as containment measures and an economic downturn take their toll,

including higher levels FLW. This Zoominar has explore the innovations needed to prevent FLW, and transform NENA food systems, through a lens of the evolving impacts of COVID-19.

The Zoominar VI has addressed the following questions:

1. What are the drivers of FLW along the value chain? how is the decision-making of value chain actors affected by COVID-19?
2. What key **Innovations** can support value chain actors to prevent FLW in light of COVID-19 impacts on food systems?
3. What role could we play (public sector, international organizations, private sector, research, etc.) to support value chain actors to prevent FLW in this context?

2.4. Role of Private Sector In the Use of Innovation & Technology to Support Smallholders Face COVID-19 Disruptive Impact 18 June 2020

As the world is still struggling to fight the COVID-19 pandemic and its disruptive impact on agricultural value chain, the private sector and farmers in the Arab region are facing burdens on how to continue delivering along the agricultural value chain and ensure the continuity of supplies to consumers, for sustaining their livelihoods, from farm to fork. The United Nations Economic and Social Commission for Western Asia (ESCWA) has leads on this Zoominar session to highlight the role of the private sector in the use of innovation and technology and the potential role of the public-private partnership and regional cooperation in reaching out to smallholders and building their resilience to crises, disasters and COVID-19 pandemic (figure 3).

The Zoominar has addressed the following questions:

1. What are the elements of success of technology, innovation and digitization initiatives under COVID-19?
2. What policies and strategies are needed to strengthen private-public partnership and supporting innovation and technology adoption?
3. What framework is needed to strengthen regional cross border collaboration in agri-food system innovation and technology?

3. Conclusion on managing food waste in developed countries

Nacira Chourghal

In high-income countries with low levels of food insecurity, interventions to address food waste reductions are generally required in the downstream segments of the supply chain – particularly at the retail and consumption stages of the value chain – where levels of food waste are expected to be the highest. The onset of the COVID-19 pandemic has resulted in a shortage of seasonal migrant farm labourers, who have faced difficulties in crossing borders. The closure of much of the hospitality industry and schools has also resulted in a loss of markets for producers. Dealing with the levels of food waste in the upstream segments of the supply chains of perishables, vegetables, and milk, in particular, has been particularly challenging. At the downstream end of the supply chain, surplus food that would be wasted is frequently donated to food banks and charities to be distributed to those who need it, contributing to resilience building in needy communities. Food banks across the developed world are anticipating a significant increase in the demand for their services, owing to an increase in the number of people affected financially because of the surge in unemployment. They face a number of problems ranging from a lack of experienced staff, insufficient supply of food, and also locations that are no longer suited to distributing food packages because of the physical distancing measures. With panic buying and stockpiling by consumers, supermarkets, which are often key donors to food banks, struggle to keep their shelves stocked and are unable to donate food. Yet, much of the food purchased by households may never be consumed and could end up being discarded as food waste because of a misunderstanding of date marking and improper storage of these household food items.

4. Figures list

Figure 1. Food losses and waste.



Figure 2. Zoominar VI: Preventing Food Loss and Waste During COVID-19: Innovation for more sustainable Food Systems 4 June 2020



Figure 3. Zoominar VII: Role of Private Sector In the Use of Innovation & Technology to Support Smallholders Face COVID-19 Disruptive Impact 18 June 2020



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