

Roadmap approach to guide intervention selection and design for reducing Food Loss and Waste (FLW)

How to identify and implement interventions for improving food value chain efficiencies in the food system?

Background

Reducing Food Loss and Waste (FLW) can support greater availability of and access to safe and nutritious food, and help shape more resilient food systems, particularly in Low- and Middle-Income Countries (LMICs). Acting effectively on value chain inefficiencies such as FLW is a complex task, and many variables and food system dynamics should be considered for making intervention decisions. Lasting change requires a combination of interventions that act on different components of the food system (e.g., the food value chain and the enabling environment). Attention to critical success factors (including affordability and accessibility) can help provide the right conditions for transformative and lasting change [1].

Roadmap approach

The roadmap approach aims to guide the private sector or governments in intervention selection and design for reducing FLW. The approach consists of two main components: a) selection of FLW reducing interventions and b) implementation strategy of FLW reducing interventions in the food system. For the first component we use the EFFICIENT protocol [2], and for the second component we elaborate on intervention criteria [3]. Its outcomes should provide action perspectives.

References

- [1] Kok, M.G., Vernooij, D.M. & Castelein, R.B. (2023). Roadmap approach for improving food value chain efficiencies: How to identify and implement interventions for reducing Food Loss and Waste in Dhaka's food system? (No. 2435). Wageningen Food & Biobased Research. <https://doi.org/10.18174/632576>
[2] Kok, M. G., Castelein, R. B., Broeze, J., & Snels, J. C. M. A. (2021). The EFFICIENT protocol: A pragmatic and integrated methodology for food loss and waste quantification, analysis of causes and intervention design (No. 2212). Wageningen Food & Biobased Research. <https://doi.org/10.18174/556214>
[3] Soethoudt, J. M., Pedrotti, M., Bos-Brouwer, H. E. J., & Castelein, R. B. (2021). Adoption of food loss and waste-reducing interventions in Low-and Middle-Income Countries (No. 2196). Wageningen Food & Biobased Research. <https://doi.org/10.18174/554051>

1. Symptoms and problems

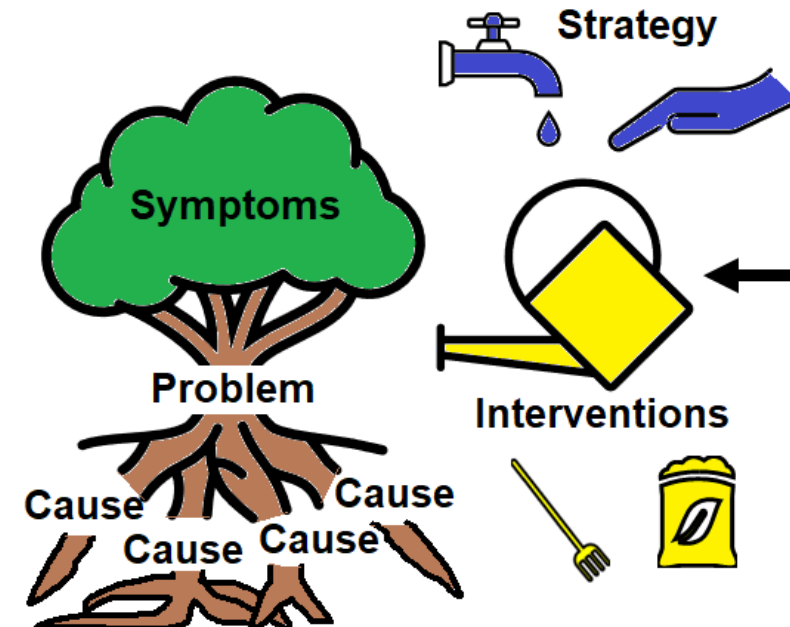
The stem of the tree in the image represents the problem of Food Loss and Waste (FLW) in the food system. The symptoms of FLW are represented by the tree leaves and are experienced daily, for example by rotten products, food that ends up in the waste bin, low market prices at the end of the day, products that are sorted out after harvesting and many more.

FLW cannot be solved by a one-size-fits-all strategy, as the (root) causes (explained below) of FLW differ for various food products, value chain actors and the type of food value chain. Each food value chain requires a tailor-made intervention- and implementation strategy to successfully reduce FLW.

2. (Root) causes

The problem and its symptoms can have multiple causes, visualized by the different roots of the tree resulting in the problem. Causes are layered; one cause likely has multiple underlying root causes. Causes do not show themselves at the surface. However, causes are the roots of the problem and identifying them is an important first step in addressing the problem.

Identifying the root causes of the problem requires to dig deeper than the surface itself: What are underlying root causes of the problem? Addressing all root causes will solve the problem. However, often it is already beneficiary to address one of the root causes to improve the current situation.



4. Strategy

It is not enough to just put the watering can near the tree. The successful implementation of an intervention requires a strategy of multiple actions to set the right conditions, often combinations of technological solutions (hardware), improving competences and skills (software), and organizational changes (orgware).

The impact of a FLW-reducing intervention namely greatly depends on the conditions in which the intervention is implemented. In other words, not any intervention will be a success or result in the expected impact automatically. The development of a comprehensive and successful intervention strategy needs a combination of an intervention that addresses root causes, and supportive actions to create a long-term impact.

3. Interventions

There are multiple options to address the root causes of the problem, visualized by the watering can, rake and fertilizer. The roadmap approach guides users to pick one intervention, in the case of the image this is the watering can. A good intervention addresses multiple root causes of FLW. However, trying to implement multiple interventions at the same time can cause contradictory effects.

The selection of one intervention can be challenging and decision support is often required. The roadmap approach can help you 1) to establish what criteria you find most important, 2) to decide upon an intervention, and 3) to create commitment.