3.13Reducing on-farm and post-harvest food loss

1.1. Please provide the name of your solution.

Investing $1 trillion to reduce global food loss of high-impact commodities by 2025

1.2 What problem is your solution addressing?

Reducing food losses is essential for reducing climate impact of food supply, impacts of land use changes, and realizing food and nutrition security. High-emission supply chains such as beef, dairy, and rice contribute at least 70% of agricultural greenhouse gas emissions (GHG) globally; losses in agricultural production and first stages of the value chain for these categories represent about 400 Mton CO2-eq. GHG emissions annually. Interventions can substantially reduce losses (e.g. FAO estimates that 475 million tons of lost food could be saved through refrigeration alone) and consequently improve the diets of millions from existing food production. However, (smallholder) farmers cannot realize these solutions themselves, substantial investments globally will be required.

1.3. How does your solution address the problem?

The aim of producing critical global commodities (both perishable and non-perishable) should be to produce increasing and regenerative yields, while also reducing carbon emissions, farm inputs and freshwater withdrawals. *Meeting these goals will require the reduction of on-farm and post-harvest losses*; this requires a multi-faceted approach including:

- *Establishing evidences (monitoring, identification of drivers and solutions) that convince value chain parties and governments and supporting organisations (sustainability gain, nutrition security) to co-create and implement solutions;*
- *Establishing supporting multi-billion-dollar global investment mechanisms to improve cold chains, farm mechanization and technology, knowledge, and loss reduction solutions;*
- *Scaling pilot projects that have already proven to increase food security while mitigating climate change.*

As an example, working with 700 smallholder rice producers in a first pilot project scalable to at least 32800 smallholder rice farmers in Nigeria, Wageningen Food and Biobased Research (WFBR) supported Olam Group to assess effectiveness of mechanization. Using WFBR's tool ACE-calculator to select the most prosperous interventions, annual impacts were:

- Loss Reduction of 920 kg of rice per farmer
- Increased income 338 US$ per farmer
- 3 tCO2-eq greenhouse gas emissions per farm

These types of measurement and solution interventions, will have an incredible impact on not only environmental outcomes, but also on livelihoods and global food security goals.

1.4. Is this a new solution or an existing solution that needs scaling?

Existing solution in need of scaling

1.5. Which organization/s, institution/s or group of individuals are associated with the solution? (Please include a link to the organizations website if available)

WWF, World Bank, Rabobank, WFBR, Olam Group, IFPRI, WUR, CIAT, CGIAR-CCAFS, FAO, UNEP

1.6. If selected as a game-changing solution, how will you leverage the UN Food Systems Summit to scale your solution?

The UN Food Systems Summit will provide a platform to showcase the urgency for consistent supply chain data collection, transparency and scaling of food loss solutions. In addition, it will showcase the urgency for investment mechanisms to fund needed interventions in key geographies. Billions of dollars of technical assistance and solution investments will be needed to implement food loss and cold chain solutions. The UN Summit could provide a critical convening where that financial planning can occur.

2.1. Is this idea applicable to a particular geography, demography, landscape or other type of setting (e.g. high- or low-income countries, aquaculture)? If so, please specify.

This idea is global and will be adapted for use in regional contexts.

2.2. Who are the main actors that would put this action into place?

Policymakers (government) , Farmers/fisheries, UN agencies , Private sector, Investors