



FOOD WASTE & SPOILAGE INITIATIVE

The Rockefeller Foundation's *Food Waste and Spoilage Initiative* is focused on catalyzing innovations to minimize post-harvest loss among African farmers.

THE PROBLEM

Today, an estimated 470 million smallholder farmers and supply chain actors across developing countries lose an average of 15 percent of their income to food spoilage. Spoilage limits how much of their harvest they can sell, and in times of surplus the risk of spoilage may prompt farmers not to harvest at all to spare themselves the hard labor required for diminishing returns. Another consequence is that the inputs – including labor, water, seed, fertilizer – and their environmental costs are lost along with the product. Over time, these losses compound, land yield drops due to mismanagement, and the overall ecosystem is affected.

Food waste, spoilage, and loss are recognized globally as urgent problems. Yet, they are solvable and even preventable. Solving for food spoilage would feed 1 billion more people by 2050 – many of them across Sub-Saharan Africa, where food insecurity is greatest. But

it would mean more than just more food for more people – addressing spoilage would also increase nutritional security, build greater resilience within food systems, and improve farmers' livelihoods. And it would create benefits to the local ecosystems, ensuring that scarce resource inputs such as crop land, freshwater and fertilizer yield useable calories rather than waste, which has both positive nutrition and ecologic impacts.

WHAT WE KNOW

The root causes of food loss and spoilage are complex and interlinked, and include, but are not limited, to:

- Insufficient post-harvest and on-farm storage technologies;
- Dated practices for handling, processing and packaging; and
- Limited market information and access, decreasing farmers' abilities to sell products at a decent price before they spoil.

We also know that governments and multinational firms across sub-Saharan Africa, including food and supermarket chains, are making increased investments in the agricultural sector, recognizing it as a commercial enterprise with potential to deliver sustained economic growth.

Together, these trends are creating a dynamic environment where policy reforms are becoming more inclusive of small-scale farmers, making it easier for buyers to source from them, and increasing the potential for proven interventions linking farmers with buyers to operate at scale.

Technology can also play a role. In India, for instance, solar powered dehydrators enable farmers to preserve their harvest and sell later at higher prices, extending food shelf life while maintaining nutritional value. Similar models could yield success in Africa, as well.

A number of viable solutions exist, as well as the science to support them. The priority now is to find and foster the right innovations to reduce ecosystem strain, enhance food security and nutrition, and pay long-term dividends to the smallholder farmers who invest so many resources to feed themselves and others.

THE ROCKEFELLER FOUNDATION'S VISION

As a global leader in food security innovation for more than 60 years, The Rockefeller Foundation today works to advance inclusive economies that expand opportunities for more broadly shared prosperity, especially for those facing the greatest barriers, as well as building greater resilience enabling people, communities and institutions to be prepared for, withstand, and emerge stronger from shocks and chronic stresses. Addressing the issues that affect small-scale farmers, who are vulnerable to market fluctuations, climate change, and lack of financing options, is critical to achieving both goals.

The Rockefeller Foundation is exploring two approaches to help small-scale farmers enhance their economic security and contribute to greater food security, while enhancing nutrition and human health, as well as ensuring that ecosystem services – including land and water – are properly valued and used efficiently:

- Spur adoption of post-harvest management solutions through financing and improved distribution. This could include better storage and market information, in part by making known solutions available to more farmers and closer to their fields.
- Reduce loss by adding value to crops through enhanced processing opportunities and/or mobile processing units. This would bring existing technology closer to or directly onto farms where crops can be transformed into new and more stable products – and prospectively enhancing nutritional value along the way.

The Rockefeller Foundation is exploring these possibilities both on specific crops and in specific countries across sub-Saharan Africa where private sector engagement and a favorable policy environment set the stage for rapid transformation and wide benefit.