

# POUNDS OF PREVENTION

- A Disaster Risk Reduction Story -

*“Pounds of Prevention” is a series of short articles that illustrate how disaster risk reduction works and why it is important. Take a behind-the-scenes look at aid work in action, long before the disaster occurs. How is that possible? Read on!*

## FOCUS: AFGHANISTAN

In western Afghanistan, one targeted disaster risk reduction effort focuses on the potato. More than 80 percent of farming families depend on this staple for food during winter when extreme cold and heavy snow cut homes off from town centers for up to four months. Too often, however, the potatoes spoil too soon, especially when stored underground in traditional, poorly ventilated pits.

Proper potato storage requires a balance among air flow, moisture levels, and temperature control. In traditional pits, a lack of ventilation causes heat and moisture to collect on the potatoes, increasing the chance of spoilage. Without trustworthy storage, farmers are faced with the choice of either selling potatoes right after harvest when prices are lowest or watching up to half the crop rot before the winter ends. Because the stored potatoes also serve as seeds for the next planting, these losses represent a true hardship for their families, impacting their nutrition, ability to buy needed goods and services, and preparations for sowing season.

As part of a larger, worldwide effort to help vulnerable farmers reduce post-harvest losses, USAID and its partners are working with farmers and government agricultural extension workers in 12 villages in Ghor Province to improve potato storage practices, seed production, and planting techniques.

Program participants first learn to select, prepare, and put aside healthy potatoes to be used as seeds for the next planting season. Next, they make a few simple, low-cost design modifications to the potato pits that allow air to circulate freely within. A raised wooden framework serves as a floor, and the ceiling is reinforced and insulated with a thick layer of earth. The farmers install a vent pointing into the wind to push cool air down to the bottom of the pit and through the pile of tubers. A pocket of air is left at the top to collect the warm, moist air from the respiring potatoes. The air then vents out through a second pipe installed across the pit.

The farmers adapt how they handle the potatoes, no longer dropping them into the pits, which causes bruising and increases the rate of rot. When planting season begins, they make sure to leave enough distance between the seeds to allow each plant to flourish. They also learn to abandon harmful irrigation methods that make the potatoes more susceptible to fungal or bacterial growth and to stop fertilization practices that delay harvest and expose the potatoes to greater risk of frost damage.

With these few changes, farmers are seeing dramatically increased yields and reduced post-harvest losses. Farmers that once lost up to 50 percent of stored potato seeds are losing just 5 percent with the improved pits. The potatoes stored for eating are also better quality and lasting up to two months longer.

By helping farmers take these simple actions, the USAID program is helping increase the potato harvest in these villages. With reliable storage options, farmers can grow more food to last through the cold winter months and even have a chance to sell surplus produce when prices are favorable to them. Best of all, a more resilient livelihood means less vulnerability to weather-related and economic shocks.



*USAID is helping farmers in Ghor Province, Afghanistan, improve how they identify potato seeds (A), sort and store them (B), plant them (C), and harvest them (D), reducing the risk of crop loss at every step. All photos courtesy of Catholic Relief Services.*