

Co-Solve and Manjari Foundation Partnership: Cold Chain for Farmers in Rajasthan

Background:

Indian agriculture is predominantly small-holder driven.

- The average land-holding is 1.06 hectares with 86% of farmers cultivating 2 hectares or less.
- Irrigation is available only for 36% of the total land.
- Reliable and affordable access to energy for farming needs continues to be a persistent problem.
- Therefore, for a vast majority of these farmers, agriculture is largely a subsistence livelihood

Promising Option:

One of the few options that offer a profit opportunity to small-holder farmers is vegetable cultivation because of vegetables' short gestation period and multiple harvest cycles. Vegetable cultivation can provide small-holding farmers steady income.

Problems to be Addressed:

- Vegetable cultivation is riskier than grain cultivation due to the perishability of vegetables.
- To stay profitable, the farmers have to manage two serious factors: (i) market volatility and (ii) post-harvest spoilage.
- Unless the farmer producers are able to go beyond production to control other value-additions in the agri-value chain, their income will be highly unpredictable. This vulnerability is exploited by the other market players, most notably the wholesale traders.

Intervention Strategies:

Cold-storage is an intervention that will give vegetable producers better leverage to control the value-chain.

1. If farmers are able to hold their produce in suitable cold-storage, they will be forced into distressed sales much less frequently. Cold-storage allows farmers to negotiate from a position of strength
2. Such storage also facilitates collectivization and sorting ("sorting" refers to sorting out the crop based on the quality standardization in the market).

These two post-harvest value additions can fetch the collective of farmers up to 50% higher prices in the market.

Co-Solve Engagement:

CO-SOLVE is working with [Manjari Foundation](#), an [NGO](#) in Northern Rajasthan and Uttar Pradesh in India, to pilot cold-chain storage interventions.

The program area of Manjari Foundation presents many socio-economic and climate-related challenges. The Rajasthan villages are in one of the most arid, drought-prone areas in India. Besides serious water scarcity, these villages also suffer from energy scarcity. Many villages are off-grid, and those that have power lines have to deal with frequent power outages.

Manjari Foundation has organized women farmers from their program villages into self-help groups. They are in the process of establishing robust market linkages. A cold chain will be an important asset that enables them to manage the value chain better.

Given the energy supply constraints, our cold chain solutions will include solar PV and solar thermal power sources.