



## Case Study Series 4

# Anticipating Problems and Proactiveness

Case 3:

## Reducing Food Waste with Zero-energy Cooling Chambers

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The case studies for this series are collected from real-life cases of civil servants working in different South Asian countries. This collection initiative is an attempt to document different proactive approaches taken by civil servants and, in the process, encourage other civil servants to become more proactive in their own workplaces. If you know of other such instances of proactive acts, please email us ([noor.nadi@northsouth.edu](mailto:noor.nadi@northsouth.edu)), and we will get back to you to collect more information.

## Case Study Series 4: Reducing Food Waste with Zero-energy Cooling Chambers

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### Unsold produce and their Economic Strain

Farmers often face challenges while dealing with unsold fruits and vegetables. One potential solution for farmers could be the use of cold storages to preserve the produce. However, cold storages may not be widely available and can be expensive for farmers who have a small quantity of produce to store. If the produce remains unsold for longer, it loses appeal. Therefore, farmers may have to sell the produce at lower prices or discard it, leading to waste.

### Reducing Food Waste with Zero Energy Cooling Chambers

The Department of Agricultural Extension (DAE) in Munshiganj district has set up cooling chambers, known as Krishoker himagar (Farmer's cooling chamber), that can function without electricity. These cooling chambers can store around 120 kg of produce and keep them fresh for around a week.

These structures are six feet long, four feet tall, and four feet wide. They are built in a cold, shadowy place using brick and sand with two five-inch layers and a 3-inch gap between them filled with sand.

A PVC (Poly Vinyl Chloride) pipe constantly supplies water to the cooling chamber from an adjacent water tank. Farmers only need to fill the tank every other day. However, during the monsoon season, the farmers can open the tank to use rainwater to keep the chamber cool.

If the farmers fail to sell their supply of vegetables, they keep them in cooling chambers where the produce can be kept fresh for around a week. As the quality of the produce remains in better condition, they can sell the vegetables at regular prices.

Since the cooling chambers are very easy to operate and take only 15,000 BDT (125 USD) to make, farmers are installing these tools by themselves. By storing the vegetables in the cooling chambers, the farmers in Munshiganj can now store the produce fresh. This has reduced the overall food wastage in the area.

### PROBLEM

When fruits and vegetables go unsold in the market, farmers are often forced to lower their prices the following day or, in some cases, discard the produce, leading to substantial waste.

### SOLUTION

A convenient and affordable cooling chamber has been developed to help farmers preserve vegetables for around a week.

### OUTCOME

A sustainable approach to keeping the vegetables fresh has allowed the farmers to benefit financially and reduce food waste.

## About the Authors

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