

**Building Block for a Solar-Powered Cold Chain**

**Location: Nagapattinam, Tamil Nadu      Use Case: Fish Shop Owner**

**Background:**

The Inspire Foundation is an NGO working with fishermen/women in Nagapattinam district. It provides storage facilities to them curb the role of middlemen/intermediaries and stabilize price fluctuations. The NGO collects Fish from the fisherfolks, stores them, and sells them to local hotels and restaurants at a premium, sharing the margin with the contributing fisherfolks. Furthermore, there is a significant price difference between Fish sold at landing centres versus retail markets, suggesting that the intermediaries earn from a major portion of the price differential. Exploitation was also challenging due to a technical mismatch. Although some deterioration of the frozen product occurs during cold storage, the differences are so subtle that the thawed product is indistinguishable from fresh after six to seven days in store under ideal conditions. Until last year, they were using coolers and fans with superior airflow to store Fish.



<b>Solution</b>	<b>Size of Fridge:</b> DDSF 150L	<b>Size of Panels:</b> 150W*3	<b>Date of Installation:</b> Oct'2020
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Through the support of the EforA initiative, the SELCO Foundation, and the DDSolar, the Inspire Foundation installed solar-powered refrigerators last year. Since the DDSS refrigerator was installed, the foundation has maintained a temperature of their choice to store the Fish and simultaneously increase the “fresh” shelf life. The refrigerator has been a boon in an area where daily power outages of 6-7 hours are a norm. With this volume of sales as well as the quantity of sales has increased significantly.



**Economic Impact:**

The DDSolar refrigerator has increased the total monthly income from INR 65,000 to INR 80,000 or (about 20%-25%). Additionally, they are able to save INR 2,000 to INR 2,500 per month on power bills. Thus, more funds are now available to share with the contributing fishers collectively.

With the increase in the volume of Fish that they have been able to store, the Inspire Foundation believes they should have requested a refrigerator with a higher capacity than the 150 litres currently installed.

**Social Impact:**

As Inspire Foundation works to address the constraints in the fisheries sector by collectivising the fisherfolks, they realise that chilling or cooling infrastructure is vital at all stages to bring in higher returns. *Thus, its positive experience is making it think of creating a solar powered cold chain with the DDSolar refrigerator being the core building block.*