

Solar powered cool boxes to improve shelf life and hygiene of fish sold in retail markets

Globally about 10 million tons of fish constituting 10% of the fish catch is lost due to post harvest spoilage and is not available for consumption. This loss can be reduced substantially by making cold-chain facilities available to the retail vendors. Grid electricity is expensive and also not available throughout the year in rural areas. Icing of fish is preferred, but ice is either not always available or is expensive. Solar coolers can help store fish longer and in hygienic way and can reduce economic losses due to spoilage of fish.

Salient features of the technology:

- The solar cooler maintains a temperature 0-5°C
- The cooler capacity is 50 kg fish. Total weight 90Kg.
- When fully charged, the battery can support the cooler for approximately 6 hours.
- The cooler can be connected directly to grid power in case of lack of sunlight.
- The mobile unit is fabricated using steel and has a clean surface for cutting/dressing fish
- The solar panels can be rotated in the direction of sunlight.

Equipment required:

- Battery = 12V Battery
- Solar Panels: Two solar panels of 100 W each (Total 200 W).
- Compressor: 12 V DC compressor
- 12 V DC fan for air circulation
- DC thermostat
- DC power controller.

Total Cost of the Unit: 1 lakh (including Solar Panels, Battery)

Product Developed:



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