

Result 6.1 - Pilot-3

RBWRP IS SUPPORTING GOB EVAPORATIVE COOLING HOLDING STORE - FOR PASHIN FARMER MARKETING COLLECTIVE (FMC)

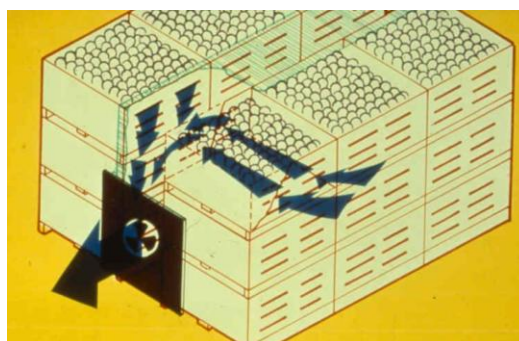
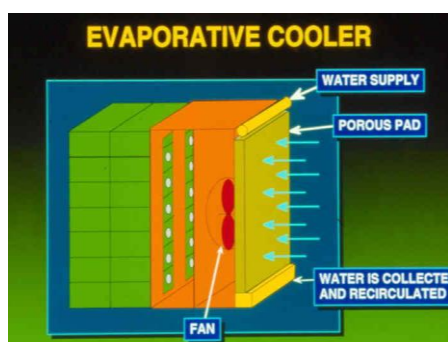
Why Farm level cooling is important? *The cold chain must begin immediately after harvest and continue without interruption through cooling, storage, grading, transport, and finally delivery to foodservice or retail outlets.*

RBWRP aims to help farmers and FMCs secure the future of food in Balochistan by demonstrating the practical value of a reliable cold-chain system—higher incomes, lower post-harvest losses, and expanded employment opportunities. The initiative will be introduced through technical assistance, applied research, and targeted skill-development programs, supported by strong collaboration with private technology companies. It will also encourage private investment to strengthen sustainable value chains across the region.

The RBWRP under the guidance of Cold Chain Engineer/International consultant demonstrated evaporative cooling system for field heat removal and maintain temperature of the fresh fruits and vegetables for certain period until it reaches to the fresh market. The purpose of this pilot was to train farmers in use of economical and solar driven evaporative cooling system to avoid post-harvest losses and follow the best handling and management practices.

The demonstration cooler for fresh produce should be able cool a block of crates with the foot print of a pallet (1200 x800 mm) and the height of three pallets (1200 mm). This means with a typical crate size the height will be 1200mm +100 mm for a pallet height

DESIGN: An insulated door(s) with a spring to keep **shut**, a closed well sealed door is a very important factor and can make the difference between success and failure.



- 1) An evaporative pad of at 25mm thick (preferably 50mm thick) 0.5 m wide x 0.5m high in dimensions (could be 0.9m high if this fits with proprietary pads), the larger the better.
- 2) Water supply from approximately 100 litre header tank which will be manually filled and placed about 1m above the top of the pad with an exit of 15mm piping or similar with

flexible piping and then a solid distribution pipe above the pad to allow water to trickle down the pad with a hand operated valve (not shown) to control flow rate.

- 3) Collection tank (approximately 50 litres) at the base, this would either be emptied by hand and the excess be put into the header tank or there could be a ball cock valve operating pump to recirculate the water.
- 4) The fan should be fitted ideally approximately half a metre from the pad and then there should be a heavy-duty curtains or flap so that it can be partially horizontally closed if not in operation.

EVAPORATIVE COOLING SYSTEM FOR F&V IN PISHIN

As a pilot activity, FMC Killi Khairabad led the upgrading of an evaporative cooling system alongside a pack house. Women participants noted this as the first initiative to improve fresh produce handling and packaging. They learned four key post-harvest steps: (1) maintaining produce quality, (2) gentle handling with suitable packaging, (3) sorting and grading by size, color, and weight for market standards, and (4) removing field heat following the "Dry, Cool, and Clean (DCC)" principle. The Women FMC will report progress on scaling these best practices through farmer-to-farmer and woman-to-woman exchange of information and practical demonstrations.

Evaporative Cooling System for Smallholders		
Trained Persons	Male	Female
		
51	22 43%	29 57%



Training and Demo on Evaporate Cooling System in Packhouse - Pishin

QC RECEPTION FORM

Ref. No _____

Harvest No _____

Arrival date _____

Inspection date _____

Origin Farm _____

Packing Type _____

Variety _____

Size and Q'ty _____

BOX NO	DATE OF INSPECTION	GROWER CODE	DATE CODE	FLESH TEMP(C)	ROTS READILY VISIBLE Y/N	BRUISING VISIBLE HIGH/MID/LOW	VARIABLE SIZES HIGH/LOW	CUTS OR HOLES OW/MID/HIGH	WET (YES ONLY)	STEM CONDITION	COMMENTS	INSPECTED BY
10	22 OCT 2025	KHAN	221025	22	N	MID	LOW	LOW	--	FRESH	EXAMPLE ONLY Could be Firmness or % Sugar	CHRIS BISHOP
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

Comments: _____

The above QC form is adapted following discussion with farmers for apples but can be modified for other crops such as tomatoes.

