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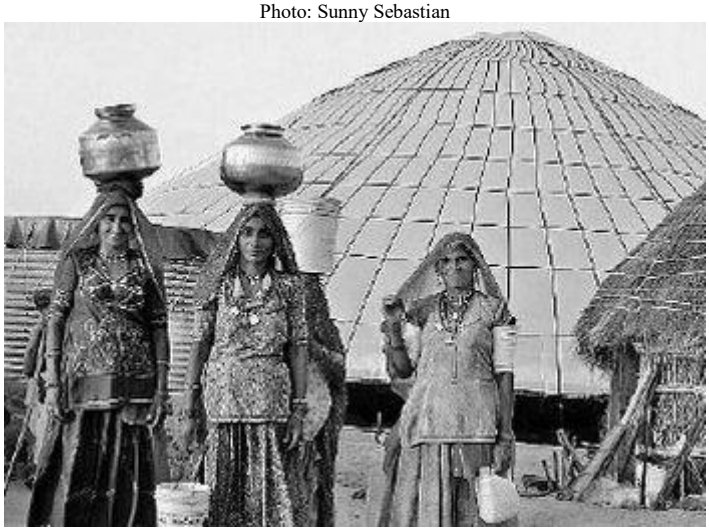
A water wonder in the middle of a desert

Sunny Sebastian

The pyramid produces distilled water from harvested rainwater using solar energy

Photo: Sunny Sebastian



Mountain of hope: **Women on their way back home after filling water from 'Shiv Jal Dhara' installed recently at Roopaji Raja Beri in Barmer's Pachpadra tehsil in Rajasthan.**

JAIPUR: The great Thar Desert of Rajasthan now has a pyramid that has no mummy inside but it churns out life-saving nectar -- potable water -- in this vast torrid terrain. The Water Pyramid has come up as a mountain of hope in the distant, desolate Roopji Raja Beri near Pachpadra in Barmer district.

Situated 125 km from Jodhpur, the village has a population of 1,000 who normally walk 4 km on an average per day to procure the precious commodity. Here men, out of sheer consideration for their women who walk miles to fetch water, normally never drink to their heart's content.

The Water Pyramid, towering at a height of nine metres and with a diameter of 30 metres, produces distilled water inside using solar energy while its exterior is used to harvest rainwater during the monsoon. The rainwater is collected separately, purified, and stored in a large ground tank with a capacity of 6 lakh litres. Named "Shiv Jal Dhara" -- as it was launched on Mahashivratri day recently -- the pyramid is only the second of its kind to come up in India. The first one is in the water-scarce Kutch, in Gujarat.

The Water Pyramid, innovated by Martijn Nitzsche from The Netherlands, is patented and rewarded by the World Bank with the Development Marketplace Award-2006 for small-scale water innovations. It is a uniquely designed inflated foil structure which uses energy from the sun to evaporate brackish source water and condense it to high-quality drinking water. The concept is based on the solar still principle optimised for large areas.

Those behind the Good Samaritan act of providing water in the middle of the desert are the Jal Bhagirathi Foundation (JCF), the Aqua-Aero Water Systems BV, The Netherlands, and Acumen Fund

of the US. “When JCF was searching for a village where people are ready to experiment on a pilot water pyramid, the community from this village came forward and expressed their willingness,” informs Prithviraj Singh, managing trustee of JCF, which has the former ruler of Jodhpur, Gaj Singh, as its chairman.

The main engagement for the women of Roopaji Raja Beri is to walk more than 4 km, spending around six hours a day to fetch water. Though there is a *beri* (well), after which the village is named, it has only saline water. The meagre agriculture practised in the area is dependent on the scanty rainfall. As there is no alternative source such as a *talaab* (pond) or *baawdi* (step-well), the sole source of water here is the monsoon. For any extra water beyond the collection made during the monsoon, they end up paying huge sums of money.

“We have no money to buy water. So most of the time we steal water from neighbouring villages,” confesses Prema Ram, the village Sarpanch, rather shamefacedly.

“We never take our fill of water as we are always afraid of finishing off with the stock, brought home with so much effort by our women,” he explains.

A “Jal Sabha”, consisting of the village community, is supposed to maintain the project. “We came across the concept at last year’s World Water Forum in Mexico,” observes Mr. Prithviraj Singh. It was after taking into account the local people’s enthusiasm and the extreme difficulty in accessing safe drinking water here that the JBF and the Jal Parishad decided to choose this village. The JBF contributed Rs.1.5 lakh while the local Jal Sabha provided land for installing the pyramid.

The plant has a capacity to produce 1,000 litres of safe drinking per day. The operational cost is minimal since direct sunlight is being used as the energy source. In this particular project the raw water with TDS in the range of 10,000 ppm is purified to ultra-pure distilled water. The State Public Health Engineering Department provides the raw water for the plant. There is a provision to manufacture salt also from the pyramid.

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