EXCELLENT DEVELOPMENT & ROTARY INTERNATIONAL.

Working together to transform lives

Excellent | Pioneers of Sand Dams

Excellent Development is a UK registered charity that enables some of the world's poorest people to transform their own lives.

We support communities in rural drylands to build sand dams, which provide safe water for life for £9.31 per person.

We are accredited by the UN Convention to Combat Desertification and UN Framework Convention on Climate Change. And we are the sole UK NGO member of the World Water Council.

OUR LIFETIME ACHIEVEMENTS

850,000
People with access to safe water

£9.31
Cost per person with safe water

870
Sand dams enabled

8
Countries

OUR WORK WITH ROTARY

£582,000
Invested by Rotary

200
Rotary clubs invested

34
Sand dams built

73,881
People with access to safe water

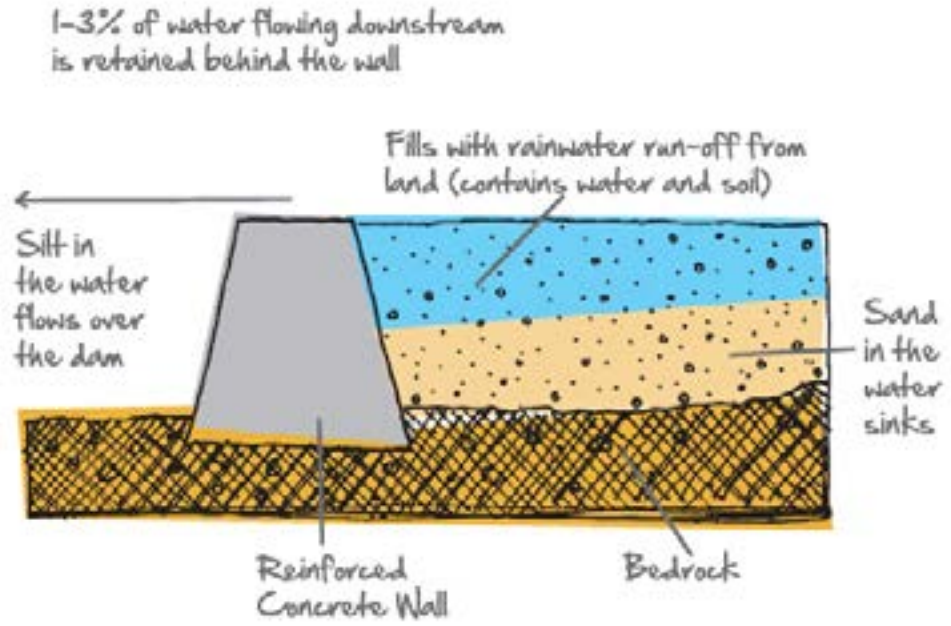
YEAR-ROUND SAFE WATER IN RURAL DRYLANDS

Sand dams are the most cost-effective method of rainwater harvesting in drylands. They have almost no maintenance costs and can last over 100 years.

A sand dam is a reinforced stone masonry wall built across a seasonal sandy river. During the rainy season, the dam fills with sediment-laden water. The heavy sand is deposited behind the dam, while the light silt is carried downstream. As much as 97 to 99% of the water flowing in the river continues downstream.

Within one to four rainy seasons, the dam fills with sand. But, up to 40 million litres of water is stored in the pores between sand particles. Here it is protected from evaporation, contamination and disease vectors, such as mosquitoes and freshwater snails.

Normalised Difference Vegetation Index research shows that sand dams increase the adaptive capacity of drylands to climate change by increasing the resilience of vegetation through times of drought.



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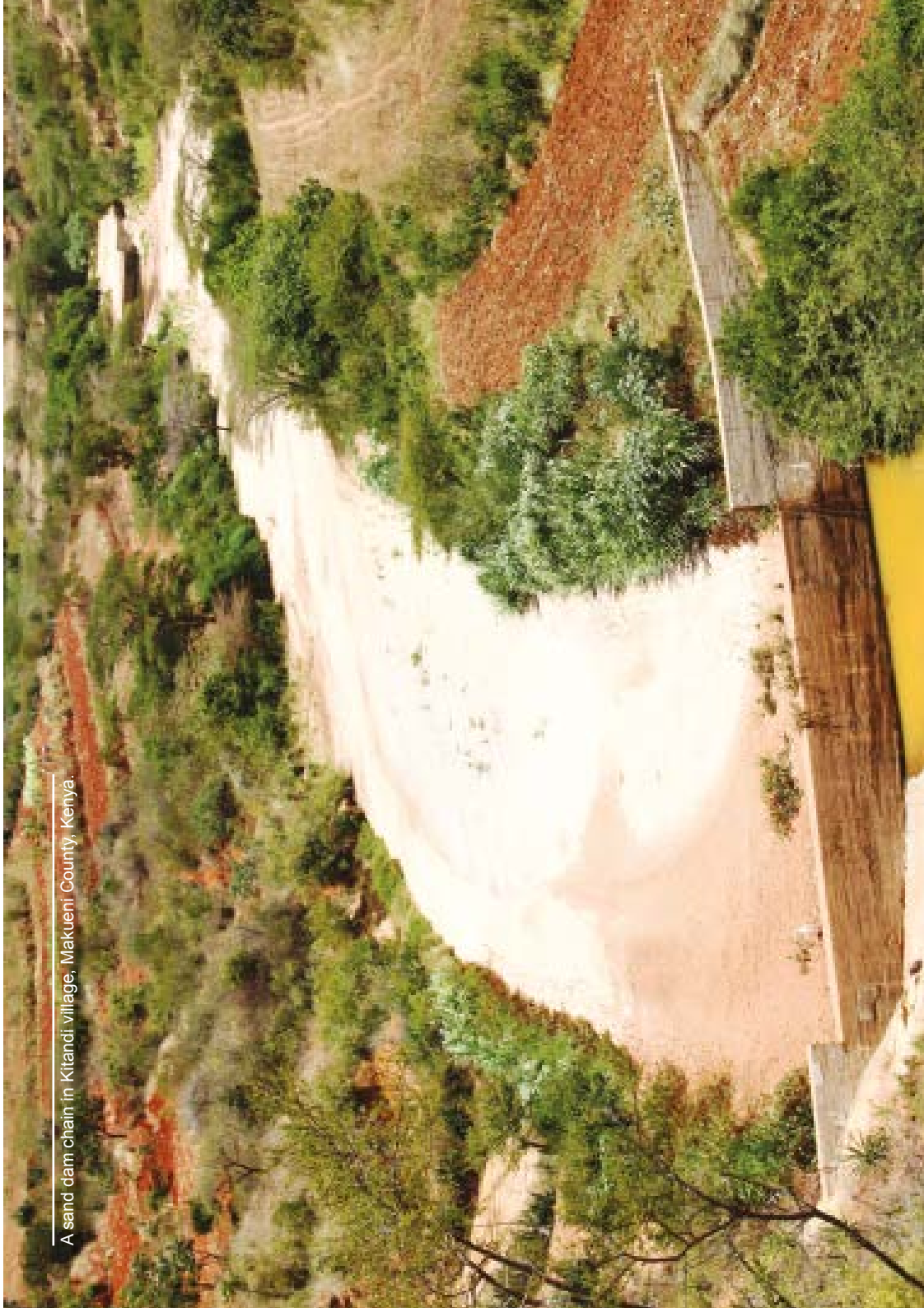


A sand dam chain in Kitandi village, Makueni County, Kenya.

FREEDOM AND OPPORTUNITY

Sand dams trap and store year-round safe water close to people's homes in rural drylands. This frees time, up to 12 hours a day, which creates opportunities for people - especially women and girls - to go to school, farm, or pursue other work.

By recharging groundwater, sand dams bridge the gap between monsoons, sustaining livestock through dry periods, providing safe fresh water for domestic use and enabling small-scale irrigation of vegetables and crops.

A case study from Rajasthan:
Mahavir Singh (pictured right) lives in the village of Thumba ka Goliya in Marwar, Rajasthan. Rainfall is low and erratic, droughts are frequent, and crops do not grow. Mahavir told us: "In this particular area no one is doing vegetable cultivation ...there was a water crisis."

Groundwater is extremely saline, up to 10 times more than is safe to drink. And, it is useless for growing crops.

In 2014, we integrated sand dam technology with a talab (a traditional rainwater harvesting technique) in Thumba Ka Goliya. It is already having an incredible impact on the lives of 100 families.

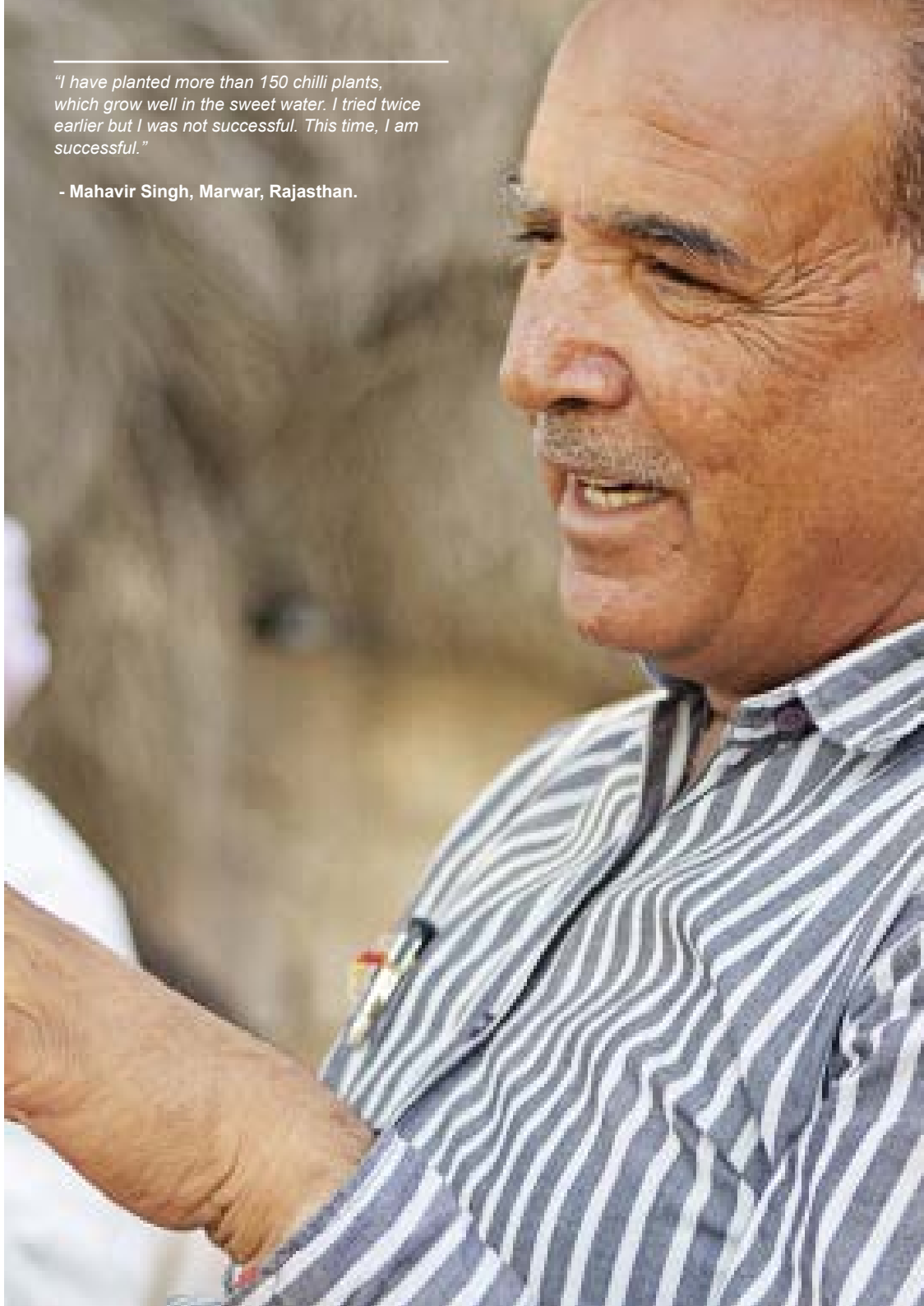
The government's Public Health and Engineering Department (PHED) reports a 50% increase in the supply of water in nine nearby tube wells and a significant decrease in salinity.

Kapoara Ravi, a PHED representative told us: "Before [the sand dam] we were getting 70,000 litres [of water per day]. Now we are getting 110,000 litres [per day]."

In summer 2014, our partners in Rajasthan, Jal Bhagirathi Foundation, reported that a tube well supplied by this sand dam was 'loaned' by the community leader to the PHED for two months to supplement their water supply to nearby villages during one of the hottest summers in over a decade.

What's the benefit?

- Groundwater recharge.
- Reduced soil erosion.
- Time saved from collecting water.
- Fresh, safe water for multiple use.
- Reduced water salinity.
- Improved pasture.
- Improved livestock health.
- Improved food production.
- Improved family health.
- Climate change adaptation.



"I have planted more than 150 chilli plants, which grow well in the sweet water. I tried twice earlier but I was not successful. This time, I am successful."

- Mahavir Singh, Marwar, Rajasthan.

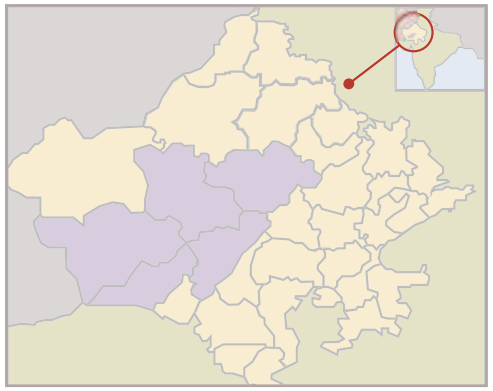
MARWAR: OUR PROJECT AREA

The term ‘Marwar’ is derived from the Sanskrit word of ‘Maruwat’, which means ‘land of death’. The region is the most densely populated arid zone in the world. It covers 40% of Rajasthan, one of the most vulnerable states in India, where 75% of villages have problems associated with high water salinity.

Marwar’s economy has traditionally revolved around animal husbandry and subsistence agriculture. The region’s primary ecological resources are water bodies, pastures, grazing lands and sacred groves.

Marwar is characterised by high temperatures, low and erratic rainfall, saline groundwater and sparse vegetation. Drought in the region means women and girls spend up to a quarter of every day collecting water - severely disrupting or preventing girls’ education. The water table has been declining at a rate of 1 to 2 metres per year. And, on average, there are six droughts every decade.

Although people in this area have developed a variety of coping mechanisms, it has been observed that the resilience of communities, particularly the rural poor, to adverse climatic conditions has declined considerably.



Marwar Rajasthan

How Rotary can help:

We are proud to be working with Rotary, including 200 Rotary clubs from Rotary in Great Britain and Ireland, as well as clubs from Europe and Kenya. Many of these clubs are particularly committed to helping people in rural drylands transform their lives through local, reliable and cheap water supplies, such as sand dams.

We have already enabled seven sand dams to be built in Marwar with our India partners, Jal Bhagirathi Foundation. We are now planning to build 58 more sand dams in Marwar by December 2018. With them, many thousands of people will transform their own lives.

Contact our team to find our how you can get involved: **rotary@excellent.org.uk**

In Marwar, 51% of the rural population is not covered by the government’s water supply system.

OUR PARTNERS IN RAJASTHAN

The Jal Bhagirathi Foundation (JBF) works with desert communities in the Marwar region of Rajasthan - the most densely populated arid land in the world. Its objective is to improve access to drinking water for people and animals through traditional knowledge and appropriate technology. Sand dams have enormous potential to help create water and food security for thousands of people in this region.

JBF was established as a Public Trust on 15 January 2002. Excellent Development and JBF formed a partnership in May 2013 based on a mutual objective to share knowledge about the application of sand dams in Rajasthan.

In November 2015, JBF's Managing Trustee, Shri Privthi Raj Singh, was elected to the Board of Governors of the World Water Council, of which Excellent Development is the sole UK NGO member.

The World Water Council is an international multi-stakeholder platform set up in 1996. Its mission is to promote awareness, build political commitment and bring about action on critical water issues, with the ultimate aim of achieving environmentally sustainable water management for all.

JAL BHAGIRATHI FOUNDATION

Jal Bhagirathi Foundation
The Water Resource Centre
Bijolai, Near Kaylana Lake
Jodhpur, India
www.jalbhagirathi.org

Chairman: HH Maharaja Gaj Singh

MEMBER ORGANIZATION
WORLD WATER COUNCIL
TOGETHER WE MAKE WATER A GLOBAL PRIORITY

In Marwar, frequent droughts mean women and girls spend up to a quarter of every day collecting water.

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