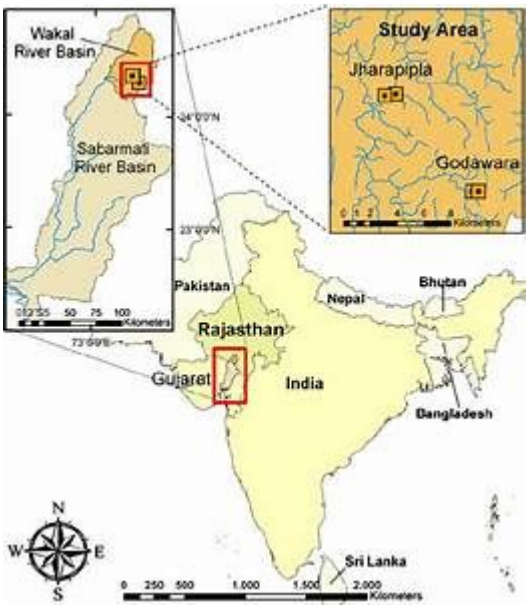
Resource Management: Wakel River Basin

The Wakel River Basin can be found in **North India**, in the region of **Rajasthan**. This is the **driest region** of India, with less than 250mm of rain falling each year and temperatures up to 53°C lead to high levels of **evaporation**.



The lack of clean water has created two problems for the region:

1. Water extraction isn't **regulated**, so many villages have over-extracted water supplies. A lack of groundwater can lead to several other problems, such as **salinisation** of the soil or **waterlogging**.

2. Crops can't be **irrigated** fully, because clean water supplies are low and some wells are becoming increasingly salty (**salinisation**). This will lead to crop failures which will impact the food security for the region.

Source: Research Gate

Therefore, the basin needs a **management project** to protect the supply of clean water.

Wakel River Basin Management

Who? The United States Agency for International Development (**USAID**) - an NGO that promotes international cooperation to improve the quality of life in developing countries.

When? The programme ran between **2004 to 2014**

How?

Taankas

Johed

Source: The Architecture Times

Description: Concrete containers underground, for water collected from roofs.

- 👍 Concrete creates a cool storage, so water isn't lost through evaporation
- 👎 Producing concrete releases carbon dioxide, which contributes to Global Warming.

Source: World Wetlands Day

Description: Earth and sand can be used to build small dams, to increase the water flow in rivers

- 👍 Johut dams can keep water flowing through rivers all year round
- 👎 Johut dams affect the water supplies in a small quantity, so might not help the entire village.

Pats

Source: Columbia.edu

Description: Small dams (bunds) divert water from a stream into farmlands, for irrigation.

- 👍 Farmlands can receive a constant supply of water, reducing the risk of crop failures.
- 👎 Channels need constant maintenance and clearing, because they fill with silt.

Education

Source: AKDN.org

Description: Creating awareness of protecting clean water supplies, reducing waste and not extracting too much water.

- 👍 Reducing over-extraction can reduce soil erosion & salinisation, which would impact food supplies in the future.
- 👎 This is a long term solution, and it takes time to change people's habits.