

**Country:** Yemen

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**Focus of case study:** Spate Irrigation

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**Summary:** The Republic of Yemen is an arid and semi-arid country where most of the land consists of barren mountains and deserts, which are dissected by wadis. These wadis are vital for irrigation, domestic water supplies, industry, and other purposes that depend mainly on groundwater. The agricultural areas in Yemen are either along the banks of the wadis and their deltas or in the terraces and plateaus of some of the mountainous regions. The seasonal rainfall, which produces spate flows of short duration are the main source of agricultural water.

Spate irrigation in Yemen represents a system of communal pooling, in which farmers share labor and resources to construct and maintain diversions, ranging from earthen bunds to elaborate canals, and collectively make decisions about land allocation to maximize benefits from spate floods. In addition, risks of water shortage are spread among households. Spate irrigation evolved as a response to aridity and to enhance agricultural yield, but will likely experience additional stress as Yemen experiences an increase in rainfall variability and drought. External actors have sought to enhance irrigation systems, but have not taken into account traditional systems of cooperation and management. In some cases, this resulted in misallocation of water resources (e.g. allowing upstream farmers to divert the majority of the flood water, while ignoring downstream users' needs). Policy interventions should be aware of traditional forms of governance and incorporate this knowledge into programs to support farmers in the implementation of spate irrigation systems.

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**Class of adaptation practice:** communal pooling

**External support:** none

**Local rural institutions:** collective/  
social

**External institutions:** none

**Capacity Building:** coordination, ability to plan and strategize, ability to maintain operations and improve production

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**Source:** UNFCCC Local Coping Strategies Database: "Spate Irrigation in Yemen."

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