Beyond tradition and modernity: the resilience of a farmer managed irrigation system in transition to drip irrigation

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Abstract

Farmer managed irrigation schemes generally combine a relatively basic irrigation infrastructure with elaborate management rules. Analyses often explain the resilience and durability of farmer managed irrigation systems by looking for commonalities and regularities across space in both infrastructure and institutions. Such analyses create the suggestion that they change little over time and indeed belong to a rather rigid world of customs and traditions, informing an analysis along a modern-tradition evolutionary binary. Moroccan irrigation policies likewise associate farmer managed irrigation systems with tradition, and quality them as too inflexible and complex to effectively accommodate the new, modern and rational drip irrigation systems that it is promoting as part of its agricultural modernization plans. In this paper, we offer a different approach to farmer managed irrigation systems, locating their resilience instead in the ability of the system to flexibly adapt to changes in bio-physical and socio-economic contexts, including those provoked by state interventions. We base this argument on an in-depth historical analysis of a surface irrigated farmer managed irrigation system in Morocco. The water users organisation of the Seguia Khrichfa has shown, and continues to show, a high level of flexibility and adaptability in changing water allocation rules and practices to better meet changing needs of water users. It has creatively reacted to changing discharges, cropping patterns and policies by changing the water turn, the main d’eau or the technology in use. Currently, and defying its categorization as traditional, the users of the Seguia Khrichfa are planning a transition from surface irrigation to drip irrigation. ‘Traditional’ irrigation institutions do not necessarily hinder drip irrigation use. Water rights and irrigation practices in the farmer managed irrigation system do indeed influence farmer’s practices with drip irrigation but at the same time the irrigation institution allows farmers to find creative ways to tinker with the rules in use. However, the irrigation community is not homogeneous, and the resilience of the irrigation system does not lead to development for all its users. The technical and organisational transformations re-configure possible modalities of irrigated farming, creating opportunities for

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some (new) emerging groups of farmers and co-producing new forms of social differentiation among farmer families.

Our analysis shows that the dynamics of the Khrichfa canal display a fascinating combination of continuity and change that is difficult to grasp in terms of either tradition or modernity. While maintaining continuity, the system’s technology, institutions and even its command area develop continuously. The resulting, while constantly changing, mix between tradition and modernity proves to be resilient over time, although one could question where this resilience is located and whom it serves (best).

**Keywords:** Water Management, Adaptability, Development, Institution, Resilience, Technology, Transformation