Alternative Governance Scenarios for Water Scarce Regions: A Case Study on Iran
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Today, there is an urgent necessity to consider alternative ways that society can manage scarce water resources in response to the ever-rising demand for freshwater around the world. Yet, this need is even more acute in arid and semi-arid regions, like the Middle East and North Africa (MENA) countries that water resources are extremely limited (only 1% of total earth, renewable water resources), and are projected to decline due to climate change implications and population growth. In the MENA region, the agriculture sector is responsible for more than 90% of water usage, and that is not enough to secure the food demands of the region. Looming serious domestic and transboundary water conflicts add more political and socioeconomic complexity to this highly unstable region. That is, while current mitigation strategies are short-term, ineffective and to some extent, they just make the problem worse.

In this research, I used the Zayandeh Rud watershed in Iran as a case study to explore adaptive agricultural water demand management strategies. I utilized the results to develop a small set of coherent, plausible and systematically different water governance scenarios for Zayandeh Rud 2030, through a participatory formative scenario construction approach.

The first scenario resembles an extension of the status quo, the other scenarios represent four different mitigation approaches to manage agricultural water demand. However, the different mitigation strategies might offer different levels of effectuality and
sustainability. Each scenario might represent and serve a group of stakeholders’ values and interests better than others. Further, these scenarios may provide stakeholders with insights about the potential decisions and impacts on water and food security, local communities’ resilience and ecological sustainability of the watershed. The result of this study can facilitate communication between stakeholders and induce collective and informed decision-making.

Keywords: Water Governance, Scenario Planning, Sustainability, Water Scarcity, MENA, Middle East and North Africa