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Institutional adaptation to drought: The case of Fars Agricultural Organization

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ABSTRACT

Recurrent droughts in arid and semi-arid regions are already rendering agricultural production, mainstay of subsistence livelihoods, uncertain. In order to mitigate the impact of drought, agricultural organizations must increase their capacity to adapt. Institutional adaptation refers to the creation of an effective, long-term government institution or set of institutions in charge of planning and policy, and its capacity to develop, revise, and execute drought policies. Using the Fars Agricultural Organization in Iran, as a case study, this paper explores the institutional capacities and capabilities, necessary to adapt to the drought conditions. The STAIR model was used as a conceptual tool, and the Bayesian network and Partial Least Squares (PLS) path modeling was applied to explain the mechanisms by which organizational capacities influence drought management. A survey of 309 randomly selected managers and specialists indicated serious weaknesses in the ability of the organization to apply adaptation strategies effectively. Analysis of the causal models illustrated that *organizational culture and resources and infrastructure* significantly influenced drought management performance. Moreover, managers and specialists perceived *human resources and strategy, goals, and action plan*, respectively, as the main drivers of institutional adaptation to drought conditions. Recommendations and implications for drought management policy are offered to increase organizational adaptation to drought and reduce the subsequent sufferings.

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1. Introduction

Drought is occurring more frequently in arid and semi-arid regions of the world; global climate change is also increasing both its extent and intensity (IPCC, 2010). Critical features of drought and its impact on resource-dependent sectors, such as agriculture, raise concern about meeting the demands for water and food (Karami and Keshavarz, 2009). Appropriate drought management policies are needed to alleviate negative consequences (O'Brien et al., 2006) and increase the capacity of varying societies to adapt successfully (Næss et al., 2005). Rural communities and organizations, embedded in the natural environment (Starik and Rands, 1995), must learn how to increase their capacity to adapt to drought conditions. However, the covariate nature and frequency of droughts (Keshavarz et al., 2013) make efficient management difficult. Human suffering, natural resources degradation, and shortages of credit force organizations to act more responsibly in reducing the drought vulnerability, and managing the impact of the drought on rural societies. A

comprehensive, adaptive system is therefore imperative (Comfort and Kapucu, 2004) to respond to the pressures and develop mechanisms for reducing negative consequences. Meeting such challenges requires increased and proactive organizational performance (Holbeche, 2006). Organizations must avoid focusing narrowly on drought management outputs and pay more attention to the operating processes (Wilbanks, 2002) at different levels.

This study examines the capacity and performance of the Fars Agricultural Organization in Iran, during drought and the variables that affected the organization performance. First, it explains the dynamic context of drought and its impact on organizations. After that, it addresses the need for proactive organizational adaptation and proposes a framework. The focus then shifts to the study design followed by an analysis of results and concluding remarks.

1.1. The changing context of drought and its impact on organizations

Since organizations are embedded within the global ecosystem, they are affected by changes in the natural environment (Winn and Kirchoeorg, 2005). Their survival depends on their compatibility in response to these changes (Druckman et al., 1997). Organizations that do not adapt adequately cannot perform effectively or maintain their legitimacy or the resources they need to survive.

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