



Organic fig growers' adaptation and vulnerability to drought



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ABSTRACT

The aim of this study was to investigate the impacts of drought on fig-farmers and how they perceive the future of farming under drought condition. It also aimed to identify the determinants of the farmers' adaptation, vulnerability, and perception of the future of farming. A systematic random sample of 246 fig farmers in Estahban County in south-west of Fars province, Iran was selected in a survey research method design. Path analysis was used to study the relationship between variables. Findings of the study indicated that, the farmers differed in terms of adaptation, vulnerability, and perception of the future of farming. Using cluster analysis to develop a typology of farmers based on their farming and personal characteristics suggested three groups of professional, semi-professional, and hobby farmers. Recommendations with regard to drought management policies were provided to reduce farmers' vulnerability and encourage them to continue farming.

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1. Introduction

Issues surrounding water resources and drought have become a permanent cause of worldwide concern, especially in the field of agriculture and its economy (Kim et al., 2015; Liu et al., 2008). The last decade marked the most critical drought that Iran has experienced over the past 30 years spanning from 2003 to 2011. This drought has negatively affected the lives of a majority of the rural population living in central, eastern, and southern Iran (Keshavarz et al., 2013). The devastating effects of the lack of water resources were especially felt by those whose livelihood depended mainly on the rain for agriculture (Endfield et al., 2004).

Continued drought can influence the farmers' perception of the future of farming and rural livelihood. Authors from different parts of the world have focused on this issue in their studies. Woudenberg et al. (2008) investigated the impact of drought on the producers' perception of the future of farming in Frontier County, Nebraska. They found producers were very perceptive of the drought hazard and were concerned about the future of farming and the quality of rural life. Evans et al. (2011) examined the Western Australian rural people's attitudes about climate change and its influences on the future of farming. The results of this study indicated that only 31% of participants thought climate change represents a major threat to the future of their farm businesses.

Also, a review of Australian research on the drought impact by Kippen and Talbot (2009) showed the majority of farming families are persevering and have not been pushed to leave farming. However, many were questioning the future viability of their farming enterprises, especially in marginal lands, and some feel the future of farming is hopeless. Some farmers have altered their personal and professional plans, sought off-farm income, or diversified into alternative farming enterprises. A number of factors increased the sense of isolation and hopelessness felt by many farmers, including perceptions of an increasing division between rural and urban Australians, increasing government surveillance, regulation and bureaucratization, and the loss of local and social infrastructure due to immigration of younger people to urban centers and the ageing of farmers.

Severe droughts have led drought management to become increasingly vulnerable (Kim et al., 2015). Taking into account that this susceptibility varied over time and across space, one also noted that the coping strategies constantly changed as well (Liu et al., 2008). Whittaker et al. (2012) and Eakin (2005) argued that the decisive constituents of vulnerability included the capacity for response, coping, adaptation, and recovery. Therefore, gaining a better understanding of the situation was crucial to achieving a better understanding of the problem. It also provided a more accurate picture of the efficiency of the adopted strategies by those who were affected (Liu et al., 2008). Analyzing current adaptation, coping strategies, and identifying vulnerabilities and their determinants could significantly contribute policy- and decision-makers to consider proper policies and decisions for the future

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