

## Causes, Effects and Management Mechanisms of Drought Crisis in Rural and Nomadic Communities in Southeastern Iran as Perceived by Agricultural/Rural Managers and Specialist

Seyed Mahmood Hosseini\*, Aboulqassem Sharifzadeh\*\* and Morteza Akbari\*

\**Department of Agricultural Extension and Education College of Agricultural Economics and Development, University of Tehran-Karaj-Iran, Tehran-Karaj 31587-77871, Iran  
Telephone: +98-(0261)2818709, Email: hosseini\_mah@yahoo.com*

\*\**Gorgan University of Agricultural Sciences and Natural Resources -Iran,  
Gorgan 31587-77871, Iran  
Telephone: +989125601477, E-mail: sharifsharifzadeh@gmail.com*

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**ABSTRACT** Iranian rural and nomadic communities living in drought-prone marginal areas with subsistence economy, seem to be most vulnerable during the occurrence of drought crisis. Various communities have their own different approaches to manage risk and crisis, including drought and other natural disasters. In the past, however, traditional communities in dry lands typically managed and protected their resources communally using their own indigenous knowledge. Under the current situation, development of various mitigation mechanisms and crisis management systems have led to optimistic visions for controlling drought and revitalizing livelihood systems of rural and nomadic communities affected by drought. A survey research was conducted to identify and analyze the causes, impacts and management mechanisms of drought crisis in rural and nomadic communities in Southeastern Iran which have severely been affected by drought during the last decade. The sample of the study encompassed 220 managers and specialists of various rural and agricultural related governmental departments, who have been extensively participated in management and mitigation of drought crisis. The instrument for data collection was a questionnaire which was validated by a panel of experts and the reliability index was established by Cronbach's coefficient. The collected data were analyzed using the Statistical Package for the Social Sciences Software. Major findings included: five components were extracted for the causes of drought vulnerability, including: socio-economic, livelihood, hydrological, agricultural, and metrological drought. Management mechanisms of drought crisis summarized in five factors, namely as: integrated water resources management, institutional capacity building, targeted supporting, systemic planning and sustainable development of agricultural and livelihood. Based on the findings and conclusions of this study, specific recommendations were made to reduce effects of drought crisis.

### INTRODUCTION

The great challenge for the coming decades will be to increase food production with less water, particularly in countries with limited water resources. The effective and sustainable use of water for agriculture has become a global priority of vital importance, requiring urgent and immediate solutions in view of intensifying competition (Smith & Munoz, 2002). It is estimated that the world contains about 1400 million km<sup>3</sup> of

water. Of this water, solely 35 million km<sup>3</sup> (2.5%) are freshwater. The large amount of freshwater contained in ice caps, glaciers and deep in the ground, which is not easily accessible for use. The average annual rainfall overland amounts to 119000 km<sup>3</sup>, of which some 74000 km<sup>3</sup> evaporates back into the atmosphere. The remaining 45000-km<sup>3</sup> flows into lakes, reservoirs band streams or infiltrate into the ground to replenish the aquifers. Not all of these 45000 km<sup>3</sup> are accessible for use because part of the water flows into remote rivers during the seasonal floods (FAO 2003). According to the World Disaster Report (Walter 2004), drought and famine have proven to be the deadliest disasters of the decade worldwide, accounting for at least 275,000 deaths since 1994. This was nearly half the total for all natural disasters.

Drought, as a phenomenon, has been with

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*All correspondence to:*

Morteza Akbari  
Department of Agricultural Extension and Education,  
College of Agricultural Economics and Development,  
University of Tehran,  
Karaj 31587-77871, Iran  
Telephone: +989126115241  
E-mail: M62akbary@gmail.com