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“Global food security and food safety:
The role of universities”

Determinants of Food Security and Food Waste Control in Drought Prone Areas of Iran

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Abstract

While various programs have been implemented to ensure food security, the number of malnourished people is growing, especially in rural areas of developing countries. Due to the increase of extreme weather events, such as droughts, and significant depletion of water resources in arid and semi-arid regions of the developing world, achieving food security is not an easy task. Therefore, investigation of rural households' food security in drought prone areas is of great concern. On the other hand, it has been estimated that at least one third of the produced food would be wasted and more than half of the food waste originates at household level. However, little is known about how farm families of Iran adjust food wastes during drought. Thus, addressing the factors that influence household' food waste reduction efforts is crucial. The data for this study were collected via a survey of farm families in Kherameh county, southwest Iran, selected through a multistage stratified random sampling method. A Household Food Insecurity Access Scale (HFIAS) was applied to measure the degree of food security. Findings indicated that 59.7 % of drought affected rural families suffer from food insecurity. Also, regression analysis suggested that drought intensity, food cost, livelihood diversity, household unemployment ratio, cash transfer, crop yield, social cohesion and exposure to information are the main determinants of food insecurity. Moreover, the results revealed that drought stimulates food waste control. So that, rural households living in most drought affected areas significantly reduce their food wastes. In addition to drought intensity and water scarcity, the following factors are the main drivers of food waste control efforts: drought risk perception, foodstuff availability, income, food cost, access to markets, knowledge about food waste adjustment strategies and perceived effectiveness of food waste control. To ensure food security and minimise food waste under drought conditions, development of science intensive biotechnologies that allow increasing food production while using fewer water resources, promoting drought-risk reduction solutions and knowledge and information systems, and enhancing social, financial and human capitals are imperative. It is up to universities to find solutions for ensuring food security and safety under drought crisis.

Keywords: Drought, food security, food waste, Iran, rural families