



## Analysis of Food Poverty of Rural Women in Villages of Central district of Boyer-Ahmad County

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### Abstract

The findings revealed that about 31 percent of women were below and 69% were above the food poverty line. Comparison of averages of some variables including education status, employment (head of household), income, banking facilities such as credit and loans, property and assets, savings, economic skills, economic participation, government supports, husband's attitude, self-confidence, self-esteem, physical and mental healths showed that there are significant differences between poor and non-poor rural women. The discriminant analysis indicated that variables like husband attitude, self-confidence, and self-esteem correctly classified about 87.7 percent of rural women as poor or non-poor. Due to the husband's attitude had a significant role in differentiation of the two groups, the social and cultural education of rural men are recommended. Furthermore, the supporting strategies that includes the distribution of food commodities, unemployment insurance and pensions, medical insurance and development of educational services for rural women is suggested.

**Keywords:** Food poverty, Rural development, Rural women, Boyer-Ahmad

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## Application of Multi-objective Fuzzy Goal Programming to Optimize Cropping Pattern with Emphasis on Using Conservation Tillage Methods

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### Abstract

In this study, the optimal cropping patterns based on individual aims were presented and followed by using a multi-objective fuzzy goal programming with emphasize on the use of conservation tillage methods in the Darab region. Individual goals consisted of maximizing gross margin and food security and minimizing water consumption and urea fertilizer use. The results showed that in the multi-objective cropping pattern, gross margin and food security increased by 23.5% and 6.1% , while water and energy consumption decreased by 4% and 5.1%, respectively as compared to the current cropping pattern. The fuzzy composite distance improved by %36, as compared to the current condition. Moreover, having replaced the conventional tillage methods with conservation tillage methods in the cropping pattern, the diesel fuel consumption reduced by 27%. Therefore, replacing multi-objective cropping pattern ,on which the conservation tillage methods are emphasized, with the conventional cropping patterns improves economic and environmental conditions.

**Keywords:** Conservation tillage, Multi-objective fuzzy goal programming, Optimal cropping pattern, Darab

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## Modeling Economic Behavior of Farmers' Acceptance of Wheat Crop Insurance Using of Systems Thinking Approach

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### Abstract

Unsustainable and hazardous conditions in agricultural production caused agricultural activities to be often perceived as high-risk activities. Due to the high risk in agricultural operations, providing facilities to support and meet economic security for agricultural employees is essential and inevitable. Considering the important role of insurance in risk reduction and in order to improve the insurance industry, this study modeled the economic behavior of farmers' acceptance of wheat crop insurance in Hamedan County. Moreover, the study analyzed the impact of various strategic scenarios on the farmers' acceptance of insurance. The results showed that the higher the probability of damaging crops is the higher the extent of farmers' acceptance of insurance is expected. Accordingly, a farmer will most likely accept an insurance contract when he had considerable number of years in which serious damages to his agricultural products has occurred. Furthermore, the study revealed a direct relation between warranty of insurer and probability of insurance acceptance. Accordingly, it is recommended that the share of farmer's insurance payment be balanced with the potential losses in the agricultural production.

**Keywords:** Economic Modeling, Wheat Insurance Systems thinking Approach, Hamedan County

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## Applying Regression Models with Mixed Frequency Data in Modeling and Prediction of Iran's Wheat Import Value (Generalized OLS-based ARDL Approach)

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### Abstract

Due to the importance of the import management, this study applies generalized ARDL approach to estimate MIDAS regression for wheat import value and to compare the accuracy of forecasts with those competed by the regression with adjusted data model. Mixed frequency sampling models aim to extract information with high frequency indicators so that independent variables with lower frequencies are modeled and forecasted. Due to a more precise identification of the relationships among the variables, more accurate prediction is expected. Based on the results of both estimated regression with adjusted frequency models and MIDAS for the years 1978-2003 as a training period, wheat import value with internal products and exchange rate was positively related, while the relative price variable had an adverse relation with the Iran's wheat import value. Based on the results from the conventional statistics such as RMSE, MAD, MAPE and the statistical significance, MIDAS models using data sets of annual wheat import value, internal products, relative price and seasonal exchange rate significantly improves prediction of annual wheat import value for the years 2004-2008 as a testing period. Hence, it is recommended that applying prediction approaches with mixed data improves modeling and prediction of agricultural import value, especially for strategic import products.

**Keywords:** Prediction, Regressions with Mixed Data, Regression with Adjusted Data, Wheat Import Value

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## The study of Willingness to Accept of Khorasan Razavi Province Farmers to Produce Greenhouse Organic Cucumber

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### Abstract

The chemical inputs threat the health of water, soil and organisms. Thus, it is essential to encourage farmers to produce products with minimum use of chemical inputs. Using the ordered logit model and a cross sectional data of 186 producers in 2012, this study attempted at investigating influential factors on willingness to accept (WTA) of Khorasan Razavi province farmers to produce greenhouse organic Cucumber (GOC) than the traditional product. The results showed that over 80 percent of farmers believe that the price of organic product should be at least 10 percent more than the traditional product price. Moreover, the relationship between WTA for producing GOC and some factors including cultivated area, applying advices from agricultural advisors, product insurance, average current yield of traditional Cucumber and acknowledge about international market of organic product is positive and significant. Considering the results, developing training and extension programs on the use of organic product, granting financial facilities and awards to organic product producers and insurance adjustment to reduce risk and increase agricultural production are recommended.

**Keywords:** Organic, Market information, Ordered logit, Khorasan Razavi, Greenhouse Cucumber

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## The Effect of Exchange Rate Volatility on Iran's Raisin Export

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### Abstract

Exchange rate volatility is one of the effective and ambiguous factors in agricultural product export. Considering the importance of agricultural trade to avoid single-product economy, the main aim of this study was to investigate the impact of exchange rate volatility on the Raisin export of Iran during the years 1959-2011. For this purpose, exchange rate volatility index was estimated using Moving Average Standard Deviation (MASD). Then, the impact of exchange rate volatility on the value of Raisin export was examined using Johansen's and Juselius's cointegration method and Vector Error Correction Model (VECM). The results showed that in the long-term and short-term there is a significant relationship between Raisin exports and its main variables (weighted average of Gross income of importers, Wholesale Prices, real exchange rate, Value-added of agricultural sector); as according to the theory it has negative relationship with exchange rate volatility. The error correction coefficient sentence ECM (-1) significantly and its sign was negative as expected. The value of this coefficient is equal to the -0/20 and indicates that about 20 percent of Raisin exports imbalance from its long-term value, after of a period will be Elapse.

**Keywords:** Raisins, Exchange Rate Fluctuations, VECM, Impulse Response

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## Simulation of Farmers' Response to Irrigation Water Pricing and Rationing Policies (Case Study: Zabol City)

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### Abstract

Considering that agricultural sector is the largest consumer of water, presenting integrated management for water resources and formulating effective policies to increase water productivity in this sector is essential. Therefore, using economic modeling, this study simulated the farmers' responses to irrigation water pricing and rationing policies in Zabol city. To achieve the study purpose, the State Wide Agricultural Production Model and Positive Mathematical Programming were applied. The required data for the years 2010-2011 was collected by completing questionnaires and collecting data sets from the relevant agencies of Zabol city in personal attendance. The results showed that imposing irrigation water pricing and rationing policies in Zabol city leads to a reduction in the total cultivated area by 9/54 and 5/14 percent and a reduction in the water consumption by 6/23 and 7/01 percent, compared to the base year. Ultimately, irrigation water rationing policy, considering frugality of 18/9 million m<sup>3</sup> of water, as the appropriate solution for the sustainability of water resources of Zabol city was proposed.

**Keywords:** Sustainability of Water Resources, Positive Mathematical Programming, Rationing, SWAP Model, Zabol

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## The Study of Volatility Spillover Effects of The Exchange Rate on Agricultural Industry Index Listed on The Stock Exchange

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### Abstract

Financial markets are one of the most crucial markets in every country. Stock exchange market and exchange market are the most sensitive sectors of financial market. These markets are affected by fluctuations and business cycles in the economy and they reflect economic changes to the economy. On the other hand, disturbance in one or both markets cause concerns among policy makers. Dynamic interactions between these two markets encourage policy makers and researchers to carry out some analysis considering more details. In this study, effects of volatility of exchange market and agricultural processing industries stock market on themselves and each other have been investigated by GARCH model. Weekly data between April 2006 and January of 2014 was used. The results show that the past volatility of exchange market affects the current volatility of this market. The past shock in exchange market has effects on the current volatility of this market, the current volatility of food and beverage industries as well as the sugar industry market. Also, the past shock in sugar industries market affects its current volatility and the current volatility of exchange market and food and beverages industries market. Because changes in exchange rate affect revenues and costs of the mentioned industries, preventing the exchange rate market from fluctuations and putting it in stable by making balance between demand and supply, also controlling the central bank and other regulatory agencies will prevent these two markets from fluctuations. It is, therefore, recommended that policy makers impose monetary and financial policies that reduce volatility in capital and exchange markets.

**Keywords:** Exchange rate market, Agricultural processing index stock exchange market, Volatility, GARCH model

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## Irrigation Water Pricing: The Case Study of Mashhad-Chenaran Plain

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### Abstract

In the current study, the Generalized Maximum Entropy (GME) and Dynamic Positive Equilibrium Problem (DPEP) approach were introduced and used to estimate the set of dynamic supply functions of selected annual crops in Mashhad-Chenaran plain during the years 2003-2011. In addition, the Allen and Morishima elasticities of derived demand inputs, and supply elasticity of the crops were determined. The results showed that the estimated dynamic supply functions calibrate the observed supply for each year, accurately. Also, the policy of increasing irrigation water prices by 100 percent from the base year reduced the cultivated area and increased farmers' intention to cultivate and supply crops with higher income, such as potato, tomato, onion and cucumber. Thus, considering the model's ability to estimate the observed supply in each year and to determine the impact of various policies, applying the model is recommended to analyze other policies imposed across various regions.

**Keywords:** Generalized Maximum Entropy, Supply Function, Dynamic Positive Equilibrium Problem, Mashhad-Chenaran Plain

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