Agricultural Economics
Journal of Iranian Agricultural Economics Society

Vol.۳/No.۱/۲۰۰۹

Publisher: Iranian Agricultural Economics Society
Managing Director: Saeed Yazdani, PhD, Tehran University
Editor- in- Chief: Mohammad Bakhshoodeh, PhD, Shiraz University
Editorial Manager: Shahrokh Shajari, PhD, Shiraz University

***Editorial Board*:**

S. Hoseini, PhD ----------Tehran University
S. Dehghanian, PhD ----------Ferdowsi University of Mashhad
H. Salami, PhD ----------Tehran University
G.R. Soltani, PhD ----------Shiraz University
D. Salehi- Isfahani, PhD---------- Virginia Polytechnic Institute and State University
M. Koopahi, PhD ----------Tehran University
B. Najafi, PhD ----------Shiraz University
S. Yazdani, PhD ----------Tehran University
M. Bakhshoodeh, PhD ----------Shiraz University
G. Sharzei, PhD ----------Tehran University
R. Mohammad Rezaei, PhD ----------Tabriz University
H. Mehrabi Boshrabadi, PhD ----------Kerman University

***Address*: Journal of Agricultural Economics, Department of Agricultural Economics, College of Agriculture, Shiraz University, Shiraz, Iran.**

Tel: (+۹۸) ۷۱۱-۲۲۸٦۰۸۲

Fax: (+۹۸) ۷۱۱-۲۲۸٦۰۸۲

E-mail: iaejournal@gmail.com

Contents:

Cost Structure Analysis of Corn in Iran ---------- ١

S. Yazdani
S. Abedi

Deforestation in Iran and Five Neighbor Countries Applying Kuznets Model ---------- ٢

F. Nasrnia
A. Esmaeili

Optimal Allocation of Torogh Dam Water between Agricultural and Urban Sectors by an Interval Parameter Fuzzy Two Stages Stochastic ---------- ٣

M. Sabuhi Sabuni
F. Rastegari
A. Kahkha

Financial Development and Agricultural Growth ---------- ٤

F. Fathi
M. Zibaei
M.H.Tarazkar

Evaluating the Effect of Support Policy on General Services of the Iranian Government on Productivity of Agricultural Sector---------- ٥

S. S. Hoseini
S. Rezaei
H. Rezaei

An Estimation Willingness to Pay of Consumers for Increasing Quality of Bread in ٢٠٠٧ (Case Study of Isfahan City) ---------- ٦

N. Akbari
R. Khoshakhlagh
M. Sameti
A. Shahidi

A Study of Market Efficiency and Trade Profitability in Iran's Pistachio Domestic Market ---------- ٧

M. Abdollahi Ezatabadi

Estimating Capital Stock in Iran Sub-agricultural Sectors----------٨

H. Sherafatmand
M. Homaunifar
H. Mehrabi
A. Baghestany

Benefit Distribution of Food Subsidy in Iran----------٩

A.Karami
A. Esmaeili
B. Najafi

Investigating the Government's Support Policies with Policy Analysis Matrix Method: Case Study of Potato in Hamedan Province ---------- ١٠

N. Nakhaei
A. H. Chizari
A. Rezaei

A Survey of Strawberry Marketing in Kurdistan Province ---------- ١١

H. Ghaderzadeh
M. Hajirahimi

Optimization of Cropping Pattern by Fuzzy Goal Programming with a Tolerance Approach: A Case Study of Neyshabour City ---------- ١٢

S. Ziaei
M. Sabuhi Sabuni

Evaluating the Effects of Production Inputs, Climate and Insurance on Income Equality of Wheat Producers in Khorasan Province ---------- ١٣

M. Ghorbani
A. R. Kucheki
S. Danesh
E. Shokri

ABSTRACTS

Cost Structure Analysis of Corn in Iran

S. Yazdani, S. Abedi*

Corn is the third important strategic crop in the world after wheat and Barley. Iran uses this product as basic source for providing energy in Poultry Nutrition. Therefore, in this study, in order to estimate the production elasticities and effects of inputs in production of corn, a translog cost function was estimated. Moreover, advantages of using cost function instead of production function in analyzing the productive technology presented. Restricted non linear maximum likelihood method was used to estimate the model. The Allen partial cross elasticities for each pair of inputs confirm the substitution relationship among labor with fertilizer, seed and water. The results also indicate that machinery is as a complement for labor and substitute for fertilizer, water and seed. The amount of own price elasticity which is less than one indicating inelastic demand of labor input. The results also show that production of corn has decreasing return to scale (SE= ۰/۳۹).

JEL: Q۱۲, D۲

Keywords: Translog cost function; substitution elasticity; return to scale; restricted non linear maximum likelihood approach; corn

* Respectively, Professor and MS Student, Faculty of Agricultural Economic and Development, University of Tehran, Iran
e-mail: syazdani@ut.ac.ir

Deforestation in Iran and Five Neighbor Countries Applying Kuznets Model

F. Nasrnia , A. Esmaeili*

Deforestation has been recognized as one of the biggest environmental problems, main elements of land productivity changes and one of the biggest factors which threaten world's environmental variety. Although, several studies have found evidence of an Environmental Kuznets Curve (EKC) for various measures of environmental degradation such as pollution and deforestation in Africa and America, only most studies rejected EKC for deforestation in Asia. In this paper we used a panel data set of six developing countries including Iran to study the deforestation process. Results reject EKC hypothesis for deforestation. Only coefficient of population was significant. This shown in the selected set of countries, population can explain deforestation process.

JEL: Q۲, Q۵

Keywords: Deforestation, environmental Kuznets curve, population growth, panel method.

* Respectively, Postgraduate Student and Associate Professor of Agricultural Economics, College of Agriculture, Shiraz University, Iran
e-mail: fnasrnia@gmail.com

Optimal Allocation of Torogh Dam Water between Agricultural and Urban Sectors by an Interval Parameter Fuzzy Two Stages Stochastic Programming under Uncertainty

M. Sabuhi Sabuni, F. Rastegari and A. Kahkha[*]

In this study, water allocation of Torogh dam between urban and agricultural sector is considered using an Interval Parameter Fuzzy Two-stage Programming (IFTSP). This model is a combination of fuzzy programming and interval parameter in two stage stochastic optimization framework. By the model it is possible to include pre-defined policy in optimization process and is able to offer different decision making alternatives in different conditions of water shortage. Needed data was collected from Mashhad Regional Water Organization for the year ۱۹۸۸-۲۰۰۶. Results showed that, urban sector benefit is more sensitive to varying water allocation than agricultural sector. Urban sector doesn't encounter to water shortage in the high-flow year (۱۶٪). In normal-flow year (۶۶٪), agricultural sector face with water shortage and urban sector doesn't. In addition, both urban and agricultural sectors confront water shortage in the low-flow year (۱۸٪). As a final point, if the director of dam does conservative, less water shortage will happen in upcoming.

JEL: Q۲۵

Keywords: Stochastic programming, Fuzzy method, interval parameter, uncertainty, Torogh dam

[*]Respectively, Assistant Professor, Postgraduate Student and Assistant Professor, Zabol University, Iran
email: msabuhi۳۹@yahoo.com

Financial Development and Agricultural Growth

*F. Fathi, M. Zibaei and M. H. Tarazkar**

The main purpose of this article is study of short and long-run relationship between measures of financial development and growth of agricultural sector, applying vector error-correction model to ۱۹۶۲-۲۰۰٤ data. Agricultural bank credit, credit of other banks and money stock minus currency to GDP were used to measure agricultural financial development. Results showed that there is a long-run bi-directional causality relationship between financial development and agricultural growth and agricultural growth caused financial development in short-run. Agricultural bank credit cannot cause fixed capital formation in agriculture in short and long-run. Therefore, allocation of credit needs some reforms for increasing of capital formation in agriculture.

JEL :Q۱٤, O۱

Keywords: Financial development, agricultural growth, agricultural bank, VECM

*Respectively, Msc. Student, and Associate Professor of Department of Agricultural Economics, Shiraz University, and Instructor of College of Agriculture and Natural Resources, Iran
e-mail: fathifateme@yahoo.com

Evaluating the Effect of Support Policy on General Services of the Iranian Government on Productivity of Agricultural Sector

S. S. Hoseini, S. Rezaei and H. Rezaei*

Support program of general services agriculture sector is one of the non-price supports that include infrastructures, R&D, education center, inspection services center, marketing and promotion and public stockholding. The goal of present study is to survey the effect of support of general services on productivity of agriculture sector during the "Five-year Development Plans" in Iran. Using Almon distributed lag model, relation between variable were studied. The result showed that the support have had positive effect on total productivity of production factors, by the effect of the increasing ١٪ in support amount of general services in agriculture sector in long-term, the level of total productivity of production factors raise ٠,٠٧١٣٪. Therefore, for increasing production and power of domestic production and easing to join to WTO in level of the world that had non-price policies, we suggest that the level of the general services in agriculture sector should be increasing.

JEL: Q١٨

Keywords: General services program, total factor productivity, agriculture sector, Almon distributed lag model.

---

*Respectively, Associate Professor and Msc Student and Graduated Student Dept. Agricultural Economics, College of Agriculture Economic and Development, Tehran University, Iran, and Graduated Student of Dept. Agricultural Economics, College of Agriculture Economic, Tarbiat Modarres University, Iran.
email: hosseini_safdar@yahoo.com

An Estimation Willingness to Pay of Consumers for Increasing Quality of Bread in ٢٠٠٧ (Case Study of Isfahan City)

*N. Akbari, R. Khoshakhlagh , M. Sameti and A. Shahidi**

This paper uses contingent valuation method and Iterative Bidding Game Technique for assessing willingness to pay of breads consumers for increasing quality of various kinds of bread in Isfahan over the year of ١٣٨٦. For this purpose we compiled a questionnaire and randomly filled by ١١١٢ persons who were coming back from bakery. The results show that there is willingness to pay for increasing quality of various kinds of a loaf of bread (to approach quality of bread to the confirmable quality of hygiene experts). This willingness to pay for increasing quality of Barbari bread is around ١٠٠ rials, for Tanuri breade is around ٧٥ rials, for Khanegi-Mashini bread is around ٩٠ rials, for Ghopi breade is around ٩٥ rials, for Mashini bread is around ٦٠ rials, for Nime Hajim bread is around ١٧٠ rials. The consumers don't tend to pay more money for increasing quality of Sangak bread. Furthermore, according to composite commodity theorem, we can consider various kinds of bread as a unit good and the study shows that consumers tend to pay about ٣٧٪ of increased price of bread relative to current price of bread (price of ١٣٨٦) for increasing quality of bread as whole.

JEL: Q١١, D١١, C٢١

Keywords: Bread, willingness to pay, contingent valuation method, composite commodity

---

* Respectively, Associate Professor, Associate Professor, Associate Professor and M.A. Student of Economics, Isfahan University, Iran
e-mail: Nemata٤٤@yahoo.com

A Study of Market Efficiency and Trade Profitability in Iran's Pistachio Domestic Market

M. Abdollahi Ezatabadi[*]

In this study, a sample of ۳۰۲ farmers and a sample of ۲۲۷ traders from Kerman and Fars provinces were interviewed during ۲۰۰٦ and ۲۰۰۷ and pistachio marketing channels were investigated. For calculating and analyzing market margins, Charles and Gray method was used. Also, Shepherd method was applied for determining of market efficiency. The results indicated that pistachio is sold in spot prices, just after harvesting, because of financial and technical problems, needs for liquidity and distrust conditions. These factors, also, resulted in abundance of direct relationship between farmers and exports, despite of higher profit existed. Comparing marketing margins and costs showed that pistachio trading is profitable and there is high economic rent in exporting markets. Thus, marketing efficiency is low in pistachio market. Detailed investigations showed that economic rent in pistachio market is not as a result of trading but it is because of financial limitation and returns to the owner of credit resources. Finally, for enhancing pistachio market efficiency, it was proposed to establish terminals for pistachio processing and common storages, to reform financial markets, to increase trust among market agents, to make pistachio exporting perfect and to differentiate between commodity and financial markets.

JEL: Q۱۳

Keywords: Market efficiency, trade profitability, pistachio, financial market.

---

[*]Assistant Professor of Agricultural Economics, Pistachio Research Institute, Iran
email: abdolahi@pri.ir

Estimating Capital Stock in Iran Sub-agricultural Sectors

H. Sherafatmand, M.Homaunifar, H. Mehrabi and A. Baghestany*

One of the obvious problems in developing countries that caused inefficiency in forecasting is the inaccurate of statistical information about capital stock. In this research in deal with the problem of lack of statistical information about net investment, a model has estimated that can calculate capital depreciation rate and capital stock simultaneously in Iran's sub-agricultural sectors was estimated. Required data and information were gathered from statistical year's books. In this research capital stock has formulated in form of a function which has unknown depreciation rate, then this estimated capital stock substituted in production function, while production function and depreciation rate would estimate simultaneously. So capital stock time series in sub agricultural sectors establish. Results show that the best form of production function for Agronomy and Horticultural sectors is Cobb-Douglas, for Husbandry sector is Transcendental and for Fishery and Forestry sectors is Cobb-Douglas. Results show also Agronomy and Gardening sectors have the maximum share of capital stock among other sectors. At end it suggested during investment and credit allocation, should pay lot attention on capital stock trend and its depreciation rate.

JEL: E٦, Q١, Q٢٢, Q٢٣, C٢٢

* Respectively, Msc Student, Assistant Professor of Agricultural Economic, Zabol University, and Associate Professor, and Msc Student of Agricultural Economic, Shahid Bahonar University, Iran
email: sherafatmand_m@yahoo.com

Keywords: Capital stock, capital depreciation rate, sub agricultural sectors, Iran

Benefit Distribution of Food Subsidy in Iran

A. Karami, A. Esmaeili and B. Najafi*

It is widely believed that current structure of protection and food subsidy in Iran is not suitable. Therefore, the government intends to reconsider food subsidy payment program. In this study, distribution of benefits of current subsidy system was investigated by emphasizing on bread, oil and sugar. The results of the study based on ۲۰۰۱ statistics indicated that benefits of bread subsidy in rural and urban areas in all provinces and also among different groups are more than oil and sugar. This indicated that government has spent more subsidies to bread, and per capita consumption of this commodity is high in Iran. On the other hand, subsidy distribution among different areas and income groups indicated that current system of subsidy is biased toward higher income groups. Therefore, it is not efficient and would lead to waist of resources. Based on findings of the study, to lessen these problems and decrease in government costs, targeting of food subsidy is recommended.

JEL: E۶۴, H۲۱, I۳۲

Keywords: Food subsidy, poverty, benefit distribution

*PhD Student, Associate Professor and Professor respectively, Shiraz University, Shiraz, Iran
email: aiatkarami@yahoo.com

Investigating the Government's Support Policies with Policy Analysis Matrix Method: Case Study of Potato in Hamedan Province

*N. Nakhaei, A. H. Chizari and A. Rezaei**

This study is to investigate government support policies in potatoes production and export with Policy Analysis Matrix (PAM) method during ۲۰۰۱-۲۰۰۶ in Hamedan province. The result indicates that government policies in input and output market, support potato product which exhibited comparative advantage during ۲۰۰۱-۲۰۰۲ and indirect subsidy has been set on this crop. Whereas during ۲۰۰۳-۲۰۰۶ had a high comparative advantage and tax was charged on this crop. Moreover this has been indicated that indirect tax in ۲۰۰۱ and subsidy in ۲۰۰۲-۶ have been set on tradable input. Base on RCA and RSCA`s method, Iran has comparative advantage in potatoes export during ۱۹۹۹-۲۰۰۶. The Michaely index results show that Iran is going to be specialized in producing this crop.

JEL: Q۱۸

Keywords: Supportive indices, policy analysis matrix, comparative advantage, MI index

* Respectively, Postgraduate Student, Associate Professor and Postgraduate Student of Agricultural Economics, Tarbiat Modarres University, Iran
email:n_nakhaei@yahoo.com

A Survey of Strawberry Marketing in Kurdistan Province

H. Ghaderzadeh , M. Hajirahimi*

This study attempted to investigate the marketing problems of strawberry as a major horticulture crop in the Kurdistan province during last two decades. During three time period ١٩٩٦, ١٩٩٩ and ٢٠٠٦ and based on the systematic sampling method ١١٢, ٢٤٣ and ٨٠ sample were collected.

The results showed that retailer market margin for the concern studies for the years ١٩٩٦, ١٩٩٩ and ٢٠٠٦ were Iran's Rls. ٤٨٠, ٥٦٢,٨ and ١٩٤٠ (for the first class type) and ٢٢٧٠ (for the second class type) respectively. The marketing cost percentages for the same period calculated and were equal to ٥٣,٥ per cent, ٤٣,٥ per cent and ٣٧,٢ per cent (I case of first class type) and ٥٠,٤١ per cent (in the case of second class type). The wholesaler market margin were Rls. ٤٤٠, ٩٩٨,٢٥ and (١٠٠٠ and ١٤١٠) in that order, and total market margins were Rls, ٩٢٠, ١٥٦١ and (٢٩٤٠ and ٣٢٢٠) in that order. The waste function estimated and results showed that the variables such as time distance of first harvesting, box weight, Distance from wholesaler market and total time remaining in the retailer shop had direct and significant effect on wastage amount. Total wasted strawberry for the year ١٩٩٦ and ١٩٩٩ estimated about ١٦,٨٩ and ١٩ percent of total production.

The change of current packing for both periods studied and result showed that, it is economically impressionable and in the case of acceptance by the farmers, it may increase their profits about Rls, ٢١٠٤٠٦٢٠٠٠ and Rls, ٨١٠٠٦٢٠٠٠ respectively.

JEL: Q١٣

* Assistant Professors of Agricultural Economics, College of Agriculture and Natural Resource, Kordestan, Iran
email:hamed.ar@gmail.com

Keywords: Marketing margin, strawberry, waste function, Kurdistan province.

Optimization of Cropping Pattern by Fuzzy Goal Programming with a Tolerance Approach: A Case Study of Neyshabour City

S. Ziaei , M. Sabuhi Sabuni*

The aim of this study was to apply fuzzy goal programming with a tolerance approach in determining of optimal cropping patterns for Neyshabour district farmers. For this purpose, six fuzzy goals: minimization of water consumption, fertilizer use, machinery services, maximization of gross margin, labor employment and crop production compared in framework of six weighting scenarios. The results showed that, the first of three fuzzy goals are fully satisfied in most of scenarios and there is no need to assign tolerance to them. The comparison of current cropping pattern with the model indicated that to achieving the goals, it is necessary to increase cultivated area of corn and potato, and decrease wheat and barley. In addition, Euclidean distance function indicated that third and sixth scenarios have the same cropping patterns and the least distance to ideal point and are closer to satisfy the goals. Finally, according to findings some proposals were presented.

JEL: C٦

***Keywords*: Fuzzy goal programming, tolerance, cropping patterns, Neyshabour**

*Respectively, PhD Student and Assistant Professors, Zabol University, Iran
email: samanziaee@gmail.com

Evaluating the Effects of Production Inputs, Climate and Insurance on Income Equality of Wheat Producers in Khorasan Province

M. Ghorbani, A. R. Kucheki, S. Danesh and E. Shokri[*]

In this paper effect of inputs and insurance on income equality have evaluated The data which was needed for this study was gained by stratified simple random sampling from ۵۷۴ wheat insured and uninsured farmers in North, Razavi and South Khorasan provinces in ۲۰۰٤. Result of this study showed that wheat farmer's income tends to inequality as among the effective factors in production, land cultivated has the most shares and insurance has lowest share in inequality. In other words insurance can lead to improve the income distribution. Climate share in income inequality is more than insurance share and climate share in income inequality of uninsured farmers is more than insured farmers. Also, income inequality in North Khorasan with cold climate is more than other two provinces and insurance share in income inequality in Razavi with moderate climate is more than other two Provinces. At end of this study regard to results, some suggestions have been introduced.

JEL: Q۱٤

Keywords: Income distribution, Shorrocks model, insurance, Khorasan

---

[*]Respectively Assistant Professor, Professor, Assistant Professor and Graduate student of Ferdowsi University of Mashhad, Iran
email: ghorbani@ferdowsi.um.ac.ir