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Social and economic factors on improving the performance of agriculture with emphasis on education and agricultural extension

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ABSTRACT: This paper reviews the link between Social and economic factors and improving the performance of agriculture. The agricultural sector continues to be the most important sector in the Sistan economy. There is Direct and significant correlation between two Variables performance of agriculture and education and agricultural extension. So there is significant relationship between the performance of agriculture and education and agricultural extension.

***Keywords*:** performance, education and agricultural extension, Tobit, Sistan.

INTRODUCTION

Agriculture as one of the main economic activity requires an integrated planning and development to achieve economic crisis, social and political.

The main objective of this paper is to analyze the trends in agricultural performance and food security and education and agricultural extension.

Agriculture as an important economic activity requires an integrated planning and development to achieve economic crisis, social and political. In the last two decades, proper planning for the appropriate utilization of resources and the ability to utilize the potential of this sector and support policies, the economy has improved agricultural production. Increase agricultural production, increase of exports and a high proportion of exports of agricultural products formed. Providing about 17% of GDP and 22% of employment by this section is another important component makes it more obvious.

Agricultural Education is the teaching of agriculture, natural resources, and land management through hands on experience and guidance to prepare students for entry level jobs of to further education to prepare them for advanced agricultural jobs. Classes that may be taught in an agricultural education curriculum include horticulture, land management, turf grass management, agricultural science, small animal care, machine and shop classes, health and nutrition, livestock management, biology courses, etc. Agricultural education can be taught at the elementary level, middle school level, and secondary, post secondary and adult levels. Elementary agriculture is taught in public schools and private schools, and deals with such subjects as how plants and animals grow and how soil is farmed and conserved. Vocational agriculture trains people for jobs in such areas as production, marketing, and conservation. College agriculture involves training of people to teach, conduct research, or provide information to advance the field of agriculture and food science in other ways. General education agriculture informs the public about food and agriculture.

Roughly one-third of Iran's total surface area is suited for farmland, but because of poor soil and lack of adequate water distribution in many areas, most of it is not under cultivation. Only 12% of the total land area is under cultivation (arable land, orchards and vineyards) but less than one-third of the cultivated area is irrigated; the rest is devoted to dry farming. Some 92 percent of agro products depend on water. The western and northwestern portions of the country have the most fertile soils. Iran's food security index stands at around 96 percent.

35% of the total land area is used for grazing and small fodder production. Most of the grazing is done on mostly semi-dry rangeland in mountain areas and on areas surrounding the large deserts ("Dasht's") of Central Iran.

Rainfall & Agricultural Production[6]								
	March 2001	March 2003	March 2005	March 2007	March 2008	March 2009	March 2010	March 2011
Production (Million Ton)	65	80	87	97	92	70	91	99
Rainfall (Millimeter)	52	70	69	62	75	51	61	69

A review of the literature

Liu (2008) estimated attaining ways of economy and agriculture water reserving in 10 states of China based on 3 traditional technologies founded on family (medium) and advanced by using important variable is governmental supporting and training and promotion of this context applying Tobit model. They concluded that these variables were effective factors in applying economic ways by farmers. Different factors such as age of farmer, education, income and expense of family, gender, active family size in manufacturing, possession, water system, distance to water resource influence tendency to settlement water for Chinese villages (Boado, 1992) . In defining better amount of water, Pumadra (1978) discussed with agronomists and reported that optimum level of water was the level where final manufacturing equals to zero or in other Words the total manufacturing was maximized. This scholar expressed that when water resources were less in dry lands, farmers must use cultivation model in which products have less requirement of water. Using interrupted data, Grinffen and Perry (1985) estimated consumption water models by rice Cultivalors in Texas and they concluded that steady and content rate of irrigation water depended on amount of agriculture water inversely and further Suggested that organization presenting water must go towards constant costing to reduce water consumption. Final water output in different cities of Isfahan-Iran was calculated by using linear planning method in order to economic consideration of applying agricultural water in this state (Moghaddasi, 1996). He concluded that if total actions is done as the irrigation output is 100%, then additional water equals to 441 Rial, in per cubic meter and devoting management of irrigation and drainage lattices to private department, adjusting water price based on total cost and profit by results of investigations were the ways of passing water crisis. Noori Esfandyari (1993) said that function of final water consumer influences operation of this department and so he believed that total real price of water and purchasing power of consumer must be considered in logical real rating of water. Ariyan and Zolfaghari (1995) pointed to non rating of water as effective factor in financial management and inefficient of this system.

Agricultural productivity

Agricultural productivity is measured as the ratio of agricultural outputs to agricultural inputs.[1] While individual products are usually measured by weight, their varying densities make measuring overall agricultural output difficult. Therefore, output is usually measured as the market value of final output, which excludes intermediate products such as corn feed used in the meat industry. This output value may be compared to many different types of inputs such as labour and land (yield). These are called partial measures of productivity. Agricultural productivity may also be measured by what is termed total factor productivity (TFP). This method of calculating agricultural productivity compares an index of agricultural inputs to an index of outputs. This measure of agricultural productivity was established to remedy the shortcomings of the partial measures of productivity; notably that it is often hard to identify the factors cause them to change. Changes in TFP are usually attributed to technological improvements.

MATERIALS AND METHODS

The study is conducted from 2014 in Sistan-Iran. Data required for this study include 88 agricultural products beneficiary that was completed through simple randomly sampling method and related questionnaires, and Eviews7.1 software was used to analyze information of questionnaires. For this purpose first we Considered social and economic properties of desirable methods of agricultural water consumption as well as their application, and then Tobit model was used to study effective factors in applying desirable methods of water consumption. The model is defined as regression models in which amplitude of dependent variable is restricted in different ways and its amplitude is visible just for some part. First Tobin used Tobit model in economics in 1958. He calculated family cost over immanent objects with exploiting regression model which showed this fact that costs can’t be negative (dependent variable of Tobin regression model). He named his model as restricted dependent variables model is due to its similarity to probit model by Goldberger in 1964. His investigation and also kinds of generalized forms in

economics are introduced as Tobit models or restricted dependent models (Greene, 2002). The Tobit model is based on the following latent variable model:

$$Y^* = b'X + U \quad (1)$$

Where X is a k-vector of regressors, possibly including 1 for the intercept, and the error term U is N(0,S2) distributed, conditionally on X.
The latent variable Y* is only observed if Y*> 0. In particular, the actual dependent variable is:

$$Y = \max(0, Y^*) \quad (2)$$

For example, let Y be the amount of money that an individual spends on tobacco, given his or her characteristics X. Then Y > 0 if the individual is a smoker, and Y = 0 if not. The Tobit model is a convenient way of modeling this type of data. For the technical details of the Tobit model, see TOBIT.PDF. In this guided tour I will mainly focus on how to estimate a Tobit model with Easy Reg. Used model in this study is as follow:

$$Y = a + bx_1 + bx_2 + bx_3 + bx_4 + bx_5 \quad (3)$$

In this model variable y= performance of agriculture, x_1 is age, x_2 is education and agricultural extension, x_3 Income, x_4 Literacy, x_5 Area under cultivation and x_6 is Farming experience.

RESULTS AND DISCUSSION

Table 1. Results of Impact improving the performance of agriculture on education and agricultural extension

Variable	Coefficient	t	sig
c	0.211	1.11	0.12
age	0.22	2.1	0.09
education and agricultural extension	1.23	4.4	0.03
Income	0.90	2.50	0.042
Literacy	0.65	2.11	0.054
Area under cultivation	0.54	1.99	0.087
Farming experience	0.90	1.95	0.09
R^2= 0.87 DW=2.1			

The results of Tobit regression are presented in Table 1. As estimated, regression coefficients and probabilities show that 1% increase in income causes a 0.09%.

Also, it indicates that farmers with higher income levels have a greater tendency for insurance of their products. Farming experience does not affect performance of agriculture, because their methods of cultivation are mostly the same. Also agriculture on education and agricultural extension has Positive and meaningful impact on performance.

Table 2. Results of Pearson correlation coefficient of performance of agriculture and education and agricultural extension

performance of agriculture	Correlation coefficient	Significant level	Number
	0.89	P <0.09	88

Table (1) shows the results of the correlation between two variables, performance of agriculture and education and agricultural extension. As shown it is significant at confidence level 90%, p<0.10. It means that there is significant relationship between the performance of agriculture and education and agricultural extension.

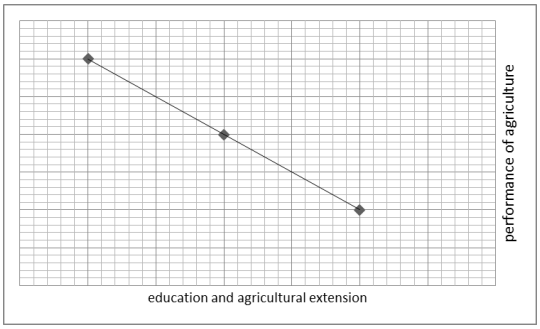

Figure 1. The relation between performance of agriculture and education and agricultural extension

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