Attitude of Agricultural High School Educators in Khouzestan Province Regarding Sustainable Agriculture

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Abstract

The purpose of research was analyzing attitude of agricultural high school educators in Khouzestan province, Iran regarding sustainable agriculture. The method of research was correlative descriptive. All agricultural high school educators in Khouzestan province (n=55) were selected for participation in the study. A questionnaire was developed to gather information regarding attitude of educators regarding sustainable agriculture. Questionnaire reliability was estimated by calculating Cronbach's alpha. Data collected were analyzed using the Statistical Package for the Social Sciences (SPSS). Appropriate statistical procedures for description (frequencies, per cent, means, and standard deviations) were used. Based on results there is significant correlation between attitude of agricultural educators about sustainable agriculture with knowledge of agricultural educators about sustainable agriculture, communication channel, social participation, social status, individual competency, professional competency and specialized skills. Also the result for regression analysis by stepwise method shows approximately 67.3% of the variances in the attitude of agricultural educators regarding sustainable agriculture could be explained by the knowledge of agricultural educators about sustainable agriculture, communication channel, social participation, social status, individual competency, professional competency and specialized skills.

1. Introduction

Agricultural productivity reduces when ecosystems are changed and water resource decreased (Ommani et al, 2009). Sustainable agriculture, as a managerial philosophy and a system that provides agricultural needs of both present and future generations has raised as a major challenge of the 21st century to meet these complications and natural and human difficulties; that is, agriculture should be consume less and be sustainable more (Sadati et al, 2010., Qamar, 2002., Rasul and Thapa, 2003., Leeuwis, 2004). In many developing countries, agriculture plays a vital role in the economy, and sustainability in the agricultural sector must address the issues of poverty alleviation, food security, and stable income generation for a rapidly growing population (Sadati et al, 2010., Lee 2005., Bhutto and Bazmi, 2007). Attitude is one of the overarching concepts of modern social psychology approach that combines three elements: cognitive, emotional and behavior (Sharifi, 2005., Shahwali and Moshafegh, 2005). In fact, attitude is defined as a state of mind, emotion or desire and entails positive or negative things within individuals (Garret, 2006).

Several studies have been conducted about attitude toward sustainable agriculture and its determinants:

Hayati et al (2010) investigated the attitudes of agricultural experts of the Eastern Azerbaijan province, Iran, toward concepts of sustainable agriculture and its related factors. The results showed that attitude towards the concepts of sustainable agriculture located in the moderate level. Based on the results of the regression model, the type of academic degree, farming experience, career experience, study of extension- scientific publications, the number of information resources and income have significant effects on attitudes and

explain about 53 percent of changes in the experts' attitudes toward concepts of sustainable agriculture.

Sadati et al (2010) analyzed farmer's attitude on sustainable agriculture in Behbahan township of Iran. The results of study showed that there is positive correlation between literacy, participation in extension courses, off-farm income, farmer's knowledge about sustainable agriculture, level of use of sustainable agriculture methods, extension contacts and job satisfaction and negative correlation between age, experience in agricultural activities, family size and agrarian land with attitude toward sustainable agriculture. According to result of regression the 'extension contacts', 'Farmers knowledge about sustainable agriculture', 'Job satisfaction' and 'literacy' are effective factors on farmers attitude toward sustainable agriculture and explained 52.6% of this scale.

Ali Beigi et al.(2006) evaluated the faculty attitudes toward sustainable agriculture in the public agricultural universities of Iran. Faculty attitudes toward sustainable agriculture was positive and variables of the number of research scientific- papers, the number of papers presented at international conferences and work experience accounted for 27% of the variance in their attitudes towards sustainable agriculture.

Karami (2007) with comparing the attitudes of men and women rice farmers in the villages of Kazeroon county, concluded that women farmers' attitudes toward sustainability is more positive than men farmers and factors such as education and access to information are effective on farmers' attitudes toward sustainable agriculture.

Alipour et al. (2008) investigated the perception and knowledge of researchers of agricultural education, research and extension organization toward sustainable agriculture. Researchers had positive attitude toward sustainable agriculture, but results showed that researchers do a little research attention about farmers' participation.

2. Materials and Methods

This study was carried out by survey during April and November 2014. The method of research was correlative descriptive. All agricultural high school educators in Khouzestan province (n=55) were selected for participation in the study. A questionnaire was developed to gather information regarding attitude of agricultural high school educators in Khouzestan province, Iran regarding sustainable agriculture. Questionnaire reliability was estimated by calculating Cronbach's alpha. Data collected were analyzed using the Statistical Package for the Social Sciences (SPSS). Appropriate statistical procedures for description (frequencies, per cent, means, and standard deviations) were used.

3. Results and Discussion
3.1 Demographic Profile

Based on the research approximately, 36.4% of respondents were between 32 to 38 years of age (Table 1). Most respondents (49.1%) reported work experience (education), including 4 to 9 years and the majority of them had experience in agriculture (80%). About 65.5% of agricultural educators had BSc educational level. Based on the results of the study, the income of 60% of them was between ten million to 12 million Rials in month (Table 1).

3.2 Analyzing attitude of agricultural high school educators regarding sustainable agriculture:

The dependent variable of research was attitude of agricultural high school educators regarding sustainable agriculture. The dependent variable was assessment with a Likert scale (1=Very low agree, 2=low agree, 3=Moderate, 4=High agree, 5= Very high agree). Based on a literature review of research, 10 items were proposed to measure of attitude of agricultural high school educators in Khouzestan province, Iran regarding sustainable agriculture. Then, 10 desired items, in the 5-item Likert scale was measured. Scores of 10 items were computed. Scores will be between minimum 10 and maximum 50. Those who scored between 10 to 18 had a very low attitude, people who scored between 18 and 26 had low attitude, people who scored between 26 and 34 had a moderate attitude, people who scored between 34 and 42 had a high attitude and those who scored between 42 to 50 had very high attitude to sustainable agriculture. The results showed in table 2.

3.3 Correlation Study

Table 3 shows a relationship between attitude of agricultural high school educators in Khouzestan province, Iran regarding sustainable agriculture and independent variables. Spearman coefficient was employed for measurement of relationships between independent variables and dependent variable.

Based on the results there is significant correlation between attitude of agricultural educators about sustainable agriculture with knowledge of agricultural educators about sustainable agriculture, communication channel, social participation, social status, individual competency, professional competency and specialized skills.

Table 1. Personal , Social and Economical Characteristics of Agricultural Educators.

Characteristics	Frequency	Percent	Cumulative Percent
Age			
26-32	18	32.7	32.7
32-38	20	36.4	69.1
38-44	11	20	89.1
44-50	6	10.9	100
Total	55	100	
Work experience (year)			
4-9	27	49.1	49.1
9-14	16	29.1	78.2
14-19	3	5.5	83.6
19-24	3	5.5	89.1
24-29	6	10.9	100
Total	55	100	
Income in month (Million Rials)			
10-12	33	60	60
12-14	12	21.8	81.8
14-16	4	3.7	89.1
16-18	2	3.6	92.7
18-20	4	7.3	100
Total	55	100	
Level of education			
Associate degree	1	1.8	1.8
BSc	36	65.5	67.3
MSc	18	32.7	100
Total	55	100	

Table 2. Attitude of agricultural high school educators in Khouzestan province, Iran regarding sustainable agriculture

Attitude levels	Frequency	Percent	Cumulative Percent
Very low	0	0	0
Low	0	0	0
Moderate	5	9.09	9.09
High	21	38.18	47.27
Very high	29	52.73	100
Total	55	100	

3.4 Regression analysis

Based on the results in Table 4, the predicator variables that were significantly related to the attitude of agricultural high school educators in Khouzestan province, Iran regarding sustainable agriculture, were entered in equation of regression.

The result indicates that 67.3% of the variances in the attitude of agricultural high school educators in Khouzestan province, Iran regarding sustainable agriculture could be explained by the knowledge of agricultural educators about sustainable agriculture (x_1), communication channel (x_2), social participation (x_3), social status (x_4), individual competency (x_5), professional competency (x_6) and specialized skills (x_7).

$R^2=0.673$
$Y=19.845+0.882x_1+0.749x_2+0.912x_3+0.381x_4+0.662x_5+0.715x_6+0.681x_7$

Table 3. Correlation measures between attitude of educators regarding sustainable agriculture.

Variable 1	Variable 1	r	p
Knowledge	Attitude of agricultural high	0.362[**]	0.000
Communication channel	school educators in	0.386[**]	0.000
Social participation	Khouzestan province, Iran	0.291[**]	0.000
Social status	regarding sustainable	0.511[**]	0.000
Individual competency	agriculture	0.409[**]	0.000
Professional competency		0.219[**]	0.000
Specialized skills		0.406[**]	0.000

$*p < 0.05; **p < 0.01$

Table 4. Multivariate regression analysis

Multivariate regression analysis	B	SE B	Beta	T	Sig
Constant	19.845		0.539	3.974	0.000
Knowledge	0.882	0.425	0.427	3.568	0.000
Communication channel	0.749	0.376	0.676	4.545	0.000
Social participation	0.912	0.823	0.512	3.246	0.000
Social status	0.381	0.647	0.259	2.135	0.000
Individual competency	0.662	0.578	0.217	3.545	0.000
Professional competency	0.715	0.191	0.061	4.054	0.000
Specialized skills	0.681	0.318	0.871	3.596	0.000

$R^2=0.673$, F=13.715,   Sig=0.000

4. Conclusion and Recommendations

Sustainable agriculture is farming in sustainable ways based on an understanding of ecosystem services, the study of relationships between organisms and their environment. It has been defined as "an integrated system of plant and animal production practices having a site-specific application that will last over the long term", for example (Gold, 2009): Satisfy human food and fiber needs, enhance environmental quality and the natural resource base upon which the agricultural economy depends, make the most efficient use of non-renewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls, sustain the economic viability of farm operations and enhance the quality of life for farmers and society as a whole.

This study was conducted to measure the attitude of agricultural high school educators in Khouzestan province, Iran regarding sustainable agriculture. Results showed that educators have most agreement with the principles of sustainable agriculture. Therefore, it can be stated that the most of educators showed positive and favorable attitude with the sustainability of agriculture. Based on the results there is significant correlation between attitude of agricultural educators about sustainable agriculture with knowledge of agricultural educators about sustainable agriculture, communication channel, social participation, social status, individual competency, professional competency and specialized skills.

Also the results showed the predicator variables that were significantly related to the attitude of agricultural high school educators in Khouzestan province, Iran regarding sustainable agriculture, were entered in equation of regression. The result indicated that 67.3% of the variances in the attitude of agricultural high school educators in Khouzestan province, Iran regarding sustainable agriculture could be explained by the knowledge of agricultural educators about sustainable agriculture (x_1), communication channel (x_2), social participation (x_3), social status (x_4), individual competency (x_5), professional competency (x_6) and specialized skills (x_7). Therefore, it is recommended that planners consider these variables in policy development and programs.

References
1. Alibeigi, A., Irvani, H., Shabanalifami, H., Kalantari, K. H., Ashtiani, R. (2006). Attitude analysis of scientific members of Agricultural colleges toward sustainable agriculture. Journal of Iran Agricultural Development and Economics. 37(2): 277-285.
2. Alipour, H., Falah, R., Farimani Moghdath, S. H. (2008). Knowledge and Attitude of researchers of agricultural research, education, extension organization toward sustainable agriculture. Research

and Construction in the Agronomy and Horticulture. 81, pp: 110-119.

3. Bhutto, A.VW. and Bazmi, A. A. (2007). Sustainable agriculture and eradication of poverty in Pakistan. Nat. Resour. Forum, 31: 253-262.

4. Garret, J. (2006). A gift from the Sam Antuonio professional coaches, Retrieved July 17, 2007, from www.Jaynegarrentt.com.

5. Gold, M. (2009). What is Sustainable Agriculture? United States Department of Agriculture, Alternative Farming Systems Information Center.

6. Hashemi, S. M and Damalas, C. A. (2011). Farmers' perceptions of pesticide efficacy: reflections on the importance of pest management practices adoption. J Sustain Agr 35:1–17.

7. Hayati, B., Momenichelki, D., Zarifian, S.H and Galalian, M. (2010). Personnel's attitude of jihad agriculture organization of East Azarbayejan toward sustainable agriculture and effective factors. Journal of Iran Agricultural Development and Economics. 41(1), pp: 71-78.

8. Karami, E and Masoorabadi, A. (2007). Sustainable agricultural attitudes and behaviors: A gender analysis of Iranian farmers. Environment Development sustainable, 10, 833- 898.

9. Lee, D. R. (2005). Agricultural sustainability and technology adoption: Issues and policies for developing countries. Am. J. Agr. Econ., 87: 1325-1333. doi: 10.1111/j.1467-8276.2005.00826.x

10. Leeuwis, C. (2004). Communication for Rural Innovation: Rethinking Agricultural Extension. Blackwell, Iowa, USA.

11. Ommani, A. R., Chizari, M., Salmanzadeh. C and Hossaini, J. F. (2009). Extension Methods and Organizational Characteristics for Supporting Sustainable Water Resource Management in Agriculture of Iran. Journal of Applied Sciences, 9: 567-572.

12. Qamar, M. K. (2002). Global Trends in Agricultural Extension: Challenges Facing Asia and the Pacific Region. Sustainable Development Department (SD), FAO, Rome.

13. Rasul, G. and Thapa, G. B. (2003). Sustainability of ecological and conventional agricultural systems in Bangladesh: An assessment based on environmental, economic and social perspectives. Agri. Syst., 79: 327-351.

14. Sadati, A., Fami, H. S., Asadi. A and Sadati, A. (2010). Farmer's Attitude on Sustainable Agriculture and its Determinants: A Case Study in Behbahan County of Iran 1 Research Journal of Applied Sciences, Engineering and Technology 2(5): 422-427, 2010

15. Sharifi, P. H. (2005). Principles of psychological and psychometric tests. Publications of Tehran University.

16. Shavali, M and Moshavegh, G. (2005). Investigating the role of caricature on changing attitude of experts of Shiraz agriculture jihad organization toward sustainable agriculture. Journal of production and processing the crop production, 9(1). Pp: 25-39.