Journal of Applied Sciences

ISSN 1812-5654

science alert

ANSInet
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Journal of Applied Sciences 8 (20): 3761-3763, 2008
ISSN 1812-5654

Extensionists' Attitude Toward Sustainable Agriculture in Iran

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Abstract: This study was conducted to identify the attitudes of extension professionals toward sustainable agriculture concepts. This study used a survey design and was conducted with a random sample of 87 agricultural extensionists in Iran. To identify the attitudes toward sustainable agriculture concepts, a self-designed questionnaire was developed to gather data. Content validity of the instrument was established by a panel of experts. Results indicated that extensionists' attitudes were moderate toward sustainability. It was found that the concepts of Independency and Community had the highest mean, respectively. F-test results revealed that extensionists' general perceptions toward sustainable agriculture concepts did not significantly vary with age, levels of education, years of experience in extension or organizational position.

Key words: Sustainability, agricultural extension, ecological, environmental, perception, Iran

INTRODUCTION

Iran agriculture is heavily dependent upon external inputs. Agricultural production has contributed to many environmental and social problems such as soil erosion, water contamination, waste of water, decreasing ground water tables, bio-system degradation, air pollution, loss of job and etc (Allahyari *et al*., 2008; Allahyari and Chizari, 2008; Jayaratne *et al*., 2001). Considering to progress of these problems and with emphasis on this matter that water and soil are basic resources for agricultural activities, therefore, importance must be given to the conservation and sustainability of these resources (Faham *et al*., 2008; Chaudhry *et al*., 2006). Therefore, there is growing emphasis on sustainable agriculture in response to concerns about the adverse environmental, social and economic impacts of conventional agriculture (Rasul and Thapa, 2004). There are many definitions for sustainable agriculture and has different meanings to different people (Jayaratne *et al*., 2001; Bagheri *et al*., 2008). According to the dictionary, sustainable can be defined as that which can be kept up or prolonged over a long time period (Wagner, 1999). Sustainable agriculture is defined as successful management of the resources of agriculture to satisfy changing human needs, to conserve the environment and increase biological resources (Karami and Mansoorabadi, 2008). Rao and Rogers (2006) defined sustainable agriculture as a practice that meets current and long-term needs for food, fiber and other related needs of society while maximizing net benefits through conservation of resources to maintain other ecosystem services and functions and long-term human development. This definition emphasizes multidimensional (economic, environmental and social) goals of sustainable agricultural development.

Rezaei-Moghaddam and Karami (2008) reported that the major obstacle to sustainable development of Iran is insufficient knowledge of people with regard to environmental hazards. As a result, the people's knowledge and environmental awareness to achieve sustainability must be increased. To achieve this objective, extensionists could play a key role in helping farmers for the application of sustainable agricultural practices (Jayaratne *et al*., 2001). However, the question is whether extensionists have been prepared to carry out this task? Nonetheless, researches show that the agricultural extension professionals and experts have problems in the very first step; that is understanding the concept of sustainability (Karami and Hayati, 1998; Allahyari *et al*., 2008). The focus of this study was to identify agricultural extensionists' attitudes toward the sustainable agriculture concepts.

MATERIALS AND METHODS

The study was carried out in Iran. This investigation is quantitative and descriptive in its nature; applied in type and survey in design. The target population included a total of 170 faculty members of agricultural extension education, extension head in provinces and extension specialists of deputy of agricultural extension and farming system in the Ministry of Agriculture (Jihad-e-Keshavarzi) in Iran. The eighty seven of them were selected by random sample using the table for determining the sample

from given population developed by Bartlett *et al.* (2001). The researcher verified the list before distribution of the survey to control for frame and selection threats to external validity. A 24 items questionnaire was developed from the review of literature. The instrument consisted of two separate sections according to the purpose and objectives of the study. A five-point likert-type scale was used in evaluating the responses. Twenty four items were grouped into the six areas of sustainable agriculture concepts (decentralization, independency, community, harmony with nature, diversity and useful exploitation). Fourteen items of the instrument were positive statements while the remaining 10 items were negative statements about sustainable agriculture concepts. Content and face validity were established by a panel of experts consisting of faculty members at Tarbiat Modares University and Science and Research University, Iran. Instrument reliability was estimated by calculating a Cronbach's alpha. Reliability for the overall instrument was 0.72. Data were collected between October 2006 and March 2007 through a questionnaire mailed/emailed to the 95 extension experts selected for inclusion in the sample. Those who failed to respond were sent a postcard reminder. If the reminder failed to elicit a response, a follow-up letter and duplicate questionnaire were mailed. Seventy-nine participants responded to the questionnaire for a response rate of 83%. Questionnaire items were coded and entered into the SPSS-Windows computer program for data analysis. Descriptive statistics such as means and standard deviations were used.

RESULTS AND DISCUSSION

The ages of the respondents ranged from 25 to 63. The mean age was 38 (SD = 8.87, n = 79). Majority (39.2%, n = 31) of respondent were 31-40 years old. Most of the respondents in the study were male (93.7%) and only 5% (6.3%) were female. The years of experience of respondents ranged from 2 to 30. The mean years served in extension were 12.4. Nearly 29.1% of agricultural extensionists had served in extension for 1 to 5 years, 29.1% of extension specialists had a doctoral degree in agricultural extension and education discipline and 62% (n = 49) were a masters degree holders. Only 8.9% of extension specialists had a bachelor's degree (n = 7). About 35.4% (n = 28) were faculty members and 15.25% (n = 12) had a managerial position. Remaining were extension experts (49.35%). A total of 35.4% of the respondents worked in universities, 27.8% (n = 22) were associated with Agricultural Ministry (Jihad-e-Keshavarzi). About 29% (n = 23) of extension specialists worked in agricultural extension services at provincial level and remaining worked at county level (6.3%).

The mean value of the general perception of the respondents regarding sustainable agriculture concepts was 78.18 on a scale of 24 being low to the 120 being the highest value. The higher the value on this scale, the stronger the positive attitudes toward sustainable agriculture (Table 1). This overall value to sustainable agriculture indicates that the extensionists generally had a moderate perception toward sustainable agriculture concepts. Assess the overall mean indicated that Independency had the highest mean value (M = 3.99, SD = 0.56). The second highest area mean value (M = 3.82; SD = 0.48) was Community concept. From extension professionals' viewpoints regarding the sustainable agriculture concepts, Harmony with nature was in third rate (M = 3.65, SD = 0.49). In addition, the lowest item mean value (M = 2.38; SD = 0.49) was reported for the concept of Decentralization.

Iranian agricultural extensionists at positions of extension head in province (M = 4.05), faculty members (M = 4.03) and deputy of agricultural extension (M = 3.88) rated the concept of Independency the highest of the six concepts of sustainable agriculture, respectively. Community was rated second highest by extensionists in all three positions. Table 1 contains the means and standard deviations for all categories.

F-test results show that extensionists' general perceptions toward sustainable agriculture concepts did not significantly vary with age, levels of education, years of experience in extension or organizational position. In addition, no significant differences for these responses indicate a high level of agreement among the respondents (Table 2).

Based on the findings of this study, it can be concluded that the term sustainable agriculture as a concept was somewhat ambiguous to many agricultural extensionists in Iran. Overall value to sustainable agriculture indicates that the extension professionals generally had a moderate perception toward sustainable agriculture concepts and it is not in a favorable situation. These results were similar to Karami and Hayati (1998)'s findings for the Sustainable agriculture in comparison to conventional agriculture: assess of attitudes. This moderate perception did not vary with the respondents' age, level of education, experience or organizational position. The findings of this research show that what the agricultural extension professionals know on the sustainable agriculture as a new issue has a long gap with what they would learn as principles and concepts of sustainable agriculture and practically use in the activities as a new perspective. Unless these attitudes and knowledge are developed among present professionals, one could not expect the farmers to show any interest in adopting and using those principles and

Table 1: Iranian extensionists' Attitudes toward the sustainable agricultural concepts (n = 79)

	Faculty members (n = 28)		Extensionists of deputy of agricultural extension (n = 22)		Extension head in province (n = 28)		All participant (n = 79)	
Sustainable agricultural concepts	M	SD	M	SD	M	SD	M	SD
Independency	4.03	0.52	3.88	0.61	4.05	0.56	3.99	0.56
Community	3.72	0.47	3.67	0.45	3.57	0.30	3.82	0.48
Harmony with nature	3.43	0.56	3.23	0.51	3.45	0.37	3.65	0.49
Diversity	3.20	0.86	3.08	0.72	3.22	0.53	3.17	0.71
Useful exploitation	3.18	0.66	3.07	0.59	2.94	0.63	3.07	0.66
Decentralization	2.41	0.44	2.34	0.50	2.37	0.55	2.38	0.49
Total score	79.82	7.51	76.23	8.13	78.07	6.09	78.18	7.23

Table 2: F-test result to compare attitudes of extensionists by their demographic characteristics

	Factor							
	Age		Experience		Level of education		Organizational position	
Sustainable agricultural concepts	F-value	p-value	F-value	p-value	F-value	p-value	F-value	p-value
Independency	0.919	0.46	0.47	0.80	1.66	0.2	1.01	0.37
Community	0.410	0.80	0.36	0.87	1.57	0.21	1.10	0.34
Harmony with nature	0.510	0.73	0.87	0.50	0.45	0.63	1.37	0.26
Diversity	0.150	0.96	1.52	0.20	0.23	0.80	0.44	0.64
Useful exploitation	1.200	0.21	1.62	0.16	0.13	0.88	0.42	0.66
Decentralization	0.300	0.88	1.12	0.36	0.26	0.77	0.37	0.67

concepts. Since sustainable agriculture is considered as an instrument to achieve self-sufficiency in agriculture, it is necessary for government to carefully study the importance of sustainable agriculture and take necessary steps for achieving it.

REFERENCES

Allahyari, M.S. and M. Chizari, 2008. Ability of extension system to accomplish supportive policies of sustainable agriculture in Iran. J. Applied Sci., 8: 3064-3067.

Allahyari, M.S., M. Chizari and M. Homaee, 2008. Perceptions of Iranian agricultural extension professionals toward sustainable agriculture concepts. J. Agric. Soc. Sci., 4: 101-106.

Bagheri, A., H.S. Fami, A. Rezvanfar, A. Asadi and S. Yazdani, 2008. Perceptions of paddy farmers towards sustainable agricultural technologies: Case of Haraz catchments area in Mazandaran province of Iran. Am. J. Applied Sci., 5: 1384-1391.

Bartlett, J.E., J.W. Kotrlik and C.C. Higgins, 2001. Organizational research: Determining appropriate sample size in survey research. Inform. Technol. Learning Performance J., 19: 43-50.

Chaudhry, K.M., S. Muhammad and I. Ashraf, 2006. Alternative extension approaches to technology dissemination for sustainable agriculture in the Punjab. Pak. Int. J. Agric. Biol., 8: 836-839.

Faham, E., S.M. Hosseini and A.K. Darvish, 2008. Analysis of factors influencing rural people's participation in national action plan for sustainable management of land and water resource in Hable-Rud Basin, Iran. Am. J Agric. Biol. Sci., 3: 457-461.

Jayaratne, K., R. Martin and J. Witt, 2001. Perceptions regarding sustainable agriculture: Emerging trends for educating extension educators. Proceedings of 17th Annual Conference of AIAEE, April 5, Baton Rouge, USA., pp: 191-197.

Karami, A. and D. Hayati, 1998. Sustainable agriculture in comparison to conventional agriculture: Assess of attitudes. J. Agric. Sci. Nat. Resour., 2: 1-17.

Karami, E. and A. Mansoorabadi, 2008. Sustainable agricultural attitudes and behaviors: A gender analysis of Iranian farmers. Environ. Dev. Sustainabil., 10.1007/s10668-007-9090-7.

Rao, N.H. and P.P. Rogers, 2006. Assessment of agricultural sustainability. Curr. Sci., 91: 439-448.

Rasul, G. and G.B. Thapa, 2004. Sustainability of ecological and conventional agricultural systems in Bangladesh: An assessment based on environmental, economic and social perspectives. Agric. Syst., 79: 327-351.

Rezaei-Moghaddam, K. and E. Karami, 2008. A multiple criteria evaluation of sustainable agricultural development models using AHP. Environ. Dev. Sustain., 10: 407-426.

Wagner, W.C., 1999. Sustainable agriculture: how to sustain a production system in a changing environment. Int. J. Paristol., 29: 1-5.