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Assessing Extension Agent Training Needs, Barriers and Training Methods in Jordan

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ABSTRACT

One of the major obstacles to agricultural development in Jordan is the weakness of extension programming which is still traditional and based on personal judgement. The aim of this study was to examine the attitudes, adoption barriers and in-service training needs of Public Extension Agents (PEAs) towards the adoption of Needs-Based Extension (NBE). An instrument to assess attitudes, barriers and training needs was designed and used to collect data from 73 PEAs in Jordan. Face and content validity were confirmed by a panel of experts, and internal consistency of the study scales were demonstrated by alpha coefficients ranging from 0.75 to 0.90. Parametric and nonparametric methods were used to analyze the data. The results showed that most PEAs had positive attitudes towards adopting NBE services, but adoption was constrained by internal and external barriers; supporting culture to NBE, finance and skills to undertake surveys and need analysis. The involvement of public extension staff in the survey contributed to in-service training and the application of NBE programs. Priority areas for training were determined using weighted discrepancy scores, with the most important being information technologies, agribusiness management and conducting needs assessment respectively. Study tours and professional training were perceived as the most important training methods. There were few significant differences among the PEAs with respect to the attitude and competence scales. These results indicate the need to undertake needs assessments of PEAs to improve extension programming in Jordan.

Keywords: Extension, Competency, Discrepancy, Needs assessment, Jordan.

INTRODUCTION

An effective extension organization serves as a linkage between researchers and producers to orient their research towards addressing farmers' problems, providing them with relevant and reliable information, and to keeping researchers well informed about the results and problems facing farmers in their own socio-economic contexts (Swanson *et al.*, 1990; Enwelu *et al.*, 2014). Extension programs provided to farmers should be feasible and need-based to support farmers with modern, technically sound and financially feasible technologies (MOA, 1998; Ovwigho, 2011; Elias *et al.*, 2015). Many current Public Extension Agents (PEAs) are inadequately trained to assist farmers in their agricultural and business activities (Swanson and Rajalahti, 2010). The Cooperative Extension in most states in the USA employ PEAs who hold academic degrees, but they often lack the needed skills to be effective professionals (Tladi, 2004; Brown *et al.*, 2008; Schwarz and Gibson, 2010). A USAID (2005) study in Jordan found that the PEAs are often

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assigned to their positions without adequate preparation, and stressed the need for in-service training to update and strengthen their capabilities. Thus, there is a need to assess and prioritize the training needs of the PEAs in Jordan to improve their professional technical, communication and managerial competencies (USAID, 2005; Brown *et al.*, 2008).

Needs assessments of PEAs can determine the discrepancies between the current "what is" and the desired competencies "what should be". Ranked discrepancies gathered from the people likely to be affected by these programs can help reallocate resources and indicate priority areas for in-service training (McCaslin and Tibezinda, 1997; Erbaugh *et al.*, 2007; Watkins *et al.*, 2012). It is the first step in an ongoing and interrelated process for developing extension programs, selecting appropriate content and extension methods, managing program delivery, and evaluating program processes and outcomes (McCaslin and Tibezinda, 1997:; Caravella, 2006; Miller and Miller, 2009). The usefulness of the extension programs depends largely on the delivery approach and competencies and credibility of the PEAs (Erbaugh *et al.*, 2007). Assessment of the needs of PEAs is a long standing practice in many countries to enable the agents to develop effective programs and activities (Khan *et al.*, 2012; Ovwigho, 2011). Areas of in-serving training may include professional development, business management and marketing processes, extension methods including Information Communication Technologies (ICTs), and conducting needs assessments (McCaslin and Tibezinda, 1997; Miller and Miller, 2009). In Jordan, extension programming is still traditional and based on personal judgment, and this is well documented and widely acknowledged as one of the major obstacles to agricultural development (USAID, 2005; Al-Rimawi *et al.*, 2013). Professional versus traditional assessment requires substantial changes in the culture of the service organizations; in the PEAs' attitudes and behavior and in their capabilities to facilitate social processes. Transformation of technically oriented extension systems necessitates a broader framework of human resources development in which training is conducted (Moyo and Hagman, 2000). Ajzen's Theory of Planned Behavior (TPB) indicated that human behavior has a common structure that can be predicted. Explaining behavior requires examining the determinants of intentions, attitudes towards a specific behavior, and the subjective norms that control behavior (Ajzen, 2006). The positive or negative attitudes of the PEAs to perform NBE, their perceptions of whether adoption is acceptable and encouraged by extension authorities and their own capabilities to adopt and implement the NBE, are all important factors to be considered in the adoption of NBE approach.

The purpose of the study was to examine the attitudes of the PEAs towards the adoption of NBE in order to determine the perceived needs of extension professional and to guide the development of in-service training activities. The specific objectives were to assess: (1) The attitudes of the PEAs to the adoption of the NBE approach and adoption barriers; (2) The in service training needs and preferred training methods, and (3) The variables which account for differences in their attitudes and training needs of PEAs.

MATERIALS AND METHODS

The population for this study was comprised of the Public Extension Agents (PEAs) who work for the National Center for Agricultural Research and Extension (NCARE) of the Ministry Of Agriculture (MOA) in Jordan. The total number of PEAs was 73 agents (NCARE data base, June 2013) at the time of the survey. Considering the small number of the PEAs, data were collected by personal interview during June-December 2013 from all extension staff. Sixty-eight completed surveys were analyzed for the study. With the high

instability of the staff of public extension (USAID, 2005, Al-Rimawi, 2012), the agents serving at the time of the survey were considered as a sample drawn from a large population of the MOA who would be qualified to work as extension agents in the future. The rate of response was 93%, which indicates that the threat to the external validity of the findings is minimal. Lindner and Wingenbach (2002) reported that procedures for control of nonresponse error are not necessary when a response rate beyond 85% is achieved.

A semi-structured questionnaire was used as a tool for data collection. A four-point Likert-type scale was used for ratings with no middle option to avoid the central tendency bias (Erdogan, 2008; An *et al.*, 2016). The ratings scale ranged from 1-4, with 1 representing "strongly disagree" and 4 "strongly agree". A 7-item scale was used to rate the attitudes of the PEAs towards adopting the NBE. Two 15-items scales were used to rate their current competence of the PEAs skills and their rating assessment of the importance of and need for training to improve their extension professional development, farm business management and information technology. Discrepancy scores (DS) and Weighted discrepancy scores (WDS) were calculated and used to rank priority training needs of the PEAs. A DS for each item was obtained by calculating the difference between the mean scores of the perceived competency and the training need. A WDS was derived by multiplying these scores by the mean score of training need for each item (Erbaugh *et al.*, 2007; McKim and Saucier, 2010). Internal consistency of the study scales was demonstrated with the coefficient alpha ranging from 0.75 to 0.90, given that a reliability coefficient of .70 or higher is considered acceptable in most social science research situations (Tavakol and Dennick, 2011). A 7-item questionnaire was used to rate the importance of barriers preventing PEAs from adopting the NBE approach. A 10-item questionnaire was used to rate the perception of the PEAs towards their preferred mode of training. The instrument was validated by a panel of experts from the MOA to have sufficient content and face validity, and was then field-tested to ensure usability and reliability.

Table 1 presents descriptive information on the scales that were used to profile the extension agents. Data were analyzed using the SPSS software based on approximations of the variables to normal distribution using the Kolmogorov-Smirnov (KS) test. Parametric tests (i.e. t and ANOVA tests) were used to analyze the normally distributed competence and training need scales to test differences between or among

Table 1. Summary statistics of the study scales (n = 68).

	Attitude scale	Professional development scales	
		Current competence	Training need
No. of items (rates range)	7 (7-28)	15 (15-60)	15 (15-60)
Cronbach's Alpha	0.75	0.90	0.86
Min/Max	19.00/28.00	17.00/59.00	23.00/60.00
Mean (SD)	24.51 (2.72)	43.55 (9.01)	45.69 (8.56)
Confidence interval (95%)	23.68-25.17	41.33-45.76	43.50-47.88
Skewness (SE)	-0.538-(0.291)	-0.355-(0.295)	-0.531-(0.306)
Kurtosis (SE)	-0.866-(0.574)	-0.111-(0.582)	-0.344-(0.604)
Kolmogorov-Smirnov test of normality (For normal distribution, P> 0.05)	*Z*= 1.591 (P< 0.013)	*Z*= 0.559 (P< 0.914)	*Z*= 0.984 (P< 0.287)

groups. Non-parametric tests (i.e. Man Whitney, Kruscal Wallis, Spearman Rho and the χ^2) were used to test differences or to examine associations between groups for the un-normally distributed attitude scale. The Levene test was used to check the equality of variances of the populations, an important assumption for the F-test. The *LSD* test was used for mean separation to investigate where the differences occurred. Pearson correlation (r) was used to determine the strength of the relationship between the rates of need for training and the quantitative independent variables (age, years of work experience...). Van Zalk *et al.* (2008) and Ubinger *et al.* (2013) used the characteristics of normal distribution as a basis for categorization of scales into three levels: approximately 16% for either low or high levels (beyond □±one SD), with the remainder (68%) are in the middle. Instead, using reasonable cut-off scores provide more meaningful categorization (Table 1). Rates < 60% of the maximum rate, were labeled as low, rates ≥ 75% were labeled as high, otherwise rates (60-74%) were labeled as medium. Test of independence (χ^2) test was then used to investigate associations between the levels of the need for training and selected agents' characteristics.

RESULTS AND DISCUSSION

Socio-economic Characteristics of the Extension Agents

Field agents account for 67% of the extension staff with the remainder being central or regional administrators. The socio-economic factors of the PEAs are important in shaping their attitudes and behavior (Ajzen, 2006). The mean age was 40.2 years (SD= 6.3) with low variation (CV= 15.6), and more than half of the agents (53%) were in their middle ages (35-44 years). The majority of the PEAs (78%) were males. Very similar statistics were observed in Turkey (Ates and Cakal, 2016). Considering that women farm holders represent 5.2% in Jordan according to the AC 2007 (Al-Rimawi, 2009), statistically wise, female agents are over-represented in public extension. All the PEAs have a university degree in agriculture, including 16% with MSc degree. The distribution of PEAs according to their areas of specialization shows that 66% of them majored in horticulture and plant protection, and the rest were specialized in other fields. More than one third (37%) of the PEAs had working experience in extension for more than 10 years ($\bar{x}$= 9.6 years), but with high variation (CV= 67%). It can be concluded that the PEAS are in their middle ages, have pre-service training and experience, but they lack practical experience to effectively support farmers.

Objective 1: Attitudes and Barriers to the Adoption of the NBE Approach

Favorable attitudes influence behavior and decision making and indicate awareness of the PEAs of farmer's needs and their willingness to provide more effective demand-driven extension services. Based on the TPB, the intention to perform a behavior is strong when its performance is the product of a favorable attitude from the individual, a surrounding social environment conducive to the behavior, and confidence on the part of the individual of his ability to perform the behavior (Armitage and Conner, 2001; Ajzen, 2006). Using the attitude's scale, the respondents were asked to rate their perception of NBE programming and activities. Table 2 presents the ranked agent's ratings to the various items. All items were highly rated (≥ 3.28) and the overall mean was high ($\bar{x}$= 3.5) with quite low variability (CV< 5%). Three items ratings were above 3.50. The rest ranges from 3.28 to 3.46. Based on the TPB (behavioral beliefs), positive attitudes with low inter variability in items 1-6 among the PEAs (CV= 11-21%) indicates that the agents' appreciate the adoption of the NBE.

The PEAs were then asked to rate the barriers believed to limit their adoption of

Table 2. Attitude scale of the agents towards NBE programming.

Rank	Scale Items	Overall		
		Mean	*SD*	*CV* (%)
1	Farmers should be provided with NBE information	3.78	0.418	11.1
2	NBE priorities indicate efficient management	3.59	0.553	15.4
3	NBE *vs.* value judgment extension is more effective	3.56	0.608	17.1
4	NBE work is more professional	3.46	0.700	20.2
5	NBE is more supportive to development efforts	3.43	0.719	21.0
6	I am the right person to move to NBE work	3.43	0.581	16.9
7	NBE needs cultural change	3.28	0.666	20.3
	Overall item means	3.502	0.158	4.50

Table 3. Barriers to the adoption of NBE approach

Barriers to the adoption Lack of	Very important	Important	Less Important [a]	Mean score	*SD*	*CV* (%)
Finance to conduct surveys	63.2	36.8	0	3.63	0.486	13.4
Software skills to analyze data	61.8	36.3	2.9	3.59	0.553	15.4
Skills to assess needs	63.2	32.4	4.4	3.57	0.630	17.6
Skills to analyze data	57.6	39.4	3.0	3.55	0.560	15.8
Skills to present results	52.9	47.1	0	3.53	0.503	14.2
Staff to undertake surveys	53.0	42.6	4.4	3.49	0.586	16.8
Supporting culture to NBE	44.1	50.0	5.9	3.37	0.644	19.1

[a] Less important includes both not important and least important due to low frequency.

NBE approach. Table 3 shows that all items were highly rated (≥ 3.37) with low *CVs* (13-19%). Most of the respondents rated barriers as very important (53-63%). This indicates that the willingness of the PEAS to adopt the NBE approach is constrained by many barriers. The barriers to adopt NBE include the uncontrollable external factors, such as unsupportive financial and cultural environment to extension activities (items 1 and 7), and the internal controllable barriers which exist within the extension organization (items 2-6). This is consistent with the TPB, in which subjective norms were reported to have an impact on the intended behavior should it be acceptable and encouraged by the extension authorities (Armitage and Conner, 2001; Ajzen, 2006).

Ratings of the barriers to the adoption of NBE approach were not associated with age groups (P= 0.055). These favorable attitudes towards the NBE approach, suggest that the agents are more likely to adopt it, provided that the extension authorities endorse it and give it their full support. An agent stated that good intentions are not enough for activating extension services. Adopting NBE approach requires making logistics available including usable research results, finance, transportation and delivery of services in order to ensure efficient and effective management of extension.

Objective 2: Assessing Training Needs and the Preferred Methods of Training

The provision of in-service training programs prior to program delivery is one strategy for improving PEAs competence and credibility (Erbaugh *et al.,* 2007). The PEAs were asked to rate their competence and the importance of the need for training in a number of aspects to determine the priority professional skills training needs of the PEAs. Table 4 presents the ranked Weighted Discrepancy Scores (WDS). Nine training needs had positive WDS (3.54 to 0.15), which indicates a need for training. Five training needs had negative *WDS* (ND), which indicates that the PEAs considered themselves as competent and training was

Table 4. Ranked training needs of PEAs based on weighted positive discrepancy scores.

Scale items	Competency			Training need			*DS* [a]	*WDS* [b]	*WDS*
	Mean2	*SD*	*CV*	Mean1	*SD*	*CV*	(1-2)		rank
Extension programming	3.50	.639	18.3	2.80	1.077	38.5	-0.70	-1.96	ND [c]
Use of individual ext. methods	3.44	.704	20.5	2.85	1.123	39.4	-059	-1.68	ND
Use of group ext. methods	3.42	.703	20.6	2.84	1.113	39.2	-058	-1.65	ND
Use of ext. multimedia methods	3.27	.735	22.5	2.82	1.118	39.6	-055	-1.55	ND
Conducting program M and E	3.21	.886	27.6	2.92	1.053	36.1	-029	-0.85	ND
Focus group to conduct NA [d]	2.88	.969	33.6	2.93	.981	33.5	0.05	0.15	9
Conducting comprehensive NA	2.76	.962	34.9	3.07	.834	27.2	0.31	0.95	7
Business management areas	2.70	1.09	40.6	3.16	.879	27.8	0.46	1.45	6
Tools of risk management	2.67	1.06	39.6	3.41	.761	22.3	0.74	2.52	4
Post-harvest activities	2.64	1.10	41.8	3.16	.898	28.4	0.52	1.64	5
PRA to conduct NA	2.61	.959	36.7	2.79	1.035	37.1	0.18	0.50	8
Software skills (PPT, SPSS…)	2.41	1.08	44.9	3.43	.741	21.6	1.02	3.50	2
Database and internet networks	2.41	1.12	46.6	3.44	.764	22.2	1.03	3.54	1
Loan management	2.20	.996	45.3	3.21	.897	27.9	1.01	3.24	3
Overall item means	3.046	24	7.90	2.903	43.9	15.1	-	-	-

[a] Discrepancy Score; [b] Weighted Discrepancy Score; [c] Negative Discrepancy, [d] Needs Assessments.

Mean2 is the mean score of the perceived competency, Mean1 is the mean score of the perceived training need. DS is Mean 1 minus Mean2, and WDS is derived by multiplying DS by Mean1 for each item.

not necessary. These *ND* items include extension programming and monitoring and evaluation, use of various extension methods, including multimedia extension methods. This is in line with the findings of Ates and Cakal (2016) who reported that 76% of the extension personnel in Turkey had adequate professional knowledge and they make use of various information sources. This provides an opportunity to reallocate resources to more pressing needs (Watkins *et al.,* 2012).

The training needs with the highest *WDS* (3.50 and 3.54) were related to the area of ICTs. This indicates that developing internet networks to promote computer-based extension and software skills to present and analyze data were regarded as the most important training needs. This finding is in line with the results of a study in the USA in which ICT was perceived by the PEAS as first priority for training (Schwarz and Gibson, 2010). Extension activities are costly and time-consuming, and this makes using ICT training very appealing, as it is cheaper, it does not need physical classroom facilities and its scheduling is more convenient (Jones *et al.,* 2007; Quesada-Pineda, 2011). The PEAs need to be trained in the use of ICT facilities for extension services delivery to enable them to inform and train farmers on how they can utilize ICTs to improve their performance in agriculture (Umar *et al.,* 2015). These include electronic methods of communication (mobiles/text messaging), the delivery of extension service using internet websites (on-line services) and data storage devices that include flash memories and CDs. With better management, the efficiency and sustainability in using inputs can be promoted, the negative effects of pests and diseases can be reduced and the farmers will be enabled to mitigate risks from harsh weather conditions and droughts (Ballantyne, 2010; Ezeh, 2013; Umar *et al.,* 2015).

The second priority needs are related to business management areas with *WDS* ranging from 3.24 to 1.45. Management skills (including loan management) have long-term effects on profitability and viability of farming. Efforts have to be made to promote business-like farming to cope with farmers' needs and to enable them to run their business for profit in an

increasingly competitive environment (Jones *et al.*, 2007; Rodier, 2007; Shepherd, 2011; Kahan, 2013). Credit is an important policy instrument that can facilitate the application of modern technologies (Pishbahar, 2015). PEAs are expected to provide advice on when getting a loan is financially feasible, types and how to apply and to get a loan with the best interest rates. The three lowest ranked training needs, with *WDS* of less than 1.00, were related to tools to conduct needs assessment (participatory rural appraisal, focus groups…). USAID (2005) revealed that there was a limited number of staff trained in data collection. Competent PEAs can evaluate farmers' knowledge in key areas, and prioritize extension services and training activities in the framework on NBE programs (Erbaugh *et al.*, 2007).

Varied methods and education materials are available to help prepare and equip PEAs to enhance their competency and professional skills. Each method can be used in different ways depending on the purpose of training. Attitudes of the PEAs towards methods of training were investigated to help policy makers to design training programs. The various training methods identified by agents as more effective are ranked in Table 5. Most of the identified

methods were highly rated (≥ 3.32) with low variability (13-23%) which reflects consistency in the perception of agents towards the effective training methods. However, effective learning can be more appropriately achieved by combining various methods in the context of multi-media approach which can reinforce and multiply the impact of agent learning (Jones *et al.*, 2007; Elias *et al.*, 2015). E-learning is the use of telecommunication technology to deliver information for education and training (Aixi and Wang, 2011). The successful adoption of online e-learning systems, an effective alternative to traditional face-to-face education, is mainly dependent on the learners' attitude and willingness to use these systems (Ahmadpour *et al.*, 2016). Yet, ICT methods were moderately rated methods (< 3.0). ICTs training activities are less costly and it does not need physical classroom facilities (Jones *et al.*, 2007). Other repeatedly suggested methods for training include practical training by the private sector, training in large farms and subject matter expert training.

Objective 3: Statistical Testing of Selected Variables and the Three Scales

Table 6 presents parametric (for the competence and training scales) and non-parametric tests (for the attitude scale) of selected socio-economic characteristics. The variables that showed high statistical significance relationships with the attitude scale include gender and place of work. Mean ranks for males (MW test: P= 0.004) and for agents who were stationed in the south (KW test: P= 0.001) were significantly

Table 5. Extension agents' perceptions concerning methods of training (n= 68).

Training methods	Strongly agree %	Agree (%)	Disagree (%)	Ranked mean	*SD*	*CV* (%)
Study tours	73.0	25.0	1.5	3.72	0.484	13.0
Local exchange of experience	73.5	22.1	4.4	3.69	0.553	15.0
At local or international institutions	67.2	29.9	3.0	3.63	0.599	16.5
Attending conferences	61.8	32.4	5.9	3.56	0.608	17.1
Academic degree training	52.9	33.8	4.4	3.54	0.679	19.2
Workshops & seminars	52.9	33.9	13.2	3.37	0.790	23.4
Training at academic institutions	47.1	41.2	11.7	3.32	0.762	23.0
Data storage devices (CD, flash memories...)	26.5	44.1	29.4	2.94	0.808	27.5
Distant learning materials (web-based...)	16.2	52.9	30.9	2.76	0.831	30.1

Table 6. Testing the variables which account for scales differences (n= 68).

Variables	Test	Value	*p*-Value
The attitude scale tests results			
Education level (BSc, MSc) *vs*. attitude levels	$\chi 2$	$\chi 2$ 3.040	0.081
Gender (M, F)	MW	Z= -2.868	0.004
Place of work (Northern, middle and southern regions)	KW	$\chi 2$= 13.759	0.001
Specialization (Horticulture, plant protection)/Attitude level	$\chi 2$	$\chi 2$= 7.689	0.104
Extension experience (Years)	Rho	ρ= -0.154	0.222
The competence scale tests results			
Education level (BSc, MSc)	t	t= 0.953	0.344
Gender (M, F)	t	t= 0.852	0.397
Place of work (northern, middle and southern regions)	F	F= 0.681	0.510
Specialization (Horticulture, plant protection)/Attitude level	F	F= 0.393	0.813
Extension experience (Yrs.)	r	r= -0.289	0.020
The training needs scale tests results			
Education level (BSc, MSc)	t	t= 0.883	0.381
Gender (M, F)	t	t= 1.837	0.071
Place of work (Northern, middle and southern regions)	F	F= 0.687	0.507
Specialization (Horticulture, plant protection)/Attitude level	F	F= 1.240	0.304
Extension experience (Years)	r	r= -0.225	0.087

higher. Low or no significant relationships were observed for the level of education and specialization. Mean ranks were higher for agents with BSc degree (P= 0.08) and for agents who are specialized in plant protection or agricultural economics (P= 0.10). Agents with longer experience (>15 yearrs) or with MSc degree or who are specialized in horticulture and animal production were less likely to rate highly the need for training. No statistically significant differences (P≤ 0.05) were observed for the scales by most of the characteristics examined. Significant relationships were observed with the competence scale by only place of work (P= 0.001) and gender (P= 0.004), years of extension experience (P= 0.02) with the competence scale and none with the training needs scale. Otherwise, ratings were similar for the scales irrespective of the specialization, education level, age and type of job (administrator, field agent).

CONCLUSIONS

The PEAs were found to have favorable attitudes towards adoption of NBE, and the effective involvement of public extension staff in the survey contributes to the application of NBE programs. However, the intent to adopt NBE is constrained by external and internal barriers; supporting culture to NBE, finance and skills to undertake surveys and need analysis. Actions are needed to overcome these barriers to make NBE more operational. Swanson and Rajalahti (2010) recommended that extension staff need a minimum of a BSc degree. All the PEAs in Jordan have a university degree in agriculture, including 16% with MSc degree. Yet, they perceive themselves as possessing a low level of competence in several professional development areas; ICTs skills, loan and farm business management. A university degree is not in itself enough; on-the-job training is essential for extension agents. Weighted discrepancy analysis is recommended for the design of in-service training, using the perceived training methods as the most effective; study tours to developed extension systems and degree or non-degree professional training. Relationship between independent variables and training needs have to be considered in assessing the needs of the various targeted

groups of the PEAs. It is also vital to adapt and keep up with the diverse and constantly changing training needs of the different groups of PEAs and farmers (Ovwigho, 2011). The ultimate objective is to determine the perceived training needs of the PEAs; to avoid misallocation of resources to less needed training activities and to ensure that the extension programs are useful and can contribute to the goals of the National Extension Strategy (MOA, 1998; USAID, 2005). It is also recommended to take into account ICTs and business management training in annual job-related evaluations and job promotions as incentives to promote proficiency of the PEAs. Improving university education to include training in ICTs and management can also contribute to their effective use in agriculture (Ballantyne *et al.*, 2010).

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ارزیابی نیازهای آموزشی، موانع و روش‌های آموزشی مروجین کشاورزی در اردن

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چکیده

یکی از موانع عمده توسعه کشاورزی در اردن ضعف برنامه‌ریزی ترویجی است که هنوز هم به صورت سنتی و مبتنی بر قضاوت شخصی انجام می‌پذیرد. هدف اصلی این مطالعه بررسی نگرش‌ها، موانع پذیرش و نیازهای آموزشی ضمن خدمت مروجین دولتی (PEA) در جهت پذیرش ترویج مبتنی بر نیاز بود. ابزاری که در جهت بررسی نگرش‌ها، موانع و نیازهای آموزشی طراحی شده بود برای جمع-آوری داده‌ها از ۷۳ نفر از مروجین دولتی مورد استفاده قرار گرفت. روایی صوری و محتوایی ابزاز پژوهش توسط پانل متخصصان مورد تأیید قرار گرفت و انسجام درونی ابزار نیز بوسیله ضرایب آلفای کرونباخ در دامنه‌ای بین ۰/۷۵ تا ۰/۹۰ تعیین شد. روش‌های آماری پارامتری و ناپارامتری برای تجزیه و تحلیل داده‌ها مورد استفاده قرار گرفت. نتایج نشان داد که بیشتر مروجین دولتی نگرش مثبتی درباره پذیرش خدمات ترویج مبتنی بر نیاز داشتند، اما پذیرش بوسیله موانع داخلی و خارجی محدود می‌شود؛ که این موانع عبارتند از: حمایت فرهنگ ترویج مبتنی بر نیاز، منابع مالی و مهارت‌های موردنیاز جهت اجرای پیمایش‌ها و تحلیل‌های مورد نیاز. مشارکت کارکنان ترویج دولتی در مطالعه در آموزش‌های ضمن خدمت و کاربرد برنامه‌های ترویج مبتنی بر نیاز نقش داشت. حیطه‌های آموزشی دارای اولویت با استفاده از امتیازات اختلاف وزنی تعیین شدند که مهم‌ترین آنها به ترتیب عبارت بودند از فناوری‌های اطلاعاتی، مدیریت کسب و کار و اجرای ارزیابی نیازها. گردش‌های علمی و آموزش‌های تخصصی به عنوان مهم‌ترین روش‌های آموزشی شناسایی شدند. بین مروجین دولتی برحسب مقیاس‌های نگرش و صلاحیت آنها تفاوت معنادار اندکی دیده شد. این نتایج حاکی از ضرورت اجرای ارزیابی نیازهای مروجین در جهت بهبود برنامه‌های تروجی در اردن می‌باشد.