Journal of Agricultural and Veterinary Sciences

Journal homepage:
http:// journals.sustech.edu

Training Needs Assessment of Extensionists in Gezira Scheme, Sudan

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Article history: Received: 28 April 2013
Accepted: 8 September 2013

Abstract: The main objective of the study was to determine the training needs of agricultural extensionists in Gezira Scheme in order to suggest appropriate training programs. The population of this study was all extensionists who were working at various irrigation divisions throughout the Scheme (47 respondents). The main instrument for data collection was a structured questionnaire. The data were collected during the period from January to February 2013. The data were statistically analyzed using the statistical package for social science (SPSS) to calculate frequency, percentages, mean and standard deviation. A Likert scale was used to assess the needed level of training. . The study showed that there was a strong need for in-service and job training to narrow the gap between the actual and the required skills and knowledge. Extensionists expressed a greater need for in-service training in specific areas and they showed the necessity of receiving training on computer skills, extension methods, water management, technical packages of crops, analysis of agricultural policies, optimum use of the available financial resources, determination of farmers training needs, establishment of field demonstrations and field days, evaluation of trails, planning skills of extension programs and integrated pest management. In addition, the study revealed that there were problems associated with extension service delivery such as lack of facilities for extension services , inadequate number of extensionists, limited use of mass media, agricultural inputs were not available at an affordable price and agricultural credit was not readily available and affordable to the farmers. Based on the findings, it is recommended that extensisonists should be provided with the appropriate training that addresses their needs and the necessary logistics to perform their functions diligently.

Keyword: Training needs, Assessment, Extensionists

Introduction

One of the strategies adopted by Gezira New Act 2005 in achieving its set objectives was focused on the administration of technology transfer and provision of technology services .It is a well-known fact that extensionists play a critical role in any extension service. They provide the farmers with information and new technologies that can be adopted to improve production, incomes and standards of living. According to Oakley and Garforth (1985), the success or failure of any extension programs is dependent on the effective performance of extension agents.

Extension has been introduced formally in the scheme only in 1969 with a limited number of extension officers who were first deployed in five blocks inside one Group (the Scheme has 18 Groups). Later, extension was tried in over all the Scheme but with a limited number of officers who were able to offer only limited coverage to an extent that the majority of farmers did not even know the extension officers. Because the number was limited and it was impossible to make effective coverage in the form of face-to-face contact, using group and individual methods, they have relied mainly on mass media (radio and T.V) in addition to implementation of extension campaigns at times of emergencies such as picking of cotton, combating of pests and the likes (Elfaki, 2008). Late in the seventies (1976), the five blocks extension experiment was stopped and one extension officer was deployed in each group and the ratio was one extensionist to 7000 farmers (Mustafa and Mohammed, 1982). Therefore, their work was limited, that was abolished in 1996, and instead 300 field inspectors were assigned extension work, thus increasing the ratio of extensionist to farmer substantially to 1:400. The functions attended by the extensionists were broadened to include training of field inspectors and farmers on relevant subject matters and adopting the participatory approach of Farmers' Field Schools. In the current situation, one extensionist covers an average of about 2900 farmers. Crowder (1996) reported that there is a critical need for a large number of well trained extension workers in many developing countries. FAO (1990) revealed that in the USA, Canada and Europe one extension agent covers about 400 economically active persons in agriculture, and a higher figure was obtained in four developing regions of Africa, Asia, Latin America and the Near East where an extension worker covers an average of about 2,500 active persons in agriculture. The very low ratio of extension workers to farmers might lead to the dispersion of extension workers, and making them less acquainted with the problems and the actual needs of this large number of farmers particularly if they are not well trained and not supported with the necessary work logistics.

Training can be considered as the act of increasing the knowledge and skills of an employee in doing a particular job, providing a worker with the appropriate tools which include both conceptual and technical matter to carry out his work more effectively Thus, training bridges the differences between job requirements and employee's present specifications and opens up alternative ways of thinking and implementing of social development programs (Flippo, 2005; Marsden, 1998).

Training is not a luxury but a necessity. It is a kind of investment. "No organization has a choice of whether to train or not; the only choice is that of method" (Flippo, 2005). No one is a perfect fit at the time of hiring. Training is necessary to bridge the gap between what he is and what the job demands. In the absence of a systematic and planned training, employees learn their job by trial and error method or by observation. These methods consume more time and energy, thereby increasing the cost of training. Even then, there is no guarantee that the employee will learn the best method of doing the job. In order to a have, effective training at a reduced cost, planned training is a must. For any extension organization to improve its performance, a continuous and systematic training of its staff is necessary (F.A.O., 2001). The first step in designing a training and development program is to conduct a needs assessment. The assessment begins with a "need" which can be identified in several ways but is generally described as a gap between what is currently in place and what

is needed, now and in the future. (Baxter, 2004) reported that the major trend that needs to be employed in shaping the future of agricultural extension in developing countries and in other extension workers is the need for retraining of the extension staff to meet up with the trends in knowledge and the drive for effectiveness. Yondeowei and Kwarteng (2006) defined training need as the difference between the required level of individual competence and his present level of competence. Allo (2001) pointed out that one of the main factors limiting the development of effective training programs for agricultural professionals in developing countries is the inadequacy of information on their training needs. In this regard, there is also the need to rationalize training to minimize repetition of the same message, more exposure to relevant technology and communication techniques, more avenues for personal career development and frequent contact between various categories of extension personnel.

The objective of this study was to determine the training needs of extensionists in Gezira Scheme and identify the problems associated with their delivery of extension service in the study area.

Material sand Methods

Population and sample

This study was conducted in the Gezira Scheme. The Forty-seven extensionists who were working at various irrigation divisions throughout the scheme were chosen for this study. A questionnaire consisting of 30 questions was developed covering questions about personal characteristics of extension workers, areas of training needed, level of the needs and problems and constraints of extension work as perceived by extensionists and what extension workers suggest for improving extension activities in the scheme. The personal interview technique was used to implement the questionnaire. The survey for collecting the data was carried out during the period from January to February 2013.. The collected data were statistically analyzed and interpreted by using the statistical package for social sciences (SPSS).

1) Descriptive analysis (tables, frequencies, percentages, means and standard deviations) were used to assess areas of training needed, personal characteristics of extension workers and .sufficiency quality and relevance of their previous training:
2) A Likert scale was used for assessing extensionists training needs.

   The mean and standard deviation were computed based on mean value obtained.

   i. The decision rule used in the study to obtain the needed level of training was 1.5 and above was considered as high training needed level, 1< 1.5 considered medium needed level and less than one not considered.
   ii. The decision rule used in the study was 2.5 and above was considered as cut-off point for items to be agreed, and 2.49 and below for the item to be disagreed.

Results and Discussion

Respondents age group, experiences in extension field, sources of information, sufficiency and relevance of previous training Source of information

Data in Table 1 shows that the vast majority of respondents (93.6%) ages were between 35-55 years. This age group was characterized by maturity, which reflects the extent of their capacity to absorb and comprehend ideas and information communicated to them. Moreover, the sense of responsibility at this age is very high and their willing to pay more attention to their future through developing their work is expected to be high if a training program is tailored to suit their needs and interests. Training is needed also for old employees whenever new technologies are introduced as these may have different procedures of working. In addition, the result in Table 1

shows that the majority of respondents (76.6%) had a B.Sc degree in different agricultural subjects. Again, the data in Table 1 revealed that vast the majority of respondents (97.9%) had experiences of less than five years in the extension field. This relatively low experience could be compensated with appropriate training. Also, the result in Table 1 shows that the ranking of the sources from which the respondents received their agricultural information were considered as follows: Agricultural Research Corporation ranks first followed by the press, scientific journal, TV and final the radio with corresponding values of 91.5%, 38.3%, 42.6%, 68.1% and 46.2% respectively. Research being the main source of information of the vast majority of extension workers is a positive sign of extension work. Research is considered as knowledge and information generator and extension is seen as knowledge and information disseminator as well as a catalyst for knowledge useful utilization (Elfaki, 2000)

Sufficiency, quality, and relevance of previous training

Data in Table 2 shows that (95.7%) of the respondents had attended training programs before. In addition, (55.3%) and (63.8%) of them affirmed that training contents and training courses duration, respectively, were not sufficient and did not respond to their needs. Lack of training quality and quantity is probably one of the main causes of low productivity, the situation that requires designing comprehensive training programs, with training contents relevant to respondents needs. The same Table shows that the majority of respondents (61.7%) affirmed that the degree of benefit was from medium to little degree from training courses attended before. And that (87.2%), (80.9%), (66.0%) of respondents attributed the main causes for not benefiting was due to: irregularity of the training program, short duration of courses and irrelevance of training to their needs, respectively. This necessitates designing of comprehensive training programs that consider training quality and quantity according to extension workers needs.

Ranking of areas of training needed by extension workers

Data in Table 3 shows that the level of need for training among extensionists was "high" in 12 subject areas, also the data in Table 3 shows that the respondents rank computer skills, extension methods, water management, new technology in irrigation water, technical packages of crops, analysis of agricultural policies, optimum use of the available financial resources, determination of farmers training needs, establishment of field demonstrations and conducting of field days, evaluation of trials, planning skills of extension programs and integrated pest management at the top. Corresponding mean values of those levels of needs (approximated to two decimal numbers) were 1.96, 1.87, 1.83, 1.83, 1.79, 1.77, 1.75, 1.75, 1.70., 1.70, 1.66 and 1.53, respectively. On the other hand, the training needs of extensionists in the field of rules and regulations, machine adjustment, agricultural product processing, communication skills and recording and reporting were found medium with corresponding mean values of1.49, 1.49, 1.45, 1.40 and 1.40. These findings indicate that the areas in which respondents expressed training needs were very relevant to knowledge and skills required for executing extension programs if extension is to benefit farmers and respond to their needs.

Problems/constraints associated with extension services delivery

Table 4 revealed that all the respondents had encountered certain problems in discharging their duties. This finding is in coordination with the statement made by Banaga *et al* (2008) that the problems affecting the extension services delivery vary in nature, severity and degree to which alleviation is possible. Table 4 further shows that the

extension workers were working under areas characterized by lack of facilities, inadequate number of extension workers, absence of farmers in the field, the very limited use of mass media, agricultural inputs were not available at an affordable price and agricultural credit was not readily available and affordable to the farmers. These conditions hinder extension professionals and do not permit them to perform their mandate as expected in their day-to-day working areas. In addition to the aforementioned problems, absence of farmers training centers in the study area were also among the problems that made them to develop resistance to adopt new technologies and discouraged the extension workers to improve their field work. The majority of the respondents agreed with the fact that all the items listed were only some of the challenges they were facing and need to be tackled by the Government through the Scheme administration.

The areas through which extension services can be improved

Data in Table 5 shows that extensionists regarding the improving of extension services in the scheme have agreed with mean values of 2.70, 2.70, 2.77, 2.70, 2.79, 2.77 and 2.74 for the availability of inputs at the needed time and with fair prices, the scheme should have a library for extensionests, the need for adequate and current research journals, available funds for training and extension coverage, good salary scale and welfare for extension workers, appropriate use of mass media and concentration on field demonstrations . If this package is fulfilled, they can perform their functions effectively to benefit farmers through improving of production, income and standard of living.

Conclusion

From the findings of this study, it can be deduced that extensionists of the Gezira Scheme are still in need of more training. The very small number of extension workers, with relatively low experience and with neither sufficient nor relevant previous training will not be able to perform effective extension work unless they are well trained in the seventeen areas that showed high and medium levels of need for training. Moreover, extension workers need to be supported with the necessary logistics that can help them perform their jobs efficiently. Problems and constraints perceived by extensionests and their suggestions for improving extension activities should be well considered and recognized.

Table 1: Frequencies distribution and percentages of extensionists according to age, experience and source of information:

Character	F	%
Age group:		
25-35	2	4.3
36-45	9	19.1
46-55	35	74.5
56 above	1	2.1
Qualification:		
Bsc	36	76.6
higher Diploma	1	2.1
Msc	10	21.3
Years of experiences in the extension services:		
1-5	46	97.9
6-10	1	2.1
Source of information:		
ARC	43	91.5
Radio	18	38.3
TV	20	42.6
Press	32	68.1
scientific journal	22	46.8

Source: field survey 2013

Table 2: Frequencies distribution and percentages of extensionists according to training received, sufficiency, quality and relevance of previous training:

Training programs	Frequency	%
Attendance of training:		
Not attended	2	4.3
Attended	45	95.7
Training courses duration:		
Not suitable	26	55.3
To some extent suitable	12	25.5
Suitable	7	14.9
Training courses contents:		
Not sufficient	30	63.8
To some extent sufficient	9	19.1
Sufficient	6	12.8
Extent of benefit:		
Very limited benefit	1	2.1
Small degree of benefit	13	27.7
Benefit to some extent	16	34.0
Medium degree of benefit	15	31.9
Reasons for not benefiting from training:		
Training duration concise and short	38	80.9
Training contents irrelevance to my training needs	31	66.0
Irregularity of the training programs	41	87.2

Source: field survey 2013

Table 3: Areas and levels of training needs of extensionists:

Areas of training needed	Possesses knowledge		level of need for training*	Rank order
	Mean	Std		
Computer skills	1.9574	.2917	High	1
Extension methods	1.8723	.4942	High	2
Water management	1.8298	.5641	High	3
New technology in irrigation water	1.8298	.5641	High	4
Agricultural technical packages	1.7872	.6233	High	5
Analysis of agricultural policies	1.7660	.6329	High	6
Optimum use of the available financial resources	1.7447	.6416	High	7
Determination of farmers training needs	1.7447	.6746	High	8
Establishment of field demonstrations and field days	1.7021	.7197	High	9
Evaluation of trials	1.7021	.7197	High	10
Planning skills of extension program	1.6596	.7598	High	11
Integrated pest management	1.5319	.8560	High	12
Rules and regulations	1.4894	.8815	Medium	13
Machine adjustment	1.4894	.8815	Medium	14
Agricultural product processing	1.4468	.9043	Medium	15
Communication skills	1.4043	.9245	Medium	16
Recording and reporting	1.4043	.9245	Medium	17

Source: field survey 2013

*The decision rule used in the study to obtain the needed level of training was 1.5 and above is considered as high training needed level, 1< 1.5 was considered as medium needed level and less than one was not considered.

Table 4: Distribution of extensionists according to the problems and constraints associated with delivery of extension services:

Problems/ constraints	Possesses knowledge		Rank order*
	Mean	Std	
Inadequacy of extension services facilities	1.9574	.2040	1
Inadequate number of extensionists	1.9574	.2040	2
Absence of farmers in the field of the Scheme	1.8936	.2040	3
Limited use of mass media	1.8936	.2040	4
Unavailability of Inputs at an affordable price and needed time	1.8298	.3799	5
Agricultural credit is not readily available and affordable to the farmers	1.8298	.4291	6
Absence of nearby farmers training centers	1.8298	4291	7

Source: field survey 2013

*The decision rule used in the study was 1.5 and above is considered as a major problem, and 1.49 and below for the item to be minor problem.

Table 5: The areas through which extension services can be improved:

Items	Mean	Remark*
Availability of agricultural inputs at the needed time and fair price	2.7021	Agreed
The Gezira Scheme should have a library for extensionists use	2.7021	Agreed
The Gezira Scheme should subscribe for adequate and current agricultural research journals	2.7660	Agreed
Funding for training and extension visits always should be available	2.7021	Agreed
Extensionists reasonable salary scale and welfare	2.7872	Agreed
Dissemination of information through the available mass media	2.7660	Agreed
Concentration on field demonstration	2.7447	Agreed

Source: field survey 2013

*The decision rule used in the study was 2.5 and above is considered as cut-off point for items to be agreed, and 2.49 and below for the item to be disagreed.

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تحديد احتياجات التدريب للمرشدين الزراعيين
بمشروع الجزيرة، السودان

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المستخلص :

هدفت الدراسة لتحديد احتياجات التدريب للمرشدين الزراعيين بمشروع الجزيرة لاعداد برنامج تدريبية تتناسب ورفع قدرات المرشدين. استهدفت الدراسة كل المرشدين الزراعيين المنتشرين بالمشروع والبالغ عددهم 47 مرشد زراعي. تم جمع البيانات الاولية بواسطة استبيان صمم لهذا الغرض في الفترة من يناير - فبراير 2013. وتم تحليل البيانات باستخدام برنامج الحزم الاحصائية للعلوم الاجتماعية (SPSS) لحساب التكرارت، النسب المئوية ،المتوسط والانحراف المعياري كما تم استخدام a Likert scale لتحديد مستوي الحاجة التدريبية. كشفت الدراسة عن الحاجة القوية للتدريب اثناء الخدمة لتقليل الفجوة ما بين الواقع وما هو مطلوب بالنسبة للمعارف والمهارات. عبر المرشدون عن حاجتهم العظيمة للتدريب اثناء الخدمة في مجالات محددة، ومن تلك المجالات، التدريب علي مهارات الحاسب الالي، الطرق الارشادية، ادارة المياه، الحزم التقنية للمحاصيل، تحليل السياسات الزراعية، الاستخدام الامثل للموارد المالية المتاحة، تحديد احتياجات المزارعين التدريبية، انشاء الحقول الايضاحية واقامة ابام الحقل، تقييم التجارب، مهارات تخطيط البرامج الارشادية والمكافحة المتكاملة. بالاضافة الي ذلك كشفت الدراسة عن المشاكل المتعلقة بتقديم الخدمات الارشادية كضعف التسهيلات المقدمة للخدمات الارشادية، قلة عدد المرشدين الزراعيين، محدودية استخدام وسائل الاتصال الجماهيري، المدخلات الزراعية غير متوفرة بالسعر المناسب كما ان التمويل الزراعي غير متوفر للمزارعين بالصورة المطلوبة، استنادا علي هذه النتائج توصي الدراسة بضرورة اعداد برامج تدريبية تتناسب واحتياجات المرشدين التدريبية كما لابد من توفير احتياجات العمل اللازمة لاداء العمل باتقان.