The impact of farmers' field schools weekly training on the adoption of some recommended wheat cultural practices by Gezira scheme tenants

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ABSTRACT

The objective of this study was to determine the influence of weekly participation of Gezira scheme tenants in training sessions in farmers' field schools (FFSs) on adoption of some recommended wheat cultural practices. Tenants weekly participation in training sessions in FFSs was considered an independent variable, while adoption of recommended urea and phosphorus application and their doses , watering interval and sowing date were considered dependent variables. A sample of 80 farmers were selected to answer a prepared questionnaire of whom 40 participated in the FFSs weekly training and 40 did not .The adoption of recommended water intervals ,urea dose and application and phosphorus application were dependent on FFSs weekly training sessions, while adoption of the recommended sowing date and phosphorus dose were not dependent on the FFSs weekly training sessions. It was recommend that FFSs approach to be continued and at a higher scale, also field personnel of the Gezira scheme should train farmers through this appro-ach in problem- solving techniques in order to encourage more farmers' participation in extension activities which would lead to higher rates of adoption of the recommended cultural practices.

INTRODUCTION

Farmers' field schools (FFSs), as an extension approach, had been introduced in the Gezira Scheme since 1995 with the aim of making the Gezira tenants more efficient in managing their farms, and to provide suitable information to adopt, to increase their production and hence raise their standard of living (Ahmed ,1997) .

The Gezira scheme has a low productivity of wheat because of failure to adopt the recommended technical packages (Eltigani, 1998) .The adoption process consists of five stages which are, knowledge, persuasion, decision, implementation and confirmation. Within the five stages of the adoption process farmers are classified according to their readiness to accept new ideas and practices into five categories which are: innovators, early adopters, early majority, late majority and laggards. A set of five analytic categories that classify the attributes which influence the potential adopters of an innovation are the relative advantage of the innovation, its compatibility with the potential adopter's current way of doing things and with the social norms ,the complexity of the innovation ,the ease with which the innovation can be tested by a potential adopter (trialability) and the ease with which the innovation can be evaluated after trial (observability). In addition, there are some external or social conditions that may accelerate or retard the process which are whether the decision is made collectively, by individuals or by a central authority, the commu-nication channels used to acquire information about an innovation , the nature of the social system and the extent of the change agents 'efforts (Rogers,2003). The main aim of FFSs is to help the farmers to become more skillful in their work; so training has to be directed to improve their work efficiency , interaction and empowerment in order to help farmers to become self-dependent in challenging their production problems and organizing their efforts to improve their income (Alsaffar, 1997).

MATERIALS AND METHODS

Forty participants were selected by simple random method from three blocks; namely, Tyba, El-tuboub and Wad Elbur. Also, forty non- participants were selected by the same method for comparison to determine the influence of participation in FFSs training sessions .

Tenants weekly participation in training sessions in FFSs was considered an independent variable while adoption of recommended phosphorus application and its dose, urea application and its dose, watering interval and sowing date were considered dependent variables. The farmers were interviewed through a close-ended questionnaire. The collected data were analyzed using the statistical packages for social sciences (SPSS). Fre-quencies and percentages were calculated .

RESULTS AND DISCUSSION

The frequency distributions and percentages for farmers' adoption of wheat rcommended cultural practices by participation in FFSs were shown on Table 1.The majority of the participants (75%) sowed their wheat in November which is the recommended sowing date, compared to 65% of the non - participants. The adoption of the recommended sowing date was more or less similar and high among both the participants and non- participants, because the administration of the Gezira scheme finance and implement the operations of land preparation and sowing by machines for all the farmers.

Most participants (72.5%) irrigated the crop every 14 days or less, which is the recommended watering interval , while only 37.5% of the non- participants adopted the recommended practice. The rate of adoption of participants was higher than that of non- participants; which is an indication of the positive effect of training.

Higher percentage (87.5%) of participants adopted the application of phosphorus and urea fertilizers compared to 47.5% and 62% of the non- participants, respectively ,while 30% of the non-participants applied it under supervision of the agricultural administration field inspectors. Application of phosphorus and urea fertilizers by 30% and 25%, respectively, of the non–participants, under supervision of field inspectors, didn't mean that they were convinced with the practice, because they had been forced to do it as a government regulation without giving them an opportunity to make their own decision whether to adopt or not . People being forced may not behave as required in the future; they are likely to resume their old behavior as soon as the coercion ceases (Van den Ban, 1999). Most participants (87.5%) applied the recommended phosphorus dose (1P) compared to 67.5% of the non-participants and 87.5% applied the recommended urea dose (2N) compared to 57.5% of the non- participants.

The adoption of the recommended water intervals, phosphorus appli-cation and urea dose and application, were dependant on participation in the FFSs weekly training sessions. This may be explained by the fact that these technologies are somewhat complex and hence needed well conceived and implemented training to encourage farmers to adopt them (Pretty *et al.,* 1995), besides their adoption was highly dependent on farmers own decision rather than the administerations' decision (Fliegel, 1993). However, there was no dependency of the recommended sowing date and phosphorus dose adoption on participation in the FFSs weekly training sessions. This may be attributed to the fact that the recommend-ed sowing date, though it is a simple technology, its adoption depends on decisions by parties other than the farmers (Merrium, 1999), since it depends on the availability of irrigation water which is managed by the irrigation administration and the cleanliness of the canals from weeds and silt.

RECOMMENDATIONS

This study confirmed that the FFSs, as an extension approach in the Gezira scheme, were effective and therefore, we recommend that the use of this approach to be continued and at a higher scale. It is also recommended that the extension and field personnel of the Gezira scheme should train farmers through this approach in problem- solving techniques in order to encourage more farmers' participation in extension activities which wouldlead to higher rates of adoption of the recommended cultural practices .

Table 1. Adoption by tenants of the recommended sowing date ,watering intervals, urea and phosphorus application and dose for wheat produc-tion.

	Participants frequency	Participants (%)	Non - participants frequency	Non-participants (%)
		Sowing date		
November	30	75	26	65
December	10	25	14	35
Total	40	100	4	100
		40		
		Watering interval		
14 days or less	29	72.5	15	73.5
more than 14 days	11	27.5	25	62.5
total	40	100	40	100
		Phosphorus application		
Applied P	35	87.5	19	47.5
Applied under agric. administration supervision	0	0	12	30
Did not apply phosphorus	5	12.5	9	22.5
Total	40	100	40	100
		Urea application		
Applied urea	35	87.5	25	62.5
Applied under agri. administration supervision	0	0	10	25
Did not apply urea	5	12.5	5	2.5
Total	40	100	40	100

Table 1. (cont.)

	Participants frequency	Participants (%)	Non - participants frequency	Non- participants (%)
	Phosphorus dose			
One dose/ feddan	35	87.5	27	67.5
Less than one feddan	5	12.5	13	32.5
Total	40	100	40	100
	Urea dose			
One dose (1N)	5	12.5	17	42.5
Two doses (2N)	35	87.5	23	57.5
Total	40	100	40	100

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أثر التدريب الحقلى لمدارس المزارعين على تبنى المزارعين بمشروع الجزيرة للحزم التقنية لمحصول القمح

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الخلاصة

هدفت هذه الدراسة لمعرفة تاثير التدريب الحقلى الاسبوعى فى مدارس المزارعين على تبنى الحزم التقنية لمحصول القمح بواسطة مزارعى مشروع الجزيرة. تضمنت الدراسة متغير مستقل واحد وهو المشاركة فى التدريب الحقلى الاسبوعى لمدارس المزارعين، وتمثلت المتغيرات التابعة فى تبنى العمليات الفلاحية الموصى بها و المتمثلة فى كل من: تاريخ الزراعة، فترات الرى ، استخدام سمادى اليوريا والفوسفات وجرعة اليوريا و الفوسفات. اخذت عينة من ثمانين مزارعا تم استجوابهم عبر استبانة، منهم 40 شاركوا فى مدارس المزارعين و40 لم يشاركوا فيها . بعد جمع المعلومات تمت جدولتها وتبويبها ثم تحليلها بواسطة الحاسوب ومن ثم حساب النسبة المئوية واوضحت نتائج الدراسة ان تبنى المزارعين لاستخدام سماد اليوريا والفوسفات وجرعة سماد اليوريا و فترات الرى اعتمد على المشاركة فى التدريب الحقلى لمدارس المزارعين . ولم يعتمد تبنيهم لاستخدام جرعة الفوسفات وتاريخ زراعة محصول القمح على المشاركة فى التدريب الحقلى لمدارس المزارعين . وقد اوصت الدراسة باستمرارية مناشط مدارس المزارعين على ان تشمل جميع الزراع من اجل رفع درجة كفاءتهم الزراعية, وتشجيعهم لاستخدام الحزم التقنية مع تقديم معلومات اوفر من اجل رفع كفاءة الزراع .