

Role of Private Agricultural Extension Sector in Gezira State, Sudan

Ahmed Abdel Rahman^{a*}, Omran Yousif^b

^a*Department of Agricultural Extension and Training, Faculty of Agricultural Sciences, University of Gezira, Wad Medani, P. O. Box. 20, Sudan.*

^b*Department of Economics, Faculty of Economics and Rural Development, University of Gezira, Wad Medani, P. O. Box. 20, Sudan.*

^a*Email: mirghani999@hotmail.com*

^b*Email: omraneconomy1970@gmail.com*

Abstract

The aim of this study was to assess the role of private agricultural extension sector in Gezira State, Sudan. Field survey was used to collect data from 100 small scale farmers in 2014/2015 growing season using full count methods. The collected data were statistically analyzed and interpreted using percentage, frequency distribution and chi-square test. The majority of the results showed significant association between all kind of extension services provided by private agricultural extension sector and increase in farmer's production.

It can be concluded that private agricultural extension sector in Gezira State can play more effective role if it can be supported by enough well trained extension officers. Thus, The private agricultural extension sector in Gezira State should be supported by all concerned input companies, local NGOs, individuals and other agribusiness enterprises and the number of extension field staff should be increases and well trained.

Key words: Agricultural extension services; private extension sector; Gezira State; Sudan.

* Corresponding author.

1. Introduction

Agricultural extension has been recently defined as “systems that facilitate the access of farmers, their organizations and other market actors to knowledge, information and technologies; facilitate their interaction with partners in research, education, agri-business, and other relevant institutions; and assist them to develop their own technical, organizational and management skills and practices” [1]. In Sudan agricultural extension services were started since 1959 as ministry-based agricultural extension services (known as National Agricultural Extension Administration at federal level) after the Second World War as a part of American technical aid for developing countries. From that time to nowadays many development and structural changes were made to this administration. In the year (2004) its name was changed to the Administration of Extension and Technology Transfer. This administration has a branch in each State Ministry of Agriculture of the country and dominated the majority of organizations provided agricultural extension services in the country.

Agricultural extension services can be seen as the cornerstone of agricultural development policy of any country especially in developing countries in the world. The services should include technical services, business skills and home economics services, vocational training, tertiary education and agricultural research [2]. The main objective of agricultural extension services is to help farmers to increase their agricultural production and productivity in order to improve their income and socio-economic status. Agricultural extension services also aim at empowering farmers to identify and analyze their agricultural problems, which will assist them to make the right decisions on their agricultural activities [3].

Globally agricultural extension services are provided by both public and private sector organizations as mentioned in the literature. The privatization of agricultural extension services worldwide was came as a result of the response of extension organizations to increasingly complex and rapidly changing environment [4]. Reference [5] reported that public agricultural extension free services to meet needs of farmers in all agricultural sectors are gradually becoming unrealistic and insufficient due to limited financial resources and global change in economic. Privatization involves ending of total or substantial ownership and operational control from the government to the private sector. It also involve the development of new partnerships and association capacities between government agencies and non- governmental and private sectors [6] . In Sudan the private sector was emerged during the last two decades as a result of the government privatization policy and agricultural reforms regarding insufficient extension services provided by the public agricultural extension organizations in the country.

Private extension involves personnel in the private sector that deliver advisory services in the area of agriculture and is seen as alternative to public extension [7]. Reference [8] reported that farmers are expected to share the responsibility for this service and play all or part of the cost. Reference [9] indicated that privatization of agricultural extension service refers to services rendered in the area of agriculture and allied aspects by extension personnel working in private agencies or organizations for which farmers are expected to pay a fee (or free) and can be viewed as supplementary or alternative to public extension services. The main aim of this study was to assess the role of private agricultural extension sector in Gezira State ,Sudan.

2. Material and methods

This study was conducted in the Gezira State, Sudan. The population size of small-scale farmers in the State for 2014/2015 growing season was estimated to be 1000 using the full count method. Ten percent of the population was used to assess the role of private extension sector in agricultural extension services in the State. A questionnaire consisting of five questions was constructed and the personal interview technique was used to administer the questionnaire. The collected data were statistically analyzed and interpreted using percentage and frequency distribution and chi-square test. chi square is given by:

$$\chi^2 = \sum_{r=1}^R \sum_{c=1}^C (O_{rc} - E_{rc})^2 / E_{rc}$$

With degrees of freedom (v) given by (R-1) (C-1), where:

R : Rows of the contingency table

C : Columns of the contingency table

O_{rc} : Observed frequency in row (r) and column (c)

E_{rc} : Expected frequency in row (r) and column (c)

3. Results and discussion

3.1 Kind of technical services provided by private extension sector

In Sudan private extension sector generally focus on sales of inputs such as chemicals ,fertilizers ,machinery and seeds in addition to technical and financial services. The results revealed that the majority of farmers (57%) reported that private extension sector provide them with all technical services they need for their cultivated crops. (20%) of farmers reported that private extension sector provide them with new crop varieties,(13%) of them reported that private extension sector provide them with technical information on the safety use of pesticides, ,(06%) of them reported that private extension sector provide them with technical information of cultural practices of their cultivated crops and the rest of them (04%) reported that private extension sector provide them with problem solving practices(table1).

3.2 Kind of input services provided by private extension sector

In most cases farmers use improved seeds as recommended by both public and private extension services. The results showed that the majority of farmers (90%) reported that private extension sector provide them with all kinds of input services they need for their cultivated crops. (03%) of farmers reported that private extension sector provide them with pesticides only, (03%) of farmers reported that private extension sector provide them with field equipments only, (02%) of farmers reported that private extension sector provide them with improved

seeds only, and the rest of them (02%) reported that private extension sector provide them with chemical fertilizers only (table 2).

Table 1: Kind of technical services provided by private extension sector

Kind of technical services provided	No.	%	Significance
1-Cultural practices	06	06	
2-Problem solving practices	04	04	
3-Use of pesticides	13	13	
4-New crop varieties	20	20	
5- All mentioned above	57	57	0135
Total	100	100	

Significance level 0.10 or less

Table 2: Kind of input services provided by private extension sector

Kind of input services provided	No.	%	Significance
1-Improved seeds	02	02	
2-Chemical fertilizers	02	02	
3-Pesticides	03	03	
4-Field equipments	03	03	
5- All mentioned above	90	90	0.000
Total	100	100	

Significance level 0.10 or less

3.3 Kind of financial services provided by private extension sector

Access to finance is very important factor for the development of agricultural sectors. As known agricultural financial services for agricultural production, processing and marketing include loans, leasing, savings, payment services and agricultural insurance.

The results indicate that the majority of farmers (51%) reported that private extension sector (banks and insurance companies) provide them with all kind of available financial services include cash or credit services, agricultural insurance services and murabaha services (Islamic formula of credit and loans services) , while (20%) of them reported that private extension sector provide them with cash or credit services only. (18%) reported that private extension sector provide them with murabaha services only .The rest of them (11%) reported that private extension sector provide them with agricultural insurance services only (table 3).

Table 3: Kind of financial services provided by private extension sector

Kind of financial services provided	No.	%	Significance
1-Cash or credit services	20	29	
2-Murabaha services	18	20	
3- Agricultural insurance services	11	51	
4- All services mentioned above	51	51	0.000
Total	100	100	

Significance level 0.10 or less

3.4 Kind of Marketing services provided by private extension sector

Agricultural marketing plays a key role in production and consumption process. The agriculture marketing system plays crucial role in economic development in agricultural countries whose their resources are primarily agricultural production.

The results revealed that the majority of farmers (82%) reported that private extension sector provide them with transportation and grading they needed for their farm produce to be marketed in higher prices. The rest (11% and 07%) of them reported that private extension sector provide them with transportation and grading they needed for their farm produce to be marketed in higher prices respectively (table4).

Table 4: Kind of marketing services provided by private extension sector

Kind of Marketing services	No.	%	Significance
1-Transportation	07	07	
2-Grading	11	11	
3- All mentioned above	82	82	0.000
Total	100	100	

Significance level 0.10 or less

3.5 Impact of all private extension services on farmer`s production

The results showed that the majority of farmers (61%) reported that they agree private extension services assisted them in increasing their production, while (28%) of them reported that they strongly agree private extension services assisted them in increasing their production also. The rest of them (11%) reported that they disagree private extension services assisted them in increasing their production (table5).

Table5: Impact of all private extension services provided by private extension sector on farmer`s production

Impact of all private extension services on production	No.	%
1-Agree	61	61
2-Strongly agree	28	28
3- Strongly disagree	11	11
Total	100	100

Chi-square test:-

Chi-square test was used to show the association between agricultural extension services provided by private agricultural extension sector in Gezira Stat ,Sudan and increase in farmer`s production . The results revealed the following:-

- 1- There was no significant association between all kind of technical services provided by private agricultural extension sector and increase in farmer`s production. This may be due to insufficient number and/or lack of well trained extension workers (table 1).
- 2- There was significant association between all Kind of input services provided by private agricultural extension sector and increase in farmer`s production (table 2).
- 3- There was significant association between all Kind of financial services provided by private agricultural extension sector and increase in farmer`s production (table 3).
- 4- There was significant association between all Kind of marketing services provided by private agricultural extension sector and increase in farmer`s production (table 4).

Generally, the results of this study agrees with results reported in the report of the United States Agency for International Development [10], according to the report the private agricultural extension sector in Jordan is a more reliable source of information on new agricultural technologies, technical advice and are especially strong in input supply for vegetable seed and pesticides in addition to availability of published information for growers. The results of this study was also in accord with the results reported by [3] who noted that extension services provided by the private sector in Nigeria, even when it is funded by government, is a positive feature.

Also, the results of this study are in line with results reported by [11] who cited that most advisory services in Pakistan today are being provided by the private sector and thus has effectively replaced the public extension service. the results of this study also agrees with results reported by [12] who observed that in Tanzania several non-governmental organizations (NGOs) and farmer-led initiatives have, over time, supplemented extension service delivery of the public extension services. The results of this study agrees with results reported by [13] who cited that in Kenya the private agricultural extension is skewed towards high potential regions because it is either driven by profits or quick results.

4. Conclusion and Recommendations

From this study we can conclude that private agricultural extension services in Gezira State can play more effective role if it can be supported by enough well trained extension field staff.

Thus, the private agricultural extension services in Gezira State should be supported by all concerned input companies, local NGOS , individuals and other agribusiness enterprises and the number of extension field staff should be increased and trained.

5. Limitation of the study

The findings of this study might not be applicable in other countries as any country in the world has its own characteristics and conditions of agricultural extension services.

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