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## Journal of Agricultural and Veterinary Sciences
Journal homepage:
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# The Impact of The Knowledge and Skills of Producers' Group Leaders and Extension Agents and Their performance ability in Management, Organization and Networking (Case Study: Small Producers Project - Blue Nile State)

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**Abstract**

This study aimed to assess the impact of an administrative and organizative knowledge and skills of producer groups leaders and extension agents on their performance ability in management, organizing and networking of these groups, by studying the producer groups set up by supporting Small Producers Project in the Blue Nile State, to achieve this objective, the social survey method was used and a sample size to be exposed to the research tool was determined by 65 respondents (51 groups leaders and 14 extension agents) which represents (28%) of respondents in total (232). in 3 localities, Al-Rosaires, Al-Tadamun and Wadah Al-Mahi, The researcher used the questionnaire to collect the primary data, The data were analyzed by SPSS software to calculate frequencies and percentages, in addition to spearman correlation coefficient to measure the study hypothesis, which states that an administrative and organizative knowledge and skills of producer groups leaders and extension agents are not significantly correlated to their performance ability in management, organizing and networking of these groups. The results indicated to a statistically significant correlation between an administrative knowledge and skills of producer groups leaders and their performance ability in decision making, management and supervision, goal determine, communication and networking, and team spirit, while there is no significant correlation between organizative knowledge and skills of extension agents and their performance ability in providing support on carrying out agricultural practices, providing a financing information, training and network of groups. The researcher recommended to the authorities concerned, the most important of which are:

Ongoing work to increase knowledge and skills of agricultural extension agents and producer groups leaders in general, with a focus on Blue Nile State producer groups and extension agents, to improve their performance ability in management, organization and networking.

**Keywords:** Performance ability in management Organization, networking Producer groups, Agricultural extension agents.

## Introduction

Small producers and rural workers who suffer from a lack of inputs, market services and government services work more efficiently through their organizations and groups to improve their lives and do extra work on their own efforts to improve their local communities, and small producers' groups can communicate with governments, agencies

and NGOs, to ensure a service delivery that is more efficient and also has social and political benefits. Also, through the groups, the rural population can elect their leaders and mobilizes their own resources to improve their livelihoods and communities, and learn the value of cooperation at work, to reduce the conflict risks and contribute to improving local administrative management and develop institutions to be more stable and democratic at service of the rural population. (FAO 1994, 1995, 2000)

The Association of Small Producers' Groups is a voluntary association of small producer groups at the local level that is self-governing. This association is constituted and financed by the affiliated groups members to provide services and benefits that help to improve their economic and social conditions.

**Problem statement:**

Despite the organization of farmers in groups in Blue Nile State to improve their efficiency in work and production, the performance is still weak, therefore, the idea of studying the knowledge, skills and performance ability of producers group leaders and Agricultural Extension Agents in Blue Nile State, emerged as one of the other influences on performance ability.

**Objective of the study:**

The impact of an administrative and organizative knowledge and skills of producer groups leaders and extension agents on their performance ability in management, organizing and networking of these groups

**Hypothesis:**

The administrative and organizative knowledge and skills of producer groups leaders and extension agents are not significantly correlated to their performance ability in management, organizing and networking of these groups.

**The study area:**

Small Producers Project: a smallholder component funded by the European Union and implemented in four states of Sudan,

(Blue Nile, Gedaref, Kassala and Red Sea State), and implemented by various voluntary international organizations and in national level with technical support from the Landal Malz consulting firm. The project aims to provide technical, material and administrative support, including capacity building for small producers to use modern technologies in production, obtain financing and better marketing of their products in order to increase productivity and income and support family food security. The project provides assistance through small producer organizations that were established especially for this purpose. (Project documentation to increase productivity for small producers in Blue Nile State, 2020)

In this context, a series of studies can be approached, including Alyoubi and others (2018) study, which determines the Impact of Knowledge Management on Employee Work Performance: Evidence from Saudi Arabia, the study aimed to measure the effects of knowledge management processes (knowledge acquisition, knowledge sharing, knowledge creation and knowledge retention) and knowledge management approaches (social networks, codification and personalization) on job satisfaction and examines how they increase employees' work performance. The most important results of the study were that, there is a significant and positive impact of KM processes and approaches on job satisfaction and work performance. Hanafi and Ibrahim (2018) study which indicate to the impact of employee skills on service performance, the study aimed to reveal the results of investigation about the impact of employee skills on service performance. the study results showed an employee competency have a direct impact on the service performance and customer experience and it is significant, and that customer experience has a direct impact on service performance, findings also reveal that customer experience has a mediating effect although it is not significant. skills

have a significant positive and direct impact on service performance.

**Methodology**

The research community represents the number of Producer group leaders (PGLs) and Agricultural Extension Agents (AEAs) group that work within the project activities to increase the small farmers productivity, implemented by World Vision in Blue Nile state, where all the localities in which the project works were selected to carry out the research, and there are three: "Rosires, Wad. Al-Mahi and Al-Tadamun". The total number of different community groups can be calculated as following table illustrates how the sample was selected from the three localities:

**Table no. (1) The research community by locality:**

| No. | Locality | producer groups leaders Agent by locality | Extension Agent by locality |
|-----|----------|-------------------------------------------|------------------------------|
| 1 | Rosires | 102 | 27 |
| 2 | Wad. Al-Mahi | 24 | 6 |
| 3 | Al-Tadamun | 57 | 16 |
| | Total | 183 | 49 |

Source: (Project documentation to increase productivity for small producers in Blue Nile State, 2020)

It is clear that the research community has a number of 232 respondents according to their categories, producer groups leaders and agricultural extension agents. The researcher used the Cochran (1977) equation to calculate the sample size of a proportional stratified random sample from the research community with a margin of error (0.05) and a confidence level (95%). By applying the equation, it is clear that the sample size to be exposed to the research tool is 65 respondents, representing a (28%) of a total of 232 respondents. As the following table:

**Table no. (2) The sample size:**

| No. | Locality | producer groups leaders Agent by locality | Extension Agent by locality |
|-----|----------|-------------------------------------------|------------------------------|
| 1 | Rosires | 29 | 8 |
| 2 | Wad. Al-Mahi | 6 | 2 |
| 3 | Al-Tadamun | 16 | 4 |
| | Total | 51 | 14 |

The research was based on the questionnaire as a main tool to obtain primary data. The researcher relied on the questionnaire for its multiple advantages, which are represented in the following:

- Possibility of applying it to obtain information from several people.
- Low cost and ease of application.
- Easy to write your questions, expressions and phrases.

It gives the interviewee time and gives them the opportunity to reflect.

To achieve the above purposes of the questionnaire was designed for a study the impact of an administrative and organizational knowledge and skills of producer group's leaders and extension agents on their performance ability in management, organizing and networking of these groups in Blue Nile State. Study variables include the axes through which the hypothesis is tested, was divided into two axes:

**1\ The first axis:**

It includes measuring the respondent knowledge and skills, each according to their responsibility (group leaders - extension agents) as follows:

a- Measurement of knowledge and skills of producer group leaders.

b- Measure the knowledge and skills of extension agents.

**2\ The second axis:**

Include:

**A) Measure producer group leader's performance ability in:**

- Decision making.
- Management and supervision.
- Goals determine.
- Communication and networking.
- Team spirit skill.

**B) Measure agricultural extension agent's performance ability in:**

- Carrying out agricultural practices.
- Delivery of marketing information to farmers.
- Access to financing.
- Access to production inputs.
- Training and Information networking.

In formulating the variables, the following was taken:

- It adapts to the dimension you are measuring.
- Including the dimension or field it refers to.
- Clear in terms of wording.

**Table no. (3) showing the weight of the research scale for administrative and originative knowledge and, skills, and performance ability**

| The scale | V. Good | Good | Weak | Too weak | Null |
|---|---|---|---|---|---|
| **Meaning** | Mastery | Accuracy | Enough | Deficiency | Absent |
| **The weight** | 4 | 3 | 2 | 1 | 0 |

(0) Null means a person's knowledge or skill on subject is completely absent (Absence).

(1) Too weak means some general knowledge and skill, but not sufficient (Deficiency).

(2) Weak means adequate knowledge and skills to perform the tasks but performance is ineffective (Enough).

(3) Good means the level required to achieve accuracy and regularity of performance (Accuracy).

(4) Very good means a combination of accuracy and speed in performance (Mastery).

To ensure the questionnaire apparent validity, the researcher presented the questionnaire to various arbitrators and, in light of the arbitration, the terms of the questionnaire were modified in their final form. The semi-segmentation method was used to measure a tool stability. The measurement of a tool stability of showed that:

The validity of the agricultural extension agent's questionnaire = 0.982

Producer groups leader's questionnaire validity = 0.971

It is an indication that the tool has a high validity.

The questionnaire was distributed and handed out at random to respondent according to their categories, "Group leaders, agricultural extension agents" manually. The researcher obtained 65 valid questionnaires to carry out the statistical study, "51 questionnaires for leaders, 14 questionnaires for agricultural extension agents."

**Findings and discussion**

This part includes results presentation and discussion of the statistical analysis, Spearman correlation test to measure the degree of correlation between the investigated groups (leaders of producer groups and extension agents) knowledge and skills and their performance ability in management, organization and networking of producer groups. The results are as follows:

**Table No. (4) Distribution of PGLs according to their knowledge and skills and performance ability (N=51):**

| No. | The knowledge, skills, and performance ability of producer group leaders. | (4)v. Good | (3) Good | (2) Weak | (1) v. weak | (0)Null | Total |
|---|---|---|---|---|---|---|---|
| 1 | **The Administrative and organizative knowledge, skills of producer group leaders.** | 10 %19.6 | 24 %47.1 | 15 %29.4 | 2 %3.9 | 0 %0 | 51 %100 |
| 2 | **Performance ability of producer group leaders in Decision Making** | 1 %2 | 6 %11.8 | 15 %29.4 | 19 %37.2 | 10 %19.6 | 51 %100 |
| 3 | **Performance ability of producer group leaders in management, and supervision** | 0 %0 | 0 %0 | 10 %19.6 | 29 %56.9 | 12 %23.5 | 51 %100 |
| 4 | **Performance ability of producer group leaders in goals determine** | 0 %0 | 0 %0 | 5 %9.8 | 30 %58.8 | 16 %31.4 | 51 %100 |
| 5 | **Performance ability of producer group leaders in communication and networking.** | 0 %0 | 0 %0 | 5 %9.8 | 32 %62.7 | 14 27.5 | 51 %100 |
| 6 | **Performance ability of producer group leaders in team spirit skill.** | 0 %0 | 0 %0 | 3 %5.9 | 21 %41.2 | 27 %52.9 | 51 %100 |

Source: (Social survey, 2020)

It is clear from Table (4) that more than half of producer groups leaders (66.7%) had good knowledge and skills to very good, more than half of producer groups leaders (66.6%) had a weak to very weak in performance ability in decision-making, in addition to (19.6%) of producer groups leaders hadn't performance ability (Absence) in decision-making. In addition, most of producer groups leaders (76.5%) had a weak to very weak performance ability in management and supervision, in addition to that (23.5%) of producer groups leaders hadn't performance ability (Absence) in management and supervision. In addition, more than half of producer groups leaders (68.6%) had a weak to very weak in performance ability in goals determine, in addition to (31.4%) of producer groups leaders hadn't performance ability (Absence) in goals determine. Furthermore, the majority of producer groups leaders (72.5%) had a weak to very weak performance ability in communications and networks, in addition to that half of producer groups leaders (52.9%) hadn't performance ability (Absence) in team spirit skill.

**Table No. (5) Distribution of EAs (extension agents) according to their knowledge, skills and performance ability (N=14):**

| No. | knowledge, skills, and performance ability of extension agents. | (4)v. Good | (3) Good | (2) Weak | (1) v. weak | (0)Null | Total |
|---|---|---|---|---|---|---|---|
| 1 | **The Administrative and organizative knowledge, skills of EAs.** | 0 %0 | 0 %0 | 2 %14.4 | 6 %42.8 | 6 %42.8 | 14 %100 |
| 2 | **Performance ability of extension agents in clarify the conduct of agricultural practices.** | 0 %0 | 1 %7.1 | 3 %21.5 | 5 %35.7 | 5 %35.7 | 14 %100 |
| 3 | **Performance ability of extension agents in provide information on production inputs .** | 0 %0 | 0 %0 | 3 %21.5 | 7 %50 | 4 %28.4 | 14 %100 |
| 4 | **Performance ability of extension agents in provide financial information** | 0 %0 | 2 %14.3 | 4 %28.6 | 5 %35.7 | 3 %21.4 | 14 %100 |
| 5 | **Performance ability of extension agents in delivery of marketing information.** | 0 %0 | 2 %14.3 | 2 %14.3 | 7 %50 | 3 %21.4 | 14 %100 |
| 6 | **Performance ability of extension agents in training and Information networking.** | 0 %0 | 1 %7.2 | 2 %14.3 | 6 %42.9 | 5 %35.7 | 14 %100 |
| 7 | **Performance ability of extension agents in encourage farmers to work cooperatively** | 0 %0 | 0 %0 | 2 %14.2 | 6 %42.9 | 6 %42.9 | 14 %100 |

Source: (Social Survey, 2020)

It is clear from Table No. (5) that more than half of extension agents (57.2%) had weak to very weak knowledge and skills, in addition to (42.8%) of extension agents their knowledge and skills were (Absence). In addition, half of extension agents (57.2%) had a weak to very weak performance ability to carry out agricultural practices, in addition to (35.7%) of extension agents in performance ability in to explain how to carry out agricultural practices. In addition, most of the extension agents (71.5%) had a weak to very weak in performance ability to provide information on production inputs, in addition to (28.4%) of extension agents were (Absence) of performance ability in provide information on inputs of production. In addition, more than half of extension agents (64.3%) had a weak to very weak of performance ability in provide

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financing information, in addition to (21.4%) of extension agents hadn't performance ability (Absence) in provide financing information. Most extension agents (64.3%) had a weak to very weak performance ability to deliver marketing information, in addition to (21.4%) of extension agents had low performance ability in delivery of marketing information. In addition, half of extension agents (57.1%) had a weak to very weak performance ability in training and networking, in addition to (35.7%) of extension agents hadn't performance ability (Absence) in training and networking. In addition, half of extension agents (57.2%) had a weak to very weak performance ability to induce farmers to cooperate at work, in addition to that (42.9%) of extension agents had low performance ability in encourage farmers to cooperate at work

**Table No. (6) Spearman correlation for knowledge and skills of producer groups leaders and their performance ability in management, organization and creation of producer groups networks**:

| | | Performance ability in decision-making | Performance ability in management and supervision | Performance ability in provide financing information | Performance ability in training and networking | Performance ability in team spirit skill |
|---|---|---|---|---|---|---|
| knowledge and skills of producer groups leaders | Spearman test | $0.413^{**}$ | $0.335^{*}$ | $0.369^{**}$ | $0.409^{**}$ | $0.502^{**}$ |
| | Sig. level | 0.003 | 0.016 | 0.008 | 0.003 | 0.000 |
| | Respondents | 51 | 51 | 51 | 51 | 51 |

Source: (Statistical Analysis, 2020)

** Statistically significant at (0.01)

* Statistically significant at (0.05)

Table No. (6) shows that there is a statistically significant correlation between the knowledge and skills of producer groups leaders and their performance ability in decision-making (0.003), management and supervision (0.016), goals determine (0.008), communication and networking (0.003) and team spirit skill (0.000). this significant correlation is a positive correlation below the average between the knowledge and skills of producer groups leaders and their performance ability in decision-making (** 0.413), management and supervision (* 0.335), goal determine (** 0.369), communication and networking (** 0.409) and team spirit skill (** 0.502).

We conclude from the above results that there is a strong or below average positive significant correlation between knowledge, skills and performance ability for producer group leaders. performance ability increases with increasing knowledge and skills. The result reject study hypothesis there is no correlation between the knowledge and skills of producer groups leaders and their performance ability in management, organization and networking of producer groups

**Table No. (7) Spearman correlation for knowledge and skills of agricultural extension agents and their performance ability in providing support for management, organization and creation of producer groups networks**:

| | | Performance ability in carry out agricultural practices | Performance ability in information on inputs of production | Performance ability in provide financing information | Performance ability in deliver marketing information | Performance ability in communications and networks | Performance ability in encourage farmers to cooperate at work |
|---|---|---|---|---|---|---|---|
| knowledge and skills of extension agents | **Spearman test** | 0.408 | 0.689[**] | 0.449 | 0.549[*] | 0.485 | 0.586[*] |
| | **Sig. level** | 0.147 | 0.006 | 0.107 | 0.042 | 0.078 | 0.028 |
| | **Respondents** | 14 | 14 | 14 | 14 | 14 | 14 |

Source: (Statistical Analysis, 2020)

** Statistically significant at (0.01)

* Statistically significant at (0.05)

Table No. (7) shows that there is a statistically significant correlation between the knowledge and skills of agricultural extension agents and their performance ability in providing support in terms of providing information on inputs of production (0.006), deliver marketing information (0.042) and encourage farmers to cooperate at work (0.028), while there is no a statistically significant correlation between the knowledge and skills of extension agents and their performance ability in providing support in terms of carry out agricultural practices (0.147), providing financing information (0.107), training and group networking (0.078). this significant correlation is an average positive correlation between the knowledge and skills of extension agents and their performance ability in providing support in terms of providing information on inputs of production (0.689), deliver marketing information (0.549), and encourage farmers to cooperate at work (0.586), and there is no significant correlation between the knowledge and skills of extension agents and their performance ability in the provision of support in terms of carry out agricultural practices (0.408), providing financing information (0.449), training and group networking (0.485). We conclude from the above results that there is an average positive significant correlation between the knowledge and skills of agricultural extension agents and their performance ability in providing support to manage, organize and establish networks of producer groups, except in performance ability in support in terms of carry out agricultural practices, provision of financial information, and training and networking. The result reject study hypothesis there is no correlation between the knowledge and skills of agricultural extension agents and their performance ability in management, organization and networking of producer groups, except performance ability in support in terms of carry out agricultural practices, providing

financing information, training and networks, and this can be attributed to the fact that the agricultural practices were carried out by service companies financed by the project, although there is a clear weakness in training and networking.

## Conclusion

Study the effect of knowledge and skills on performance ability one of the important issues in identifying the performance gap and an important task in the continuous development of training plans for any institution if it is with the purpose of conducting a new task or develop routine performance.

## Recommendation

Ongoing work to increase a knowledge and skills of agricultural extension agents and producer groups leaders in general, with a focus on Blue Nile State producer groups and extension agents, to improve their performance ability in management, organization and networking.

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## تأثير معارف ومهارات قادة مجموعات المنتجين والمرشدين علي مقدرة أدائهم في الإدارة والتنظيم والتشبيك
### (مشروع دعم صغار المنتجين ولاية النيل الأزرق)

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**المستخلص:**

هدفت هذا الدراسة إلي معرفة تأثير معارف ومهارات قادة مجموعات المنتجين والمرشدين الزراعيين علي مقدرة أدائهم في مجال إدارة وتنظيم وتشبيك هذه المجموعات. وذلك من خلال دراسة مجموعات المنتجين بمشروع صغار المنتجين بولاية النيل الأزرق، لتحقيق هذا الغرض أستخدم منهج المسح الاجتماعي، وتم تحديد حجم عينة البحث ب 65 مبحوث (51 قادة مجموعة و 14 مرشد زراعي) وهو ما يمثل نسبة (28 %) من المجموع الكل، لمجتمع البحث في ثلاث محليات هي محلية الروصيرص (34 مجموعة)، محلية التضامن (19 مجموعة) ومحلية ود الماحي(8 مجموعات)، أستخدم الباحث الاستبيان لجمع المعلومات الأولية، وقد تم تحليل البيانات بواسطة الحاسب الآلي بإستخدام برنامج (SPSS) لحساب التكرارات والنسب المئوية وإختبار معامل إرتباط سيبرمان لقياس فرضية الدراسة التي تنص علي أن معارف ومهارات قادة مجموعات المنتجين والمرشدين الزراعيين لا ترتبط معنوياً بمقدرة أدائهم في مجال إدارة وتنظيم وتشبيك هذه المجموعات.

أشارت نتائج الدارسة الي وجود إرتباط معنوي دال إحصائياً بين معارف ومهارات قادة مجموعات المنتجين الإدارية ومقدرة أدائهم في إتخاذ القرار، الإدارة والإشراف، تحديد الأهداف، الإتصال والتشبيك ومهارة روح الفريق. بالإضافة إلي وجود إرتباط معنوي دال إحصائياً بين معارف ومهارات المرشدين الزراعيين التنظيمية ومقدرة أدائهم في توفير الدعم فيما يختص بتوفير معلومات عن مدخلات المناسبة، توصيل المعلومات التسويقية وحث المزارعين علي العمل، بينما لا يوجد إرتباط معنوي بين معارف ومهارات المرشدين الزراعيين التنظيمية ومقدرة أدائهم في توفير الدعم فيما يختص بالعمليات الفلاحية، توفير معلومات عن التمويل والتدريب وتشبيك المجموعات.

وأصي الباحث بعدة توصيات للجهات المعنية أهمها:

– العمل المستمر علي رفع معارف ومهارات المرشدين الزراعيين وقادة مجموعات المنتجين عموماً مع التركيز علي المجموعات في ولاية النيل الأزرق وذلك بغرض تحسين فعاليتهم في الإدارة والتنظيم والتشبيك.