The Role of Extension Farms in Developing the Knowledge, Skills, and Attitudes of Farmers in the Provinces of Central Iraq

A. I. Al-Ansari\textsuperscript{1,*} and A. M. A. Hasan\textsuperscript{2}

\textsuperscript{1}College of Energy and Environmental Science., Al-Karkh University of Science., Iraq.
\textsuperscript{2}College of Agriculture and Forestry, University of Mosul, Iraq.

\*Corresponding author’s Email: Adnalansari69@gmail.com

Abstract. The study aimed to identify the role of extension farms in developing the knowledge and skill capabilities of farmers in the governorates of central Iraq through the following areas (the extent to which extension farms depend on the preparation and planning process, coordination and cooperation with the relevant authorities, the dissemination and transfer of agricultural innovations, the use of modern means of communication, the conduct of Research and development of agricultural innovations to address the problems of farmers, interaction and reactions of farmers with extension farms, the possibilities available). Also, this study dealt with identifying the problems and obstacles facing work in those farms. This study included (66) respondents were representing all extension employees working in extension farms, which numbered (19) farms in (5) provinces. The questionnaire form was used as a tool to collect data from respondents after ensuring its validity and consistency, and results showed that the role of extension farms in developing and developing the knowledge, skills and attitudes of the targeted farmers is weak and not at the required level, and the study showed weakness in process of preparing and planning extension activities, and absence of coordination and cooperation process and integration with the relevant authorities, and there is a great perception in process of spreading and transferring agricultural innovations and the lack of use of modern means of communication to interact with farmers, and that extension farms do not implement scientific research procedures to address the problems and needs of farmers, as it has been shown that there are material and financial problems and obstacles facing the workflow in these farms. The lack of number of extension staff and their weak knowledge and skills expertise, as well as administrative and communication problems. The study included some scientific recommendations to address the weaknesses, which will contribute to improving the performance and efficiency of work in extension farms.

1. Introduction and problem statement

Agriculture still plays a very important role in the economy of many countries, by providing direct and indirect employment to rural and urban people, raw material for industry, foreign reserves from trade. However; agricultural extension has become more important according to the different understanding and approach [1]. Agricultural extension plays an important role in providing information and promoting new technologies or new ways of managing farms [2]. Agricultural extension services are designed to “extend” research-based knowledge to the rural sector to improve the lives of farmers, by increasing their yields and production [3]. Agricultural extension has played a pivotal role in the agricultural development around the world. There has been constant evolution of approaches of agricultural extension as it needs to adapt to the new technologies and addressing the complex needs of the diverse clienteles in present changing agricultural scenario.

Traditionally, agricultural extension has been associated with transfer of technologies but lately the role of agricultural extension has widened. Besides providing advisory services and technologies, it is now concerned with capacity development, mobilization and sustainability of the farmers and farming community. Decentralization, contracting, privatization, cost recovery, and the involvement of NGOs and farmer-based organizations are some of the major reforms in agricultural extension [4]. The services are based on the assumption that there are beneficial technologies that can improve farmers’ welfare, but that farmers need to be taught about them and about the benefits of adopting them. Extension services are meant to overcome this information barrier that constrains technology adoption, which may be rooted in low expected profits and perceived high risks [5].
Emphasis is now placed on making advisory services demand-driven. There was a time when extension services were only provided by the government sector. Slowly, a shift was seen when extension became pluralistic comprising of public, private, cooperatives and NGO’s as well, providing a range of agricultural advisory services and facilitating technology application, transfer and management now, both public and private extension organization is working in the field for the benefit of the farmers [6]. The success of agricultural extension and its role in agricultural development doesn’t stop its ability to transfer know-how to farmers, but also on its capacity to create active and positive interactions between agriculture and the other officials involved in the process of agricultural development in order to understand and learn from practice and help them identify and clarify where the needs and experience [7].

The extension keeps track of the results of scientific research and work to streamline the easy way that can be understood by farmers and then transfer them to the practical application of these ideas and practices developed in fields relying on convincing them of the importance which lead them to adopt and implement ideas and innovative agricultural practices targeted to improve agricultural production and improving rural income through increased efficiency and productivity of the plantations [7]. The extension was introduced to transfer rural knowledge and help farmers use to efficiently, education is indicative of adult learning and to enable them to improve their productivity and thus increase income, education and standard of living (Ibrahim et al., 2009).

In Iraq, the agricultural extension saw a definite change after change in Iraq 2003, where was for agricultural extension had a crucial role in identifying the problems facing farmers and transferred to scientific research to study, also find appropriate solutions, recommendations, and solutions to the problems. The seeking guidance in a simplified, and extended the role of agricultural extension to extension service includes all aspects of agricultural production, as well as all matters relating to rural life, targeting rural women farmers, and young people (Hameed 2019). Extension farms were established in 2005 in Iraq. The aims of these farms are to increase the knowledge and skills of the extension workers and farmers, to encourage them to adopt scientific methods in agricultural work to increase agricultural production by developing extension programs and transfer new technologies to the farmers, and to prepare brochures on agricultural activities such as field days and so on (A personal interview with the Director of the Agricultural Extension and Cooperation Department). In view of the amount of money and efforts spent on these farms, the outputs and results of these extension farms are unclear due to the lack of evaluation studies of their inputs and outputs.

In Iraq, no research has been carried out on this subject. The outcomes of this study can help agricultural planners to develop programs directed to enhance knowledge and skills of farmers in agricultural information. Because there was for few study about the role of extension farms in developing the knowledge, skills, and attitudes of farmers in Iraq, this study represents an attempt to fill a gap in the literature on this subject.

Based on the above, the idea of this research came in an attempt to answer the following questions:

1- The role of extension farms in developing the knowledge, skills and attitudes of farmers?
2- What are the problems and obstacles that hinder the workflow in extension farms?

Objectives
1- Recognizing the role of extension farms in the field of developing the knowledge, skills and attitudes of farmers in general
2- Knowing the role of extension farms in every field of work.
3- Identifying the problems and obstacles facing the workflow in extension farms

2-Materials and Methods
Research methodology: In order to understand the aspects of research and test hypotheses, the descriptive and analytical method is adopted to study the subject, which describes what an object is and explains it and determines the relationships that unite reality and give its interpretation to it. As the descriptive method was used to collect the data in question, in addition to analyzing that data to obtain more accurate and objective facts.

Research area: This research was conducted in the governorates of central Iraq (Baghdad, Babylon, Anbar, Diyala, Salah Al-Din) to represent the regions of the south, north, east and west of Iraq, as these governorates include a number of extension farms that have been developed over a decade ago.

Research community: This study included all agricultural employees working in extension farms located within the targeted governorates, whose number is (66) respondents distributed over (19) extension farms within five governorates (records of the Agricultural Extension and Training Department for the year 2020) and as shown in table (1).

Table 1. Number of agricultural employees working in extension farms within central Iraq governorates.

| Resp. | Governorates | Name of Extension farm | Number of agricultural employees working |
|-------|--------------|------------------------|-------------------------------------------|
| 1     | Baghdad      | Al-Rashdiya            | 7                                         |
|       |              | Al-Tarmiya             | 6                                         |
| 2     | Babylon      | Al-Kefil               | 3                                         |
|       |              | Al-Mahaweel            | 4                                         |
|       |              | Al-Mashroa             | 6                                         |
|       |              | West Hamza             | 4                                         |
|       |              | Al-Qassim              | 2                                         |
|       |              | Al-Nile                | 4                                         |
| 3     | Diyala       | Baledrouz              | 5                                         |
|       |              | Khanaqin               | 3                                         |
| 4     | Sallah Al-Din| Belad                  | 4                                         |
|       |              | Al-Door                | 3                                         |
| 5     | Al-Anbar     | Al-Dawar               | 3                                         |
|       |              | Heet                   | 2                                         |
|       |              | Al-Furat               | 2                                         |
|       |              | Haditha                | 1                                         |
|       |              | Ana                    | 2                                         |
|       |              | Rawa                   | 1                                         |
|       |              | Al-Kurma               | 4                                         |
|       |              |                         | Total 66                                  |

Building scale

1. Preparing the plan in a preliminary way by reviewing some literature and studies related to the subject of the study, as well as through field surveys and interviewing some of those responsible for managing extension farms. The scale consists of seven field that represent (the role of extension farms in developing and developing the knowledge, skills and attitudes of farmers), which are as follows: It follows in order (planning extension activities, coordination and
cooperation, dissemination and transfer of agricultural innovations, use of modern means of communication, conducting agricultural research to address problems, interaction and reactions of farmers towards extension farms, available capabilities) by (52) paragraphs, while it includes a measure of problems and obstacles that The demonstration farms face four areas with 22 paragraphs.

2. The plan was presented in its preliminary form to a group of experts in the field of agricultural extension and in the field of administration, through a methodology that included the areas and paragraphs of the scheme in order to verify the apparent validity and validity of the content. Experts were asked to indicate the degree of their agreement with the areas and paragraphs of the scale in light of a scale included for approval. Consists of the following phrases (Agree, agree with the amendment, Disagree). A numerical value for each statement (3, 2, 1) was given a score by calculating the average scores of the experts 'approval only for the fields and paragraphs of the scale on an approval rate that ranged from (83-90%) after delete three paragraphs were excluded while the components of the scheme remained in their final form.

3. A questionnaire form was prepared for the purpose of collecting data from the respondents, as the questionnaire included two axes. The first represents the role of extension farms in developing the knowledge, skills and attitudes of farmers, as it included six areas with (69) items distributed as follows: Planning (10) paragraphs, Coordination and Cooperation (7) Paragraphs, communication (6) paragraphs, available capabilities (10) paragraphs, dissemination and transfer of agricultural innovations (16) paragraphs, innovation in agricultural technologies (10) paragraphs, farmers 'reactions to the activities provided by the extension farm (10) paragraphs. As for the second axis, it represents the problems and obstacles facing the extension farms. It included four areas with (22) paragraphs distributed as follows: material and financial problems (7) paragraphs, communication problems (5) paragraphs, problems with human capabilities (4) paragraphs, administrative problems (6) Paragraphs. The paragraphs of the first axis were placed under a four-scale graduated scale consisting of the following expressions (always, sometimes, rarely, not implemented) and the numerical weights (3, 2, 1, 0) were given a grade according to the order. As for the problem and obstacles items, they were placed under a four-way scale consisting of The following expressions (very agree, agree, to some extent, disagree) and the weights were given (3, 2, 1, 0) degrees, and thus the degree of scale of the role of extension farms was determined between (0 - 207) degrees, and the degree of the scale of problems and obstacles between (0 - 66) degree.

4. A preliminary test of the questionnaire was conducted on a random sample of (12) respondents in order to ensure the stability of the questionnaire. The reliability coefficient was calculated using the (Vakronbach) method as the value of the stability factor (0.89) was canceled and after ascertaining the apparent validity and deleting the content and consistency of the search tool. The data were collected from a total of (66) respondents from agricultural employees working in extension farms within the governorates of central Iraq. Data were collected during August of 2020, and the SPSS statistical program was used for the purpose of analyzing the data and presenting the results in their final form.

3-Results and Discussions

First: The role of extension farms in developing the knowledge, skills and attitudes of farmers.

The results showed through the data in table (2) that the respondents 'scores ranged between (168 - 42) degrees as the highest and lowest numerical value, with an average of (102.6) degrees And a standard deviation of (6.7) degrees, according to a scale representing the role of extension farms in the value of knowledge, skills and trends of farmers, whose value ranged between (0 - 270) degrees, and it was found that the role of extension farms in developing the knowledge, skills, and attitudes of farmers is not at the required level, as nearly (90%) of the respondents' answers indicated that the role of these farms is medium to low and it is believed that the reason for this decline may be due to the lack of human and material capabilities and weak expertise Training for workers in those farms and poor interaction of farmers with the activities provided by extension farms.
Table 2. Numbers and percentages of the respondents according to their views on the role of extension farms in developing, knowledge and skills of farmers.

| Levels                        | Numbers | %    | Average of role |
|-------------------------------|---------|------|-----------------|
| Low (42 - 84) degrees.        | 28      | 42.4 | 59.6            |
| Medium (85 - 127) degrees .   | 31      | 47.0 | 101.7           |
| High (128) degrees or more.   | 7       | 10.6 | 143.4           |
| Total                         | 66      | 100% |                 |

Second: The role of extension farms in every field of work of extension farms.

1. Adopting the planning process to implement the extension tasks.

In order to identify the extent to which the planning process is adopted in implementing the extension activities, the data in table (3) showed that the scores of the respondents ranged between (6-19) the lowest and the highest numeric value with an average of (12.4) degrees according to the planning scale between (0-30) A degree, and it was found that the level of approval of the planning process in the implementation of extension activities is of a low degree, as (88%) of the respondents believe that the adoption of planning in the extension farm is between medium and low, and the reason for this weakness may be due to the lack of specialized staff and the lack of a clear methodology and mechanism for farm extension work.

Table 3. Numbers and percentages of the respondents according to their performance regarding the approval of planning in implementing the extension activities.

| Levels                        | Numbers | %    | Average of role |
|-------------------------------|---------|------|-----------------|
| Low (6 -10) degrees.          | 29      | 44   | 6.8             |
| Medium (11 - 15) degrees .    | 29      | 44   | 12.6            |
| High (16) degrees or more.    | 8       | 12   | 17.2            |
| Total                         | 66      | 100% |                 |

It is evident from table (4) that the respondents ’ opinions about the extent of adopting each of the planning paragraphs were of a high degree of weakness according to the average scores of those paragraphs. The method of work on the farm does not depend on the participation of the target farmers when identifying problems and needs. The extension activities are not based on identifying problems and the needs of the farmers, and there is no formulation process for educational objectives in the absence of a planning process when initiating the preparation and planning of extension tasks directed to the targeted farmers.
Table 4. Average scores of the respondents' opinions about the extent of the planning process adopted in agricultural work.

| Resp. | Paragraph                                                                 | Average |
|-------|---------------------------------------------------------------------------|---------|
| 1     | The way to work on the farm depends on predetermination as it should be done. | 1.40    |
| 2     | The extension farm takes the planning process as an approach to implement tasks assigned to it. | 1.02    |
| 3     | The reality of farmers and their economic, social and service conditions is to be learned before the implementation of extension activities. | 1.10    |
| 4     | Diagnose the problems and needs of farmers and arrange them according to their priorities after conducting the analysis process for those problems. | 0.91    |
| 5     | The work in the extension farm depends on the formulation of educational goals. | 0.97    |
| 6     | The target farmers are involved when identifying problems and building goals. | 0.88    |
| 7     | Dependence is on building indicative programs and projects to implement extension activities. | 1.19    |
| 8     | Conduct a review and evaluation of all work procedures. | 1.76    |
| 9     | Plans are drawn up according to the available material and human capabilities. | 1.44    |
| 10    | The implementation of the extension activities depends on the use of various methods, means and guidance aids in order to achieve the set goals. | 1.69    |

2. Coordination and cooperation with the relevant authorities.

In order to determine the extent of achieving the principle of cooperation and coordination with the prevailing research, educational and service authorities to achieve the objectives of the extension farm. The results showed through the data contained in table (5) that the level of cooperation and coordination with the relevant authorities was on a degree of decline, and it was found that (91%) of the respondents believe that the work to achieve cooperation and coordination with the supporting authorities was of a low degree and tends to be medium. As the respondents' scores ranged between (4-17) degrees as the lowest and highest numerical value, with an average of 8.9 degrees, according to a scale to know the extent to which coordination and cooperation was achieved, the scores ranged between (0-21) degrees.
Table 5. Numbers and percentages of the respondents according to their views on coordination and cooperation with the relevant authorities.

| Levels                        | Numbers | %  | Average of role |
|-------------------------------|---------|----|-----------------|
| Low (4 - 8) degrees.          | 33      | 50 | 5.2             |
| Medium (9 - 13) degrees.      | 27      | 41 | 10.9            |
| High (14) degrees or more.    | 6       | 9  | 15.3            |
| Total                         | 66      | 100%|                 |

The results also showed through the opinions of the respondents working in extension farms and that researchers working in research centers are rarely used when planning and implementing extension activities, and the lack of integration with development programs and projects offered by other institutions, and that cooperation and coordination with the agricultural equipment and irrigation departments is at a level of weakness with Absence of means of interaction and communication with research and educational bodies and cooperative societies, as shown in Table (6).

Table 6. Average scores of the respondents related to coordination and cooperation with the relevant authorities.

| Resp. | Paragraph                                                                 | Average |
|-------|---------------------------------------------------------------------------|---------|
| 1     | Researchers working in agricultural research centers and colleges of agriculture are used when planning and implementing agricultural activities for farmers. | 0.95    |
| 2     | The use of various means of interaction, including official letters, joint meetings, committees, and exchange visits with agricultural research departments, colleges of agriculture, and agricultural societies. | 1.13    |
| 3     | There is cooperation and coordination with the departments of agricultural supplies and irrigation and agricultural divisions in the work area. | 1.05    |
| 4     | Interact and coordinate with the relevant authorities on issues (improving production and increasing agricultural yields, prevention, environmental protection, modern agricultural technologies ........ etc.). | 1.32    |
| 5     | Many relevant authorities are invited to participate in the extension activities that farm provides to the targeted farmers. | 1.22    |
| 6     | The method of work on the farm depends on integration with the programs and projects related to serving farmers and provided by the relevant authorities. | 1.00    |
Striving to achieve common goals that serve farmers through association of activities, projects and service programs implemented by the relevant authorities.

3. Dissemination and transfer of agricultural innovations to farmers.

The answers of workers in extension farms about the level of transferring agricultural innovations to farmers ranged between (9 - 36) degrees as the lowest and highest numerical value, with an average of (21.4) degrees and according to a scale that determines the level of transfer of agricultural innovations to farmers, whose degrees are set between (0 - 48) degrees, it is noted from the table (7) The process of transferring agricultural innovations to farmers, according to the opinions of the respondents, is not consistent with the goal in respect of which extension farms were established, as more than three quarters of the respondents believe that the transfer and dissemination of these agricultural innovations was of a moderate degree and tends to be low. The reason for this decline may be due to the lack of experience of the workers in the extension farms, the absence of the planning process, and the lack of clarity of work mechanisms in those induced farms.

| Levels                  | Numbers | %  | Average of role |
|-------------------------|---------|----|-----------------|
| Low (9 - 18) degrees    | 25      | 37.9| 12.5            |
| Medium (19 - 27) degrees| 31      | 47.0| 22.2            |
| High (28) degrees or more| 10     | 15.1| 30.8            |
| Total                   | 66      | 100%|                 |

The data in table (8) shows the extent of the decline in the implementation of each of the paragraphs related to the level of transferring agricultural innovations to the target farmers. It comes at the forefront of those paragraphs that work in extension farms does not depend on preparing and indicative programs for the transfer of agricultural innovations to farmers, and it is rarely relied on researchers and specialists in Guidance to farmers, that there is no database on farmers and farm systems, and that most of the extension activities provided to farmers do not take into account the needs and problems of farmers, and that there is no dependence on the characteristics of the targeted farmers, whether social or economic, when starting the implementation of extension activities.

| Resp. | Paragraph                                                                 | Average |
|-------|---------------------------------------------------------------------------|---------|
| 1     | Preparing extension activities according to the needs and problems of farmers. | 1.03    |
| 2     | Work to spread agricultural innovations in the work area using various means and extension methods. | 1.51    |
| 3     | Encouraging farmers to innovate in their agricultural work.                | 1.24    |
| 4     | Working on preparing a database for farmers, their farming systems, their problems | 0.96    |
and their needs.

5 Using modern educational methods to transfer information and knowledge to farmers. 1.30

6 Preparing extension programs for implementation to transfer agricultural innovations and address farmers' problems. 0.86

7 Encouraging the participation of farmers in preparing and implementing extension programs and activities. 1.25

8 The participation of supporting actors in the process of disseminating agricultural innovations. 1.29

9 Following up on the farmers' implementation of the extension and training activities, including the practices, recommendations and scientific innovations they contained. 1.46

10 Connecting with research bodies to address farmers' problems and develop solutions to those problems. 1.32

11 Ensure that the extension activities are implemented in the appropriate dates and times. 1.66

12 Taking into account the economic and educational characteristics of the target farmers when implementing the extension activities. 1.11

13 Agricultural innovations match farmers' experiences and economic potential. 1.42

14 Providing the requirements for applying the agricultural innovator after the process of spreading it among farmers. 1.50

15 The participation of researchers and specialists in the process of disseminating agricultural innovations. 0.94

16 The participation of local leaders in the process of preparing and publishing agricultural notes. 1.27

4. The use of modern means of communication.

The results showed through the data contained in table (9) that the level of communication and the use of modern communication means in instructing farmers was between medium and low, as the responses of the respondents working in extension farms ranged between (7-16) degrees, the lowest and highest numeric value, with an average of (9.8) A score according to the communication scale, its degree was set between (0-18) degrees, and it was found that more than a third of the respondents believe that the use of modern means of communication for the purpose of guiding farmers was low, while about half of the respondents said that the level of use is of a moderate degree, and this may be due to weakness Knowing the workers in extension farms using modern means of communication and perhaps the absence of internet networks on the farm.
Table 9. Numbers and percentages of the respondents according to their views on level of communication in the extension farms.

| Levels                        | Numbers | %   | Average of role |
|-------------------------------|---------|-----|-----------------|
| Low (7 - 10) degrees.         | 24      | 63.3| 9.6             |
| Medium (11 - 14) degrees.     | 31      | 47.0| 11.3            |
| High (15) degrees or more.    | 11      | 16.7| 15.7            |
| Total                         | 66      | 100%|                 |

On the one hand, the data contained in table (10) showed that the paragraphs included in the communication scale were different. By recognizing the average of each paragraph, it was found that the paragraphs that were more weak according to the performance of the respondents is the weakness of the use of modern communication technologies in exchanging information with the supporting authorities. The weak use of the Internet to provide farmers with agricultural innovations, and the limited use of a mobile device to guide farmers.

Table 10. Average scores of the respondents related to use of modern means of communication

| Resp. | Paragraph                                                                 | Average |
|-------|----------------------------------------------------------------------------|---------|
| 1     | Using mobile devices to communicate and send informational messages to farmers. | 1.20    |
| 2     | Using the internet to provide farmers with agricultural information and developments. | 1.12    |
| 3     | Taking into account farmers' characteristics when sending informational messages. | 1.61    |
| 4     | The use of modern communication technologies in exchanging information with the relevant authorities. | 1.04    |
| 5     | Ensure that the guiding messages are formulated to meet the needs of the public and at the appropriate time. | 1.48    |
| 6     | Using persuasive methods when contacting the targeted farmers in order to achieve a response to these messages. | 1.55    |

5. Research and development of agricultural innovations to address farmers' problems.

The respondents' answers ranged between (2-14) degrees and an average of (8.3) according to the scale of the level of conducting research, whose grades were set between (0-30) degrees, and it is clear from the data contained in table (11). The extension farms are far from conducting research and devising agricultural technologies to deal with farmers' problems, or more than half of the respondents think that this role is weak, while (45.5%) of them think that it is average, and the reason for this weakness may be due to the modernity of extension farms, their locations and the lack of The specialized cadres working in it and the lack of a clear work curriculum and programs to achieve the goals that emerged in light of it.
Table 11. Numbers and percentages of the respondents according to their views on the level of research implementation and the development of agricultural innovations.

| Levels                | Numbers | %   | Average of role |
|-----------------------|---------|-----|-----------------|
| Low (2 - 6) degrees.  | 34      | 51.5| 4.1             |
| Medium (7 - 11) degrees. | 30     | 45.5| 8.7             |
| High (12) degrees or more. | 2     | 3   | 13.2            |
| Total                 | 66      | 100%|                 |

It is noted from the statistical averages of the paragraphs related to the field of agricultural research and innovations that it is a degree of decline that comes in the forefront, that extension farms do not carry out extension research and verify their results, and that there is no adaptation and adaptation of imported agricultural technologies, and there is no cooperation and coordination with the research authorities to conduct research and provide application requirements Agricultural technologies and the absence of encouraging workers in extension farms for farmers in the field of local innovations, as shown in table (12).

Table 12. The level of degrees of the respondents' opinions related to research and development of agricultural innovations.

| Resp. | Paragraph                                                                 | Average |
|-------|---------------------------------------------------------------------------|---------|
| 1     | The farm carries out various agricultural research and confirms its results on farm. | 0.70    |
| 2     | Taking into account the problems and needs of farmers when designing and implementing agricultural research within the extension farm. | 1.13    |
| 3     | Farmers are invited to view the results of agricultural research carried out by researchers and specialists. | 1.26    |
| 4     | Confirmation experiments are carried out in farmers' fields to verify the results of agricultural research before being disseminated to farmers. | 1.05    |
| 5     | Cooperating and coordinating with farmers to benefit from their previous experiences when implementing agricultural experiments and research. | 1.51    |
| 6     | Adapting and adapting imported agricultural technologies and confirming their results by researchers before the publication process. | 0.78    |
| 7     | Formulating agricultural research results in a way that is easy to understand and apply by farmers. | 1.54    |
| 8     | Coordination with the relevant authorities to provide requirements for applying agricultural research results before and after the deployment process among the ranks of the target farmers. | 0.89    |
| 9     | Finding, introducing and developing local innovations in the region and encouraging | 0.96    |
farmers to innovate.

10 Training of local leaders to administer experiments and agricultural research carried out in their fields (confirmatory experiences).

6. Farmers’ cooperation and reactions with extension farms.

For the purpose of identifying and the farmers' reactions and their response and interaction with the extension farms, the respondents' answers in this regard ranged between (6-19) degrees as the lowest and highest numerical value with an average of (12.2) degrees according to a scale for this field whose degree is determined between (0-30) and data show table (13), that more than (95%) of the respondents have a low or medium level of interaction with extension farms, and the reason may be due to the weakness of the activities and services provided by extension farms to farmers, the lack of clarity of goals and the lack of awareness of the importance of these farmers.

| Levels                  | Numbers | %   | Average of role |
|-------------------------|---------|-----|-----------------|
| Low (6 - 10) degrees.   | 35      | 53.0| 7.9             |
| Medium (11 - 15) degrees.| 28      | 42.4| 13.2            |
| High (16) degrees or more.| 3       | 4.6 | 18.0            |
| Total                   | 66      | 100%|                 |

The data in table (14) show a clear decline in the average periods under the field of interaction of farmers with extension farms, and at the forefront of those paragraphs in terms of weakness comes the lack of farmers’ participation in preparing, planning and implementing extension activities, and that a large number of farmers have negative trends towards these Farmer. The farmers must realize the importance of the existence of extension farms and settle their objectives, as they do not contribute to submitting proposals to improve and develop the extension farms that have arisen in their areas.

| Resp. | Paragraph                                                                 | Average |
|-------|---------------------------------------------------------------------------|---------|
| 1     | Farmers realize the importance of having a demonstration farm in their work areas. | 1.05    |
| 2     | The growers have a lot of knowledge of the farm extension objectives.      | 1.09    |
| 3     | There is a high response of farmers to exposure and participation in the extension activities provided by the farm. | 1.26    |
| 4     | The farmers participate in the preparation, planning and implementation of extension activities. | 0.86    |
| 5     | He shares information with the counseling staff about their problems and needs. | 1.61    |
Farmers are keen to adopt and apply the scientific agricultural practices provided by demonstration farm.

There is a great and continuous support provided by the farmers to manage the extension farm to ensure its success and continuity.

The farmers have positive attitudes towards the extension farm and seek to preserve and develop it.

The farmers are satisfied with the extension services provided by the extension farm.

The farmers contribute in submitting proposals to improve and develop the extension farm.

7. The possibilities available to implement the extension tasks:

The data in table (15) showed a clear weakness in providing the material and human capabilities necessary to carry out the tasks in the extension farms, as the degrees of the respondents ranged, as the lowest and highest numerical value, between (5-18) degrees and an average of (11.9) according to a scale that determines the extent of providing those capabilities. Its score ranges between (0-30) degrees, and it is evident that (97%) of the respondents indicated that the level of provision of human, financial and material capabilities in extension farms was very low to average, and the reason for this is due to the mismanagement of those farms, confusion, and the lack of scientific studies to use them. About the concentration of most of the workforce of agricultural extension workers in cities and their unwillingness to work in villages and countryside, in the absence of a working strategy in those farms.

Table 15. Numbers and percentages of the respondents according to their views on the extent to which farmers interact with extension farms

| Levels                      | Numbers | %    | Average of role |
|-----------------------------|---------|------|-----------------|
| Low (5 - 9) degrees.        | 37      | 56.1 | 6.9             |
| Medium (10 - 14) degrees.   | 27      | 40.9 | 12.3            |
| High (15) degrees or more.  | 2       | 3.0  | 17.1            |
| Total                       | 66      | 100% |                 |

On the other hand, the statistical averages showed, through the data contained in table (16), the extent of the decline in the provision of supplies and the material, human and financial capabilities necessary for the sustainability of work on farms. In the forefront of which comes the lack of sufficient numbers of extension personnel working in the farms, a great weakness in the provision of agricultural machinery, equipment and machinery, and the lack of agricultural areas and lands designated for farms, as well as the lack of these farms for halls and laboratories and their weak financial specializations.
Table 16. Average scores of the respondents’ opinions of the available possibilities to implement the extension tasks.

| Resp. | Paragraph                                                                 | Average |
|-------|---------------------------------------------------------------------------|---------|
| 1     | There are sufficient numbers of extension staff working on the extension farm. | 0.72    |
| 2     | The workers of the extension farm have sufficient experience to carry out the extension tasks. | 1.36    |
| 3     | The workers on the extension farm are distinguished by their motivation and desire to work. | 1.50    |
| 4     | Most of the extension staff working in the extension farm have sufficient training that qualifies them to perform the tasks optimally. | 1.44    |
| 5     | The area designated for the extension farm is very suitable and sufficient to perform various activities. | 0.98    |
| 6     | The farmland is of high quality and has irrigation sources.                | 1.49    |
| 7     | The farm has various agricultural machines, machines and equipment.       | 0.86    |
| 8     | The farm contains laboratories, halls, and educational supplies.          | 1.03    |
| 9     | The necessary facilities are available for conducting experiments and agricultural research. | 1.31    |
| 10    | There are sufficient financial specializations for the farm to carry out the extension activities. | 1.09    |

Third: Problems facing work in extension farms:

In order to know whether the extension farms face some obstacles and problems that impede the progress of work in them. The results showed through the data in table (17) according to the performance of the respondents, that extension farms suffer to a large extent from many problems as more than half of the respondents see The existence of major problems that stand in the functioning of farmers, while more than a third of the respondents believe that there are some problems facing the farm’s work. The reason for these problems and obstacles may be due to the weakness of the management of those in charge of those farms and their lack of experience and their weak knowledge and skill abilities on the one hand. On the other hand, the lack of interest of the higher authorities in the Ministry of Agriculture in these farms and the provision of the necessary requirements for the sustainability of work in them.

Table 17. Numbers and percentages of the respondents according to their views on the problems encountered in the workflow in extension farms.

| Levels                   | Numbers | %  | Average of role |
|--------------------------|---------|----|-----------------|
| Low (39 –47) degrees.    | 4       | 6  | 43.2            |
The data in table (18) show the arrangement of the problems facing work in the extension farms according to their degree of importance and according to the opinions of the respondents. The weak financial allocations and the scarcity of educational halls and laboratories necessary to guidance farmers, while the problems related to human capabilities represented the second order, the lack of numbers of agricultural extension workers in extension farms and their weak experiences and their unwillingness to work in villages and rural areas formed one of the main problems of these farms, while it was solved. Problems related to farm management are third in the order of the order. The poor management expertise, the lack of follow-up and guidance, the absence of coordination and integration with the relevant authorities and the lack of planning to implement extension activities constituted an important aspect of the problems facing work in farms, and it was the problems related to communication, whether with farmers or with the authorities The related chock is a great presence, as it was found that there is a weakness in awareness The farmers, due to the importance of extension farms, with weak communication channels with them, which made it difficult for extension services to reach them. The lack of availability of modern means and the Internet has helped to magnify the problems and complicate work in extension farms.

Table 18. The opinions of the respondents about each of the problems facing working in extension farms.

| Resp. | Problem axes | Number of periods. | Average score axis | %Rate problem occurrence. | Ranking the problem according to opinions of respondents. |
|-------|--------------|--------------------|--------------------|---------------------------|----------------------------------------------------------|
| 1     | Material and financial problems | 7                  | 18.9               | 270                       | 1                                                        |
| 2     | Problems related to human ability. | 4                  | 10.2               | 255                       | 2                                                        |
| 3     | Administrative Problems. | 6                  | 14.4               | 240                       | 3                                                        |
| 4     | Communication problems. | 5                  | 10.8               | 216                       | 4                                                        |

4-Conclusions:

This study concluded the following conclusions:

1. The role of extension farms in field of developing and developing the knowledge, skills and attitudes of farmers is weak and somewhat far from the goals for which the farms were established.
2. The work of extension farms does not depend greatly on preparation and planning of extension programs, nor is it based on the participation of the targeted farmers, nor is it based on formulating goals in implementation of extension tasks.

3. The current study shows that coordination and cooperation with the relevant support authorities at a level of weakness and lack of integration with development programs and projects offered by other institutions and that interaction and communication with research and service authorities is very weak.

4. Work in extension farms has a great vision in field of spreading and transferring agricultural innovations to farmers, and most of those working in them do not use modern means of communication, either with farmers or the relevant authorities.

5. Working in demonstration farms does not depend on conducting scientific agricultural research based on the problems and needs of farmers, with the absence of encouraging farmers in the field of local innovations and poor interdependence and coordination with researchers to implement agricultural research and verify its results.

6. The study revealed a weak interaction of farmers towards extension farms, and that most of them do not realize the importance of these farms and that a large number have negative trends towards them.

7. The capabilities available in extension farms are largely weak. There is a shortage of extension staff, lack of financial allocations, lack of machinery and equipment in sufficient numbers, insufficient agricultural lands allocated, and the absence of educational halls and laboratories.

8. There is a group of problems and obstacles that hinder the workflow in extension farms, foremost among which are material and financial problems, followed by problems related to human capabilities and administrative and communication problems.

**Recommendations**

1. The need to work on improving the efficiency of the performance of extension farms and upgrading their reality to provide the best extension services by adopting scientific methods in preparing and planning extension programs based on the needs and problems of farmers and adopting the formulation of educational goals and developing projects and action plans in order to achieve those goals.

2. Activating the role of extension farms in the field of disseminating and transferring modern agricultural technologies and activating the research aspect by conducting agricultural research in demonstration farms to address farmers' problems and encourage farmers in the field of local agricultural innovations and their development.

3. Work to point out the links with the research and service authorities and the relevant support authorities, to coordinate, cooperate and integrate with them to bring about agricultural development.

4. Work on developing farmers' attitudes towards extension farms, creating mutual trust and activating communication with them through the use of modern communication technology, and the farmers' participation in the various activities provided by extension farms.

5. The need to support extension farms with specialized cadres and work to develop their knowledge and skill capabilities and provide the material supplies (machines, agricultural machinery, halls, laboratories) and the financial allocations necessary to cover work expenses and develop administrative work through activating supervision, follow-up and evaluation of activities provided by extension farms.
5-References

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