



## Article

## The Quality of Services Provided by The Extension Farm to Vegetable Farmers in Al-Rashidiya District/Baghdad Governorate

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## ABSTRACT

The study aimed to assess the quality of services provided by the extension farm for vegetable farmers in the Rashidiya District, Baghdad Governorate, as well as identifying the problems vegetable farmers face in accessing the services provided by the extension farm. The study population included all vegetable farmers in the Rashidiya District, Baghdad Governorate, who are members of farmers' associations, totaling 2,693 farmers. A random sample of 4% (108 farmers) was selected from this group. Data were collected from the respondents using a questionnaire and through face-to-face interviews during the period from January 15, 2026, to February 27, 2026. The research results concluded that all dimensions comprising the quality of services provided by the extension farm achieved an average quality level, with an overall arithmetic mean of 1.43 points, and a standard deviation of 1.04 points. The most significant issue identified was that recommendations regarding vegetable crops were not received in a timely manner, ranking first in importance with a weighted mean of 2 points. Conversely, the lack of incentives to participate in training programs ranked last, with a weighted mean of 1.73 points. The researcher recommended increasing the number of staff at the extension farm and enhancing their expertise, as well as utilizing modern communication methods and information technology to expedite the delivery of recommendations and information to vegetable farmers, thereby closing the existing service gap and elevating the overall quality of extension services from an average to an excellent level.

## INTRODUCTION

Agricultural extension is one of the fundamental development tools that contribute to agricultural development. It is an integrated system of practical, advisory, and educational services that help transfer modern scientific and technological knowledge to farmers, increase their productivity, and improve their agricultural practices [1-3], thereby contributing to food security and sustainable rural development in Iraq [4,5].

Extension farms are one of the units of the Department of Agricultural Extension and Training in Iraq, which plays a pivotal role in developing the agricultural sector by linking scientific knowledge to practical realities in farmers' fields, as well as transferring expertise, information, and modern technologies to target farmers and improving their skills in adopting and applying modern innovations and developments [6-9]. They also provide extension services through various methods and means, such as seminars, workshops, lectures, and other educational approaches, with the aim of increasing

productivity and achieving better economic returns for farmers. [10-13].

Despite the importance of extension farms and their role in agricultural development, the reality indicates a weakness in their performance level, which negatively affects the services they provide. Indeed, many recent studies have highlighted to the weakness of extension services provided to farmers, including the studies by Al-Fatlawi. [14] , Al-Dulaimi et al. [15], and Abdullah et al. [16], these studies reported the limited capacity of extension farms to improve the quality of extension services due to the poor quality of the services they provide, while Twayej and Al-Taïy [17] in their study to the weakness of these farms' ability to achieve their objectives in guiding farmers and improving their production outputs, as well as their failure to effectively implement extension strategies, which negatively affects the quality of the services they provide to farmers. Hence, we observe that the poor performance of extension farms cannot be separated from the quality of the services they provide and the extent of the target audience's satisfaction with them, which is why the quality of extension services has become a fundamental criterion for assessing the effectiveness and efficiency of agricultural extension, as well as its success in achieving its objectives as a development agent.

This has been confirmed by recent studies, including Ahmed and Al-Hamdany. [4] In their study, they demonstrated a correlation between the quality of extension services and the satisfaction of the target audience and their willingness to adopt change, which highlights the importance of improving the quality of extension services to achieve a positive impact on agricultural performance, this was also emphasized by Twayej and Al-Taïy. [17] who noted that improving the role of extension farms in service delivery requires adopting modern methods to address the needs of the target audience, thereby enhancing the quality of extension services and increasing their level of satisfaction. This issue becomes even more critical when considered in relation to vegetable farmers, who are among the agricultural groups most in need of agricultural extension services due to the intensive and sensitive nature of vegetable production, as well as the challenges they face in production, marketing, pest control, and adapting to climate change [18]. Furthermore, vegetable farmers play a vital role in enhancing food security and supplying fresh produce to local markets, making the improvement of agricultural extension services a key factor in increasing agricultural productivity and achieving sustainable agricultural development [19]. Based on the findings of the aforementioned studies, and with the aim of improving the performance of extension farms, particularly extension farm in the Rashidiyah district, there is an urgent need to assess the actual quality of services provided by the extension farm, and subsequently to develop practical recommendations that contribute to improving them in a manner suited to the farmers' needs and their agricultural environment. Evaluating agricultural extension services, specifically from the perspective of the local constraints faced by vegetable farmers, provides a new framework for assessing the quality of agricultural extension, and can be applied more broadly than the Rashidiya region. This research was conducted to answer the following questions:

1. What is The quality of services provided by the extension farm to vegetable farmers in Al-Rashidiya district/Baghdad Governorate?
2. What problems do vegetable farmers face in accessing the services provided by the extension farm?

## **MATERIAL AND METHODS**

### **Research Methodology**

To achieve the research objectives, a descriptive approach was employed, which aims to study a specific phenomenon as it exists in reality and focuses on accurately describing it [20]. Therefore, this approach is considered appropriate for obtaining detailed data and facts regarding (the quality of services provided by the extension farm to vegetable farmers in the Rashidiya District / Baghdad Governorate).

## Population and Sample

The research population included all vegetable farmers in the Rashidiya District, Baghdad Governorate, who are members of farmers' associations, totaling 2,693 farmers distributed across 9 farmers' associations. A random sample of 4% (108 farmers) was selected from this population, as shown in Table 1.

**Table (1) Distribution of the Research Sample**

| Sequence     | Names of Farmers' Associations | Number of vegetable farmers | Sample size (4%) |
|--------------|--------------------------------|-----------------------------|------------------|
| 1            | Al-Intilaq                     | 1047                        | 42               |
| 2            | Dijlah                         | 128                         | 5                |
| 3            | Bub Al –Sham                   | 342                         | 14               |
| 4            | Al-Qadisiyah                   | 259                         | 10               |
| 5            | Hay Al-Risala                  | 224                         | 9                |
| 6            | Al –Jolan                      | 237                         | 9                |
| 7            | Sadr Al-Qana                   | 134                         | 5                |
| 8            | Al-Ard Al-Tayyiba              | 176                         | 7                |
| 9            | Bashair Al-Khair               | 146                         | 6                |
| <b>Total</b> | <b>9</b>                       | <b>2693</b>                 | <b>108</b>       |

## Data Collection

To achieve the research objectives, a questionnaire was prepared as a tool for collecting data from the respondents, given its suitability for the research methodology employed. The questionnaire is a fundamental tool for collecting the data researchers need when studying events and phenomena. [21]. The questionnaire included a scale measuring the quality of services provided by the extension farm for vegetable farmers in the Rashidiya District, Baghdad Governorate, as well as a scale measuring the problems vegetable farmers face in accessing the services provided by the extension farm. The process of constructing the scale went through a series of stages, namely:

### *Preparation*

In light of the literature and previous studies related to the research topic and the opinions of experts in the field of agricultural extension, a scale was prepared to assess the quality of services provided by the extension farm for vegetable farmers in the Rashidiya District, Baghdad Governorate, and the problems vegetable farmers face in accessing the services provided by the extension farm, in their preliminary form and consisting of two parts. The first part included a quality scale. The services provided by the vegetable farming extension farm in the Rashidiya District, Baghdad Governorate, which covered four main areas: (the nature of services provided, Employees responsible for providing the service, service provision and monitoring mechanism, and the economic impact of the extension services provided), The fields comprising these themes totaled 32, distributed across the aforementioned themes (4, 8, 11, and 9), respectively. The second part included a scale measuring the problems vegetable farmers face in accessing the services provided by the extension farm, consisting of 9 items.

### *Instrument Validity*

Face validity is one of the important characteristics of various scales; the validity of a scale is one of the most important aspects of a good scale, and it refers to the suitability of the method or instrument for measuring what is intended to be measured [22;23]. Content validity, on the other hand, refers to the extent to which the scale's content represents the aspects of the construct intended to be measured [24]. The themes and items were presented in their initial form to a group of six experts in the field of agricultural extension to verify the instrument's validity. where face validity and content validity were assessed using a questionnaire to determine their level of agreement with the themes and items within

each theme, based on a three-point agreement scale: Agree, Agree with modifications, and Disagree.

#### *Determining the threshold for expert agreement*

The cutoff threshold was set at 75% or higher in the experts' agreement scores for the proposed questionnaire items and sub-items to remain in their final form [25].

#### *Calculating the averages of the experts' agreement*

Estimated weights were assigned to the agreement scale levels as follows: (Agree = 2), (Agree with modification = 1), (Disagree = 0). Thus, the scale ranged from (0 to 2) points, and the averages were calculated by summing the scores obtained and dividing by the number of experts.

#### *Finalizing the scale*

In light of comparing the averages of the experts' agreement scores on the scale's Fields and items with the cutoff threshold for finalizing the scale, all items and sub-items achieved 75% or higher. The cutoff threshold for the service quality scale of the vegetable farming extension farm in Rashidiya District, Baghdad Governorate, was (87.38%). Consequently, items (2) and (3) were deleted from the (Nature of Services Provided) field, item (1) was deleted from the (Employees responsible for providing the service) field, and items (3) and (7) were deleted from the (service provision and monitoring mechanism) field, resulting in a total of 27 items distributed across (4) fields. The cutoff threshold for the scale measuring the problems faced by vegetable farmers in accessing services provided by the extension farm was (89.47%), with items (8, 6, and 2) deleted, and two items were added, bringing the total number of scale items to (8). Thus, the final versions of the two scales were established.

### **Reliability**

To assess stability, a preliminary pre-test of the questionnaire was conducted in early January 2026 on a sample of respondents outside the research sample, with the pre-test sample 20 participants. To measure the reliability of the service quality scale and the problems scale, the Cronbach's alpha coefficient was used, which was 0.86 and 0.84, respectively; these values are considered scientifically acceptable.

### **Data Collection**

Data were collected from a total of 108 respondents using a questionnaire administered via face-to-face interviews during the period from January 15, 2026, to February 27, 2026.

#### *Data Tabulation and Analysis*

1. The following weights (3, 2, 1, 0) were assigned to the levels of the service quality scale for the vegetable farming extension farm in Rashidiya District, Baghdad Governorate (strongly agree, somewhat agree, slightly agree, strongly disagree), respectively.
2. The quality of services provided by the extension farm for vegetable farmers in the Rashidiya District, Baghdad Governorate, was calculated by extracting the arithmetic means and standard deviations of the respondents' ratings and evaluating the results by determining the category length on the four-point Likert scale through the calculation of the range between the scale scores (3–0 = 3). The result is then divided by the number of desired categories (3) to obtain the category width, which equals (1). Table 2.

**Table 2. Distribution of Service Quality Level Categories for Vegetable Farmers**

| Quality level Categories | Categories |
|--------------------------|------------|
| 0.99 – 0                 | Low        |
| 1.99 – 1                 | Medium     |
| 3-2                      | High       |

3. Weights (3, 2, 1, 0) were assigned to the levels of the scale measuring the problems vegetable farmers face in accessing services provided by the extension farm (high, medium, low, none), respectively. To rank the items in descending order from the respondents' (vegetable farmers') perspective, the weighted mean and percentage weight were used.

### Statistical Methods

The statistical methods used in the analysis of the research data are: arithmetic mean, standard deviation, weighted mean, percentage weight, and the Cronbach's alpha.

## RESULTS AND DISCUSSION

### The quality of services provided by the extension farm to vegetable farmers in Al-Rashidiya district/ Baghdad Governorate

#### 1. The nature of services provided

The research results showed that the seven items under the (Nature of Services Provided) field obtained an arithmetic mean ranging from 1.04 to 1.56, and a standard deviation ranging from 0.96 to 1.15, as shown in Table 3.

**Table 3. Distribution of respondents according to the items related to the nature of services provided**

| Sort by questionnaire  | Items                                                                                                                                                                    | Arithmetic mean | Standard deviation | Quality level | Sort by quality level |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------|---------------|-----------------------|
| 6                      | Field visits by agricultural extension <u>agents</u> are frequent and regular.                                                                                           | 1.56            | 1.15               | Medium        | 1                     |
| 1                      | The extension farm provides a variety of services covering all stages of vegetable cultivation.                                                                          | 1.39            | 1.07               | Medium        | 2.5                   |
| 5                      | The extension farm provides technical support (such as soil and water analyses, technical advice and recommendations, and more) to vegetable farmers as needed.          | 1.39            | 1.10               | Medium        | 2.5                   |
| 4                      | The extension farm provides vegetable farmers with useful and easy-to-understand brochures and written materials.                                                        | 1.27            | 0.98               | Medium        | 4                     |
| 2                      | The services provided by the extension farm are tailored to the types of vegetable crops being grown.                                                                    | 1.25            | 0.96               | Medium        | 5                     |
| 7                      | The quality of the services and information provided by the extension farm is superior to that of other sources of information (markets, neighbors, the internet, etc.). | 1.19            | 0.99               | Medium        | 6                     |
| 3                      | The extension farm provides clear solutions to the problems vegetable farmers face during the growing season.                                                            | 1.04            | 0.99               | Medium        | 7                     |
| <b>Overall Average</b> |                                                                                                                                                                          | 1.30            | 1.04               |               |                       |

Table 3 shows that the average responses of the respondents to the items under the (Nature of Services Provided) category were at an average level, as evidenced by an overall arithmetic mean of 1.30 points. This indicates that the model extension farm performs its advisory role acceptably; However, the level of performance did not reach the level of excellence or achieve high satisfaction among vegetable farmers. This reflects a relative gap between the services provided by the extension farm and the farmers' expectations, which may be attributed to a lack of diversity in the extension methods used, a shortage of specialized expertise in addressing vegetable crop problems, as well as competition from other sources of information.

## 2. Employees responsible for providing the service

The research results showed that the 10 items in the (Employees responsible for providing the service) field had an arithmetic mean ranging from 1.13 to 1.67 points and a standard deviation ranging from 1.00 to 1.10 , as shown in Table 4.

**Table 4. Distribution of respondents according to the items related to the field of employees responsible for providing the service**

| Sort by questionnaire  | Items                                                                                                                              | Arithmetic mean | Standard deviation | Quality level | Sort by quality level |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------|---------------|-----------------------|
| 10                     | The staff at the extension farm maintain strict confidentiality when dealing with vegetable farmers.                               | 1.67            | 1.03               | Medium        | 1                     |
| 9                      | The staff at the extension farm ensure equality among vegetable farmers and reject any form of discrimination.                     | 1.54            | 1.00               | Medium        | 2                     |
| 7                      | The staff at the extension farm respond promptly to vegetable farmers' requests and inquiries.                                     | 1.53            | 1.05               | Medium        | 3                     |
| 6                      | Agricultural extension workers are willing and eager to assist vegetable farmers.                                                  | 1.47            | 1.10               | Medium        | 4.5                   |
| 8                      | Staff at the extension farm are able to understand the needs of vegetable farmers.                                                 | 1.47            | 1.05               | Medium        | 4.5                   |
| 3                      | Agricultural extension workers are able to explain agricultural matters in clear and understandable language to vegetable farmers. | 1.44            | 1.07               | Medium        | 6                     |
| 2                      | Availability of a sufficient number of agricultural extension workers and extension service providers at the extension farm.       | 1.41            | 1.04               | Medium        | 7                     |
| 1                      | Agricultural extension workers have sufficient experience in vegetable farming.                                                    | 1.38            | 1.03               | Medium        | 8                     |
| 4                      | The interest of extension farm staff in vegetable farmers' problems.                                                               | 1.14            | 1.05               | Medium        | 9                     |
| 5                      | Effective cooperation between extension farm staff and vegetable farmers.                                                          | 1.13            | 1.03               | Medium        | 10                    |
| <b>Overall Average</b> |                                                                                                                                    | 1.42            | 1.05               |               |                       |

Table 4 shows that the average responses of the respondents to the items related to employees responsible for providing the service were at a moderate level, as evidenced by an overall arithmetic mean of 1.42 points. This reflects that workers at the model extension farm provide acceptable services and perform the required basic tasks, in terms of their commitment to confidentiality and equality, and their demonstrated ability to provide support and assistance; However, their performance does not reach the level of excellence, indicating a gap between expected performance and the performance actually received by vegetable farmers. This is attributed to limited specialized experience, poor communication and individual interaction between staff and farmers, work-related stress, and the absence of effective mechanisms for tracking and resolving issues.

## 3. Service provision and monitoring mechanism

The research results showed that the six items under the service provision and monitoring mechanism field received an arithmetic mean ranging from 1.12 to 1.72 points and a standard deviation ranging from 0.89 to 1.13 , as shown in Table 5.

**Table 5. Distribution of respondents according to the items related to the field of service provision and monitoring mechanism**

| Sort by questionnaire  | Items                                                                                                                        | Arithmetic mean | Standard deviation | Quality level | Sort by quality level |
|------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------|---------------|-----------------------|
| 4                      | Follow-up the extension farm to ensure that vegetable farmers implement the recommendations.                                 | 1.72            | 1.13               | Medium        | 1                     |
| 3                      | The extension farm informs vegetable farmers of the start and end dates of the services it provides.                         | 1.70            | 1.02               | Medium        | 2                     |
| 6                      | The extension farm adheres to the commitments it has made to vegetable farmers.                                              | 1.44            | 1.04               | Medium        | 3                     |
| 2                      | The extension farm provides services on a regular basis throughout the growing season.                                       | 1.18            | 1.08               | Medium        | 4                     |
| 1                      | The extension farm uses multiple methods to deliver its services (field visits, training courses, extension seminars, etc.). | 1.13            | 1.11               | Medium        | 5                     |
| 5                      | The extension farm monitors the results achieved through the implementation of the recommendations.                          | 1.12            | 0.89               | Medium        | 6                     |
| <b>Overall Average</b> |                                                                                                                              | 1.38            | 1.05               |               |                       |

Table 5 shows that the average responses of the respondents to the items under the service provision and monitoring mechanism at a moderate level, as evidenced by an overall arithmetic mean of 1.38 points. This may be attributed to the limited and weak systematic planning and organization of services, the lack of integration in service delivery methods, as well as the partial and incomplete follow-up on recommendations and achieved results. Furthermore, the limited human resources and available capacities negatively impact the effectiveness of service delivery and monitoring.

#### *4. The economic impact of the extension services provided*

The research results showed that the four items under of the economic impact of the extension services provided field obtained an arithmetic mean ranging from 1.32 to 1.83 points, and a standard deviation ranging from 0.99 to 1.13 points, as shown in Table 6.

**Table 6. Distribution of respondents according to the items related to the field of the economic impact of the extension services provided**

| Sort by questionnaire  | Items                                                                                                                                                       | Arithmetic mean | Standard deviation | Quality level | Sort by quality level |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------|---------------|-----------------------|
| 2                      | The <u>extension</u> provided by the extension farm helps reduce waste and losses in vegetable crops.                                                       | 1.83            | 0.99               | Medium        | 1                     |
| 3                      | The extension provided by the extension farm helps improve the ability to select agricultural inputs (seeds, fertilizers, etc.) in a cost-effective manner. | 1.79            | 1.07               | Medium        | 2                     |
| 4                      | The services provided by the extension farm help increase agricultural profits from vegetable crops.                                                        | 1.61            | 1.13               | Medium        | 3                     |
| 1                      | The services provided by the extension farm help reduce farming costs (fertilizers, pesticides, irrigation).                                                | 1.32            | 1.00               | Medium        | 4                     |
| <b>Overall Average</b> |                                                                                                                                                             | 1.64            | 1.05               |               |                       |

Table 6 shows that the average responses of of the economic impact of the extension services provided were at a moderate level, as evidenced by an overall arithmetic mean of 1.64 points. This may be

attributed to the fact that the extension guidance and agricultural practices provided by the extension farm yield acceptable economic benefits, but they do not reach the highest possible level in terms of reducing costs and increasing profits due to variations in the level of implementation of the recommendations by vegetable farmers, differing production conditions, a lack of financial allocations, and weak individual follow-up, as well as the fact that the results depend on the vegetable farmers' ability to implement them.

Regarding the ranking of the four service quality Fields provided by the extension farm to vegetable farmers in the Rashidiya District of Baghdad Governorate, the research results showed that the arithmetic means for the service quality Fields ranged between 1.30 and 1.64 points, and the standard deviation ranged between 1.04 and 1.05 points, as shown in Table 7.

**Table 7. Distribution of respondents according to the Fields of quality of extension services**

| Sort by questionnaire  | Fields                                                 | arithmetic mean | standard deviation | Quality level | Sort by Quality Level |
|------------------------|--------------------------------------------------------|-----------------|--------------------|---------------|-----------------------|
| 4                      | the economic impact of the extension services provided | 1.64            | 1.05               | Medium        | 1                     |
| 2                      | Employees responsible for providing the service        | 1.42            | 1.05               | Medium        | 2                     |
| 3                      | service provision and follow-up mechanism              | 1.38            | 1.05               | Medium        | 3                     |
| 1                      | Nature of Services Provided                            | 1.30            | 1.04               | Medium        | 4                     |
| <b>Overall Average</b> |                                                        | 1.43            | 1.04               |               |                       |

Table 7 shows that the average scores given by respondents to the questions regarding the quality of services provided by the extension farm for vegetable farmers in the Rashidiyah district were moderate, as evidenced by an overall arithmetic mean of 1.43 points. This may be attributed to the traditional nature of the services provided, a lack of adequate funding, and variations in vegetable farmers' ability to implement recommendations and measure their economic impact. Furthermore, the expectations of vegetable farmers benefiting from extension services are high, leading to these services being rated as of average quality.

### **Problems vegetable farmers face in accessing the services provided by the extension farm**

#### *Problems in Accessing Extension Services*

The items related to the problems vegetable farmers face in accessing the services provided by the extension farm, numbering eight in total, received weighted averages ranging from 1.731 to 2.000 and percentage weights ranging from 57.70% to 66.67%, as shown in Table 8.

Table 8 shows that the problems faced by vegetable farmers in accessing extension farm services were generally at a moderate level, with an overall weighted mean of 1.86 points, and a total percentage weight of 61.91 %. The item (The recommendations regarding vegetable crops from the extension farm were not received in a timely manner.) ranked first with a weighted mean of 2.00 points ,and a percentage weight of 66.67 %, which is higher than the overall weighted mean. This indicates that this problem represents the most significant challenge relative to the other issues, This may be due to slow transmission of information and extension recommendations, caused by infrequent field visits and the lack of modern communication methods, resulting in recommendations reaching vegetable farmers late. This negatively impacts their implementation, which in turn affects crop productivity, especially since vegetable crops are characterized by a short growing season and extreme sensitivity to environmental factors; therefore, any delay in the arrival of recommendations, even if slight, will be noticed by farmers and will emerge as a clear problem.

**Table 8. Distribution of respondents according to the items related to the problems vegetable farmers face in accessing the services provided by the extension farm**

| Questionnaire Sequence | Items                                                                                                                                                                             | Weighted average | Percentage Weight | Sequence |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------|----------|
| 2                      | The recommendations regarding vegetable crops from the extension farm were not received in a timely manner.                                                                       | 2                | 66.67%            | 1        |
| 3                      | Slow administrative and routine procedures, resulting in delays in providing support services to vegetable farmers.                                                               | 1.94             | 64.80%            | 2        |
| 1                      | The heavy workload of staff at the extension farm, which affects the quality of services provided.                                                                                | 1.92             | 63.87%            | 3        |
| 7                      | Farmers' limited financial resources to implement extension recommendations.                                                                                                      | 1.90             | 63.27%            | 4        |
| 4                      | The scarcity of agricultural extension programs and activities (training courses, field workshops, Extension plots, and practical experiments) carried out by the extension farm. | 1.87             | 62.33%            | 5        |
| 6                      | The distance of the extension farm from some vegetable-growing areas, making it difficult for farmers to access extension services.                                               | 1.75             | 58.33%            | 6.5      |
| 8                      | Vegetable farmers' fear of taking risks when implementing the agricultural recommendations provided by the extension farm.                                                        | 1.75             | 58.33%            | 6.5      |
| 5                      | the lack of incentives provided to vegetable farmers to participate in extension programs and training courses.                                                                   | 1.73             | 57.70%            | 8        |
| <b>Overall Average</b> |                                                                                                                                                                                   | 1.86             | 61.91%            |          |

As for the field on (the lack of incentives provided to vegetable farmers to participate in extension programs and training courses) this came in last place with a weighted average of 1.73 points and a percentage weight of 57.70%. This may be because some vegetable farmers prefer hands-on field learning to attending training courses and extension programs; thus, the absence of incentives does not significantly affect their behavior. This may also be due to vegetable farmers' awareness of the problem, but they do not consider it a top priority compared to technical or time-related issues, as farmers mostly focus on problems that directly affect production, such as a lack of extension services or agricultural pests and diseases affecting their crops.

## CONCLUSIONS

The research findings indicate that the services provided by the extension farm to vegetable, farmers were of an acceptable standard, though they did not reach a high level of efficiency. We conclude from this that the services are of a general nature and do not fully meet the needs of all farmers. The results also showed that monitoring the implementation of recommendations and measuring their outcomes remains incomplete, which limits the efficiency of the services provided and reduces their impact on improving agricultural production. Although advisory services and recommendations contribute to some extent to increasing efficiency and reducing costs, their impact varies depending on farmers' ability to implement them and the surrounding production conditions, which limits the equal realization of tangible economic benefits among farmers. The results also revealed a number of issues that limit the effectiveness of extension services, the most prominent of which was the failure to provide timely extension recommendations for vegetable farmers, we conclude from this that the timing factor is crucial to the success of the agricultural extension process. Problems related to a lack of incentives to participate in training programs and extension courses ranked lower on the list. We conclude from this that vegetable farmers rely more heavily on direct practical benefits and field experience, in addition to their belief that this issue is less important compared to problems related to production and agricultural extension recommendations.

## Recommendations

Increase the number of staff at the extension farm and enhance their expertise to ensure the provision of more effective extension services that reach a larger number of farmers. Utilize modern communication methods and information technology to expedite the delivery of recommendations and information to them, as well as conduct periodic evaluations of service quality and the problems faced by farmers, and consistently take their suggestions into account to ensure the provision of practical and effective solutions to the problems they face.

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