

**SUGGESTED VISUALIZATION FOR SOME QUALITY ELEMENTS OF EXTENSION SERVICE
FOR VEGETABLE FARMERS FROM THEIR VIEWPOINT IN THE GOVERNORATE OF
BAGHDAD**

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ABSTRACT

This study objective was aimed to prepare a suggested conception for the quality of some elements of the extension service for vegetable growers from their point view at Baghdad Governorate. In order to achieve the objective , a scheme was prepared consisting of (20) criteria distributed into (4) areas: sources of service provision, service timing, topics and content of the extension services, service providers. Data were collected by the random sample of 108 respondents vegetable growers, representing 30% of the agricultural divisions. In the two directorates of agriculture in Baghdad Governorate , Al-Karkh , Al-Rusafa. The results of this research concluded that each of the areas and criteria of the proposed perception obtained a weighted average located between 3.01 and 3.34, which is greater than the hypothetical mean of 2.5 degrees, and the survival of all areas and criteria mentioned above in their final form. Accordingly, the researchers recommend that the Agricultural Extension and Training Department adopt what came in this study.

Keywords: standards, service timing, service sources, service content, service providers

الحافظ والطائي

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تصور مقترح لجودة بعض عناصر الخدمة الإرشادية لمزارعي الخضروات من وجهة نظرهم في محافظة بغداد

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المستخلص:

يهدف البحث الى إعداد تصور مقترح لجودة بعض عناصر الخدمة الإرشادية لمزارعي الخضروات من وجهة نظرهم في محافظة بغداد. وتحقيقاً للهدف أعد مخطط تكون من (20) معياراً موزعاً على (4) مجالات هي : مصادر تقديم الخدمة، توقيت الخدمة، موضوعات ومحتوى الخدمة الإرشادية، مقدمو الخدمة، جمعت البيانات من عينة عشوائية مكونة من 108 مبحوثاً من زراع الخضروات بنسبة 30% من الشعب الزراعية في مديرتي الزراعة في محافظة بغداد/الكرخ، الرصافة. وقد خلصت نتائج البحث الى حصول كل من مجالات ومعايير التصور المقترح على وسط مرجح يقع بين 3.01-3.34 وهو اكبر من الوسط الفرضي البالغ 2.5 درجة وبقاء جميع المجالات والمعايير المذكورة انفة في شكلها النهائي. وعليه يوصى الباحثان بأن تتبنى دائرة الإرشاد والتدريب الزراعي ما جاء بهذه الدراسة.

الكلمات المفتاحية: المعايير، توقيت الخدمة، مصادر الخدمة، محتوى الخدمة، مقدمو الخدمة

INTRODUCTION

Vegetables are one of the basic components of agricultural production in the world, It represents an agricultural and economic activity in which millions of farmers and their families work and it is an important source of their income and the main source for food and in achieving sustainable food security, its products are basic inputs in many food industries. The National Development Plan (2018-2022) emphasizes the development of cultivating vegetable crops in quantity and quality(14)The vegetable cultivation activity in Iraq ranks sixth in the group of Arab countries producing vegetable crops, as its productivity increased during the year 2019, with an increase of 24.1% (10). This agricultural activity is a basis for thousands of farmers, their families, and their main source of income, where the agricultural activity is widespread in most Iraqi governorates. Moreover, improving economic returns and increasing the capacity for excellence and competitiveness, especially in the flow of agricultural commodities, primarily vegetables from outside the country, and their impact on farmers and their production. Then, improving the national economy by making a clear contribution to recovering and increasing agricultural sector production in GDP (1). Facing the challenges of agriculture in general and the challenges of vegetable farmers, in particular, require leaving the traditional work and upgrading the extension service, as traditional work is no longer an appropriate option (11). Countries have very advanced agricultural which production, such as the United States and the Netherlands, are those that have a strong and effective extensions (17). In practice, this strategy is reflected in meeting their needs, and at the forefront of which are the knowledge, skill, and technical needs in various fields (3). Therefore, agricultural extension is witnessing a transitional phase on the global scale, in improving its effectiveness to make it more responsive to farmers' needs and the level of their challenges (9). An extension is a system to facilitate farmers and their organizations' access to knowledge, information, and technologies, and their interaction with the relevant parties. This system aims to develop

their administrative, organizational, technical skills practices, and develop them in managing their agricultural activities in the best possible way and increase their productivity, production, and economic return (21). Along with, teaching farmers how to make appropriate decisions to address, resolve and overcome problems (6). Effective extension service is that which responds to the needs of farmers in meeting their needs and achieving their satisfaction. The extension service provides information and services that are needed and requested by farmers to help them in developing their technical, organizational, and managerial skills and practices in order to improve their livelihoods and well-being (19). The French Association for Standardization defined quality as the ability of a product to satisfy the desires of targeted, define their needs and translate them into a set of characteristics upon which the design process is based the International Organization for Standards defined it as the total characteristics of an activity or process, a product, a system, an individual , Or a combination of them " and the American Standards Institute defined it as the totality of the characteristics and features of the product or service that make it capable of meeting the needs of the target population (12). The quality of extension services can be measured from two perspectives, the first focuses on measuring the quality of the service organization and its workers, the second perspective focuses on the actual beneficiaries, who are vegetable growers. Achieving quality is an appropriate strategy to improve the extension service. Therefore, attention to the issue of quality for agricultural extension service is considered a fundamental requirement in achieving sustainable agricultural and rural development, achieving food security, and addressing the serious challenges facing the country (7). The quality of extension service is one of the basic objectives of service organizations, including the agricultural extension organization and its ability to provide promising services. Accordingly, the great challenges in the current stage impose the necessity of improving agricultural extension services, including the extension service provided to the vegetable grower, which is consistent with the

vision of the agricultural extension and training department in the country to provide excellent extension services to upgrade. Further, developing the agricultural sector and the services provided to farmers and improve their effectiveness to achieve better results in the field of vegetable cultivation activity, which is widely spread in most governorates, including Baghdad. In order to achieve the quality of extension service from the farmers' point of view. Accordingly, the general research objective is to prepare a proposed vision for the quality of extension service for vegetable growers from their point of view.

MATERIALS AND METHODS

This research classified within the framework of descriptive research that is concerned with describing the event or phenomenon in a scientific and accurate description and trying to explore solutions and interpretations based on the results of data and information (2), Baghdad was chosen as an area to this research because it is wide range of vegetable growing activity in it.

Research community : All the agricultural divisions in which there is a clear and significant agricultural activity in the field of vegetable cultivation, which is ten agricultural divisions. They are distributed by 6 divisions in the Baghdad Agriculture Directorate / Al-Karkh * (Al-Latifayah, Yusufiyah, Mahmudiyah, Al-Nasr Wal Salam, Al-Kadhimiya, Al-Radwaniyah Al-Sharqiya), where the total number of vegetable growers at those sites are 3651 farmers. Besides, 4 agricultural divisions in the Baghdad Agriculture Directorate / Al-Rusafa * are (Al-Nahrawan Al-Jisr, Al-Rashidiya, Al-Madain), with a total number of vegetable growers reached 1034 farmers.

Research samples: A proportional random samples of 30% of the agricultural divisions were chosen in each district, there are three divisions distributed by two divisions: Mahmudiya and Yusufiya at the Baghdad Agriculture Directorate / Al-Karkh and Al-Madain Agriculture Division within the Baghdad Agricultural Directorate of Rusafa. Then, A disproportionate stratified random samples of two districts was selected from each agricultural division. They are a total of 6 districts are distributed in 4 districts at the

Baghdad Agriculture Directorate / Al-Karkh which are (5 / Beer Al-Hamam and 18 /Al-Harkawi Northern) at the Yusufiya Agricultural Division and (36/Abu shama and 22/Al-Mahmudiya) at the Mahmudiya agricultural Division. Moreover, two districts at the Baghdad Agriculture Directorate / Rusafa, are (5/Al-Safi and 9/Al-Ja`ara) at Al-Madain Agriculture Division. Finally, a disproportionate stratified random sample of vegetable growers was selected, which collected to 18 farmers from each district, totaling 108 farmers distributed among 72 farmers at Baghdad Agriculture Directorate / Al-Karkh and 36 at Baghdad Agriculture Directorate / Rusafa.

Research scheme: Generally, the research plan was prepared to the review the literature and related studies and field interviews that included some extension staff in the agricultural extension and training department, the extension center, and the extension department at the two directorates of agriculture at the governorate. Also, some farmers and agricultural leaders in order to benefit from their opinions and observations on enhancing the topic importance and the need for it and what is possible to focus on it from fields and paragraphs. The scheme was consisted of 45 standards, distributed at ten fields : The sources of service provision, the objective of service, the targeted, the basis for preparing the service the timing of providing the service. Besides, the topics and content of service, the method and modalities, the service providers, interaction, coordination, and joint work, monitoring, evaluation, and continuous improvement. The research scheme was presented in its initial form to 10 experts in the field of agricultural extension and horticulture who are members of the faculty at the College of the Agriculture, University of Baghdad, using a questionnaire. It included the fields and standards of the scheme in order to indicate their approval for each field and standard in light of the Likert scale consisting of three statements (Agree, agree with modification, disagree). A cut-off point of 75% of the experts 'approval degree for each component of the scheme (fields, standards) has been set in its initial form. Then, a numerical value was specified for each

statement in the experts' approval scale, as follows: two degrees for agreeing, one degree for agree with modification, and zero for disagree. Average approval degrees were calculated for each field in the scheme, and all fields and paragraphs obtained approval percentages ranged between 80-100%. Thus, in all of them, the proposed standard was achieved its the final form. In order to verify the reliability of the questionnaire, a random sample was selected from Al-Madain Agriculture Division, District 6, Bowie. The data were collected using a questionnaire and the interviewing method (preliminary testing of the questionnaires to verify their suitability and conducting the necessary adjustments) consisting of 10 respondents from vegetable growers. The reliability coefficient was calculated using the Cronbach's alpha coefficient and the values of the reliability coefficient ranged between (86_100%) degrees, all of which express scientifically acceptable coefficients that meet the research purposes. Thus, the respondents' questionnaires, in their final form, became applicable.

RESULTS AND DISCUSSION

The general objective is to prepare a proposal for the quality of extension service for vegetable growers from their point of view, which includes:

The first objective: a general description of the respondents and the activity of growing vegetables and participating in the extension activities

1- Age: The research results showed that the highest percentage of age is 45% for the farmers, while the lowest percentage is 17%. On the other hand, 49 farmers are between (38-62) and 18 farmers are between (63-87).

2- Academic achievement: The research results showed that the growers range from

(illiterate - institute and higher), where the highest percentage of vegetable growers is 41% within the intermediate school category. Likewise, the lowest percentage is 5% for each of the two groups: illiterate and institute and higher.

3- Duration of practicing agriculture: The research results showed that the highest duration of the respondents' practice of growing vegetables for more than ten years was 84%, and 16% for less than ten years. The results also showed that the highest degree of family members practicing this activity in agriculture was 94%, and less duration 6%.

4- Agriculture system: The research results showed that the highest numerical value was for the open and plastic farming system, at a percentage of 42.5%, while the percentages were equal for each of the open and tunnels farming systems, at a percentage of 30%. The importance of vegetable cultivation in agricultural income: The results showed that the vegetable growers considered with the vegetable cultivation activity as their main source of income, as the highest percentage was within an important level of 77%, and that 23% was within a somewhat important level.

5- The participation of vegetable growers in extension activities: The results showed that the highest participation rate was within the activity (watching a TV program), which collected to 78.7% by 85 farmers. However, the lowest participation rate was within activity (participation in the explanatory field), at 3.7% with 4 farmers, and that the number of farmers participating in watching a TV program, and that the vegetable growers participating in the activity of the explanatory field are. Table 1 shows a clear absence of activities (attending an extension meeting and participating in a field day).

Table 1. Distribution of the respondents' participation in agricultural extension activities

Participate in extension activities	Frequencies	%
An extension activity has been implemented in the farm	22	20.3
A visit to the extension unit	73	67.5
Attending a mentorship meeting	0	0
Participate in a seminar	61	56.4
Get a flyer or poster	19	17.5
Participate in a training course	11	10.1
Participate in the explanatory field	4	3.7
An informational messages via mobile	36	33.3
Watch a TV extension program	85	78.7
Listen to a radio extension program	59	54.6
Participate in a field day	0	0

It could be concluded from Table 1 there are few field extension activities, most of which are theoretical, and the lack of specialized activities in the activity of vegetable cultivation. This is a negative indicator pointing out the insufficiency of agricultural extension services in meeting the needs of vegetable growers, and this means that the extension work is still below the required level. As a consequence, it is considered a traditional work because the agent is a teacher and the farmer recipient only in his style, policies, methods of presentation, and the content of his extension

messages, and do not stem from the actual needs and problems of farmers.

The second objective: identifying the agreement of vegetable growers to the proposal

First field: Sources of service provision

The results showed that the proposed standard in the field of service provision sources obtained a weighted mean of 3.01 degrees and a percentage weight of 75%, which is greater than the hypothetical mean for the scale of 2.5 degrees (Table 2).

Table 2. Distribution of respondents according to the proposed standard in the field of service provision sources

Seq.	Proposed standard in the field of service provision sources	Weighted mean	Percentage weight %
1	It was provided by a variety of parties, the extension department, specialized agricultural companies, and other agricultural companies	3.01	75

The results Table 2 show that most vegetable farmers realize the importance of the extension service being multi-source and not limited to the government sector only. In addition, it is a positive indication of the distinction of other sectors in a rapid response at the farmers' request and keeping abreast of agricultural developments, changes, and developments in the field of vegetable cultivation, which helps in increasing and improving the production. These results are consistent with several studies on the importance of providing agricultural extension services from various information sources to support and develop knowledge, performance, and innovation (19) as well as to achieve a more comprehensive

extension service to meet the current situation of the agricultural sector in the country, especially for rural women and rural youth who are considered the groups least opportunity to access extension services, and this is consistent with the study Iskandar of (13).

Second field: Timing of providing the agricultural extension service

The results showed that the proposed standards during the date of providing the extension service, which had two standards obtained a weighted mean of 3.34 and a percentage weight of 83.5%, which is greater than the hypothetical mean for the scale of 2.5 degrees, as listed in Table 3.

Table 3. Distribution of respondents according to the proposed standards in the timing of providing the extension service, distributed according to weighted mean and percentage weight

Seq.	Seq. according to importance	Proposed standards in the timing of providing the extension service	Weighted mean	Percentage weight %
1	1	Rapid response to the needs and requests of vegetable growers	3.40	85
2	2	It is a standard to provide service to the vegetable growers at the appropriate time	3.29	82
Total			3.34	83.6

It could be concluded from Table 3 that most of the vegetable growers approved to the standards of the timing of the extension service, and this is a positive indication of the

importance of providing extension service when requesting vegetable growers at the appropriate time in order to fulfill the main objective of it.

Third field: Topics and content of the extension service

The research results showed the proposed standards in the topics and content of the extension service, which had to 7 standards

obtained a weighted mean of 3.21 degrees and a percentage weight of 80% which is greater than the hypothetical mean for the scale of 2.5 degrees(Table 4).

Table 4. Distribution of respondents according to the proposed standards in the topics and content of the extension service, distributed according to weighted mean and percentage weight

Seq.	Seq. according to importance	Proposed standards in the topics and content of the extension service	Weighted mean	Percentage weight %
1	1	To deal with the main topics in the vegetable cultivation activity, starting with preparing the land and ending with marketing	3.30	82.5
2	3.5	To focus on the most important developments and modern practices in fertilization, harvesting, marketing, and pest control	3.20	80
3	4.5	Its content is defined in light of the objectives	3.17	79
4	3.5	Suitable in achieving those goals	3.21	80
5	4	It is characterized by modernity	3.18	79.5
6	4.5	It has proven successful in the region	3.16	79
7	2	Its content matches the characteristics and capabilities of vegetable growers, their farms, and their environmental conditions	3.28	82
Total			3.21	80.3

It could be concluded from Table 4 that most of the vegetable growers have approved the standards of the topics and content of the extension service. This is a positive indication that the content of the service deals with the main topics in the vegetable cultivation activity, starting from preparing the land and ending with marketing, and is appropriate and identical to the needs and problems of vegetable growers. Combined with, the characteristics of their farming systems, and is appropriate in achieving their goals and it is characterized by modernity, which is consistent with what was stated in the study of

Najem (16), and proportional to the different characteristics of their farming systems and their diverse needs and desires, and to meet them to achieve their satisfaction, which is consistent with the study Al-Zaidi (8).

Fourth field: Agricultural extension service providers

The results showed the proposed standards in the service providers, which amounted to standards obtained a weighted mean of 3.28 degrees and a percentage weight of 82%, which is greater than the hypothetical mean for the scale of 2.5 degrees(Table 5).

Table 5. Distribution of respondents according to the proposed standards in the field of extension service providers, distributed according to weighted mean and percentage weight

Seq.	Seq. according to importance	Proposed standards in the field of extension service providers	Weighted mean	Percentage weight %
1	5.5	The presence of female and male extension agents to achieve extension service for males and females	3.24	81
2	3	The sufficient number of agents for the number of vegetable growers	3.31	82.7
3	7	Experience in constructive interaction with vegetable growers and related parties	3.18	77
4	5	To possess the necessary knowledge, skills, and experience in preparing, implementing, monitoring, and evaluating the extension service	3.23	80.7
5	2	Keeping abreast of developments in the field of vegetable cultivation and modern agricultural trends	3.32	83
6	5.5	A good listener of the ideas, needs, problems, and solutions proposed by farmers, and communicating them to the relevant research extension departments	3.24	81
7	8	Respect for farmers' experience and knowledge	3.16	79
8	6	Investigating the innovations of vegetable growers, verifying their results, and disseminating them	3.20	80
9	4	Encouraging farmers to work in extension groups and cooperative societies	3.28	82
10	1	Fulfillment of obligations towards vegetable growers	3.35	83.7
Total			3.25	81.2

It could be concluded from Table 5 that most of the vegetable growers have approved to the standards of extension service providers, and this is a positive indicator to encourage service providers to understand the actual need for vegetable growers, to understand their expectations of extension services and to fulfill promises towards the farmers, and to make the agricultural extension organization and extension management take their complaints and problems seriously, success in diagnosing their reactions about the services provided, and encouraging them to work for groups and learn. As well as achieving the adequacy of service providers for the number of vegetable growers, the presence of female extension agent in providing services to ensure that the service reaches all categories of vegetable growers, as stated in a study of world Bank

(21). In addition, the qualification of extension service providers greatly affects the success of the extension process because they are responsible for delivering services to the targeted, which is consistent with the study of AL-Taiy(5)

The third objective: achieved the proposal in its final form: After taking into account the results of previous stages, the fields and standards for the proposal of the quality of extension service from the vegetable growers' point of view were approved, because all the aforementioned fields and standards obtained a weighted mean between (3.38-3.01), which is greater than the hypothetical mean of 2.5 degrees, and the result was remaining each of the fields and standards in its final form, (Table 6).

Table 6. Proposal in its final form

Fields	The proposed standards in the extension service elements for vegetable growers
Service provider	❖ It was provided by a variety of parties (extension department, specialized agricultural companies, and other agricultural companies).
Timing of providing the extension service	❖ Rapid response to the needs and requests of vegetable farmers. ❖ It is a standard to provide service to the vegetable growers at the appropriate time
Topics and content of the extension service	❖ To deal with the main topics in the vegetable cultivation activity, starting with preparing the land and ending with marketing ❖ To focus on the most important developments and modern practices in fertilization, harvesting, marketing, and pest control ❖ Its content is defined in light of the objectives, and suitable for achieving those goals ❖ It is characterized by modernity, and it has proven successful in the region ❖ Its content matches the characteristics and capabilities of vegetable farmers, their farms, and their environmental conditions ❖ The presence of female and male extension agents to achieve extension service for males and females ❖ The sufficient number of agents for the number of vegetable growers ❖ Experience in constructive interaction with vegetable growers and related parties
Extension service providers	❖ To possess the necessary knowledge, skills, and experience in preparing, implementing, monitoring, and evaluating the extension service ❖ Keeping abreast of developments in the field of vegetable cultivation and modern agricultural trends ❖ A good listener of the ideas, needs, problems, and solutions proposed by

Conclusions

Vegetable farmers look to an extension service that responds effectively to their needs, and they are able to identify the characteristics of that service.

Recommendations

It is recommended to adopt the fields and standards of this study in order to be applied in the extension activities, projects and programs.

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