How to Cite:
Sbeih, F. E., & AL-Mashhadani, M. A. S. (2022). Improving some coordination process domains between the Guidance Department and research centers in the Baghdad governorate. *International Journal of Health Sciences*, *6*(S6), 5629–5649. https://doi.org/10.53730/ijhs.v6nS6.10873

Improving some coordination process domains between the Guidance Department and research centers in the Baghdad governorate

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Abstract---The research objective was to identify the reality of the coordination process between the Guidance Department and research centers in the Baghdad governorate, in terms of organization, planning, implementation, follow-up, and evaluation, and to recognize the problems of the coordination process, between the Guidance Department and research centers, (represented by problems of coordination policy, problems of organizing coordination, problems of the nature of the work mechanism coordination, training and capacity building problems, and funding problems), besides improving the effectiveness of the coordination process between the Guidance Department and research centers, (represented by simplifying the organization of coordination, harmony, and integration between coordination plans, programs, and policies, research partnership, and linkage, means of communication and information technology, training and capacity development, financial and technical support). The research was conducted in the Baghdad governorate, where a proportional, stratified random sample of 15% was selected from the research population (holders of higher degrees in research centers and workers in the Guidance Department), which numbered 935, so the number of respondents subject to research was 160, with a rate of 22, from the Ministry of Agriculture, 63 from the College of Agricultural Engineering Sciences, 33 from the College of Veterinary Medicine, and 19 from the Agricultural Research Department, in addition of taking the entire population of the Guidance Department, totaling 23 respondents. To attain the research objectives, a questionnaire, consisting of 112 items divided into two domains and 11 themes, was prepared to collect data from the respondents. There were 35 items within the domain for identifying the problems of the coordination process between the Guidance Department and research centers,

Manuscript submitted: 9 April 2022, Manuscript revised: 27 June 2022, Accepted for publication: 18 July 2022

distributed over five themes: 10 items of them for the problems of coordination policy, 7 items for the problems of organizing coordination, 8 items for the problems of the nature and mechanism of coordination work, 6 items for training and capacity building problems, 4 items for financing problems. For the domain of improving the effectiveness of the coordination process between the Guidance Department and research centers, 77 items to improve the effectiveness of the coordination process between the Guidance Department and research centers distributed among 6 themes involving, 14 items of them to simplify the organization, 12 items Including harmony and integration between coordination plans, programs, and policies, 15 items for partnership and research link, 18 items for means of communication and information technology, 9 items of training and capacity building, and 9 paragraphs for financial and technical support. To analyze and display the results, the SPSS statistical analysis software and manual analysis were used, as frequencies, percentages, arithmetic mean, weight percent, weighted mean, and Cronbach's Alpha equation were calculated. The research results showed that the relationship between the guidance system and research centers is important. It is based on the jurisprudence, efficiency, and skill of the workers and their personal efforts. It does not rely on scientific foundations, legal frameworks, or objective criteria for the coordination process between the two sides. Results also showed that universities, as institutions of higher education, their main tasks include carrying out activities in the fields of scientific research and community service, and thus facing a considerable challenge in achieving the necessary amount of the balance between performing their tasks in terms of educational outputs for development inputs and their contribution to economic development and research and development activities in the agricultural field. The researcher recommends: working to strengthen the forms of links and coordination between the Guidance Department and research centers in a codified and fruitful manner that is not subject to the personal relationships of specific individuals, and that includes the implemented guidance programs, and the necessity of careful selection of specialists in various branches of agricultural sciences and training them in a guide way to be able to extrapolate simplify, and prepare the research results for application, with the help of the guiding system, as they are more specialized.

Keywords---coordination process, guidance department, research centers.

Introduction

Development is a dynamic process that consists of a set of structural and functional changes that occur in society, as it is achieved through the optimal use of natural and human resources and capabilities to improve the living conditions of the targets (Ghadban, 30: 2015). It focuses on the participation of different

scientific disciplines to play its role in the implementation of the development projects and programs (Al-Atwani, 2:2017), by linking the scientific knowledge sources and the new ideas for application in the field, which became necessary to bring about agricultural development, which made the developing countries, including Iraq, to increase their investment in agricultural research by establishing administrative research centers, aiming to serve researchers as well as theoretical and applied scientific research, in addition to providing education, training and to develop agricultural research and advance scientific reality (Abdul Wahed, 89: 2019).

Research centers are considered quality indicators in the modern era, as they contribute to the development of the ability to make decisions that help societies to grow and develop as an important tool for producing many important projects and a means to study everything related to those projects according to a scientific approach linking the theoretical and applied aspects (Mahmoud, 2013:3). Research centers are considered quality indicators in the modern era, as they contribute to the development of the ability to make decisions that help societies to grow and develop as an essential tool for producing many important projects and a means to study everything related to those projects according to a scientific approach linking the theoretical and applied aspects (Mahmoud, 2013:3). Thus, it is considered a supporter of the agricultural sector by focusing on the technical aspects of generating modern technologies that contribute to increasing production in quantity and quality, as well as identifying the problems facing the target audience (Saqr, Al-Abdullah, Ibrahim, 199:2017), through the institutions concerned with achieving development including the Agricultural Guidance System, which plays a key role in responding to the knowledge and skill needs of the target audiences, as well as acting as a link between the research centers and the targeted people individuals.

It transfers the problems of the targets to the research centers to find solutions and then moves the research results to the targets (Abu Assaf, 20: 2018). Hence the role of the agricultural guide comes into view to play the role as a coordinator. He creates a kind of link and coordination between information sources and application places through understanding the information arriving from the sources and then can be able to simplify, adapt and publish it in a way that allows the target audience to understand and realize it (Raihan et al., 153, 2001) and next, apply it in their farms. To achieve this, the guidance system needs support from powerful applying research centers to serve the targets effectively, and research centers need intensive guidance services to work in a problem-oriented field (FAO, 2005: 1). Based on the foregoing, there are existing links between agricultural guidance within the farm, market, and research centers chain (Qamar, 52:2005). Each of them has independent functions, one from the other, to achieve their aims in different ways, as well as they have interacted functions. The ability of research centers to investigate modern methods of producing modern techniques addressing agricultural problems experienced by the target audience is a criterion for the success of scientific research, while the application of modern techniques in the fields of the target audience is considered a criterion for the success of the agricultural guide (Hassan, et al., 1020: 2016).

Thus, they are considered two essential elements for facing agricultural challenges, developing and sustaining them to increase production and productivity as well as attain the best results for managing agricultural activity, achieving development for rural communities, and responding to the needs of the target audience. This can only be achieved by strengthening, enhancing, and developing the relationship between research centers and guiding organizations and achieving interdependence, interaction, and coordination between them (Al-Ansari and others, 738: 2020), to unify the various efforts to achieve the best use of financial and material resources and transfer information between workers in the field of coordination work to achieve goals with less effort, less time, and fewer expenses (Ghazi, 164:2005). Coordination works to achieve homogeneity and prevent duplication between research centers and guidance organizations, improve the effectiveness of guidance activities, and make workers work towards achieving common goals (cited in sommres.2004,28), arranging them according to their priorities, setting policies and plans, and achieving compatibility and integration between activities through a team with experience in the field of coordination work (Shaker, Qasim, 50: 2001). Thus it aims to spread the spirit of cooperation and joint work and raise morale among the coordination team (Alayan, 178: 2010).

Accordingly, despite the importance of coordination between research centers and agricultural guidance, there is still a wide gap between what researchers have achieved in research centers and agricultural guidance and the production rates achieved by the target audiences (fao, 2001:210). And that there is a weakness or absence of institutional cooperation and coordination with local agricultural communities, especially in developing countries, including Iraq (Al-Rimawi, et al, 2:2021). Also, the results of the research centers remain academic and have not been actually applied by the target audience (Proietti, Tudini, 2013:215). The relationship between agricultural guidance and research centers is characterized by varied periods between strength and weakness during the past fifty years. There was no official connection except during a short period (Abdul-Maqsoud, 335, 2017). Coordination relies on informal personal interpretations, the absence of coordination regulations and laws, and the absence of evident work mechanisms between guidance and research centers, in addition to the fundamental changes in the Ministry of Agriculture after 2003 that led to the abolition of essential domains of agricultural scientific research, leading to giving up its role in enriching agricultural guidance with all that is new (Al-Ansari et al., 738: 2020). Despite the multiplicity of studies that have been conducted in the field of linkage and coordination between research centers and agricultural guidance, the extent of communication, the nature of coordination, and the problems and benefits faced by workers in the field of coordination between the extension department and research centers have not been monitored.

Research objectives

Improving some aspects of the coordination process between the Guidance Department and research centers in Baghdad governorate.

Research hypothesis

The agreement of the majority of respondents to improve some aspects of the coordination process between the Guidance Department and research centers in Baghdad governorate.

Materials and Methods

To achieve the objectives of the research, the descriptive approach was used. It is concerned with describing the phenomenon accurately, and it also identifies the method of relationships between the variables that affect the phenomenon and its prediction by obtaining realistic and accurate information based on which the results are formulated, and thus focuses on describing the phenomenon to be studied. It is represented in improving the effectiveness of coordination between the Guidance Department and research centers in the Baghdad governorate.

Research population

The research population included the high degrees holders in the Guidance Department and research centers in Baghdad governorate, which numbered (935) respondents and distributed as follows:

- 3- 145 Respondents at the Ministry of Agriculture
- 3-23 Respondents at the Guidance Department, the whole community was taken
- 3-126 Respondents at the Agricultural Research Department
- 3- 423 Respondents at the College of Agricultural Engineering Sciences
- 3-218 Respondents at the College of Veterinary Medicine

Research sample

A proportional, stratified, random sample, with a percentage of 15%, was taken from the research population of 912, with 137 respondents distributed among the research centers

Table 1
Distribution of the research population and sample

Research centers	Number	15% of the sample
Ministry Of Agriculture	145	22
College of Agricultural Engineering Sciences	423	63
College of Veterinary Medicine	218	33
Agricultural Research Department	126	19
Total	912	137
Guidance Department		23
Grand total	935	160

The entire population of the Guidance Department was taken, totaling 23 respondents, and accordingly, the sample subject to research became 160 respondents.

Research tool and its design stages

Based on the objectives of the research, the questionnaire was used as a tool for collecting data and information from the respondents, as it was designed in its initial form according to the following sources:

- Examining foreign and Arab literature, articles, studies and research.
- Opinions of experts and specialists in research centers, the Ministry of Agriculture and the Guidance Department.
- With the help of the Internet.
- Field visits and personal interviews with some workers, as several field visits were conducted to the Ministry of Agriculture, the College of Agricultural Engineering Sciences, the College of Veterinary Medicine, the Guidance Department, and the Agricultural Research Department to see the coordination process. According to the aforementioned sources, 44 items were identified and distributed over 3 themes to improve the coordination process between the Guidance Department and research centers.

Table 2
Distributing the items on the themes and fields of the questionnaire in its initial form

Domain	No	Themes	Number of items
Improving the coordination process	1	simplify the organization	15
	2	Communication and . information technology	20
	3	Financial and technical support	9

Validity procedure
Arbitrator validity

Having the domains and themes identified and the paragraphs formulated in their initial form, they were presented to 16 arbitrators with specializations and experience in the field of agricultural guidance, agricultural economics, field crops, livestock and the Department of Research and Technology Sciences, to measure the face and content validity. This is to benefit from the arbitrators' observation and suggestions regarding the suitability of the items to the research domains and themes in terms of the integrity of expression, the absence of overlap and repetition between the topics, the clarity of the paragraphs, and their scientific accuracy, as well as proposing what they deem appropriate in case that they do not agree with it, by deleting or adding other items to come up with the final version for the tool before presenting it to the respondents, according to a three-tertiary scale consisting of (agree, agree in case of amendment, disagree) where the following weights were assigned to it (0,1, and 2 respectively).

The experts were asked to put a tick (√) in the place that expresses their agreement with regard to the domains, themes, and items. Accordingly, the opinions of the experts were collected and their answers recorded during the period (10/8/2021-24/11/2021) and analyzed and agreed upon according to the following:

- Determining a cut-off threshold of 75% or more regarding the validity of the domains, themes, and items included in the questionnaire.
- Amending the items, in case the opinions of experts and specialists differed about them.
- Deleting the items on which the percentage of experts' agreement is less than 75%.
- Deleting the similar items

Calculating the average degrees of experts' approval

The components of the scales included in the questionnaire in its initial form, as the general average of the percentage of experts' agreement included in the questionnaire was 94% in the opinions of experts who were informed about the accuracy, clarity, and formulation of the items, and the results were as follows: Some minor modifications were made in the formulation of some items to improve the coordination process, item (1) from the theme of simplification of organization, and item (2) from the theme of means of communication and information technology were deleted, bringing the total number of items to 41.

Search tool reliability

Reliability is a necessary process and a basis for verifying the validity of the scales included in the questionnaire. Accordingly, the reliability was conducted as a pre-test for the questionnaire to identify the respondents from the date of 12/1/2021 to 12/26/2022 on a sample of 30 respondents in the College of Veterinary Medicine from outside the sample to verify the reliability of the scales included in the questionnaire, and to measure the reliability, the initial test data were analyzed, using the Cronbach's Alpha equation, shown in the following table.

Table 3
Reliability coefficient of the domains and themes included in the questionnaire according to the Cronbach's Alpha equation

Questionnaire	Reliability coefficient
Improving the coordination process between the Guidance Department and research centers	%93
1. simplify the organization	%94
2.Communication and information technology	%90
3.Financial and technical support	%96

It is clear from the table above, that the value of the reliability coefficient ranged between 90.0 and 96.0 degrees, while the total reliability coefficient of the questionnaire to improve the coordination effectiveness reached 93.0 degrees, which expresses good reliability coefficients that are important to achieve the objectives of the research, and thus this tool in its final form is field applicable.

Data tabulation and analysis

After collecting data on the phenomenon under study, which is to improve the effectiveness of coordination between the Guidance Department and research centers, they were arranged and coordinated in a way that they can be read, analyzed, and concluded results as follows:

Improving the coordination process

For the purpose of measuring the improvement of coordination effectiveness, 44 items were formulated and distributed on three themes. A graduated scale consisting of 4 levels (agree to a large degree, agree to a moderate degree, agree to a small degree, and disagree) was developed and four weights (1, 2, 3, and 4) were given to it, thus the scale ranged between 44 and 176 degrees. The frequencies, percentages, the weighted mean, and the weighted percentile were calculated for each item of the scale, and they were arranged in descending order according to the degree of their importance to the respondents. Each theme of improving the effectiveness of coordination between the Guidance Department and research centers will be presented, tabulated, and analyzed as follows:

Simplifying the organization of coordination between the Guidance Department and research centers

For the purpose of simplifying the coordination organization, 14 items were formulated according to a four-tiered graduated scale (agree to a large degree, agree to a moderate degree, agree to a small degree, and disagree) was developed and four weights (1, 2, 3, and 4) were given to it, thus the scale ranged between 14 and 56 degrees. The frequencies, percentages, the weighted mean, and the weighted percentile were calculated for each item of the scale, and they were arranged in descending order according to the degree of their importance to the respondents.

Communication means and information technology

For the purpose of measuring the communication means and information technology, 18 items were formulated according to a four-tiered graduated scale consisting of four levels (agree to a large extent, agree at a moderate degree, agree to a small degree, disagree), and the four weights (1, 2, 3, and 4) were given to it. Thus, the scale ranged between 72 and 18 degrees. The frequencies, percentages, weighted mean, and weighted percentage were calculated for each item of the scale, and they were arranged in descending order according to their degree of importance to the respondents.

Financial and technical support

For the purpose of measuring the financial and technical support, 9 items were formulated according to a four-tiered graduated scale consisting of four levels (agree to a large extent, agree at a moderate degree, agree to a small degree, disagree), and the four weights (1, 2, 3, and 4) were given to it. Thus, the scale ranged between 9 and 36 degrees. The frequencies, percentages, weighted mean, and weighted percentage were calculated for each item of the scale, and they were arranged in descending order according to their degree of importance to the respondents.

Results Discussion

Simplify the organization of coordination

Research results showed that the respondents paid attention to this theme according to their answers to the items laid out to simplify the organization of coordination, which numbered 14 items, obtaining weighted means lie between 3.37 and 3.60 degrees, a percentage weight lies between 84.25 and 90%, and grand average of 3.48 degrees, as shown in the table below:

Table 4
Weighted means and percentage weights for items to simplify the organization of coordination between the Guidance Department and the research centers

Sequence according to questionnaire	Sequence according to importance	Items	Scale	Frequency	percentage	Weighted mean	Weight percentile
12	1	There should be a coordinator responsible for the coordination process between individuals, units and departments in each of the Guidance Department and research centers	agree to a large degree	109	68.1	3.60	90
			agree to a moderate degree	41	25.6		
			degree to a small degree	7	4.4		
			disagree	3	1.9		
8	2	Coordination leads to the completion of work quickly, comfortably	agree to a large degree	107	66.9		89.50
			agree to a	43	26.9		

		and credibly	moderate degree				
			degree to a small degree	6	3.8	3.58	
			disagree	4	2.5		
4	3.5	Specific instructions are directed between the senior departments of the Guidance Department and research centers on general policies for coordinating and clarifying the objectives	agree to a large degree	98	61.3	3.53	88.25
			agree to a moderate degree	50	31.3		
			degree to a small degree	10	6.3		
			disagree	2	1.3		
13	3.5	Coordination should be based on cooperation and flexibility between coordination representatives in the Guidance Department and research centers	agree to a large degree	102	63.8	3.53	88.25
			agree to a moderate degree	44	27.5		
			degree to a small degree	10	6.3		
			disagree	4	2.5		
10	5	Coordinating actions should be sequenced, consequent, and accompanied by each other to achieve the goals of both the Guidance Department and the research centers	agree to a large degree	97	60.6	3.51	87.75
			agree to a moderate degree	49	30.6		
			degree to a small degree	12	7.5		
			disagree	2	1.3		
6	6.5	There should be integration in the	agree to a large degree	94	58.8		87.25

		coordinators' efforts in a consensual manner aimed at achieving the goals of the Guidance Department and the research centers	agree to a moderate degree	52	32.5	3.49	
			degree to a small degree	12	7.5		
			disagree	2	1.3		
7	6.5	Harmony and compatibility between the coordination activities carried out by the Guidance Department and the research centers	agree to a large degree	97	60.6	3.49	87.25
			agree to a moderate degree	49	30.6		
			degree to a small degree	9	5.6		
			disagree	5	3.1		
3	8.5	That the coordination process be applied based on well-studied scientific basis and principles	agree to a large degree	93	58.1	3.46	86.50
			agree to a moderate degree	50	31.3		
			degree to a small degree	14	8.8		
			disagree	3	1.9		
9	8.5	Coordination should lead to achieving the goals with the least amount of time, effort and expenses	agree to a large degree	92	57.5	3.46	86.50
			agree to a moderate degree	53	33.1		
			degree to a small degree	11	6.9		
			disagree	4	2.5		
11	10	Coordination should act to avoid and avoid repetition and duplication of	agree to a large degree	96	60.0		86.25
			agree to a	45	28.1		

		coordinating activities	moderate degree				
			degree to a small degree	14	8.8	3.45	
			disagree	5	3.1		
5	11.5	There should be a clear determination of the tasks to be coordinated between the Guidance Department and the research centers	agree to a large degree	84	52.5	3.43	85.75
			agree to a moderate degree	64	40.0		
			degree to a small degree	9	5.6		
			disagree	3	1.9		
1	11.5	There should be an independent unit carrying out the coordination process within the structure of the Guidance Department and research centers	agree to a large degree	95	59.4	3.43	85.75
			agree to a moderate degree	44	27.5		
			degree to a small degree	16	10.0		
			disagree	5	3.1		
2	13	Constituting a committee to coordinate between the Guidance Department and research centers	agree to a large degree	85	53.1	3.38	84.50
			agree to a moderate degree	54	33.8		
			degree to a small degree	17	10.6		
			disagree	4	2.5		
14	14	Using the principle of decentralization to achieve coordination between the Guidance Department and research	agree to a large degree	90	56.3	3.37	84.25
			agree to a moderate degree	50	31.3		
			degree to a small	9	5.6		

		centers	degree				
			disagree	11	6.9		
	The theme as a whole				3.48	86.89	

The former table demonstrates that most of the respondents emphasized the item "that there should be a coordinator responsible for the coordination process between individuals, units and departments in each guidance department and research centers", which was confirmed by ranking first in terms of importance or the level of respondents' approval, achieving a weighted average of 3.60 degrees and percentage weight of 90%. The reason for this may be due to the coordinator carrying out many tasks and functional responsibilities, which often results in playing more than one role, as well as dealing with problems facing the coordination team. While the item "Using the principle of decentralization to achieve coordination between the Guidance Department and research centers" ranked last in terms of importance or the level of respondents' approval, as it achieved a weighted average of 3.37 degrees and a weight percentage of 84.25%. The reason for this may be because decentralization helps to make quick decisions, as well as providing of greater flexibility and freedom in the field of coordination work between the Guidance Department and research centers

Communication means and information technology

The research results showed that the respondents paid attention to this theme according to their answers to the items listed for the means of communication and information technology, which numbered 18 items, obtaining weighted averages located between 3.28 and 3.55 degrees and a percentage weight between 82 and 88.75%, With a grand average of 3.43, as shown in the following table:

Table 5
Weighted means and percentage weights for items of communication means and information technology

Sequence according to questionnaire	Sequence according to importance	Items	Scale	Frequency	percentage	Weighted mean	Weight percentile
12	1	Using information technology in implementing coordination plans between the Guidance Department and research centers	agree to a large degree	99	61.9	3.55	88.75
			agree to a moderate degree	52	32.5		
			degree to a small degree	7	4.4		
			disagree	2	1.3		
13	2	Information technology devices should	agree to a large degree	98	61.3		

		provide the velocity for the exchange of information between the Guidance Department and research centers	agree to a moderate degree	52	32.5	3.53	88.25
			degree to a small degree	7	4.4		
			disagree	3	1.9		
3	3	To coordinate holding periodic meetings between the extension department and research centers to identify the problems that the agricultural sector suffers from	agree to a large degree	92	57.5	3.51	87.75
			agree to a moderate degree	60	37.5		
			degree to a small degree	5	3.1		
			disagree	3	1.9		
9	4.5	Providing effective communication that ensures the success of coordination processes between the Guidance Department and research centers	agree to a large degree	88	55.0	3.49	87.25
			agree to a moderate degree	63	39.4		
			degree to a small degree	8	5.0		
			disagree	1	0.6		
8	4.5	Coordination should be done through modern technical devices that facilitate the transfer of ideas between the Guidance Department and research centers	agree to a large degree	97	60.6	3.49	87.25
			agree to a moderate degree	48	30.0		
			degree to a small degree	12	7.5		
			disagree	3	1.9		
15	6	Using	agree to	92	57.5		

		computer to obtain coordinates information between the Guidance Department and research centers	a large degree				
			agree to a moderate degree	52	32.5		
			degree to a small degree	15	9.4	3.47	86.75
			disagree	1	0.6		
10	7	Relying on information technology in the use of various coordination methods between the Guidance Department and research centers	agree to a large degree	87	54.4	3.45	86.25
			agree to a moderate degree	61	38.1		
			degree to a small degree	9	5.6		
			disagree	3	1.9		
4	8	The person in charge of the coordination process should communicate horizontally through the various communication channels between people, departments and coordination units in both the Guidance Department and research .centers	agree to a large degree	87	54.4	3.42	85.50
			agree to a moderate degree	56	35.0		
			degree to a small degree	14	8.8		
			disagree	3	1.9		
18	10	Information and concepts related to agricultural work should be provided on a regular basis to ensure the	agree to a large degree	86	53.8	3.41	85.25
			agree to a moderate degree	57	35.6		
			degree to	14	8.8		

		achievement of the coordination goals set by the Extension Department and research centers	a small degree				
			disagree	3	1.9		
6	10	There should be advisory bodies for decision-makers to use in research centers and the Guidance Department	agree to a large degree	87	54.4	3.41	85.25
			agree to a moderate degree	56	35.0		
			degree to a small degree	13	8.1		
			disagree	4	2.5		

The table above illustrates that most of the respondents emphasized the item "that information technology is used in the implementation of coordination plans between the Guidance Department and research centers" which was confirmed by its obtaining the first rank in terms of importance or the level of the respondent's approval. It achieved a weighted mean of 3.55 degrees and a weight percentile of 88.75%. The reason for this may be due to the respondents' lack of awareness of the nature of information technology, how to deal with it, the requirements for its success, and the prior preparations for its use in coordination work. The item "that coordination between the Guidance Department and research centers be done through the mobile phone" ranked last in terms of importance or the level of respondents' approval, as it achieved a weighted average of 3.28 degrees and a weight percentage of 82%. The reason for that may be due to the majority of respondents owning a mobile phone, as well as the increased opportunities for communication and consultation with research centers to provide them with the real agricultural problems that the rural community suffers from.

Financial and technical support

The research results showed that the respondents paid attention to this theme, according to their answers to the 9 items for financial and technical support, which obtained weighted averages between 2.94 and 3.59 degrees and a percentage weight between 73.50 and 89.75%, as shown in the following table:

Table 6
Weighted means and percentage weights for the items of the financial and technical support theme

Sequence according to questionnaire	Sequence according to importance	Items	Scale	Frequency	percentage	Weighted mean	Weight percentile
8	1	Reconciling the requirements and financial needs to carry out coordination activities between the Guidance Department and research centers	agree to a large degree	105	65.6	3.59	89.75
			agree to a moderate degree	47	29.4		
			degree to a small degree	5	3.1		
			disagree	3	1.9		
9	2	There should be a flow of funds to be approved in their various channels in a timely and sufficient manner to complete the coordination work	agree to a large degree	100	62.5	3.58	98.50
			agree to a moderate degree	55	34.4		
			degree to a small degree	3	1.9		
			disagree	2	1.3		
6	3.5	Studying the capital and the needs of the Guidance Department and research centers to continue the process of coordination between them effectively	agree to a large degree	99	61.9	3.54	88.50
			agree to a moderate degree	51	31.9		
			degree to a small degree	8	5		
			disagree	2	1.3		
7	3.5	Developing necessary plans to	agree to a large degree	101	63.1	3.54	

		provide financial liquidity for the needs of the Guidance Department and research centers	agree to a moderate degree	47	29.4		88.50
			degree to a small degree	10	6.3		
			disagree	2	1.3		
1	5	Providing the appropriate funding for the continuation of the coordination meetings between the Guidance Department and the research centers	agree to a large degree	98	61.3	3.51	87.75
			agree to a moderate degree	50	31.3		
			degree to a small degree	8	5		
			disagree	4	2.5		
5	6	Providing technical and human financial support and managing coordination effectively	agree to a large degree	90	56.3	3.48	87
			agree to a moderate degree	58	36.3		
			degree to a small degree	10	6.3		
			disagree	2	1.3		
2	7	Each of the Guidance Department should have clear policies to support the coordination meetings between them	agree to a large degree	88	55	3.46	86.50
			agree to a moderate degree	63	39.4		
			degree to a small degree	4	2.5		
			disagree	5	3.1		
3	8	Facilitate coordination between the Guidance	agree to a large degree	89	55.6	3.44	86
			agree to	56	35		

		Department and research centers by providing the necessary supplies to successfully conduct the process	a moderate degree				
			degree to a small degree	11	6.9		
			disagree	4	2.5		
4	9	Moral and material incentives are not provided for the coordination process between the Guidance Department and the research centers	agree to a large degree	64	40	2.94	73.50
			agree to a moderate degree	52	32.5		
			degree to a small degree	14	8.8		
			disagree	30	18.8		
	The theme as a whole					3.45	86.33

It is apparent from the table above that respondents emphasized the item "that the requirements and financial needs are reconciled to carry out the coordination activities between the Guidance Department and the research centers" which was confirmed by its obtaining the first rank in terms of importance or the level of the respondent's approval. It achieved a weighted mean of 3.59 degrees and a weight percentile of 89.75%. The reason for this may be due to the coordinator's need at times to purchase materials or use his equipment, in addition, to bearing the fees of drawing and copying, which may push him to reduce some coordination procedures for fear of increasing expenses. The item "Moral and material incentives are not provided for the coordination process between the Guidance Department and the research centers" came at the last rank in terms of importance or the level of respondents' approval, as it achieved a weighted average of 2.94 degrees and a weight percentage of 73.50%. The reason may be due to the provision of material and moral incentives to researchers and agricultural guidance workers in the field of technology transfer to farmers and publishing of agricultural research.

Conclusions

- The relationship between the guidance system and research centers is an important one. It is based on the jurisprudence, efficiency, and skill of the workers, as well as their efforts, and does not rely on scientific foundations, legal frameworks, or objective criteria for the coordination process between the two sides.

- It also showed that universities, as institutions of higher education, their main tasks include carrying out activities in the fields of scientific research and community service, and thus facing a great challenge in how to achieve the necessary amount of balance between performing their tasks in terms of that the research centers and agricultural guidance play a role in providing information about modern technologies to farmers, nevertheless, there are several problems during coordination between the two sides.
- Agricultural guidance represents an essential link in the development process for the transfer of agricultural research results to the target audience; however, the reality indicates the absence of effective links and coordination between the central and executive levels in both the guidance department and the research centers, indicating that the coordination process does not take place at the required level of its educational output for development inputs, as well as its contribution to the economic development and the research and development activities in the agricultural field.

Recommendation

- Work to strengthen the forms of links and coordination between the Guidance Department and research centers in a codified and fruitful manner that is not subject to the personal relationships of specific individuals, and that includes the implemented guidance programs.
- The necessity for careful selection of specialists in the various branches of agricultural sciences and training them for guidance so that they would be able to extrapolate, simplify and prepare research results for application with the help of the guidance system as they are more specialized.
- The necessity of having a guiding system prepared scientifically and capable in the scientific way to be a communication link between the target audiences and their problems on the one hand, and the scientific research systems on the other hand.
- Adopting evident coordination policies and procedures that fixedly define their channels for exchanging information within an evident mechanism to identify problems, find solutions, and spread them in an objective and agreed-on manner.

References

1. Abdel Maksoud, Bahgat Mohamed, 2017, A vision to modernize the agricultural guidance system in Egypt, Assiut Journal of Agricultural Sciences, Vol. 48.
2. Abdul Wahed, Mansour Ahmed Muhammad, 2019, the relationship between agricultural guidance institutions and research centers, a working paper presented to a workshop held at the University of Mosul - College of Agriculture and Forestry.
3. Abu Assaf, Hassan, 2018, The role of Jordanian television in promoting awareness of agricultural issues among farmers in Jordan, published Master's thesis, College of Media, Middle East University.
4. Al-Ansari, Adnan Ibrahim, Thamer Neamat Al-Janabi, and Jamal Muhammad Al-Otaibi, 2020, the reality of the relationship between

agricultural research and guidance organizations in Iraq, Journal of the Union of Arab Universities for Agricultural Sciences, Volume 28, issue 3.
5. Al-Atwani, Muhammad and Wahouh Hussein, 2017, a proposed mechanism for institutional coordination between agricultural guidance and agricultural research and service agencies operating in the holy province of Karbala, an unpublished master's thesis, College of Agricultural Engineering Sciences, University of Baghdad.
6. Al-Mutairi, Sultan bin Muhammad, 2011. Coordination between the security systems in the seaports in Al-Madinah Al-Munawwarah region, and its role in achieving security goals, unpublished master's thesis, Arabian Naif University for Security Sciences, Riyadh.
7. Al-Rimawi, Ahmed Shukri, Faisal Al-Baraka, and Ashraf Hawamdeh, 2012, Promoting Links between Scientific Research and Agricultural Guidance, published research, College of Agriculture, University of Jordan.
8. Alyan, Ribhi Mustafa, 2010, Administrative Operations, 1st edition, Dar Al-Safa Publishing and Distribution, Amman, Jordan 58.
9. Club, Orabi Muhammad, 2011, Personal and Administrative Skills for Police Officers, 1st Floor, Dar Al-Arqam Library and Press, Gaza.
10. Food and Agriculture Organization of the United Nations, 2005, Modernization of National Agricultural Guidance Systems, Scientific Guide for Policy Development, Research, Guidance and Training Department, Sustainable Development Department.
11. Ghadban, Fouad bin Ghadban, 2015, Sociology of Development, 1st Edition, Dar Al-Radwan for Publishing and Distribution, Amman.
12. Hassan, Ibrahim Aboul Fotouh, Sobhi Abdel Fattah Mustafa, and Ahmed Ismail Raslan, 2016, Mechanisms of linking between agricultural guidance and agricultural research in North Sinai, Agricultural Sciences Annals Journal, Volume 54, issue 4.
13. Mahmoud, Khaled Walid, 2013, The Role of Research Centers in the Arab World: The Current Reality and Conditions for Transition to Greater Effectiveness, Arab Center for Research and Policy Studies, Qatar.
14. Rihan and others, Ibrahim Ibrahim, 2001, Rural Development, College of Agriculture, Ain Shams University.
15. Rivera, Qamar, Muadmir, 2005, Enhancing Coordination between actives in Agricultural Knowledge and Information Systems/Rural Development, Analytical and Comparative Review of Case Studies of Agricultural Knowledge and Information Systems for Rural Development, Rome
16. Saqr, Ibrahim Hamdan, Muhammad Jaber Abdullah, and Salam Fakhruddin Ibrahim, 2017, the relationship between agricultural and supportive guidance units and scientific research centers in the governorates of Latakia, Tartous (Syria), Arab Journal of Arid Environments, issue. 10.
17. Sayfullaevich, P. S. (2021). Clinical and pathogenetic approaches to early rehabilitation of ischaemic stroke patients. International Journal of Health & Medical Sciences, 4(4), 373-380. https://doi.org/10.21744/ijhms.v4n4.1788
18. Widana, I.K., Sumetri, N.W., Sutapa, I.K., Suryasa, W. (2021). Anthropometric measures for better cardiovascular and musculoskeletal health. *Computer Applications in Engineering Education*, *29*(3), 550–561. https://doi.org/10.1002/cae.22202