

## PROBLEMS THAT IMPEDE THE COORDINATION PROCESS BETWEEN AGRICULTURAL RESEARCH ORGANIZATION AND THE AGRICULTURAL EXTENSION ORGANIZATION AND WAYS OF SOLVES IT

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### SUMMARY

The research aimed to identify the problems and determinants that hinder the achievement of the coordination process between the agricultural research and extension organizations through the following axes (problems related to the coordination strategy, problems related to organization, problems related to mechanisms and procedures for coordination work, problems related to the ability and skills of researchers and extension workers, problems related to the financial and material allocations). Was selected sample of (122) researchers and agricultural extension (50%) of the research community of (244) researchers and agricultural extension workers from the two organizations. A questionnaire was prepared for collecting study data, the axis included five areas representing Problems and limitations that impede the coordination process between the agricultural research and extension organizations (44) paragraphs. Those paragraphs were placed under a three-tiered scale to show the opinions of the respondents working in the two organizations about the extent of the problems and obstacles identified for the coordination process between the two organizations. and After the process of collecting and unloading data, it was analyzed using the statistical program SPSS The study concluded that some significant problems and limitations impede the process of coordination, integration. And that the strategy of work in the two organizations towards coordination is interspersed with many problems and determinants, these determinants centered on the absence of regulations, legislation, and laws that regulate the coordination process between the two organizations and the scarcity and weakness of communication channels between both researchers and agricultural extension agents and The two organizations are related to the organization, represented by the weak horizontal and vertical relations between the agricultural research and extension organizations.

**Keywords:** coordination process, agricultural research, extension organizations.

### INTRODUCTION

The agricultural sector is one of the strategic sectors in most developing countries, as (20-80%) of the population of these countries live in rural areas, and a high percentage of them practice

agricultural activity. Scientific methods in agricultural work and the shift from traditional production methods to new technical methods based on science and experience (Compbell, 1997). It is indisputable that agricultural development is a process characterized by continuity and development, and it consists of a set of structural updates that target the community, and are achieved through inventorying the human and material resources and capabilities and optimally using them to improve and improve the living conditions of farmers (Abu Assaf, 2018). Agricultural development in many countries does the world on linking sources of scientific knowledge, innovative ideas, and field application sites. He called on many countries to increase their acquisitions in scientific research and establish agriculture research stations and link them to different production sites (Abdul Wahed, 2019). To achieve this, it gives priority and importance to the participation of a wide range of diverse scientific disciplines over the share of different scientific disciplines in setting goals and implementing development programs, whether at the local level or the country level (Abdul Maqsood, 2017). Many countries are seeking at present to achieve interdependence between scientific research centers and agricultural extension agencies to apply the outputs of scientific research in the field in the fields of farmers and achieve agricultural development goals (Al-Ansari, 2020). This, in turn, encouraged many developing countries to increase interest in scientific research through the establishment of research centers and organizations aimed at developing and developing applied scientific research activities and building training and education centers to keep pace with the agricultural renaissance taking place in the developed world (Abdul Wahed, 2019). It is worth mentioning that agricultural scientific research is the main source of innovations and agricultural technologies necessary to achieve agricultural development, as it represents the main means of producing updated agricultural information and finding solutions to the problems facing the target farmers. It is not considered effective if it does not depend on scientific Research Outcomes (Al-Awsi, 2011). (Sabih, 2022) indicates that the effectiveness of research centers today is one of the indicators of advanced agricultural development in the modern era. Everything related to these projects is based on a scientific approach that links the theoretical and applied aspects. On this basis, the scientific research centers represent one of the important tributaries of the agricultural sector through the diagnosis and treatment of problems (Hassan, et al., 2016). To achieve the desired agricultural renaissance, simply relying on agricultural research centers alone is not enough. It is necessary to have an effective, strong, and responsive extension organization with the rural community for the outputs of scientific research to find their way to the targeted farmers to benefit from them in the field of agricultural work, as well as to draw the attention of scientific researchers, Agricultural farmers, to diagnose and find scientific solutions to the problems faced by farmers in the rural community (Al-Ansari, 2019). To achieve agricultural development, Scientific research outputs must be developed into practice in the field and with the participation of the targeted farmers. That organization, which is considered the best entry point for the development of the agricultural sector, due to its credibility and legitimacy, was formed as a result of training and qualification processes and experiences gained as a result of direct contact with farmers for long periods (Hassan, 2016). It should be noted that agricultural scientific research centers and agricultural

extension agencies have recreated a central role in addressing the problems of rural society and providing agricultural information to (Peterson, et al., 2002), and thus the process of devising and developing modern agricultural technologies and adopting them by productive farmers constitutes an essential element in any strategy or development program to combat poverty and enhance food security (Al-Mutairi, 2011), and this calls for work to create Strong links between scientific research and agricultural extension bodies (Gould and Ham, 2002). In order for agricultural extension to play its role, there must be a close relationship and full and continuous cooperation between it and the scientific research bodies. Trapped in drawers without application (Al-Taie, 2019). Accordingly, agricultural extension as an organization grows and develops as the movement of agricultural scientific research grows and develops, and the more the agricultural research bodies are interconnected and cohesive with agricultural extension at its various levels (Hassan, 2019). The relationship between agricultural research and extension organizations is a reciprocal and complementary relationship that increases the effectiveness of the other (Peterson et al, 2002).

(Fred, 2011) states that the relationship and interdependence between agricultural research and extension organizations are important in achieving the following:

- 1- Coordinating the various efforts in the field of scientific research to achieve the best results.
- 2- Avoiding repetition of research between research organizations and wasting researchers' effort and financial resources.
- 3- Coordinating the use of available material and financial resources.
- 4- Transferring information between research groups, which depend on each other.

As (Riviera, 2005) mentions that there are existing links between agricultural extension within the farm, market, and research centers chain, each of them has separate tasks to achieve their goals in different ways, and they also have overlapping tasks and functions, the ability of scientific research to devise modern methods to produce modern agricultural technologies that meet The needs of farmers and addressing the problems that the target audience suffers from is a criterion for the success of scientific research, while the dissemination of modern agricultural technologies among farmers and persuading them to apply and adopt them is a criterion for the success of the agricultural extension (Hassan, et al., 2016). On this basis, scientific research and agricultural extension are two basic pillars for facing and developing agricultural challenges, achieving an agricultural renaissance, and satisfying the needs of farmers(Al-Ansari, 2020).

And to unify the various efforts to achieve the best use of financial and material resources and transfer information among workers in the field of coordination work to achieve the goals with less effort, less time, and fewer expenses (Club, 2011).

Order to understand the concept of the coordination process, it represents one of the successful processes that senior management relies on organizations and institutions to achieve their goals and reach advanced levels of success, as the coordination process requires concerted efforts and continuous work among all responsible individuals in the senior management (Khairat, 2022).

Coordination is “the harmonious and orderly arrangement of human efforts to maintain their unification towards achieving the common goals of the organization, as well as providing a close and damaged link between its technical and financial capabilities in time and place so that a permanent balance is achieved between them in the light of the established plans” (Al-Turki, 2020). (Ghazi, 2005) believes that coordination is “a process of achieving harmony, cooperation, and integration between all the activities undertaken and the decisions taken by the workers in the different units to facilitate the activity and achieve the planned goals.”

And coordination from the point of view of (Al-Serafy, 2007) works to achieve homogeneity and prevent duplication between research centers and extension organizations and improve the effectiveness of extension activities, and makes workers work towards achieving common goals

According to (Farid, 2011) that coordination refers to “the achievement of collective action, unity of work and disposition towards a specific, agreed goal”.

Based on the foregoing, the researchers see that coordination is the unification, integration, cooperation, and synchronization of the efforts of the workers in the Guidance Department and research centers to achieve the common goals between them, and thus aims to spread harmony, joint work and raise morale among the work team.

(Alayan, 2014) mentions that coordination at present is the core of the administrative function, so its importance emerges in achieving the following:

- 1- Prevent conflicts in work and competencies and avoid conflicts of interest between managerial units.
- 2- It works on the smooth flow of work perfectly.
- 3- Not to be extravagant in financial expenses and shorten the time and effort expended.
- 4- Coordination accelerates the achievement of the organization's goals with a degree of efficiency and effectiveness.
- 5- It works to prevent duplication of coordination activities to achieve the objectives sought by the organization.
- 6- Reducing competition to obtain practical coordination needs from human and material resources.

Several evaluation studies conducted in some developing countries have indicated the weak impact of agricultural research and extension organizations and their limited ability to expand and disseminate agricultural technologies among the majority of farmers (Al-Awsi, 2011). (Al-Rimawi, 2021) indicates that despite the importance of the links between scientific research institutions and agricultural extension, there is a weakness or absence of institutional cooperation and coordination, which represents the dominant feature in knowledge systems, especially in developing countries. (Belaid, 2003) describes that weak links between research and extension, local agricultural communities, and policymakers are prevalent in West Asia and North Africa.

A report by (FAO, 2001) stated that there is still a wide gap between what researchers achieve at the level of research stations and experiments and the production rates achieved by farmers in their fields, and (Al-Rimawi, 2012) add that many of the problems of linking the main institutions in agricultural knowledge systems It is due to poor communication, lack of planning, coordination

and lack of follow-up to implementation. (Abdul-Maqsoud, 2017) states that the relationship between agricultural extension and research centers is characterized by periods that vary between strength and weakness during the past fifty years, and there was no official link except for a short period. The study (Al-Hamdany et al., 2021) concluded that the level of efficiency of the management of the Agricultural Extension Organization in Iraq was average and tended to be weak, as well as the weakness of its coordinating and complementary relationship with other agricultural departments such as the Agricultural Research Department, also the need to develop laws and regulations governing extension work and its coordination relationship with Other agricultural departments follow written and official documents to facilitate the implementation of agricultural extension activities. And the extension systems in most Arab countries suffer from many defects, including the lack of a relationship between agricultural extension and the most important scientific research centers outside the Ministry of Agriculture, as agricultural colleges in universities, and the lack of strong and effective organizations for farmers linked to this organization, as well as the lack of extension organization to the village level, as well. The results of the research centers remain academic and have not been applied by the target audience (Proietti, Tudini, 2013).

At the level of reality in Iraq, the relationship between the two agricultural research and extension agencies was characterized by periods of the discrepancy between strength and weakness during the past five decades, and the extension was not officially linked to the research apparatus administratively except during a short period and then canceled that link and the independence of the agricultural extension did not provide it with strength The position is at the same level as that of the Agricultural Research Authority because of the higher position of the Agricultural Research Department in the career ladder (Sadad, 1997). He stated (Hassan, 2019), In the following years the events of 2003 and its accompanying fundamental changes in the Iraqi Ministry of Agriculture, important wings of agricultural scientific research were canceled, such as the APA Center for Agricultural Research and the Atomic Energy Organization. The relationship between them generated many problems and reflected the progress of the development process in Iraq.

Despite the plurality of studies conducted in the field of identifying and revealing the relationship and the extent of coordination between agricultural research centers and agricultural extension, the extent of communication, the nature of coordination, its forms, and the obstacles facing workers in the field of coordination between the extension department and research centers were not monitored.

Accordingly, the study came to stand and shed light on the problems and obstacles of coordination work between agricultural research organizations and agricultural extension in Iraq and ways to address them.

### **Objectives**

The first Objective: Identifying the problems that hinder the coordination process between agricultural research and extension organizations generally.

The second Objective: Identifying the problems that hinder the coordination process between the agricultural research and extension organizations according to the studied axes:

- 1-Problems related to the coordination work strategy.
- 2-Problems related to the organization.
- 3-Problems related to the mechanisms and procedures of coordination work between the two organizations.
- 4- Problems related to the abilities and skills of the personnel assigned to the coordination work.
- 5- Problems related to resources and financial and material allocations.

The third Objective: identify the importance of each of the five areas previously mentioned for the problems that hinder the coordination process between the research and extension organizations.

### **Research importance**

- 1- The importance of research lies in improving the coordination process between agricultural research and extension based on scientific and practical foundations and procedures.
- 2-This research helps to provide information and realistic data on the reality of coordination between agricultural research and agricultural extension centers.
- 3- This research provides a realistic database that can be used by researchers in conducting many future studies in the field of coordination work.

### **Research hypotheses**

- 1- Some problems hinder the coordination process between agricultural research and extension organizations.
- 2- There are solutions to the problems that hinder the coordination process between agricultural research and extension organizations.

## **MATERIALS AND METHODS**

### **Research Methodology**

To achieve the objectives of the research, the descriptive approach was used, which is concerned with accurately describing the phenomenon, which is based on revealing and interpreting the relationships between the variables that are related to the phenomenon and predicting them by obtaining realistic and accurate data in the light of which results are given (Al-Mahmoudi, 2019).

### **Searching area**

The research was conducted in the province of Baghdad, and the reason for choosing Baghdad as a study area is to focus most of the researchers and extension workers in the field of agricultural work, the Agricultural Research Department, and the Agricultural Extension and Training Department.

### **Research community**

The research community included all agricultural researchers in the Agricultural Research Department, who numbered (126) researchers, and the research also included all agricultural extension workers working in the Department of Agricultural Extension and Training and the

Training Center in Baghdad, who numbered (118) agricultural extension workers, and thus the total research community reached (244) researchers. And agricultural guide.

### **The research sample**

A simple random sample was taken (50%) was taken from the research community, and the sample of the researchers amounted to (63) researchers, the sample of agricultural extension agents (59) to the agricultural extension workers so that the sample of the study was (122) respondents.

### **Research outline development**

A preliminary outline was prepared for the fields and paragraphs of the research distributed among its objectives in its initial form by reviewing the literature, articles, and studies related to the subject of the study, as well as seeking the opinions of experts and specialists in research centers and the Agricultural Extension Department, conducting field visits and conducting personal interviews.

included (44) paragraphs representing problems that impede the process of coordination between agricultural research and extension organizations. It is divided into five (5) areas and paragraphs:

- 1-Problems related to the coordination work strategy (12) paragraphs.
- 2- Problems related to organization (8) paragraph.
- 3- Problems related to the mechanisms and procedures of coordination work between the two organizations (11) paragraphs.
- 4- Problems related to the abilities and skills of individuals assigned to coordinate work (8) paragraphs.
- 5-Problems related to resources and financial and material allocations (5) paragraph.

The scheme was presented in its initial form to a group of experts specialized in the field of agricultural research and agricultural extension, through a questionnaire that included the axes and paragraphs of the study, to achieve the apparent sincerity and the validity of the content. It consists of three statements (agree, agree with the amendment, disagree) and a numerical value was determined for each statement (1, 2, 3), and by calculating the averages of the experts' approval ratings, all fields and items obtained an approval rate that ranged from (85% - 94%).

A questionnaire was ready for collecting study data if it and their fields and paragraphs that were mentioned previously, included (44) paragraphs, and a three-tiered scale was developed to show the opinions of the respondents working in the Agricultural Research and Extension Organization consisting of the following phrases (I do not agree, agree to some extent, yes agree) and the weights were given (1, 2, 3) degrees respectively, and thus the degree of determined between (44-132) degrees.

A preliminary questionnaire test was conducted on a random sample of (20) respondents with (10) individuals from each organization outside the study sample, to ensure the stability of the form. Person's equation, then the stability coefficient was calculated using the Spearman-Brown equation to correct it, as the value of the stability coefficient reached (0.89) degrees.

After confirming the apparent validity, content validity, and stability of the questionnaire, data were collected from the research sample of 122 respondents from agricultural researchers working

in the Agricultural Research Department, and agricultural extension workers working in the Agricultural Extension and Training Department and training centers in Baghdad governorate, during April 2022 And using the SPSS statistical analysis program for processing and tabulating the data and displaying the results in the final form. The statistical methods were such: (categories, percentages, weight, frequencies, Pearson's correlation law, and the Spearman-Brown equation).

## RESULTS AND DISCUSSION

The first Objective: Identifying the problems that hinder the coordination process between agricultural research and extension organizations generally.

The degrees of the respondents, and the problems that hinder the coordination process between the two agricultural research and extension organizations, ranged between (92-132) degrees, with an average of (112,64) degrees, and a standard deviation of (3.2) degrees. The data shown in Table (1), That (94%) of the respondents see the existence of problems and obstacles that hinder the progress of the coordination process between the agricultural research and extension organizations, and perhaps the most important reasons for these problems are due to the fluctuating and unstable relationship between the two agricultural research and extension organizations for decades.

**The second Objective:** Identifying the problems that hinder the coordination process between the agricultural research and extension organizations according to the studied axes:

### **1- Problems related to the coordination work strategy:**

The results indicate that the respondents' scores on the problems related to the coordination work strategy between the two organizations ranged between (27-36) degrees, with an average of (30.6) degrees, and the data contained in Table No. (2) show that the respondents' scores were slightly different Both researchers and agricultural extension agents believe that some problems and limitations impede the coordination of work strategy. At the forefront of these determinants comes the absence of regulations, legislation, and laws that regulate the coordination process between the two organizations, with the scarcity and weakness of communication channels between researchers and agricultural extension agents, as well as the absence or lack of common goals. which are intended to be coordinated, and the lack of work curricula and programs shared by the two organizations to coordinate the work between them, However, a high percentage of respondents see that there is no convergence between the goals of the research organization with the organization's goals of the agricultural extension organization.

While some of the paragraphs related to the coordination work strategy came at the end of the ranking scale according to the respondents' scores, such as the absence of the will to suggest an appropriate approach and method to activate the coordination process between the two organizations, with the different work patterns in the agricultural research and extension organizations and their heterogeneity, and it is clear that the workers in both organizations are aware of the reality of the process. Coordination is the core problem related to business strategy.

### **2-Problems related to the organization:**

The degrees of the respondents on the problems related to organization reached between (18-24) degrees, with an average of (21.8) degrees, and through the data contained in Table No. (3), which reflects the degrees of researchers and agricultural extension on the extent of problems related to the organizational structure of the two research departments, And agricultural extension, showing the average scores of the respondents, some determinants hinder the coordination process related to the organization. Guidance in the research body is officially administrative, except during a very short period, and then that link was canceled.

The introduction to these determinants from: 1- Weak horizontal and vertical relations between two organizations, 2- Absence of legislation regulating the coordination process between them, 3- Individual conflicts within each organization, 4- Lack of heterogeneity of tasks and functions due to the degree of complexity in work within them, as the value of the percentage weight reached For those paragraphs (93.3%), (93%), (91.3%), (90.3%) a degree in order, while the respondents give less importance to the problem of the large size of two organizations, their complexity and the diversity of their goals, and the increase in the number of joint parties coordination process, whose interests vary.

### **3-Problems related to the mechanisms and procedures of coordination work between the two organizations:**

The scores of the respondents ranged between (27-33) degrees, with an average of (28.2 degrees), as the data in Table (4) showed. The respondents agreed to a large extent about the problems and determinants related to the mechanisms and procedures of coordination work between the two organizations, as the order of the paragraph was according to the importance of the respondents: 1- They see that the absence of planning for joint work programs between the agricultural research and extension organizations, 2- and that both organizations seek to achieve their goals in isolation Regarding the second, 3- There is no exchange of information between the two organizations about the programs, goals, and outputs of each of them, 4- The communication channels are weak and insufficient to coordinate work between the two organizations, 5- The two organizations are weak in deepening and consolidating cooperation and teamwork, as the average The relative weight of those paragraphs is (95.3), (94.6), (94.3), (93.3) and (92.3) degrees, in order, , While the order of the paragraph was according to the importance of the respondents: 1- The problem that most members of the two organizations believe that the problems between them will worsen if joint work takes place between them, 2- There are no fixed and approved rules within the two organizations to conduct coordination between them, with an average relative weight of (77.6), (87.6) a degree of less importance, so, naturally, the mechanisms and procedures for coordination work between the two organizations permeate many obstacles and limitations due to the weak relationship between them on the one hand and the indifference of the senior administrative leaders to the consequences resulting from neglecting cooperation, coordination, and integration between those two organizations that have a great impact on agricultural development.

### **4- Problems related to the abilities and skills of the personnel assigned to the coordination work.**

The respondents' scores for problems related to the abilities and skills of the individuals assigned to the coordinating world ranged between (16 - 24) degrees, with an average of (19,8) degrees, as shown in Table (5). Training coordination of operation and qualification of specialists Coordination of training programs to develop coordination skills due to the lack of experience of administrative leaders and their poor awareness of work concepts. The formats first, as the average weight of the paragraphs reached (89,3), (88,6), (84,6), (82,3) degrees according to the order, Whereas the paragraph on the belief of both researchers and agricultural extension workers that the coordination work does not require special expertise and skills came at the end of the order of problems, with an average percentage weight of (62.6) degrees. The absence of training programs to develop the skills of individuals and the weakness of the capabilities, information, and skills of workers in the coordination field in the agricultural research and extension organizations are the result of the absence of the principle of coordination and cooperation between these two organizations and its failure to adopt it within the work strategy.

### **5-Problems related to resources and financial and material allocations.**

The respondents' degrees in problems related to financial and material resources and allocations ranged between (12-15) degrees, with an average of (14,3), Table (6), the absence and scarcity of the financial allocations necessary for the preparation and implementation of coordination activities between the two organizations, and the scarcity of providing the material supplies necessary to perform the coordination work such as means of transport, furniture, office equipment, and buildings, and the lack of an annual financial budget allocation by the higher administrations to sustain the coordination work, and the absence of Or the lack of financial incentives offered to those charged with coordinating work between the two organizations, It had a significant impact on impeding coordination between the agricultural research and extension organizations. The neglect of the coordination process for activities and tasks that would achieve agricultural development by the Agricultural Research and Extension Organizations for long periods gave a justification for the higher administrations to neglect this aspect and not allocate appropriate financial budgets to cover its expenses.

**The third Objective:** identify the importance of each of the five areas previously mentioned for the problems that hinder the coordination process between the research and extension organizations.

the results showed, through the data contained in Table (7), according to the respondents' scores that the problems related to resources and financial and material allocations were first, With a percentage weight of (93.6%), and the problems related to the mechanisms and procedures of coordination work came second, as the percentage weight was (90%), while the problems related to the abilities and skills of the individuals assigned to the coordination process came third. One of the priorities of work in any organization is to allocate financial budgets as well as to provide the material supplies necessary to complete the tasks, without which it is impossible to plan and implement any activity, no matter its size.

## CONCLUSIONS

The strategy of work in the two organizations towards coordination is interspersed with many problems and determinants, these determinants centered on the absence of regulations, legislation, and laws that regulate the coordination process between the two organizations and the presence of a lack and weakness in the channels of communication between both researchers and agricultural extension agents, in addition to the absence or lack of common goals that It is intended to be coordinated, and the lack of curricula and work programs shared by the two organizations to coordinate the work between them, The mechanisms and procedures for the coordination work followed in the two organizations face many problems, including the absence of planning for joint work programs between the agricultural research and extension organizations, and that both organizations seek to achieve their goals in isolation from the second, and that there is no exchange of information between the two organizations on the programs, goals, and outputs of each of them, and that there is a weakness in Channels of communication and their insufficiency in coordinating work between the two organizations and the weakness of the two organizations in deepening and consolidating cooperation and teamwork.

## RECOMMENDATIONS

The work policies of the two organizations should be based on strengthening the bonds of joint work, while enacting regulations, laws, and legislation that regulate the process of coordination between research and agricultural extension, with the necessity of the existence of independent permanent and temporary committees to coordinate the work between the two organizations, and that the policy of coordination work between the two organizations is based on Meeting the needs of the agricultural sector, as well as the need to develop the knowledge of researchers and agricultural extension workers because the development of the agricultural sector falls on their shoulders, The necessity of working to provide financial and moral support to ensure the continuation of the coordination activities, and is achieved by allocating an annual financial budget sufficient to cover the coordination activities between the two organizations, and adopting the principle of granting material and moral incentives to those charged with coordinating work and providing all necessary supplies such as buildings, office and laboratory equipment and means of transportation. As well as allocating an appropriate financial reward for individuals assigned to additional tasks and jobs.

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Table 1.Categories, numbers, percentages, and average scores of the respondents according to the problems that hinder the coordination process between the two organizations.

Categories	Number	Percentage	Average score of respondents
Low (92 - 104) degrees	8	0.06	97.26
Medium (105 - 117) degrees	29	0.24	111.42
High (118 degrees or more)	85	0.70	126.51
the total	122	100%	111.73

Table (2): Respondents' scores on problems related to the coordination strategy between the Agricultural Research and Extension Organizations.

S	paragraph	Average	weight percentile rank	paragraph in order of importance
1	The different patterns of work in the agricultural research and extension organizations and their heterogeneity.	2.17	72.3	11
2	Poor awareness of researchers and agricultural extension workers of the objectives and importance of coordinating work between them.	2.22	74	10
3	Absence of a shared vision by researchers and agricultural extension agents of the importance and advantages of the coordination process.	2.36	78.6	9
4	Lack of will to suggest an appropriate approach and method for organizing the coordination process between research and agricultural extension.	2.00	66.6	12
5	Weak communication channels between researchers and agricultural extension agents to unify ideas and find solutions to coordination problems.	2.78	92.6	2
6	There is no appropriate environment for the exchange of coordination information between agricultural research and extension.	2.44	81.3	8
7	The lack of work methods and joint programs for coordination between agricultural research and extension agencies.	2.71	90.3	4
8	Lack of will to draw up a clear policy for coordination between agricultural research and extension	2.52	84.0	7
9	Absence of regulations, laws and legislation regulating the coordination process between agricultural research and extension	2.84	94.6	1
10	The scarcity of common goals between agricultural research and extension organizations in the field of coordination.	2.72	90.6	3
11	Weakness of consolidating and popularizing the concepts of coordination among workers in the	2.59	86.3	6

	agricultural research and extension organizations.			
12	Failure to meet the objectives of the research organization with the extension organization	2.69	89.6	5

Table (3). Paragraphs, averages, relative weight, and arrangement of paragraphs according to importance to problems related to the organization.

S	paragraph	Average	weight percentile rank	paragraph in order of importance
1	The difference in leadership curricula for organizations that participate in coordination programs.	2.63	87.6	6
2	Increasing the number of parties involved in the coordination process, whose interests and principles differ.	2.54	84.6	7
3	The absence of legislation within the agricultural research and extension organizations that regulates the coordination process between them.	2.79	93.0	2
4	The large size and complexity of the agricultural research and extension organizations, and the diversity of their objectives.	2.12	70.6	8
5	Weak horizontal and vertical relations between the agricultural research and extension organizations.	2.80	93.3	1
6	Conflict and dissonance between the departments of agricultural research and extension.	2.66	88.6	5
7	Heterogeneity of tasks and functions within the two organizations due to the degree of complexity in the work.	2.71	90.3	4
8	Individual conflicts within each organization and the search for interests and gains.	2.74	91.3	3

Table (4). Paragraphs, averages, relative weight, and arrangement of the paragraphs according to importance to problems related to mechanisms and procedures for coordination work between the two organizations.

S	paragraph	Average	weight percentile rank	paragraph in order of importance
1	Absence of planning for joint work programs between the agricultural research and extension organizations	2.86	95.3	1
2	Weakness in understanding the integration in the preparation of work goals and projects between the agricultural research and extension organizations	2.73	91.0	6
3	The weakness of the two organizations in deepening and consolidating cooperation and teamwork	2.77	92.3	5
4	There is no exchange of information between the two organizations about their respective programmers, objectives and outputs	2.83	94.3	3
5	Weak and insufficient communication channels to coordinate work between the two organizations	2.80	93.3	4
6	Both the Agricultural Research and Agricultural Extension Organizations seek to achieve their goals independently of the other	2.84	94.6	2
7	Lack of clarity of the lines of communication between the agricultural research and extension organizations	2.72	90.6	7
8	The absence of joint work mechanisms between the two organizations that translate the problems faced by farmers and formulate them in the form of scientific solutions	2.68	89.3	8
9	The belief of most of the members of the two organizations that the problems between them will worsen if joint work takes place between them	2.33	77.6	11
10	There are no established and approved rules within the two organizations to conduct coordination between them	2.63	87.6	10

11	Lack of knowledge of the members of both organizations of the goals, functions and outputs of the other organization	2.70	90.0	9
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Table (5). The degrees of the two researchers The degrees of the respondents for the problems related to the abilities and skills of the individuals assigned to coordinate work between the two organizations.

S	paragraph	Average	weight percentile rank	paragraph in order of importance
1	The belief of both researchers and agricultural extension workers that coordination work does not require special expertise and skills.	1,88	62,6	8
2	Lack of competencies with high experience in the preparation of coordination activities between the two organizations.	2,29	76,3	6
3	Weak experience and skills in managing activities by workers in the agricultural research and extension organizations.	2,17	72,3	7
4	Weak experiences of administrative leaders and their lack of awareness of what coordination is work.	2,47	82,3	4
5	Lack of continuous training and qualification for workers in the field of performing coordination tasks.	2,68	89,3	1
6	The lack of experience of administrative leaders and their poor awareness of the concepts of coordination work.	2,54	84,6	3
7	Weak experiences of the workers in the two organizations in modern methods and equipment to carry out coordination tasks.	2,43	81	5
8	The shortage of specialists in preparing training programs to develop the capabilities of workers in the field of coordination.	2,66	88,6	2

Table (6) The degrees of the two researchers for problems related to resources and financial and material allocations.

S	paragraph	Average	weight percentile rank	paragraph in order of importance
1	Absence and scarcity of financial allocations for the preparation and implementation of coordination activities between the two organizations	2,88	96	1
2	Absence or lack of financial incentives provided to those charged with coordinating work between the two organizations	2,79	93	4
3	The scarcity of the material supplies needed to perform the coordination work, such as means of transportation, furniture, office equipment and buildings	2,83	94,3	2
4	Failure to allocate an annual financial budget by higher administrations to maintain the continuation of coordination work	2,80	93,3	3
5	Not granting financial and moral privileges to individuals entrusted with additional tasks and roles	2,75	91,6	5

Table (7). The weighted mean and percentage weight of the respondents in the importance of each field within the focus of the problems that hinder the coordination process between the agricultural research and extension organizations.

S	fields	arithmetic mean	weight percentile rank	fields in order of importance
1	Problems related to the coordination work strategy.	2,52	84	4
2	Problems related to the organization.	2,66	88,6	3
3	Problems related to the mechanisms and procedures of coordination work between the two organizations.	2,70	90	2
4	Problems related to the abilities and skills of the personnel assigned to the coordination work.	2,44	81,3	5
5	Problems related to resources and financial and material allocations.	2,81	93,6	1