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A PROPOSAL TO DEVELOP THE CAPABILITIES OF AGRICULTURAL AND VETERINARY FEMALES STAFF IN THE EXTENSION SERVICE FOR RURAL WOMEN IN BAGHDAD GOVERNORATE

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Abstract

The aim of the research is to prepare a proposal for developing the abilities of agricultural and veterinarian female staff to provide extension service for rural women in Baghdad governorate. To achieve this goal, the ability development plan has been developed, including 11 areas: adaptation to the new task, gender, communication, planning, dissemination of agricultural technologies, rural women training, interaction, coordination and teamwork as well as operational, technical and organizational abilities, which included 46 sections. The data were collected from a sample of agricultural and veterinary staff of 108 respondents distributed base on the management levels (higher, middle and executive levels) into four governmental agricultural, extension and veterinary organizations: the Extension and Agricultural Training Department, the Baghdad (Karkh and Rusafa) governorate, the veterinary hospital and the veterinary clinics through a questionnaire included areas and sections of the proposed scenario were presented to the respondents according to the five importance levels (very important, important, somehow important, insignificant, unimportant), and percentages and averages were used in the data analysis. The results of the study showed that the numerical values of the average importance of the proposed conceptual sections from the point of view of the respondents (46 sections) ranged between (1-5), from 3.55 to 4.6 degrees, with an average overall significance of 4.35 degrees and 86.9% of the sections got significant averages between (4.6 - 4) degrees and an average of (4.28) degrees and within the level of very important. The first section was selecting the location of implementation of agricultural activity followed by development of the work plan (components, characteristics) and the establishment of sites of implementation and the importance and roles of extension service in the development of agricultural production to meet the challenges of Iraqi agriculture, while the rest of the sections (13.1%) has obtained an average between (3.99 - 3.55) and an average of 3.8 degrees within an important level, Including the factors related to the effectiveness of the indicative communication, the use of the participatory rural appraisal method, the factors affecting the effective dissemination of agricultural technologies and the realization of the concept of gender. It can be concluded that there is a need to develop the abilities of female agricultural and veterinary staff in the field of extension service, and the development process should be comprehensive and integrated. The study recommends that the Ministry of Agriculture, Extension and Agricultural Training Department, in cooperation with the relevant authorities should prepare an integrated training program in order to develop the abilities of female agricultural and veterinary staff in the field of extension service according to the areas and sections of the proposed program.

Keywords: Agricultural, veterinary, rural women

Introduction

The food security of food production and provision of human beings is the greatest challenge facing humanity in general and particularly is the first major challenge facing the agriculture in the world (FAO, 2015). The farmers, in all their categories, are the main element in increasing production and productivity and the main factor in development achieving because they are using production elements (land, technologies, capital, etc.) and they are the target of the development process and the beneficiary as well as they are targeted by agricultural extension agencies (Naji and Al-Khafaji, 2018). Agricultural extension is a system to facilitate the access of farmers and other groups in rural society to knowledge, information and technologies, facilitate their interaction with relevant parties and assist them in developing their methods, skills and practices to improve the management of their productive activity (World Bank, 2010). Rural women play a key role in supporting their families and communities in order to achieve food security, income insurance, improve rural livelihoods and pay attention to the general welfare of the family. They contribute to agriculture and rural work, support the local and global economy and an effective element in the pursuit of the current millennium development goals (FAO, 2004). Rural women produce more than 50% of the food grown around the world and represent the majority of the world's agricultural producers (FAO, 2004; FAO, 2011). Rural women also manage most of the family farms in the world, or represents the main employment in the majority of farms, which are 570 million, accounting for 72% of the total farms in the world and produce 80% of the food produced on the ground (FAO, 2015). Additionally, the significant participation of women in work at each stage of agricultural food value chains, as well as economic and social empowerment for rural women must be the focus of any intervention aimed at promoting sustainable agriculture and the elimination of food insecurity and poverty, which are two goals from the two main objectives of the sustainable development plan for the year 2030 (FAO, 2017). However, it was noted that rural women do not benefit from all the support and services related to their field of work, as they do not benefit adequately from extension services to improve their capabilities, working conditions and productivity compared to men because of the culture and social traditions in most Asian countries (Swanson and Rajala, 2014).

In Iraq, which faces major challenges in the field of agriculture in general, and agricultural extension, in particular, which is to increase production and productivity in order to contribute to achieving food security, which is the first challenge, as well as the deterioration of natural resources and increase the number of targets, compared to the number of agricultural extension workers in the field (Hashemi, 2018). The role of rural women in agricultural work in Iraq did not differ from the rest of the region or the world, as well as their role in family care and housework. The participation rate of women in the agricultural

production process in Iraq ranged from 44% to 60% (Iskandar and Al-Tai, 2014). The average percentage of rural women in Iraqi rural society is 30% while the percentage of rural women who headed their families is 17% (Ministry of Planning, 2016). However, there was a significant reduction in the level of extension services provided to rural women in general in the middle governorates of Iraq (Rural Development and Training Department, 2015), and there are many needs for rural women in various agricultural, household, craft and other activities (Agricultural Extension and Training Department, 2015). The percentage of rural women receiving extension services compared to their number is very low. The number of rural women in 12 Iraqi governorates was 3482078 women, and only 1583 women received extension services in 2015 (0.05%). In the province of Baghdad (study area), the number of rural women reached 476413 women. Only 87 women have received extension services, which accounted for 0.018% (Ministry of Planning, 2016). These numbers and percentages are far from what was mentioned in the five-year national plan (2013-2017), which has made rural women's empowerment, integration and giving them the right role to achieve their objectives (Ministry of Planning, 2013: 68). Rural women also a major challenge to achieving the objectives of the Ministry of Agriculture's Strategic Plan for the years 2015-2025 on rural development in general and rural women, in particular (Ministry of Agriculture, 2015) as well as inconsistent with the 20 actions of FAO to achieve the goals of the 2030 Sustainable Development Plan, in particular, the fourth action on building knowledge of agricultural producers and develop their capabilities, especially rural women (FAO, 2018). This decline in the participation and inclusion of rural women in the services provided by agricultural extension agencies was due to a number of reasons, most notably the lack of women staff of agricultural extension workers.

A study in some central governorates showed that 92.5% of the extension service providers are male (Lefta and Alwan, 2012). The lack of access to extension services by rural women means that they lack the necessary opportunities to meet their needs of information, knowledge and technologies, which in turn adversely affect the increase in production and productivity, as well as being incompatible with the fact that the human being has the right to access services (UN, 2012). Therefore, the development of rural women's performance in agricultural activity, increasing productivity and production and improving the level of work requires the development of quantitative and qualitative human resources inputs, thus the Ministry of Agriculture has sought to fill this decline in the number of workers and their abilities in the provision of extension services by considering all workers in the agricultural sector as agricultural guides according to the Ministry of Agriculture Strategic Plan for the years 2015-2025, (Ministry of Agriculture, 2015). Since the agricultural and veterinary services in the country have significant numbers of agricultural engineers and veterinarian's women, they can be used to provide extension services for rural women. However, benefiting from them requires developing their capabilities so that they should provide the extension service to the fullest extent. This process must be carried out within the framework of an integrated vision based on a scientific basis that meets the needs of the rural community and contributes to the needs of the development of agriculture and adapts to the future changes of Iraqi agriculture. Therefore, the preparation of a vision to develop the capabilities of agricultural engineers and veterinarians in the current stage is a scientific and field need to improve the extension service provided to rural women, in particular, and the rural community in general, and this invites to answer the following question: What are the areas of development of the capabilities of agricultural engineers and veterinarians to provide extension service for rural women. Objective of the research is preparation of a proposal for the development of the capabilities of agricultural engineers and veterinarians to provide extension service for rural women. There is high approval by agriculture extension and Veterinary staff for the proposed areas and sections of the scenario.

Methods and Materials

Methodology of research: Use the descriptive approach in the research because it is appropriate to the nature of the subject of the research since it is interested in describing the phenomenon accurately, (Jadiri, 2018).

Research area: The governorate of Baghdad was chosen as a research area due to the number of rural women and the presence of large numbers of agricultural engineers and veterinarians in the veterinary agricultural departments as well as the extension and agricultural training department which are responsible for the extension service in the country and the presence of two departments of agriculture in the province of Baghdad (Karkh and Rusafa), Veterinary and a significant number of veterinary clinics in both sides of the province.

Research Community

1. Institutions: Department of extension and agricultural training, Directorate of Agriculture in the province of Baghdad (Karkh and Rusafa), Veterinary hospital and its dispensaries in Baghdad.
2. All the higher managments in the institutions mentioned in section (1) and their number is 6 employees.
3. All the middle administrations of those related institutions (26 employees) and all department managers and training centers within the extension department and all relevant departmental managers in the Baghdad Agriculture Departments and the director and assistant of the veterinary hospital.
4. All managers of agricultural divisions of the departments of agriculture Baghdad / Karkh and Rusafa (18 managers) in 18 agricultural division and 16 veterinarians in the veterinary clinics in the province.

Research Sample

All the high managements (total of 6). They are the research community.

All middle managements (total of 26). They are the research community.

A random sample was selected from 40% of the agricultural departments in each of the Agriculture Departments in Baghdad (Karkh and Rusafa). The total number of agricultural divisions 5 in Karkh, 3 in Rusafa, and 40% from veterinary clinics in both Karkh and Rusafa.

A random sample of 10% of the executive staff was selected in each of the mentioned institutions with a total of 62 employees. (Table 1).

Table 1 : The research sample according to administrative levels

Agricultural and Veterinary Department	Higher Management	Middle Management	Executive Management	Number of executors	Total
Extension and Agricultural Training Department	2	14	-	17	33
Directorate of Agriculture Karkh	2	5	5	20	32
Directorate of Agriculture Rusafa	2	5	3	10	20
Veterinary Hospital and Veterinary Clinics	-	2	6	15	23
Total	6	26	14	62	108

Plan development of the suggested areas and sections on the development of the capabilities of extension and veterinarians female staff to provide extension services for rural women

The plan has been prepared according to the following steps:

Scheme preparation in the initial form

A- Preparing the scheme in its preliminary form by reviewing literature and studies related to the subject of research.

B- Conduct a field survey and some interviews with some heads of agricultural divisions and directors of veterinary clinics. The initial scheme was of 11 areas (adaptation to the new task, gender, communication, planning, dissemination of agricultural technologies, training of rural women, interaction, coordination and teamwork as well as operational, technical, organizational, and managerial abilities) which included 46 sections distributed over those areas.

Development of the scheme

A- Present the scheme preliminary form to a group of experts (13 experts) in the field of agricultural extension in order to identify their approval in each area and section in the light of the approval stage of the three terms (Agree, agree with the amendment, disagree).

B- A 75% threshold was specified for the survival of any section in the scale. As it is the basis for judging the construction of the components of the proposed scheme to compare with this ratio (Al-Rashidi, 2010).

C- All components of the scheme have obtained an approval rate of 80% or more, thus achieving the criterion of survival in the final scheme.

In the light of the above steps, the proposed scheme of the scenario has been prepared, consisting of 46 sections, divided into 11 areas.

Data collection and analysis: The data collected from the 108 respondents included the use of a questionnaire that included the areas and sections of the scheme and the significance of the five words (very important, important, somewhat important and unimportant) in front of each field and section and asking the respondents to indicate each one according to what is believed. The data were collected during the period from February to April 2019. The percentage and the mean were used.

Results and Discussion

Objective of the research: identify the importance of the areas and sections included in the proposed scenario to develop the capabilities of agricultural engineers and veterinarians for the respondents.

First: to identify the importance of the sections included in the proposed scenario to develop the capabilities of female engineers and veterinarians in general.

The results of the study showed values with importance average for the sections of the proposed scenarios (46 sections) according to the five importance levels (very important, important, somehow important, insignificant and unimportant) ranged between (1-5), from 3.55 to 4.6 degrees, with an average overall significance of 4.35 degrees and 86.9% of the sections got significant averages between (4.6 - 4) degrees and an average of (4.28) degrees and within the level of very important, topped by selecting the location of implementation of agricultural activity followed by development of the work plan (components, characteristics) and the establishment of sites of implementation and the importance and roles of extension service in the development of agricultural production to meet the challenges of Iraqi agriculture, while the rest of the sections (13.1%) has obtained an average between (3.99 - 3.55) and an average of 3.8 degrees within an important level, Including the factors related to the effectiveness of the indicative communication, the use of the participatory rural appraisal method, the factors affecting the effective dissemination of agricultural technologies and the realization of the concept of gender.

Table 2 : Distribution of sections according to their levels of importance and numerical limits of their significance averages

Digital limits of mean importance	Number of sections	%	level of importance	Average
4 -4.6	40	86.9	Very important	4.28
3.55 -3.99	6	13.1	important	3.8

Second: The importance of the proposed scenario at the field levels

1. Adaptation to the new task: The results of the study showed that the values of the mean importance of the suggested conceptual sections for developing the capacities of the agricultural engineers and veterinarians to provide the extension service for rural women in adapting to the new task ranged between 3.55-4.44 and an average of 4.31 degrees which indicates that all sections have a level of importance ranging from important to very important.

Table 3 : The section importance of the proposed scenario within the scope of adaptation to the new task

Sections	Average of importance
The importance and roles of extension service in the development of agricultural production (and face the challenges of Iraqi agriculture)	4.44
Understand the significance and importance of extension service in general and for rural women in particular and include the modern concept of extension service	4.4

Recognize that employees working in agricultural institutions (engineers, veterinarians) are the guiding agents according to the strategic plan of the Ministry of Agriculture	4.27
Extension Service Objectives	4.18
Principles of Extension Service	4.07
Development of Approaches (Acceptance) of the Agricultural Officer (Engineer, Veterinary Officer) for the need to provide extension services in general and for rural women in particular	4.03
Philosophy of Extension Service	3.55
Averages	**4.31**

2. Gender: The results of the study showed that the values of the average importance of the proposed scenario for developing the capabilities of the female engineers and veterinarians to provide the extension service for rural women within the gender field ranged between 4.09-4.31 and an average of 4.09 degrees which indicates that all sections have a level of importance ranging from important to very important.

Table 4 : The importance of the proposed sections of the gender perspective

Sections	Average of importance
The importance and roles of extension in meeting the needs of rural women to develop agricultural production	4.31
The importance and roles of rural women in agricultural activities	4.12
The importance of gender and the different roles of men and women in agricultural activity	4
Understanding the concept of gender	3.93
Average	**4.09**

3. Field of communication guidance: The results of the study showed that the values of the importance averages for the proposed sections for developing the abilities of the agricultural engineers and veterinarians to provide the extension service for rural women within the field of extension communication ranged between 3.99-4.41 degree and an average of 4.19 degrees which revealed that all sections have a level of importance ranging from important to very important

Table 5 : The importance of the proposed sections of the vision within the area of communication

Sections	Average of importance
Successful guide Characteristics	4.41
Characteristics of Effective Communication	4.21
Selection of the appropriate guidance methods	4.17
Factors Related to Effectiveness of Indicative Communication	3.99
Average	**4.19**

4. Field of extension planning: The results of the study showed that the values of the importance averages for the suggested conceptual sections within the field of extension planning ranged between 4.27- 4.5 degrees and an average of 4.37 degrees which revealed that all sections have a level of importance ranging from important to very important

Table 6 : Meanings of the importance of the proposed conceptual sections within the area of extension planning

Sections	Average of importance
Development of the Action Plan (Components, Characteristics	4.5
Identification of needs, problems, standards and priorities	4.44
Principles of Planning Extension Service	4.32
Data collection and analysis	4.32
Formation of the planning committee, its characteristics, and the participating parties	4.27
Average	**4.37**

5. The field of propagation of agricultural technologies: The results of the study showed that the values of the importance averages for the suggested conceptual sections for developing the capabilities of the agricultural engineers and veterinarian females to provide the extension service for rural women within the field of propagation of agricultural technologies ranged between 3.95-4.42 and an average of 4.30 degrees which indicates that all sections have a level of importance ranging from important to very important.

Table 7 : The importance of the proposed sections in the field of dissemination of agricultural technologies

Sections	Average of importance
Stages of making decision on the adoption of agricultural technologies	4.42
Deployment of technologies (organization, elements, stages)	4.38
The role of guides in the dissemination of agricultural technology	4.37
Recent trends in agricultural technology Deployment Methodology	4.37
Follow-up and evaluation of the dissemination of agricultural technologies	4.34
Factors Affecting the Effectiveness of Agricultural Technology Publication	3.95
Average	**4.30**

6. Training of rural women: The results of the study showed that the values of the importance averages for the suggested conceptual paragraphs for developing the capacities of the agricultural engineers and veterinarians to provide the extension service for rural women within the field of training rural women ranged from 4.11 to 4.37 and an average of 4.21 degrees which mean that all sections have a level of importance ranging from important to very important.

Table 8 : The importance of the proposed sections of the concept within the field of training rural women

Sections	Average of importance
Implementation of the training activity	4.37
Follow-up and evaluation the training activity	4.25
Elements of the training program	4.21
Program planning and training activity (stages) and characteristics of elements and components	4.12
Characteristics of Active Training	4.11
Average	**4.21**

7. Field of interaction and coordination: The results of the study showed that the values of the importance averages for the proposed conceptual paragraphs for developing the capacities of the female engineers and veterinarians to provide the extension service for rural women within the field of interaction, coordination and teamwork ranged between 4.27-4.41 and an average of 4.31 degrees which detected that all sections have a level of importance ranging from important to very important.

Table 9 : The importance of the sections of the proposed vision within the field of interaction, coordination and teamwork

Sections	Average of importance
Interaction and coordination with relevant governmental and non-governmental institutions within the work area (Faculty of Agriculture, Faculty of Veterinary Medicine, Directorate of Agriculture, Prevention, and Veterinary Dispensary	4.41
Integration into teamwork and related activities	4.31
Encourage rural women to participate in extension activities (planning, implementation or evaluation)	4.28
Interaction with rural women	4.27
Average	**4.31**

8. Operational capability: The results of the study showed that the values of the importance averages for the suggested conceptual sections for developing the capabilities of the agricultural engineers and veterinarians to provide the extension service for rural women within the scope of the executive capacities ranged between 4.28-4.6) and an average of 4.44 degrees which showed that all sections have a level of importance ranging from important to very important.

Table 10 : The importance of the proposed conceptual sections within the scope of the executive abilities

Sections	Average of importance
location Selecting for agricultural activity implementation	4.6
Configuring Implementation Locations	4.46
Characteristics of good implementation of the extension activity	4.28
Average	**4.44**

9. Technical capabilities: The results of the study revealed that the values of the importance averages for the suggested conceptual sections for developing the capabilities of the agricultural engineers and veterinarians to provide the extension service for rural women within the technical abilities ranged between 4.32- 4.9 degrees and an average of 4.06 degrees which demonstrated that all sections have a level of importance ranging from important to very important.

Table 11 : The importance of the sections of the proposed scenario within the area of technical capabilities

Sections	Average of importance
Number of databases on rural women, their roles, activities and needs	4.32
Use of rural participatory assessment methods	3.98
Skills in Mobile Use, Social Media	3.9
Average	**4.06**

10. Organizational capacity: The obtained results of the study showed that the values of the average importance of the proposed scenarios for the development of the abilities of the agricultural engineers and veterinarians to provide the extension service for rural women within the organizational capacity ranges between 4.07- 4.25 degrees and an average of 4.2 degrees which demonstrated that all sections have a level of importance ranging from important to very important.

Table 12 : The importance of the proposed conceptual sections within the scope of organizational ability

Sections	Average of importance
Encourage rural women to form groups or organizations in their agricultural activities	4.25
Steering committee or women 's advocacy working group	4.07
Average	**4.2**

11. Administrative capacity: The results of the study showed that the values of the importance averages for the proposed conceptual paragraphs for developing the capacities of the agricultural engineers and veterinarians to provide the extension service for rural women within the administrative abilities range ranged between (4.16-4.37) and an average of 4.25 degrees which demonstrated that all sections have a level of importance ranging from important to very important.

Table 13 : The importance of the proposed conceptual sections within the area of administrative ability

Sections	Average of importance
Role of the guide as facilitator in the management of the extension project for rural women	4.37
Management of Rural Women's Empowerment Projects (Planning, Organizing, Implementing, Follow-up, Evaluation)	4.22
Indicative project elements for rural women	4.16
Average	**4.25**

It can be concluded that all respondents stressed the importance of the proposed areas and sections of the proposed development of the capabilities of agricultural and veterinary female staff and considered them as one of the main requirements for the delivery of extension services to rural women as one of the basic inputs in the family agricultural activity. The productivity and production of this agricultural activity was influenced by the level of knowledge, skills and trends of women as well as performance level of their activities, especially as they participate in a significant role in the agricultural activity in both plant and animal activities. The results also indicated that the respondents understand the importance of the need to be practical of the development of the capabilities of female staff in the provided guidance service for rural women in general and agricultural engineers and veterinarians in particular which should be integrated to all areas of capability in order to achieve effective guidance service.

The researchers recommend that the Ministry of Agriculture, in the Department of Extension and Agricultural Training, in coordination with universities and agricultural departments related to the preparation and implementation of an integrated training program to develop the capabilities of agricultural engineers and veterinarians in the field of extension service provided to rural women according to the areas and sections proposed to provide extension service for rural women. This results in the framework of the practical implementation of the strategic plan for the agriculture decade for the years 2015-2025, which included the consideration of all workers as guides.

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