

NEEDS FOR EMPOWERING RURAL WOMEN IN VEGETABLE PRODUCTION IN THE TRANSITION TO SUSTAINABLE FAMILY FARMING SYSTEMS FROM THE PERSPECTIVE OF SPECIALISTS

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ABSTRACT

The current research aims to identify the needs required to enable rural women in the transition to sustainable family agricultural systems, as a questionnaire was prepared consisting of 5 axes of needs (institutional, guidance, economic, social and technological), which included 46 items, data was collected from the research community represented by experts and specialists in the field of rural women's empowerment and sustainable agricultural development, numbering 132 experts in Baghdad Governorate, and the research concluded that 91% of the paragraphs came at a level of great need and 9% of them came at a very large level of need, and this is an indication that there is a large gap between the current situation of rural women and the situation required by the researchers recommended the need to meet these needs through special programs for rural women involving all relevant authorities to achieve the transition to sustainable family agricultural systems.

Key words: empowerment, extinction Needs; rural women; transformation.



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INTRODUCTION

More than two billion people globally live in small-scale farming households (Abdulai, 2022). It is estimated that the productivity of family farms reaches 80% of global production in many parts of countries (Adnan, 2022), rural women make up a quarter of the world's population, are the backbone of rural and National Economic Development representing 43% of the global agricultural workforce, and play crucial roles in agriculture, food security and the rural economy as farmers, wage earners and entrepreneurs (Al-Fatlawi, 2018). In Iraq, the percentage of rural women constitutes approximately 16% of the total population of 5,970,312 million people, which is approximately 30% of the total number of women in Iraqi society (Annual Statistical, 2022). According to the same statistics, Baghdad governorate ranks third in the number of rural women, with more than half a

million rural women after Nineveh Governorate and Babylon governorate (Asmaa, 2023). Vegetable crops constitute a daily food for the population and a source of many food industries a very large percentage of rural women work in this activity and it is the main source of their income (Benítez, 2020). Vegetables cover about 1.1% of the total agriculture in the world and its production has increased by 60% over the past twenty years as the global production of vegetables is 1.13 billion tons from about 58 million hectares and in the last decade, the global production of them increased at an average annual rate of about 3% (Fabregas, 2019) The UN reports that the empowerment of rural women leads to an increase in agricultural production by up to 20%, and a reduction in hunger by 100 to 150 million people (Challob, 2020). The empowerment of rural women in agriculture is an important

strategy to achieve Family Food Security, and the basic principle behind considering this is through two tracks the first track is that rural women can contribute directly to agricultural production by working on family farms and marketing agricultural products (De Silva, 2013). The second indirect path returns of agricultural productivity can lead to improved household farm income, which in turn leads to improved food and nutritional security of the rural household (Birner, 2021). Family farming systems are a key element in achieving the Sustainable Development Goals, and they are one of the most important sectors that provide employment opportunities for women at the global level and constitute the most important source of their livelihood compared to men in many countries (Benjamin, 2016). Despite unprecedented economic growth and progress in reducing food insecurity in recent decades¹⁴, agricultural systems as they currently operate (globally, nationally and locally) are not delivering the desired results for climate, environment and nutrition (Fernando, 2021). The transformation of agricultural systems is an urgent topic around the world in response to concerns about the effects of current systems on nutrition and the environment (Jassim, 2020). Current evidence and conditions confirm that a major transformation of food and agricultural systems is needed to achieve food and nutrition security for all by 2030. This transformation must be environmentally and socially sustainable (Fernando, 2021). Attention to the development of the human element working in it, including rural women, is one of the basic ingredients for sustainable agricultural development, because of the vital role that women contribute to agricultural processes, and rural women often bear additional burdens due to the migration of men, poverty, climate change and the difficulty of agricultural work that they practice in unsafe conditions and with primitive they remain hostage to the conditions

that are controlled by the practices and traditions prevailing in their societies (Kehinde, 2021). Research objective: the research aims to identify the needs of the process of empowering rural women in the field of vegetable growing in the transition to sustainable family farming systems from the perspective of specialists. The importance of the research is to: works to understand the specific needs of rural women, which contributes to the design of more effective programs in the process of transition to sustainable family farming systems and the process of identifying needs contributes to monitoring the gap and determining its amount and source to work on bridging it through networking and cooperation between entities related to the empowerment of rural women. According to the United Nations, these challenges rural women are prevented from accessing resources and excluded from agricultural research and extension programs, so the problem of research lies in answering the question: what are the needs of empowering rural women in the field of vegetable cultivation in the transition to sustainable agricultural family systems in Baghdad Governorate?

MATERIALS AND METHODS

This research is based on the descriptive analytical approach, as the data was collected through previous studies, reports and documents, as well as interviews with experts and practitioners in the field of rural women empowerment (Wezel, 2021).

Research Community: experts and specialists working in the field of rural women empowerment and sustainable agricultural development from governmental and non-governmental entities as well as the private sector and civil society organizations, numbering 132 experts and specialists. The research community was selected due to the limited number of specialists in this field, As in Table (1).

Table 1. Distribution the research samples

Destination	Department	Issue
Government agencies	Ministry of Agriculture	51
	Ministry of planning	5
	Ministry of Environment	14
	General Secretariat of the Council of ministers women empowerment department	7
Research centers and universities	College of Agricultural Engineering Sciences University of Baghdad	15
	Center for women's Studies / University of Baghdad	7
	Nahrain Center for studies / national security consultancy	6
Private sector	Agricultural companies	9
Civil society organizations	Local organizations	13
	International organizations	5
	Total	132

Research Method

Based on the areas of empowerment, the scheme for identifying the needs required to empower rural women in the field of vegetable growing consists of five axes of needs, namely: the axis of institutional needs, the axis of indicative needs, the axis of economic needs, the axis of social needs as well as the axis of technological needs. These axes included 46 paragraphs distributed as follows. as in Table (2).

Table 2. Distribution of needs axes according to the number of paragraphs

Seq	Axis number of paragraphs	Number
1.	Institutional needs	12
2.	Guiding needs	14
3.	Economic needs	8
4.	Social needs	6
5.	Technological needs	6
Total	46	

A questionnaire form was prepared for stakeholders (experts and specialists), the questionnaire consisted of two parts, the first part included questions related to specialists, and the second part included paragraphs of the needs required to empower rural women in the field of vegetable growing. Data were

collected from the research sample for the period from 1/8/-14/9/2023. Use the weighted average, percentage weight, arithmetic mean, in the analysis of data. The need scale consists of 5 phrases (very big need, big need, medium need, little need, no need) and the weights are given sequentially (1, 2, 3, 4, 5).

RESULTS AND DISCUSSION

Experts and specialists concerned with the empowerment of rural women pointed to 46 paragraphs that they believe are related to the empowerment of rural women in the field of vegetable cultivation in the transformation into sustainable family agricultural systems, the average grades ranged between (3.66-4.32) degrees with an average of 4.01 degrees. The results showed that 91% of the paragraphs had average grades ranging between (3.66-4.19) a grade with an average of 3.98 falls within the level of a large need. And that 9% of the paragraphs had average grades ranging between (4.21-34.32) a degree with an average importance of 4.25 degrees falls within the level of a very great need, as shown in Tables (3, 4).

Table 3. Distribution of needs related to the empowerment of rural women in the field of vegetable growing according to their need levels and average digital values

Seq	The level of needs	Limits of values of the average level of needs	Average	Issue	%
1	Very large	3.2 – 4.214	4.25	4	9
2	Large	3.66 – 4. 19	3.98	42	91
3	Medium	0	0	0	0
4	A few	0	0	0	0
5	There is no need	0	0	0	0
	Total			46	100

1. Institutional needs: The researchers identified 12 institutional needs that are essential for empowering rural women to transition to sustainable family farming systems. The average scores of these needs ranged from 4.28 to 3.74 on a five-point need scale. The results of the study showed that

92% of these needs had a very high level of need, with average score of 4.28. No needs were found to be at a medium, low, or nonexistent level. high level of need, with average scores ranging from 4.17 to 3.74, for an average of 3.95. The remaining 8% had

Table 4. Distribution of institutional needs according to their average degrees of importance

Seq	Paragraphs	weighted average	Percentage weight %
1	The commitment of policy makers and decision makers to the need to switch to sustainable agricultural systems and consider it a national task	4.28	85.6
2	Building the technical, organizational, administrative and financial capacities of agricultural institutions to apply the approach of transition to sustainable agricultural systems	4.17	83.5
3	An enabling environment enhanced by (legislation, laws, regulations, and agricultural policies) that supports, encourages, and facilitates the transition to sustainable family agricultural systems	4.13	82.6
4	The existence of A Higher Council for sustainable development that oversees and follows up the implementation of plans, approaches and policies for the transition to sustainable family agricultural systems	4.11	82.2
5	An effective monitoring and evaluation system in the field of transition to sustainable family agricultural systems	4	80
6	Encouraging family innovation for rural women and spreading it on family farms	3.98	79.6
7	Effective mechanisms for the implementation of the national strategy for Iraqi women 2023-2030 with regard to the empowerment of rural women	3.94	78.7
8	An innovation system that achieves an effective response to the needs of rural women in the transition to sustainable family agricultural systems in the field of vegetable growing	3.94	78.8
9	Social protection to ensure the right of rural women to own land and agricultural equipment.	3.88	77.6
10	Expanding the scope of the work of the women's empowerment departments in the Ministry of Agriculture and its affiliated departments to benefit rural women from the programs implemented by them.	3.82	76.5
11	A national strategy for the empowerment of rural women as a comprehensive coordinated framework for the transition to sustainable family farming systems	3.75	75
12	Equal opportunities for gender equality in terms of rural women's access to resources (land, inputs, finance, digital technology, extension services).	3.74	74.9
	Total	3.97	79.4

Conclusion Table (4). The transition to sustainable agricultural systems requires commitment from all stakeholders, including policy and decision makers, farmers, and civil society. This should be done through the

development of appropriate policies and laws, the provision of financial and logistical support, and the dissemination of awareness of the importance of sustainable agricultural systems, and this was emphasized, so the

paragraph of the commitment of policy makers and decision makers came to the need to switch to sustainable agricultural systems and consider it a national task in second place in terms of importance at the level of institutional needs and this may be due to the weak government interest.

2. Extension needs The respondents pointed to 14 guiding needs they prepared related to

the empowerment of rural women, the averages of their scores ranged between (3.96-4.32) degrees with an average of 4.11 degrees according to a five-degree runway, the upper value ranged from 5 degrees and the minimum 1 degree, and the results showed that 92% of the needs came at a large level, while 8% of them were within the level of very large needs as shown in Table (5).

Table 5. Distribution of extension needs according to their average degrees of importance

Seq	Paragraphs	weighted average	Percentage weight %
1	Building the capacities of rural women to rationalize water consumption by using modern irrigation technologies in vegetable cultivation	4.32	86.4
2	Building the capacity of rural women to learn about sustainable agricultural systems in the field of vegetable growing	4.22	84.4
3	Sensitizing rural women to occupational safety and health guidelines	4.21	84.3
4	Building the capacities of rural women to use modern technology to develop vegetable growing 4	4.19	83.9
5	Building the capacities of rural women in the field of sustainable methods of harvesting vegetable crops and reducing the percentage of losses from them.	4.17	83.4
6	Developing the capacities of rural women to adapt to climatic changes and local geographical conditions that affect the production of vegetable crops	4.15	83.1
7	Building the capacities of rural women to choose good varieties and breeds of vegetable seeds and how to preserve them	4.09	81.8
8	System for collecting data and information on sustainable family agricultural systems	4.08	81.7
9	Building the capacities of rural women in the field of land management of vegetable crops through the sustainability of Natural Resources	4.07	81.4
10	Building the capacities of rural women in the field of modern economic methods for marketing their vegetable products in the domestic and foreign markets	4.04	80.9
11	Capacity building of rural women in the field of small business management of vegetable crops	4.03	80.7
12	Building the capacities of rural women in the field of manufacturing local materials such as organic fertilizers and using them on the family farm	4.02	80.4
13	Building the capacities of rural women in the field of storage and use of environmentally friendly pesticides and strengthening biological control	4	80
14	Strengthening the role of rural women and involving them in the design of integrated extension and agricultural programs and activities related to vegetable growing while ensuring the safety of implementation	3.96	79.3
	Total	4.11	82.2

Conclusion Table (5). These results indicate the weakness of the guidance aspect, as most of the paragraphs of the guidance needs were at the level of very large needs, and this may be due to the weakness of Agricultural Extension services and the small number of agricultural extension workers in general and rural women in particular, according to the numbers of agricultural guides in the General Authority for agricultural extension, as there are 65 agricultural guides at the level of Iraq, and this number almost covers only one province only . In addition to the small number of activities provided to vegetable grower

farmers, as only 17 activities were implemented during the years (2019-2021) and the last two years (2022-2023), no special activity for rural women was implemented because the plan of the Ministry of Agriculture focuses on strategic crops at the moment.

3.Economic needs: The respondents referred to 8 paragraphs of economic needs related to the empowerment of rural women in the field of vegetable cultivation, and their average scores ranged between (3.9 – 4.13) degrees with an average of 4.05 degrees, and all paragraphs came within the level of great need as shown in Table (6).

Table 6. Distribution of economic needs according to their average degrees of importance

Seq	Paragraphs	weighted average	Percentage weight %
1	Providing services for transporting vegetable crops to local markets	4.13	82.6
2	The need to establish projects for the development of vegetable growing represented (storage, canning and marketing of vegetable crops, manufacture of organic fertilizers)	4.13	82.6
3	Obtaining interest-free loans for the establishment of projects for the development of vegetable growing for rural women facilitate the procedures for obtaining them	4.12	82.5
4	The need of rural women smallholder owners participating in the development programs of the development of vegetable growing to obtain grants from donor institutions (governmental, non-governmental).	4.05	81.1
5	Cooperative Marketing Centers for marketing rural women's products from vegetable crops	4.05	81.1
6	Reintroduction of the Government Rural Women's Development Fund for the sustainability of vegetable crop production	4.02	80.4
7	Developing an effective system for sustainable marketing of vegetable crops	4	80
8	Policies to encourage rural women to sustain the marketing of vegetable crops	3.9	78
	Total	4.05	81

The results showed the importance of the economic needs of rural women, due to the weakness of their economic side, due to the weak attention to the economic empowerment of rural women, as well as the rural women's support fund stopped funding activities and projects for rural women in recent years.

4. Technologic needs: The respondents referred to 6 paragraphs of economic needs

prepared by large and necessary needs in empowering rural women to transform into sustainable family agricultural systems in the field of vegetable cultivation, the average degrees of importance ranged between (3.86 – 4.02) degrees with an average of 3.95 degrees as in the table (7).

Table 7. Distribution of technologic needs according to their average degrees of importance

Seq	Paragraphs	weighted average	Percentage weight %
1	Access to modern means of communication and their use in the development of family farms	4.02	80.4
2	Rural women use modern means of communication to market their products from vegetable crops	4.01	80.2
3	Using modern means of communication to communicate with extension centers and farms in the geographical area	4.01	80.2
4	Rural women use mobile phone to access agricultural information resources to develop Family Farms	3.92	78.4
5	Employing ICT and using digital guidance to empower rural women in the field of vegetable growing by providing them with the necessary agricultural information and services through various digital channels such as smartphones, tablets and the internet.	3.88	77.7
6	Improving communication networks in areas where rural women work (internet, mobile networks)	3.86	77.3
	Total	3.95	79

Technology plays a vital role in improving the standard of living of rural women, therefore, meeting the technological needs of rural women is essential to achieve the transition to sustainable family agricultural systems.

5. Social needs: The respondents referred to 6 paragraphs of social needs that they prepared

related to the empowerment of rural women in the transition to sustainable family agricultural systems in the field of vegetable cultivation, and the average degrees of importance ranged between (3.66 – 4.01) with an average of 3.84 degrees and that all paragraphs fall within the level of great need as shown in Table (8).

Table 8. Distribution of social needs according to their average degrees of importance

Seq	Paragraphs	weighted average	Percentage weight %
1	Participation in workshops, seminars and trainings provided by civil society organizations in the field of empowering women vegetable farmers to transform into sustainable agricultural family systems	4.1	82
2	The partnership and interaction between beneficiaries create opportunities for knowledge exchange among stakeholders	4	80
3	The need for the existence of groups or associations that provide common services to rural women such as agricultural equipment or obtaining loans to overcome the challenges they face, improve their agricultural productivity, increase their income, and improve their livelihoods.	3.85	77
4	The need for special organizations for rural women to support their participation in public life, develop their capacities and empower them in the field of vegetable growing	3.78	75.6
5	The need for women farmers ' field schools for growing vegetables to enable them to transform into sustainable family farming systems	3.68	73.6
6	The need for special associations to enable vegetable farmers within the geographical area to transform into sustainable family farming systems	3.66	73.2
	Total	3.84	76.8

Social needs are one of the necessary and very important needs of rural women, as the results showed that most of the paragraphs were at the level of great need, due to the fact that rural women are exposed to great challenges, including discrimination, violence, Customs and traditions, meeting their social needs is necessary in achieving the process of transition to sustainable family agricultural systems through the formation of networks, associations and organizations for rural women.

CONCLUSION

The multiplicity and diversity of needs required to empower rural women in the field of vegetable growing from the point of view of the researchers included needs (institutional, extension, economic, social, technological) and that all of them came with the level of large to very large needs The transformation process requires meeting these needs to achieve the goals of sustainable agricultural development effectively and efficiently.

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CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

AUTHOR/S DECLARATION

We confirm that all Figures and Tables in the manuscript are original to us. Additionally, any Figures and images that do not belong to us have been incorporated with the required permissions for re-publication, which are included with the manuscript.

Author/s signature on Ethical Approval Statement.

Ethical Clearance and Animal welfare

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AUTHOR'S CONTRIBUTION STATEMENT

Rana S. AL-fatlawy and Ahmed Hamdan Lafta were responsible for designing the research.

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احتياجات تمكين النساء الريفيات في مجال زراعة الخضروات في التحول إلى أنظمة زراعية أسرية مستدامة من منظور

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المستخلص

يهدف البحث الحالي الى تحديد الحاجات المطلوبة لتمكين النساء الريفيات في التحول الى نظم زراعية أسرية مستدامة، إذ تم إعداد استبانة تكونت من 5 محاور للحاجات (المؤسسية، الإرشادية، الاقتصادية، الاجتماعية والتكنولوجية)، تضمنت 46 فقرة، جمعت البيانات من مجتمع البحث المتمثل بالخبراء والمختصين في مجال تمكين المرأة الريفية والتنمية الزراعية المستدامة البالغ عددهم 132 خبيراً في محافظة بغداد، وخلص البحث الى أن 91% من الفقرات جاءت بمستوى حاجة كبيرة وأن 9% منها جاءت بمستوى حاجة كبيرة جداً، وهذا مؤشر على أن هنالك فجوة كبيرة في بين الوضع الحالي للنساء الريفيات والوضع المطلوب عليه بوصي الباحثان بضرورة تلبية هذه الحاجات عن طريق برامج خاصة للنساء الريفيات تشترك بها جميع الجهات ذات العلاقة لتحقيق عملية التحول إلى نظم زراعية أسرية مستدامة.

الكلمات المفتاحية: تمكين، الحاجات الإرشادية، المرأة الريفية، التحول.