

The Level of Rural Women's Contribution to Certain Agricultural Sectors in the Al-Buhayza Area, Tikrit District, Salah al-Din Governorate

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Abstract

Rural women are a key element in the agricultural development process, as they play an active role in various productive activities within rural households, whether in crop, livestock, or marketing sectors.. This study aims to identify the extent of rural women's contribution in certain agricultural sectors in the village of Al-Buhayaz'a in Salah al-Din Governorate, as well as to identify the nature of agricultural activities in which rural women participate in the plant, animal, and marketing sectors, and to uncover the factors influencing this contribution. The study adopted the descriptive-analytical approach due to its suitability for the nature of the research problem, as this approach allows for the description and analysis of the phenomenon with scientific precision. Data were collected using a questionnaire designed specifically for the study, which included a set of items measuring the level of rural women's contribution in the three areas: crop, animal husbandry, and marketing. The study adopted a descriptive-analytical approach due to its suitability for the nature of the research problem, as this approach allows for the description and analysis of the phenomenon with scientific rigor...

The rural reality in Iraq clearly highlights these challenges. Rural women often suffer from limited educational opportunities and weak technical skills, in addition to facing restrictions related to customs and traditions that limit their participation in economic decision-making and resource management. Furthermore, weak infrastructure in rural areas, such as roads, markets, and agricultural extension centers, represents another obstacle to their effective participation (Hassan, 2021: 60).

Development literature indicates that extension organizations worldwide pay increasing attention to rural women, and these organizations implement special programs to develop agricultural production fields, where women are direct partners in production and household economics,

contributing to improving rural family income across various domains (Al-Rimawi et al., 1996: 361).

Introduction and Problem of the Study

Rural women are considered one of the fundamental elements in the social and economic structure of agricultural society, as they represent nearly half of the working human force and participate directly or indirectly in various productive activities related to agriculture and animal husbandry. Studies have demonstrated that rural communities cannot achieve agricultural or economic development in isolation from women's contributions, as their roles are manifested in production, marketing, and resource management, in addition to their traditional role in maintaining

the family and raising children (Al-Khafaji, 2017: 80).

The study of the level of rural women's contribution in agricultural fields is considered an important issue that deserves research and scientific analysis due to its implications for comprehensive rural development. The contribution of women in agriculture is not a recent phenomenon; rather, it extends back to the earliest periods of the emergence of agricultural societies. In ancient civilizations, women were essential partners with men in crop cultivation and animal raising, which reflects the deep historical

relationship between women and agricultural activities (FAO, 2019).

In the Arab world, particularly in Iraq, women have played a prominent role in agriculture for thousands of years. The regions of Mesopotamia were well known for grain cultivation and livestock raising, as well as performing various agricultural operations, whether in preparation, production, or preservation and storage processes (Al-Zubaidi, 2018: 113). With the development of agricultural patterns and the emergence of modern technologies, the role of rural women in Iraq has continued despite limited recognition.

In the plant production field, women participate in almost all stages of production, including land preparation, seed sowing, weed removal, irrigation, harvesting, and product sorting (Hassan, 2021: 55). They also contribute to animal production through raising sheep, cattle, and poultry, as well as producing milk and its derivatives. Their role is no less important in the marketing aspect, where many women undertake the sale of agricultural products in local markets or exchange them through kinship and

neighborhood networks, which constitutes an economic support for the rural household.

Despite the clarity of these roles, the contribution of rural women in agriculture often remains “hidden” or “invisible,” as it is not adequately recorded in official statistics and is not included in the agricultural gross domestic product. This is due to several factors, including traditional social perceptions that consider women’s work as an extension of their domestic duties, lack of awareness of the importance of statistical documentation, as well as economic, social, and cultural challenges that limit women’s access to productive resources or opportunities for training and agricultural extension (World Bank, 2020: 32).

The rural reality in Iraq clearly highlights these challenges. Rural women often suffer from limited educational opportunities and weak technical skills, in addition to facing restrictions related to customs and traditions that limit their participation in economic decision-making or in managing agricultural resources. Furthermore, weak infrastructure in

rural areas, such as roads, markets, and agricultural extension centers, constitutes another obstacle to their effective participation (Hassan, 2021: 60).

Accordingly, studying the contribution of rural women in this context represents an important entry point for understanding the nature of these challenges and how to overcome them. The importance of this study increases in light of global trends aimed at achieving sustainable development. The Food and Agriculture Organization (FAO) has confirmed that empowering rural women can contribute to reducing poverty rates and increasing agricultural productivity by 20–30% in some developing countries if women are given equal access to resources and opportunities as men (FAO, 2019)

The World Bank has also indicated that enhancing the role of women in the agricultural sector is one of the main drivers for achieving food security and inclusive economic growth (World Bank, 2020: 35). Therefore, studying the reality of rural women in Iraq, particularly in agricultural villages such as Al-

Bouhiyaz, represents part of the research efforts aimed at achieving the Sustainable Development Goals 2030

Despite the fact that women represent half of the rural community, the research and extension programs directed toward them are few and may be almost nonexistent in some Arab countries. Therefore, there is a need to prepare them to perform an active economic role without abandoning their homes, traditions, or their primary role in raising children. Development literature indicates that extension organizations worldwide pay attention to rural women and implement special programs to develop agricultural production fields, where women are direct partners in production and in household economics, contributing to improving rural family income across various domains (Al-Rimawi et al., 1996: 361)

Despite the significant role of rural women in rural development, especially in agricultural operations, most of the work they perform falls under unpaid labor, which has not received sufficient study in the Arab world. The neglect of rural women's

role in agricultural operations and other economic activities in rural areas is attributed to the narrow perspective of production that excludes women's productive activities from being considered within economic activities (Al-Shibli, 2000)

It is worth noting that agricultural extension is a developmental apparatus for achieving rural development through its educational mission directed to all members of the rural family (men, women, and youth) (Naseef, 2004: 38). It also plays a complementary role alongside other rural development organizations in the community (Saleh et al., 2004: 51)

Rural women are considered an essential element in achieving agricultural development, especially in activities related to plant and animal production, as they perform most agricultural activities. Therefore, it is necessary to focus on them, study their role scientifically, determine it accurately, and identify weaknesses in their work in order to find appropriate solutions.

1-What is the overall level of rural women's contribution in some agricultural fields in Al-Bouhiyaz /

This study was conducted to reveal the extent of rural women's contribution in the study area and to define their role scientifically and accurately, in order to prepare solutions and provide all possible means to address weaknesses in their actual role. In general, the study seeks to answer the following questions.
Research Problem

The research problem lies in the inadequate assessment and utilization of the role of rural women in various agricultural activities. Despite their significant contribution, this role remains insufficiently measured, particularly in Al-Buhaiza area in Salah al-Din Governorate. In addition, rural women face several constraints, including limited technical, economic, and social support, which restrict their capacity to enhance agricultural production and actively participate in rural development. Therefore, there is a need to investigate the level of

their contribution and the factors affecting it

Research	Objectives
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Tikrit District / Salah Al-Din Governorate?	
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2.What is the level of rural women's contribution in the research fields (plant field and animal field)?

3-What is the level of rural women's contribution in each axis of the research fields (field crops, vegetable crops, cattle, sheep, poultry)?

4-What is the ranking of the research fields in descending order according to the percentage weight of each field and axis?

5-What is the correlation between rural women's contribution and the independent variables related to them (age, educational level, marital status, family size, importance. The present study aims to achieve the following objectives:

1.To determine the level of rural women's contribution in various agricultural fields, including plant production, animal production, and poultry production.

2.To determine the factors influencing the level of rural women's contribution.

3.To examine the major constraints faced by rural women in their work.

4.To propose recommendations for the development of rural women

in the agricultural sector.

Research Significance

1. Scientific Significance:

This study contributes to filling the gap in the existing literature regarding the role of rural women in Salah al-Din Governorate. It also provides reliable data that can be utilized in future research.

2. Practical Significance:

The study assists decision-makers in designing and implementing development programs that target rural women in Iraq.

3. Socio-Economic Significance:

The study supports the empowerment of rural women, contributes to increasing household income, and enhances food security within rural communities. Research Hypotheses

1-There is no statistically significant correlation between the level of rural women's contribution in some agricultural activities in Al-Bouhiyaz and the variable of age.

2-There is no statistically significant correlation between the level of rural women's contribution in some

agricultural activities in Al-Bouhiyaz and the variable of marital status.

3-There is no statistically significant correlation between the level of rural women's contribution in some agricultural activities in Al-Bouhiyaz and the variable of educational level.

4-There is no statistically significant correlation between the level of rural women's contribution in some agricultural activities in Al-Bouhiyaz and the variable of main household income.

5-There is no statistically significant correlation between the level of rural women's contribution in some agricultural activities in Al-Bouhiyaz and the variable of type of family land tenure.

6-There is no statistically significant correlation between the level of rural women's contribution in some agricultural activities in Al-Bouhiyaz and the variable of sources of information.

7-There is no statistically significant correlation between the level of rural women's contribution in some agricultural activities in Al-Bouhiyaz and the variable of attitudes toward

agricultural work.

Operational Definitions

1.Contribution:

It refers to the activities performed by rural women in the field of agricultural production, including both plant and animal aspects.

2-Agricultural Activities:

They are a set of agricultural practices that include soil plowing, crop cultivation, planting fruit trees and vegetables, and raising and feeding animals.

3-Sources of Information:

They refer to the knowledge sources to which the respondent resorts in order to obtain knowledge and experience related to plant and animal production.

4-Plant Production Field:

It is the field that focuses on the following agricultural axes (vegetable crops axis, field crops axis).

5-Animal Production Field:

It is the field that focuses on the following agricultural axes (poultry axis, sheep axis, cattle axis).

6-Rural Woman:

She refers to all rural women in the study area who practice agriculture, especially in relation to plant and animal production. **Materials and Methods**

Study Methodology

The descriptive method was used in conducting the research in order to reveal the reality, as it is the appropriate method for الوصول إلى الحقائق (reaching the facts) (Al-Asadi, 2008: 51), through analyzing these facts accurately, identifying variations, extracting evidence, and reaching comprehensive and accurate results regarding the phenomenon and the subject of this research (Rashid, 2003: 16).

study Area

The Al-Bouhiyaz area in Salah Al-Din Governorate was selected as the study area due to the presence of a large number of working rural women. An exploratory visit to the study area was conducted on 20/10/2025.

Through this visit, the study area was identified, as well as the main activities practiced by rural women.

This was done by conducting interviews with a number of rural women. It was found that rural women in the area engage in raising animals such as cattle and sheep, poultry farming, and cultivating some field crops and vegetables, in addition to performing various agricultural activities.

study Population and Sample

The study population included all rural women in Al-Bouhiyaz area, affiliated with Tikrit District, whose total number reached 555 women.

A random exploratory proportional sample of 30% was selected, resulting in a sample size of 100 respondents.

After reviewing the literature, previous studies, and scientific research, and consulting experts and specialists in the field of the study, a questionnaire form was prepared as a tool for collecting field data from the respondents. It consisted of two parts (Appendix A):

Part One: Independent Variables

This part included measuring some independent variables that may be related to the level of rural women's

contribution in agricultural work, namely:

(age, educational level, marital status, number of family members, importance of agricultural work in income, number of years of agricultural work, and sources of information related to rural women's agricultural work).

Part Two: Contribution Measurement Tool

This part relates to the tool used to measure the level of rural women's contribution in some agricultural activities in Al-Bouhiyaz / Salah Al-Din.

It consisted of 71 standardized items designed to measure the level of rural women's contribution in agricultural activities.

Validity

Validity refers to the extent to which the items of the scale represent the content of the trait being measured, and this is judged by a group of experts and specialists in the field (Murad and Amin, 2002: 351). This is consistent with what (Eble) indicated, that the best way to achieve validity is

through a group of judges evaluating the suitability of the items.

Two types of validity were used (Eble, 1971: 555) to measure what the instrument was designed to measure:

Face Validity

To verify the validity of the instrument, face validity was used, which is considered one of the essential requirements for constructing the scale to be measured (Freeman, 1962: 90)

Accordingly, the questionnaire form was presented to a group of experts and specialists from the faculty members of the Department of Agricultural Extension at Tikrit University, in order to obtain their opinions and observations regarding the questionnaire items, the soundness of their wording, their clarity, and their suitability for the respondents, as well as the appropriateness of the scales used to achieve the research objectives

After taking their comments and suggestions into consideration, some modifications were made to the questions included in the questionnaire. This was considered as face validity of the questionnaire,

which is one of the means of identifying the validity of the instrument (Al-Zubaie et al., 1981: 44)

The researcher adopted an agreement percentage of (75%) for each item of the questionnaire

Content Validity

Content validity refers to the extent to which the items of the scale represent the content selected to be included in the test, or the extent to which the items represent the subject of the selected research in terms of content

It was measured by presenting the questionnaire to specialized professors from the Departments of Crops and Animal Resources (Appendix C). Some modifications were made to certain items according to the experts' opinions, after which the questionnaire became ready for the preliminary test.

Reliability

Reliability refers to the consistency of obtaining the same scores when the same instrument is applied to the same individual under the same conditions (Murad and Amin, 2002: 359). It also refers to stability,

meaning that if the measurement process of a certain phenomenon is repeated, it will show a degree of consistency in its results (Abdel-Hafiz and Mustafa, 2000: 178).

The reliability coefficient for the plant and animal agricultural activities items was calculated using Cronbach's Alpha, which reached a value of (0.83).

To calculate validity, the method of calculating validity using the square root of the reliability coefficient was used, which reached a value of (0.91).

Measurement of Research Variables

First: Measurement of Independent Variables

The independent variables included in the study were measured as follows:

1. Age:

It was measured by the number of years of the respondent's age at the time of data collection.

2. Educational Level:

It was measured through eight response categories, and numerical values were assigned as follows:

(Illiterate = 1, Reads and writes = 2, Primary = 3, Intermediate = 4, Secondary = 5, Institute = 6, College = 7, Postgraduate = 8).

3. Marital Status:

It refers to whether the woman is single, married, widowed, or divorced, and numerical codes were assigned (1, 2, 3, 4) respectively.

4. Family Size:

It was measured by the number of family members of the respondent at the time of data collection.

5. Importance of Agricultural Work in Income:

It was measured using three alternatives:

High importance (3), Medium importance (2), Low importance (1).

6. Years of Agricultural Work:

It was measured by the number of years the respondent participated in agricultural work.

7. Sources of Information:

This variable was measured through (10) sources of information, with four alternatives for each source (Always,

Sometimes, Rarely, Do not obtain), and numerical values (1, 2, 3, 4) were assigned respectively.

The total score obtained by the respondent reflects her exposure to agricultural information, and the scale ranged between (10–40) numerical values.

Measurement of the Dependent Variable

The dependent variable was measured through (71) standardized items, with a four-level scale:

1. High contribution

2. Medium contribution

3. Low contribution

4. No contribution

Thus, the total score ranged between (71–213).

The scale included three fields:

First: Plant Agricultural Activities Field

A total of (26) items were used, distributed over two axes:

- Field crops axis (13 items), theoretical range (13–39)

- Vegetable crops axis (13 items), theoretical range (13–39)

The total scores ranged between (26–78).

Second: Animal Agricultural Activities Field

A total of (32) items were used, distributed over three axes:

- Cattle axis (11 items), range (11–33)
- Sheep axis (11 items), range (11–33)
- Poultry axis (9 items), range (9–27)

The total scores ranged between (31–93).

Third: Marketing Activities Field

This field consisted of (6) items using a three-level scale, with a theoretical range of (12).

Statistical Methods

To achieve the research objectives, a set of parametric statistical methods was used, as the data follow a normal distribution, including:

1.Frequencies:

Used to describe the characteristics of respondents for each category or level of the studied variables.

2. Percentages:

Used to describe respondents according to their distribution across categories.

Percentage = (Part / Whole) × 100

3. Range:

Used to classify some variables.

Range = Highest value – Lowest value

Class length = Range / Number of categories

(with rounding to the nearest numerical value) (Amer, 2007: 63)

Arithmetic Mean

It was used to describe research variables and to rank the items of each agricultural field.

$$\bar{x} = \frac{\sum xi}{n}$$

$$S = \sqrt{\frac{\sum xi^2 - \frac{(\sum xi)^2}{n}}{n-1}}$$

First Objective:

To identify the level of rural women's contribution to some agricultural fields in Al-Buhiyazea area / Tikrit

The results showed that the minimum value of the overall level of rural women's contribution was 58, while the maximum value reached 189, with a mean of 114.27 and a standard

Table (1) Distribution of respondents into three categories according to the overall level of rural women's contribution

Mean	%	Frequency	Contribution Levels	No
84.28	40	40	(101 -58)Low	1
122.14	43	43	(145 -102)Medium	2
164.53	17	17	(146)High	3
Sd=30.73	%100	100	Total	

It is evident from Table (*) that the highest percentage of respondents (43%) fell within the medium category, followed by the low category (40%). Therefore, the overall level of rural women's contribution to some agricultural fields in Al-Buhiyazea area can be described as moderate with a tendency toward low

This may be attributed to the fact that women in general, and rural women in particular, undertake a range of educational and health-related responsibilities, in addition to their role in rural areas in contributing to

District / Salah Al-Din Governorate in general.

deviation of 30.73. The respondents were classified into three categories using the class interval (range) method. The highest percentage of respondents fell within the medium category, as shown in Table (1)

certain agricultural operations. Through these activities, women are considered contributors and supporters of men in agricultural work. However, their biological characteristics and household responsibilities may limit their ability to perform all agricultural operations

It can also be noted that rural women have limited exposure to extension activities, or that insufficient attention is given to them by agricultural extension services in the study area. This reflects the need to give greater attention to rural women as an

important social force with a significant and active role in agricultural work. It also highlights the necessity of focusing on this segment within the rural community and not neglecting it in favor of men as the sole workforce in rural areas
Field One: Contribution to Crop Production (15–77) — Mean: 41.89

in the field of crop production was 15, and the highest value was 77, with a mean of 41.89 and a standard deviation of 17.25. The respondents were divided into three categories using the class division formula (range), and the highest percentage of respondents fell within the low category, as shown in Table (1)

The results showed that the lowest value of rural women's contribution

Table (2) Distribution of respondents into three categories according to rural women's contribution levels in crop production

Mean	%	frequency	Contribution	No
27.17	41	41	low(35 -15)	1
42.29	38	38	medium(56 -36)	2
70.62	21	21	High -57)	3
Sd=17.25	%100	100	Total	

It is evident from Table (2) that the highest percentage (41%) of respondents in the field of crop production fell within the low category, followed by the medium category at 39%. Therefore, the level of rural women's contribution in crop production is described as low, which may be due to the fact that some agricultural operations related to field crops are not carried out by rural women but are the responsibility of men, in addition to other responsibilities and tasks of rural

women, such as educational, nutritional, and health care roles.

Field Two: Contribution to Animal Production (33–95) — Mean: 62.99

The results showed that the lowest value of rural women's contribution in the field of animal production was 33, and the highest value was 95, with a mean of 62.99 and a standard deviation of 16.17. The respondents were divided into three categories using the class division formula (range), and the highest percentage of

respondents fell within the medium category, as shown in Table (2)

rural women's contribution levels in animal production

Table (3) Distribution of respondents into three categories according to

Mean	%	Frequency	Contribution	
43.37	30	30	(53 -33)Low	1
64.04	44	44	Medium(74 -54)	2
83.81	26	26	High(فاقل-75)	3
Sd=16.17	%100	100	Total	

It is evident from Table (3) that the highest percentage (44%) of respondents in the field of animal production fell within the medium category, followed by the low category at 30%. Therefore, the level of rural women's contribution in some agricultural fields related to animal production is described as medium tending toward low. This may be due to the fact that animal production

operations are numerous and varied, while women have roles and tasks at home in addition to caring for animals and livestock. Consequently, they do not participate in some operations related to animal production due to their responsibilities in childcare and other household tasks such as preparing meals and providing health care at home.

Conclusions and Recommendations

First: Conclusions

Based on the results obtained from the study, the following can be concluded:

1. The results showed that the level of rural women's contribution in some agricultural fields in the Bohayazah area was at a medium level tending toward low, reflecting the actual role of rural

women in agricultural work, although this role is still relatively limited.

2. The findings indicated that rural women's contribution in the field of animal production was higher than their contribution in crop production and marketing activities, which is attributed to the nature of this field's work being practiced within the rural household environment.

3. The study revealed that poultry farming and vegetable crops recorded higher levels of contribution compared to other fields, whereas rural women's contribution in field crops decreased due to the demanding nature of agricultural operations.

4. The statistical analysis results indicated the existence of significant positive correlations between rural women's contribution level and several personal and social variables, most notably age, educational level, and the importance of agricultural work.

5. The results showed that rural women face a set of problems that limit their level of participation in agricultural work, primarily including the lack of extension and training programs, social constraints, and multiple household burdens
6-Rural women face multiple constraints that limit the effectiveness of their role.

7-There is a statistically significant positive relationship between education and income level, which rejects the adopted hypothesis.

Second: Recommendations

1. The study recommends enhancing the role of agricultural extension in the research area by implementing training and extension programs targeted at rural women to raise their level of contribution in agricultural work.

2. Support and empower rural women in the field of animal production, particularly in poultry and cattle farming, as these are among the fields in which women demonstrated higher contribution levels.

3. Focus on developing rural women's skills in crop production, especially in field crops, through training programs that align with the nature of agricultural work and women's social conditions.

4. Work to reduce social and cultural constraints that limit rural women's participation in agricultural activities by raising awareness about the importance of their role in agricultural development.

5. Encourage rural women to diversify sources of agricultural information and increase their participation in marketing activities, thereby contributing to improving

rural household income and enhancing their productive role.

6-.Providing concessional loans to support small-scale agricultural projects

7- Supporting the marketing of rural products to increase women's income

8-Encouraging women's participation in agricultural decision-making within the family and community

9.Improving essential services in rural areas, including water, electricity, and transportation

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