



Socio-Economic Variables Influencing on The level of Poultry Breeders ' Response to Information Agricultural Research Centers Related to Modern Technologies in Sulaymaniyah Governorate

Rezan Omar Ali¹

Dara.A.Salih¹

¹ University of Sulaymaniyah. Collage of Agricultural Sciences Engineering, Agribusiness and Rural Development Department.

*Corresponding Author: rezan.hassan@univsul.edu.iq

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ABSTRACT

This study aims to the level of response of poultry breeders to the information of agricultural research centers related to modern technologies in Sulaymaniyah governorate and determine the relationship between poultry farmers' responses with in Socio-economic variables. This research was conducted in Sulaymaniyah governorate on a simple random of 162 researchers, representing 30% of the research community of 486 researchers. The data was collected by personal interview through a questionnaire form prepared for this purpose, and after testing and confirming its statistically for data collection; the data were collected then it's processed and analyzed by SPSS Version22 Software. by using the following statistic: - Frequencies, percentage, standard deviation Spearman-Brown and Pearson's.

The results were found that the level of response of poultry breeders to the information of agricultural research centers in general was is medium trend to negative and They make up 90.11% of the study community, And that there is a significant relationship between the level of response of poultry breeders to the information of agricultural research centers the following variables: Age, Educational Level, years of experience, types of technological ownership, Livelihood levels. while there is no significant relationship between the level of response of poultry breeders and Number of worker variable. This study recommended that to provide government and financial support to help breeders with limited income or partial ownership acquire technology and improve their productivity. The Ministry of Agriculture and water resources in the Kurdistan region should strengthen the role of agricultural research and extension centers by intensifying applied and field activities to transfer information and research results on modern technologies and disseminate them among poultry breeders.

Keywords: Poultry Breeders, Agricultural research centers, Response, Socio-economic.

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INTRODUCTION

Educational investment in the field of Agriculture is considered the main and direct tool to strengthen the capabilities to keep up with modern life, Agricultural research centers are considered primary sources of agricultural services and information, and It is considered a reliable source of information on modern agricultural technologies that it delivers to producers by available means and adapts to the targets with the help of their application .[1]The agricultural sector is given special care by the Kurdistan Regional Government for its essential role in economic development and providing food security[2], and Private-sector agricultural project initiatives represent a fundamental constituent within the framework of economic and social development endeavors.[3].

In the Kurdistan Region's poultry sector is experiencing significant growth, with annual chicken meat production [4] as well as Poultry is one of the most important components of the agricultural economy as it is an important tool for socio-economic change, improving incomes , and the quality of rural life in the areas of extension and providing scientific recommendations to breeders related to the transfer of innovations or technology in the field of livestock in general and poultry in particular.[5] The dynamics of agricultural extension work and the achievement of its goals depend on the capabilities of its employees, on whom the burden of shaping and changing the behavior of individuals in living and production falls [6,7]. Poultry breeders are one of the important elements to achieve the goals of extension, which is based on the reception of new information and its application.

In addition, There are various information sources used by poultry breeders to determine the type of modern technologies in the poultry farm, including the following sources: agricultural guidance, sources based on Information Technology, Communication, Specialists, agricultural research centers, universities, agricultural companies, electronic sources [8, 9, 10]As well as It is also noted in recent years the multiplicity of informal agricultural information sources such as companies,

agricultural offices and agricultural research centers as a source of dissemination of agricultural information among poultry breeders, without regard to their effectiveness, which directly affects the effectiveness of the information provided by these sources [11]

This multiplicity of information sources emphasizes the importance of the role of agricultural research centers in disseminating information on modern agricultural techniques among poultry breeders, which will be one of the important sources that work to support non-indicative sources of Agricultural Information and activate them in order to achieve the desired response in the behavior of poultry breeders [12] The response of poultry breeders to information sources is an important factor in the development of their knowledge structure and strengthening and raising their performance level. Therefore, the researcher considered the need to conduct this study to find out the extent to which poultry breeders respond to agricultural research centers as one of the sources for receiving new information about modern agricultural techniques used at the poultry farm in Sulaymaniyah governorate.

Therefore, the research problem boils down to the following questions:

1. What is the level of response of poultry breeders to the information of agricultural research centers related to modern technologies in Sulaymaniyah governorate?
2. What is the relationship between the level of response of poultry breeders to the information of Agricultural Research Centers for modern technologies and each of the following Socio-economic variables: Age, Educational Level, years of experience, types of technological ownership, Livelihood levels and Number of workers in the poultry field?

Objectives of research:

1. To identify the level of response of poultry breeders to the information of agricultural research centers related to modern technologies in Sulaymaniyah governorate.
2. To determine the correlation between the levels of response of poultry breeders to the information of agricultural research centers with in the following socio-economic variables: age, educational level, years of experiences, and types of technological ownership, Livelihood levels and Number of workers in the poultry field.

Procedural definitions:

1. Poultry Breeders: They are the people who own poultry farms equipped with modern poultry farming technologies in the Sulaymaniyah Governorate.
2. Response: It is the degree of interest of poultry breeders, their positive attitude, the speed of their adoption of modern recommendations and technologies that are transmitted to them through agricultural research centers in the study area.
3. Agricultural research centers are research centers that conduct applied and academic scientific research in the fields of production and poultry breeding and diffusion research results as new information and transfer to farm owners in order to develop technology, improve productivity and raise the efficiency of the poultry sector in the Kurdistan region of Iraq.
4. Socio-economic variables: It includes the personal, functional and economic characteristics that the poultry breeder possesses in the study area until the data are collected.

Materials and Methods

Research Methodology Descriptive research aims to accurately and systematically describe a population, situation or phenomenon [13]. Moreover, the descriptive method is among the most widely used methods in the study of social phenomena. Therefore, the choice of this method, being consistent with information about the level of response of poultry breeders to the information of agricultural research centers in Sulaymaniyah governorate.

Research Area: The current study includes Sulaymaniyah governorate and all the districts and districts where there are poultry farms, Research area" The Sulaymaniyah Governorate was chosen to conduct the study because the majority of poultry farms equipped with modern technologies are located in the governorate and its districts, according to the latest data from the Poultry Breeders Association and the Veterinary Directorate in the Sulaymaniyah Governorate.

Community and research sample: The research community included all poultry breeders who have modern farms equipped with special poultry breeding and production technologies, there are 486 teachers 'as well as to select the research sample, the cluster random method was used from the community and by 30%, the sample became 162 breeders in the research area.

Preprinted research tools: To achieve the objective of this study, a specially designed questionnaire form consisting of the two sections was developed. The first section included a set of questions aimed at determining socio-economic variables of the respondents, namely: (age, educational level, years of experience, types of technological property, standard of living, and Number of workers in the poultry field). The second section contained a Likert- scale to measure the level of response of poultry breeders to the information of agricultural research centers related to modern technology at the farm, it consisted of 7 items, each followed by three options for the degree of response "fully agree," "agree with the amendment," and "disagree." The following weights were assigned to these statements: 2, 1, and 0 points, respectively.

After completing the preliminary design of the questionnaire, Validity refers to the degree to which the test measures the

characteristic it was designed to measure, The questionnaire was submitted to many specialists in the field of Agricultural extension and transfer of agriculture Technology in the University of Sulaymaniyah and the Directorate of agricultural extension in Sulaymaniyah, was 15 experts; in order to assess the clarity of its items and suitability for the intended purpose, this is known as the validity of the face. It was also presented to experts in Animal Science, and poultry management to assess the correctness of the content, which refers to the extent to which the items of the scale align with the objective or content of the scale itself.

In Addition, to ensure the reliability and relevance of the metrics used in the questionnaire as well as to confirm the effectiveness of the research tool, a Re-test was conducted, which was conducted on a random sample of 30 breeders, who were later excluded from the main study sample. This pre-test is aimed at verifying the effectiveness of the questionnaire in terms of the formulation of questions, their sequence and clarity, identifying and addressing areas of difficulty as well as re-playing the same test to same individuals and under the same condition after 2-6 weeks. [15,16]. This type of test is based on determining the time required for respondents to complete the questionnaire and calculating the reliability coefficients for the listed metrics. [17], As well as to ensure the reliability and validity of the scales: the level of response of poultry breeders to the information of agricultural research centers in Sulaymaniyah governorate. Reliability was assessed using Alpha s'Cronbach coefficient Using this method provides the lowest estimated coefficient of reliability [18]. If the value of Cronbach-alpha above 0.70 indicates high reliability, it was accepted for the final form of the questionnaire. Hence the value of Cronbach- alpha of all parts of the questionnaire was above (0.90), which indicated high reliability, and it was accepted for the final form of the questionnaire.

Measurement of Study Variables:

First: Measurement of independent Variables:

1. Age: Measured by the respondent's age in years up to the time of data collection.
2. Educational Level: Measured using the following categories: Illiterate, Literate, Primary, Intermediate, Secondary, Diploma and above) These were assigned weights of (1, 2, 3, 4, 5, 6) respectively.
3. years of experience: Measured by the respondent's experience in years up to the time of data collection.
4. Types of technological property: It is measured using a Likert-type scale consisting of 8 types for modern technologies on which the respondent may rely for poultry farming. Each source had two no-response choices: exist and non-exist, with assigned weights (2, 1) respectively.
5. Standard of living: Measured using the following categories: high, Medium and Low, these were assigned weights of (3,2,1) respectively.
6. Number of workers in the poultry field: It is measured by the respondents in the numbers of employees from the beginning of the study until the data collection.

Second: Measurement of dependent variable:

To measure the dependent variable the triple Likert scale was used to determine the level of poultry breeders' response to the information of agricultural research centers related to modern technology, then measured by using "fully agree," "agree with the amendment," and "agree." For items and the following weights were assigned to these statements: 2, 1, and 0 points, respectively.

Data Collection and Its analysis:

After completing the data collection tool in its final form, the study data was collected through a questionnaire form and personal interviews with respondents during the period from 1, June, 2025 to 8, July 2025. Once the data collection process was completed, the data was organized, tabulated and then analyzed using the SPSS VERSION22 Software [19]. then several statistical methods and techniques were employed, with the aim of summarizing the quantitative data collected by the researcher into a descriptive form that gives it meaning, followed by drawing certain conclusions from its [20]. Among these methods are: Arithmetic mean, Frequencies, Percentage, Standard deviation, Pearson's simple correlation coefficient, Spearman-Brown

Results and Discussion

1. To identify the level of response of poultry breeders to the information of agricultural research centers related to modern technologies at farms in Sulaimani governorate.

The results showed that the highest values obtained by the respondents are 15 degrees, and the lowest is 5 degrees, with an arithmetic mean of 8.63, and the raw scores were distributed to the standard scores using the Z- scale and the responders ratings scores were distributed into three categories: Positive, Medium and Negative. As showed in Table 1

Table 1: Distribution of the respondents according to the level of response of poultry breeders

The level of response	Frequency	%	Arithmetic mean	Notes
Negative (5-8)	83	51.23	6.43	X ⁻ =8.63 S.D= 2.708
Medium (9-12)	63	38.88	10.23	
Positive More than 12	16	9.89	13.75	
Total	162	100		

the results showed that the majority of poultry breeder's response to the information of agricultural research centers related to modern technologies is negative and They make up 51.23 % of the study community, The reason for this may be due to the fact that the majority of poultry breeders receive information only from indirect means of communication and their dependence on the websites of Agricultural Research Centers for their knowledge of the sources of modern technologies recommended within the poultry farm without relying on other sources or means of communication to increase their response average towards information sources (direct and indirect) in the study area.

2. To determine the relationship between the levels of response of poultry breeders to the information of agricultural research centers with in the following socio-economic factors:

In the table 2 the result finds out the following:

-Age: The results indicated that the oldest respondent was 64 years old, while the youngest was 21 years old, with arithmetic mean age of 8.64. The result showed that there is a correlation between the age variable and the level of the respondents ' poultry breeders to the information of agricultural research centers, and its value was (-0.209*) at the level of 0.01 and that the distribution tends towards the middle age groups, The reason may be that increasing the age of the research subjects will not have a positive impact on their ability to benefit from information sources for agricultural research related to the use of modern technologies on their farms.

- Educational Level: The results showed that the majority of respondents (30.2%) have an intermediate degree, compared to their peers who fall into the categories of preparatory and agricultural institutes, constituting 25.4%. The result showed that there is a correlation between the education level and the respondent's poultry breeders. And the value of correlation coefficient was (0.180*) at the level (0.05). This result may be attributed to is due to their exposure to various information sources to take advantage of them to identify and select modern technologies used on their farm.

- Years of experience: The results of the research indicate that poultry breeder' years of experience, ranging from 2 to 25 years, The research results indicate that the years of experience of poultry breeders, which range from 2 to 25 years, showed the highest percentage of respondents by 44.4% and fall within the poultry breeders with average experience in their field and fall within the categories of years of experience from (17 years and below) As well as there is an correlation between years of experience and the level of the respondent's poultry breeders. And the value of correlation coefficient was (-0.219**) at the level (0.01). This is probably due to the fact that the majority of poultry breeders are moderately experienced, but they need Extension Training Courses or review other information sources to increase their response rate to the information they receive from research centers in order to change their behavior and improve productivity on their farm.

-Types of technological ownership: The result shows that the majority of poultry breeders rent modern equipment and technologies for ventilation, nutrition, drinking water and climate to their farm when needed, and they make up a percentage (67.3%), which falls under the category (rent).and, there is a correlation between types of technological ownership and the level of the respondent's poultry breeders. And the value of correlation coefficient was (-0.252) at the level (0.01). The reason for this may be due to the fact that with the high rate of acquisition of modern technologies, poultry breeders are increasingly relying on their capabilities to effectively select the information received by agricultural research centers about the technologies used in poultry breeding and production processes, and not to resort to their expensive leasing in productivity, which affects income and the level of their response to information sources in general.

- Level of livelihood: The results indicate that the majority of breeders enjoy a good standard of living, representing 67.3% of the total. As well as there is a correlation between Level of livelihood and the level of the respondent's poultry breeders .and the value of correlation coefficient was (0.233) at the level (0.01). The reason for this may be due to that the improvement in the standard of living is accompanied by an increase in the response rate for poultry breeders to access the information of agricultural research centers and take advantage of it to find out the type of modern techniques related to poultry farming and continue to apply them in order to raise the level of productivity in their farm.

- The number of workers: The result showed that the number of employees in the poultry farm falls into two categories (4 workers or less) and constitute the highest percentage of 51.9% of the total workers in the study area. The results also indicated no correlation between the number of workers on a farm and the level of responsiveness of poultry farmers to information sources related to farm technologies. The correlation coefficient was 0.166, which is not statistically significant. This is attributed to the fact that increasing the number of workers on a farm does not necessarily lead to an improvement in the

farmers' responsiveness to information from agricultural research centers. Alternatively, it may be due to the workers' own limited awareness of the activities and services offered by these centers regarding the adoption of modern technologies and the dissemination of innovations among poultry farmers.

Table 2 Showed the Distributing of socio-economic variable and its relationships with the level of response of poultry breeders.

Variables	Categories	Frequency	%	Arithmetic Mean	Pearson Correlation Coefficient	Spearman Correlation Coefficient
Age/Year	21-35 Y	42	25.9	9.48	-0.209*	
	36-50 Y	89	54.9	8.40		
	50 Y and more then	31	19.1	8.16		
Total		162	100			
Educational Level	Illiterate	13	8.0	7.08	0.180*	
	Reading, and writing	13	8.0	9.00		
	Elementary	46	28.4	8.41		
	Intermediate	49	30.2	8.61		
	High school	23	14.2	9.04		
	Agricultural Institute and above	18	11.1	9.61		
	Total	162	100			
years of experience	2-9 Y	69	42.6	8.94	-0.219**	
	10-17 Y	72	44.4	8.79		
	18-25 Y	21	13.0	7.10		
Total		162	100			
Types of technological ownership	Property	33	20.4	9.70		-0.252**
	Partnership	20	12.3	8.95		
	Rent	109	67.3	8.26		
Total		162	100			
Level of livelihood	Good	109	67.3	8.27		0.233**
	The medium	32	19.70	9.38		
	Bad	21	13.0	9.43		
Total		162	100			
The number of workers/ persons	1-2 P	84	51.	8.21		0.166 ^{N.S}
	3-4 P	73	45.1	9.08		
	5-6 P	5	3.1	9.20		
Total		162	100			

Conclusions

In light of the research results, we conclude the following:

1. There is a lack of interaction between poultry breeders and research centers as one of the approved information sources to choose and use modern technology on a farm, where the largest percentage of responses is the average tends to negative and with a percentage (90.11%).
2. The study found that that there is a relationship between the following socio-economic variables (age, educational level, years of experience, type of possession of technologies, standard of living, number of worker in the poultry field) as well as the high level of responsiveness ‘And that they were from the middle-aged category with an average level of education and a few years of experience and with the upper possession categories of modern technologies rent, and that the majority of them had little experience in the field of modern technology and used in the poultry farm.
3. The study found that there is no correlation between the number of worker and the level of response of poultry breeders to the information of agricultural research centers, we conclude that any digital change in the number of farm workers is not affected by the degree of response of poultry breeders due to the difference of their tasks and the practice of their activities on the farm.

Recommendations

- [1]. The Ministry of Agriculture and water resources in the Kurdistan region should strengthen the role of agricultural research and extension centers by intensifying applied and field activities to transfer information and research results on modern technologies and disseminate them among poultry breeders.
- [2]. Raise breeders' awareness of the importance of modern technology through training courses, workshops, and media awareness programs.
- [3]. Provide government and financial support to help breeders with limited income or partial ownership acquire technology and improve their productivity.

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المتغيرات الاجتماعية والاقتصادية المؤثرة على مستوى استجابة مربّي الدواجن لمعلومات مراكز البحوث الزراعية المتعلقة بالتقنيات الحديثة في مزارعهم في محافظة السليمانية

دارا عبد الرحمن صالح¹

ريزان عمر علي¹

¹ جامعة السليمانية، كلية العلوم الزراعية، قسم الهندسة الزراعية والأعمال الزراعية والتنمية الريفية

الخلاصة

تهدف هذه الدراسة إلى معرفة مدى استجابة مربّي الدواجن لمعلومات مراكز البحوث الزراعية المتعلقة بالتقنيات الحديثة في مزرعة الدواجن بمحافظة السليمانية، وتحديد العلاقة بين استجاباتهم والمتغيرات الاجتماعية والاقتصادية. أجري هذا البحث في محافظة السليمانية على عينة عشوائية بسيطة من 162 باحثاً، يمثلون 30% من مجتمع البحث البالغ 486 باحثاً. جُمعت البيانات عن طريق المقابلة الشخصية من خلال استمارة استبيان أعدت لهذا الغرض، وبعد اختبارها والتأكد من صحتها إحصائياً، جُمعت البيانات وحوّلت وحللت باستخدام برنامج SPSS الإصدار 22، باستخدام الأساليب الإحصائية التالية: - التكرارات، والنسب المئوية، والانحراف المعياري، ومعامل سبيرمان-براون، ومعامل بيرسون. توصلت النتائج إلى أن مستوى استجابة مربّي الدواجن لمعلومات مراكز البحوث الزراعية بشكل عام كان من اتجاه متوسط إلى سلبي وأنهم يشكلون 90.11% من مجتمع الدراسة، وأن هناك علاقة ذات دلالة إحصائية بين مستوى استجابة مربّي الدواجن لمعلومات مراكز البحوث الزراعية والمتغيرات التالية: العمر، المستوى التعليمي، سنوات الخبرة، أنواع الملكية التكنولوجية، مستويات المعيشة، في حين لا توجد علاقة ذات دلالة إحصائية بين مستوى استجابة مربّي الدواجن ومتغير عدد العمال. أوصت هذه الدراسة بتوفير الدعم الحكومي والمالي لمساعدة المربين ذوي الدخل المحدود أو الملكية الجزئية على اكتساب التكنولوجيا وتحسين إنتاجيتهم. يجب على وزارة الزراعة والموارد المائية في إقليم كردستان تعزيز دور مراكز البحوث والإرشاد الزراعي من خلال تكثيف الأنشطة التطبيقية والميدانية لنقل المعلومات ونتائج البحوث حول التقنيات الحديثة ونشرها بين مربّي الدواجن

الكلمات المفتاحية: مربّي الدواجن، مراكز البحوث الزراعية، الاستجابة، الجوانب الاجتماعية والاقتصادية، التكنولوجيا الحديثة، مصادر المعلومات، التقنيات الحديثة .