



Management of the educational program supporting the *wheat* crop by the staff of the Anbar Extension Center toward rural development

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Abstract

Purpose: The management of any extension program is very important because its success will help the countryside towards sustainable development. The study was conducted in Anbar Governorate to find out the effects on rural development .

Research Method: A questionnaire was used to achieve the study's objectives; the data collected from them was 72 extension employees. The SPSS program was used to analyze the data and find out the relationship between the independent variables and the impact on rural development.

Findings: The study indicated that most of the employees were young. Less than 45 years old. Likewise, most of the employees have attended training courses, more than 97%. The study showed that most employees hold a diploma up to a master's degree. In general, the results of the study in the field of job satisfaction indicated that employees had an average attitude toward job satisfaction. In the field of the impact of Covid 19, the results showed that the trend of the sample was between weak and average. Striving to develop a fixed strategy for agricultural extension centers and agricultural directorates and to benefit from the experiences of the Food and Agriculture Organization, the World Bank, and international organizations in this field operating in the governorate

Keywords: Agricultural crops, Anbar province. Extension programs, rural development, sustainable development, COVID-19

Introduction

Integrated rural development and agricultural development are interrelated; as they lead to one principle, which is to seek to eliminate the problems and obstacles that exist in rural areas, and the need to develop appropriate treatments for them, through the development of laws and legislative procedures, or strategic policies followed. To achieve the goals of integrated agricultural and rural development and to reach them towards sustainable rural development. The agricultural sector in Iraq faces many challenges, threats and pressures, and this leads to a negative impact on the future of agriculture, as we find that natural resources, including water, land and the environment are deteriorating due to natural processes, and human activities in population expansion (Saleh and Man, 2017) [3]. Which resulted in the spread of environmental pollution, a decrease in soil fertility, an increase in the rate of desertification, a decrease in the available water resources in addition to their limitations, and climatic changes? All this confirms that the proportion of natural resources is in a continuous deterioration due to the increasing and continuous population pressure, as well as inappropriate agricultural practices, including waste in the use of irrigation water, fertilization in excess of plants, and the excessive use of pesticides, which led to the destruction of the biological life of the soil, and imbalance in. The relationship between the elements of the environment and the organisms that live on it, and the repercussions of all this on the severe deterioration of limited agricultural lands (Saleh, and Elhamoly, 2017) [3].

Agricultural extension plays a major role in the vertical and horizontal agricultural development programs and projects. In the field of vertical agricultural development, agricultural extension works to raise the agricultural productivity of the

current agricultural area through the application of research results, agricultural discoveries, ideas, experiences and modern agricultural methods. As for the areas of horizontal agricultural development. Guidance can play a major role in helping the new immigrants to adapt to the new conditions of life. It is necessary to work to achieve the goals of agricultural development by increasing agricultural production and improving its quality in line with international standards in order to secure the need for local consumption and achieve a surplus for export to foreign markets by educating farmers on the application of modern technologies and how to benefit from loans to develop their production and agricultural expertise, and then introduce them to how Preserving natural resources and ensuring sustainable development of resources (Saleh, *et al*, 2022) [5]. The role of agricultural extension lies in transmitting information and results to the farmer at the field level. Today, farmers face many problems such as lack of agricultural equipment, poor information on diseases and pests that affect crops, great damage to agricultural crops, hurricanes, epidemics, unsuitable soil, lack of water, lack of agricultural extension agents, drought, heavy rains, and wars. Violence, and security instability. Training farmers and educating them on new agricultural methods that guarantee them to get a good crop of high quality. Agricultural extension works to gain the confidence of farmers by forming good relations based on friendship and respect, and creating a spirit of cooperation with them (Kalfin *et al*, 2022) [2]. Communicating the results of agricultural research and experiments to farmers after simplifying them so that they can become familiar with and apply them. Introducing them to the various agricultural production requirements that are commensurate with their capabilities and capabilities. Disseminate and communicate

agricultural and technological innovations to farmers and work to put them into practice on their farms so that they can adopt and adopt them. Involving farmers and inviting them to various agricultural events, symposiums and meetings for their benefit of them by acquiring new experiences through discussion, meeting and observation.

This study aimed to achieve the following specific objectives:

1. Identify the personal characteristics of agricultural extension workers.
2. Identify the most important problems and obstacles to rural development.
3. Knowing the relationship between the independent variables in the study (Age, Working years, Marital status, Education level, Number of training courses, Position), and the dependent variable, the effects on rural development.

Materials and methods

Conceptual framework

A future vision is formulated for the development of the agricultural sector in general and the transfer of modern agricultural techniques, and these plans for the Iraqi governorates are within the policy of the Ministry of Agriculture to ensure an increase in agricultural production to reach self-sufficiency in vegetable crops, as well as focus on strategic crops (wheat, barley, rice, and maize). where support programs are being developed for these crops to increase their productivity, for example, there is an awareness program that supports the wheat crop, and it is also carried out in cooperation with the directorates of agriculture in all governorates to achieve an increase in production to reach the highest production and reduce economic costs, and the growth and development of the countryside (Saleh *et al*, 2022) [5].

This study was conducted in Al-Anbar Governorate, which is located in the western part of Iraq and covers an area of about 33% of the total area of Iraq. This study was conducted because Anbar Governorate is considered the main supplier of vegetables and fruits to the capital, Baghdad. In addition, to the large area of Anbar Governorate, which enables it to grow many crops as well as, to a large number of livestock. Moreover, in order to learn about the role of agricultural extension in this province, which has suffered during the past period, from the events of ISIS, which caused the destruction of all the infrastructure of the agricultural extension departments,

including the extension center in Anbar, which takes an Alternative location due to the destruction of the extension center building, and since the liberation one of the terrorist gangs of ISIS, but it has not been reconstructed so far. In addition to other extension departments such as the Anah farm, the Heet farm and the Karma extension farm, and this causes a major obstacle to the provision of extension services throughout Anbar Governorate. In addition, the distribution of extension farms in the governorate was incorrect, as there is a large divergence between one farm and another, as there are five extension farms in the western part of the province, which have a sparse population density compared to what exists from the city of Ramadi to the city of Garma, where there is an extension farm one only (Saleh *et al*, 2022) [5].

Methodology

A pre-test was conducted on 15 employees who were not included in the final research, after which data were collected from all agricultural departments in Anbar Governorate, for agricultural extension workers, which included (Agriculture Directorate, Agricultural Divisions, Agricultural Extension Center, and Extension Farms). The number of employees from whom the total data was collected was 72 an indicative employee. Since the number of extension employees is 87. That were 15 employees who were tested pretest were excluded. Al-Khalidi defined the counseling program is a number of organized steps that were planned in advance, according to scientific foundations with principles that have specific goals to achieve, and take place during organized sessions, according to the relationship between the mentor and the mentor (Al-Khalidi, 2012) [1].

The questionnaire was prepared to achieve the objectives of the study, and its validity was verified in its content of questions to achieve the objectives of the study, as well as verifying its external validity, as it was presented to psychologists, as well as specialists in agricultural extension at the College of Agriculture. The axes of the study included the axis of personal characteristics of the employees, the axis of satisfaction with the extension programs, the axis of agricultural resources, the axis of agricultural problems and obstacles, and finally the axis of the effects of the Corona pandemic on agriculture and food security. An experimental T-test search was conducted for 15 employees who were excluded from the final research, to modify the questionnaire in the final formula that meets the objectives of the study (Saleh and Man, 2017) [3].

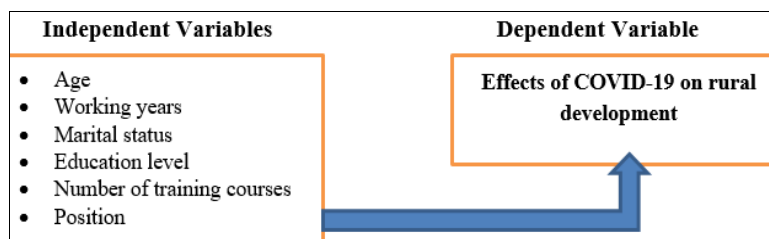


Fig 1: Represents the relationship between the independent variables and the dependent variable.

Results and discussions

1. Personal Characteristics of the Extension Staff

It is important that the extension staff have a full understanding of the cultural elements of the local community in which new agricultural technology is spread and the ability to understand farmers about their personal

characteristics, skills and attitudes towards accepting modern technology in addition to their level of knowledge and ability to think and use the principle of rationality in making decisions regarding new technological innovations in addition to In addition, the extension cadre needs skill, ability and accurate knowledge in how to diagnose problems

and find solutions to them, and the desire to interact with other organizations and institutions that have field information and data, as well as the desire to interact with information delivery systems and efficiency in understanding, modifying and applying new agricultural technological scientific information (Saleh and Man, 2017) [3]. The results of Table 1 indicated about the personal characteristics of the employees. With regard to the development process and the role of the extension cadre, a careful and insightful look should be given to the existing

Agricultural situation, while avoiding prejudgment as much as possible. The data in table 1 show that Position the percentage of employees of the Directorate of Agriculture was 35,6 followed by 32.9 for the agricultural division employees, and the third place was for the employees of the extension farms spread throughout Anbar Governorate, with 17.8, and finally 12.3 for the employees of the extension center, due to the presence of the extension center employees in Anbar Province and the lack of recent appointments during the five recent years.

Table 1: Descriptive Analysis of the Participants

No	Description	Frequency	Percent	Mean	S. D	
1.	Position	Extension center	9	12.3	2.90	1.00
		Extension farm	13	17.8		
		Agricultural directorate	26	35.6		
		Agricultural Divisions	24	32.9		
2.	Age	Until 25 years	6	8.3	2.69	0.89
		25-35 years	25	34.7		
		35-45 years	26	36.1		
		More than 45 years	15	20.8		
3.	Education level	High school	4	5.6	4.80	0.78
		Institute	17	23.6		
		College	41	56.9		
		Master	9	12.5		
		Ph.D.	1	1.4		
4.	Marital status	Married	59	80.8	1.23	0.54
		Single	9	12.3		
		Divorce	4	5.5		
5.	Working Years	Until 5 years	17	23.3	2.19	0.89
		5-10 years	30	41.1		
		10-15 years	19	26.0		
		15-20 years	6	8.2		
6.	Training courses	0 training courses	2	2.7	2.01	1.14
		5 training courses	29	39.7		
		5-10 training courses	18	24.7		
		10-15 training courses	12	16.4		
		15-20 training courses	11	15.1		

With regard to the ages of agricultural employees, the ages came in the first place from 35 to 45 years, at a rate of 36.1%, and came in the second place for ages from 25 to 35 years, at 34.7%, followed by ages over 45 years at 20.8%, and finally, businesses under 25 years ranked at 8.3% and this is a good indicator that most of the agricultural employees' ages are of productive ages, which can be benefited from in a wider and long-term manner, and this is consistent with the study (Saleh and Man, 2017) [3]. In the field of the educational level of agricultural employees in Anbar Governorate, the study indicated that more than half of the employees hold a bachelor's degree at a rate of 56.9%, followed by 23.6% for employees who have a diploma, while the study showed that those with a master's degree were 12.3%, while those with a certificate. The preparatory rate was 5.6%, and finally 1.4% of the PhD holders, and this explains that most of the employees hold a bachelor's degree upwards, and this gives an indication that the employees are able to perform their tasks in an appropriate manner and provide information to farmers appropriate to develop their agricultural reality (Saleh *et al* 2022) [5]. With regard to the social status of employees, the majority of employees were from the married category, at a

rate of 80%, followed by 12% for the unmarried, and the last 5% for the divorced category. This is also a good indicator that married couples work hard and are responsible towards their work to provide the best. This study agrees with what was stated in the study (Muzna *et al*, 2021). The results of the study indicated that the highest percentage was for the period of work from 5 years to 10 years, with a total percentage of 41%, followed by 26% for the period from 10 to 15 years, and thirdly 23% for employees who have worked Less than 5 years, and finally 15 years to 20 years, 8%. This indicates that some employees have little experience and that is why they need more training during their job to increase their experience and provide the best (Saleh *et al*, 2023) [6]. The results of the study in the field of obtaining training courses during their career work, indicated that the highest percentage was 39% for training courses only 5 training courses, and 16% for those who obtained the number of training courses from 10 to 15 training courses ranked second, and then came 15% For holders of a number of courses from 15 to 20 training courses. Finally, 2% of employees who did not receive any training course came, so all employees must receive training courses to increase their skills, knowledge and experience in

Their field of work, and this is indicated by a study (Saleh and Man, 2017)^[3]. In the last field regarding the counseling seminars, 52.1% came first, followed by 24.7% for those who obtained 5 to 10 counseling seminars, then 17.8% for those who obtained 10 to 15 seminars, and then 2% for those who did not receive any counseling seminars. A percentage of 1.4% for those who have received a number of 15 to 20 counseling seminars, and this indicates that most employees have received counseling seminars, and everyone must obtain a variety of counseling seminars to develop their skills and experience in their work tasks (Saleh *et al*, 2022)^[5].

1. Agricultural Problems and Constraints

Within this context, one of the activities practiced by the extension staff includes the consolidation of change by providing and delivering promotional messages (extension messages) to farmers that include new information and instructions on how to use a particular new agricultural technology and identify problems and solutions that may result from the use of this technology. In general, the staff the extension has a distinguished role in technological change and the process of transfer and dissemination of new agricultural technology through the employment of integrated skills of a high level (Shaikh, 2020)^[8].

Table 2: Problems and obstacles during the Corona pandemic period.

No	Name of problems and Constraints	Impact degree			Mean	S.D	T-test
		Low	Average	High			
1.	Agricultural equipment is few and depends on favoritism	32	19	10	1.69	0.70	-3.68
2.	Agricultural equipment is more expensive than the local market	30	27	14	1.77	0.76	-2.49
3.	Poor internet in villages and no coverage	21	30	20	1.98	0.76	-0.15
4.	Lack of smart mobile use in Iraq to use agricultural information	21	35	15	1.91	0.71	-0.99
5.	Agricultural information on the Internet is not credible and conflicting	20	31	20	2.00	0.75	0.00
6.	Too many agricultural websites cause confusion of information	31	30	10	1.70	0.70	-3.53
7.	Not educating farmers about scientifically credible sites	31	29	11	1.71	0.72	-3.29
8.	There is no support for fertilizers, pesticides or seeds	35	22	14	1.70	0.78	-3.18
9.	The seeds that are distributed are of poor quality	37	22	12	1.64	0.75	-3.91
10.	Marketing silos depend on nepotism and administrative corruption	35	26	13	1.64	0.71	-4.12

The results of Table 2 indicated that the highest average of problems and obstacles was the agricultural information on the Internet was of little credibility, with an average of 2.00 and a standard deviation of 0.75. The Internet poverty in the villages and the lack of adequate coverage in those villages ranked second with Maen 1.98, and a standard deviation 0.76 and this affects the arrival of the information required for farmers to develop their capabilities and develop their villages (Saleh *et al*, 2022)^[5]. While the axis of the large number of security controls until the farmers reach the market, which leads to the loss of the quality of their products due to the delay until they reach the market, with an average of 1.94 and a standard deviation of 0.75. It came in the last place in the axis of problems and difficulty in marketing agricultural products, with an average of 1 and a standard deviation of 0. This coincides with the study (Yue Zhan *et al*, 2021)^[9], where the study showed the impact of Covid 19 on agricultural production and rural development. We note from the results of Table 2 that the villages suffer from many obstacles that hinder the development of their agricultural reality.

Relationship between independent variables and dependent variable (the impact of COVID-19) on rural development.

The results of Table 3 showed that the highest effect during the Corona pandemic was the following axis (Transportation costs are rising due to the COVID-19 pandemic) with an average of 2.69 and a standard deviation of 1.11, and this indicates the high costs of transporting agricultural products during the pandemic, due to the large number of controls Security and complete isolation, in addition to the lack of oversight and the lack of accountability of carriers when raising their prices, as well as due to financial corruption and the use of security influence financially, and thus the farmer is forced to pay additional wages to ensure the

arrival of their products before they are damaged (Santoro *et al*, 2022)^[7].

It came in second place in terms of the impact of the epidemic (because of the pandemic, the fear of planting some vegetable crops due to the inability to sell them because of its distance from the market (for wholesale market/ vegetable market), with a mean of 2.64 and a standard deviation of 1.13. The reason for this is the fear of farmers From their inability to sell vegetable products, because the wholesale market for vegetables is far from their villages, and because they do not have stores to store their products until the end of the closure, in addition to the great distance between their villages and vegetable markets (Saleh *et al*, 2022)^[5].

In addition, the third ranked in terms of the effects of the Corona pandemic, the axis (Inconsistencies in the local market greatly affected our products, as the price increased in some premiums (wholesale market) and decreased in others / supply and demand), where the mean of the axis was 2.57, standard deviation of 1.20 as the contradictions and differences in the local market have a great impact on selling products at reasonable prices to farmers, as they know that in the neighboring markets the prices are higher than the price at which they sold their products, as farmers in the past had the freedom to move and sell to the neighboring markets, either Now, due to the complete closure between the governorates, it has affected the sale of their products at prices that may not cover the costs of their production, and this of course has a great impact in the future, through their fear of planting products that need to be sold to other governorates as was the normal situation in the past (Saleh *et al*, 2023)^[6].

While the next axis ranked last in terms of the impact of the pandemic (it affected the development of the countryside during the period through the lack of access of government employees to the countryside), with a mean of 2.07 and a standard deviation of 1.09, through the impact on rural

development due to the failure of the agricultural staff and the rest of the agencies supporting agriculture to reach the villages and the countryside, as it was in the past when the normal situation was (Santoro *et al*, 2022) [7]. The effects can be clearly and accurately observed through the axes studied in Table 3, to know the effects caused by the pandemic during the last period.

The results of Table 3 on the relationship between the independent variables and the dependent variable, the effect of Covid-19, showed that the relationship was positive, at a significant level of 0.5 and a level of 0.1 for the following variables (work site, age, educational level, number of years of agricultural work, number of training courses, Agricultural information sources, job satisfaction).

Table 3: Effects of the COVID-19 pandemic on agriculture, food security and rural development.

N0	Impact according to the opinion of the agricultural advisor (✓)	Score					Mean	S.D	T-test
		1	2	3	4	5			
1.	Its effect on the use of manpower in agricultural fields	21	18	16	14	2	2.40	1.19	-4.18
2.	Its impact on the crop due to the delay in marketing during urban days and road blocks	24	15	15	12	5	2.42	1.30	-3.72
3.	Its significant impact on the rise in the price of raw materials in the local market	18	24	17	9	3	2.36	1.12	-4.74
4.	Its effect is through the lack of some materials in the local market / the greed of traders	13	31	21	6	0	2.28	0.86	-6.99
5.	Transportation costs are rising due to the COVID-19 pandemic	11	22	19	16	3	2.69	1.11	-2.33
6.	Due to the pandemic, the fear of planting some vegetable crops due to the inability to sell them due to their distance from the market (for the wholesale market / vegetable market)	12	23	17	16	3	2.64	1.13	-2.61
7.	Corona pandemic I benefited from by marketing my products at a good (high) price	17	21	19	9	5	2.49	1.19	-3.57
8.	The pandemic was greatly affected by the rise in food prices (low prices for agricultural products)	16	27	15	9	4	2.40	1.14	-4.36
9.	The media gave more than what was needed to the Corona pandemic and caused great fear among farmers	15	27	17	6	6	2.45	1.16	-3.95
10.	The distance of the health centers from the villages had a significant impact on the difficulty of identifying and treating the infected person with Covid-19	11	33	17	6	4	2.42	1.03	-4.68
11.	The policy of cutting roads and urbanization greatly affected the marketing of our products and damaged many of them	18	30	10	10	3	2.29	1.12	-5.26

1=Very Agree, 2=Agree, 3= Neutral, 4=Disagree, 5=Strongly Disagree.

Conclusions and recommendations

The results of the study showed a training need for some aspects of agriculture, so it is necessary to strive hard to build capacities in all fields of agricultural work, through the establishment of specialized workshops to keep pace with recent developments in the field of agriculture, in order to develop information, knowledge and skills and increase the experiences gained, to benefit from the training organized by international organizations operating in Anbar Province. Training must be according to the job needs that the agricultural departments estimate for their employees.

We recommend future studies to focus more on modern demand-driven methods that allow farmers to participate in identifying solutions to their problems. Planning to establish agricultural extension centers in districts and sub-districts to provide the best services and solve technical problems facing farmers and agricultural producers. In addition, the necessity of appointing competent and qualified employees in agricultural extension with the provision of material and moral support to them in order to advance the productive agricultural reality in the countryside. Also, the necessity of making a change in the curricula for agricultural extension, in the faculties of agriculture and other scientific institutions in the light of international standards. It is necessary to pay attention to specialized guidance and animal guidance, as well as guidance for handling crises, by all extension centers and agricultural departments because of its importance to farmers.

Author Contributions: J.M.S. and Anwer T Q. contributed to the research design, data analysis, and writing of the manuscript. All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest: The authors declare no conflict of interest.

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