السنة الثالثة والعشرون العدد 87، شهر كانون الاول ، سنة 2025 تاريخ قبول النشر/2025/4/6

https://doi.org/10.31272/ijes.v23i87.1350

المجلة العراقية للعلوم الاقتصادية
Iraqi Journal For
Economic Sciences

ISSN : 1812-8742 ISSE : 2791-092X Arcif : 0.375

Agricultural education and its impact on the growth of the agricultural sector in Iraq

التعليم الزراعي واثره على القطاع الزراعي في العراق

م.م. شذى سالم دولاب جسام
Shatha Salim Doolab Gasam
shathasalim19901994@nahrainuniv.edu.i
كلية اقتصاديات الأعمال، جامعة النهرين

المستخلص

يعتبر التعليم استثمارا في الموارد البشرية. كلما ارتفع مستوى التعليم، زادت إنتاجية الموارد البشرية المتاحة، وتزداد إنتاجية الفرد. يؤدي الاهتمام بالتعليم إلى تحقيق الاستغلال الأمثل للموارد المتاحة للمجتمع ككل بشكل عام. ومن هنا فمن المنطقي أن يرتبط تحقيق أهداف التنمية الزراعية ارتباطاً وثيقاً بالتعليم الزراعي وكفايته وكفاءته. يهدف البحث إلى معرفة مدى تأثير التعليم الزراعي على نمو القطاع الزراعي في العراق. نلاحظ وجود هناك علاقة سببية أحادية الاتجاه تمتد من العمالة الزراعية إلى الناتج المحلي الإجمالي الزراعي، كما أن هناك علاقة سببية أحادية الاتجاه تمتد من الإنفاق على التعليم الزراعي إلى عدد أعضاء هيئة التدريس في كليات ومعاهد الزراعة. ولا شك أن هذه النتائج مفيدة لمتخذي القرار في مجال اقتصاديات التعليم.

الكلمات المفتاحية: التعليم الزراعي، النمو في المجال الزراعي، التنمية الزراعية.

Abstract:

Education is considered an investment in human resources. The higher the level of education the greater the productivity of the available human resources, and the productivity of the individual increases. Interest in education leads to achieving optimal l exploitation of the resources available to society as a whole in general. Hence, it is logica that achieving agricultural development goals is closely linked to agricultural education and its adequacy and efficiency. Accordingly, the research aims to know the extent of the It was .in Iraq impact of agricultural education on the growth of the agricultural sector observed that there isone-waycausal relationship extending from agricultural way causal relationship extending -employment to agricultural GDP, and there is also a one ing staff in from spending on agricultural education to the number of members teach colleges and institutes of agriculture. There is no doubt that these results are restrictive for .economics decision makers in the field of education

Keywords: Agricultural education, Growth in the agricultural, Agricultural development.

Introduction: Agricultural education is a field of study that focuses on developing knowledge and skills related to agriculture, which includes growing plants, raising animals, and farm management. This field is one of the most important areas in the life sciences and contributes significantly to meeting the needs of sustainable food and agriculture around the world. **(ALZOBAIDY, Dakhel Hussein; MOHAMMED, Mohammad, 2003, 10.1: 9-24.** This contributed to developing their capabilities and increasing job opportunities in the region. Agricultural Capacity Development, by training students and teaching them advanced agricultural techniques, the school has contributed to enhancing the agricultural capabilities of local farmers. (**Ahmed Abu Al-Yazid, et 2023, 33.1: 313-327**). Graduates applied the knowledge and skills they acquired at school to improve their production and the effectiveness of their work. The school cooperated with local farmers and government agencies to transfer modern agricultural technology to the local community (**Khattab, Magdy Abdel Wahab, 2021, 42.2: 1059-1078).** Agricultural education and its impact on the growth of the agricultural sector in EgyptProf. Dr Ahmed Abu Al-Yazid Al-Raoul Prof. Dr. Aoun Khairallah Aoun, Hamad Iman Youssef, Hafez Youssef, Department of Economics and Agricultural Business Management - Faculty of Agriculture - Alexandria University. Transfer of agricultural technology, the results of economic and social studies confirmed the strong and effective impact of education in increasing the productivity of individuals. This has a positive impact on income, whether at the individual level or at the national level, that is, in increasing output. Therefore, the link between education and the economy is undoubtedly very close and definitely contributes to achieving economic growth. Education also has important social dimensions, as it works to expand the awareness of emerging generations and direct them towards their destination Sound and ambitious scientific studies that lead to unleashing the forces of creativity, in addition to the importance of education in bringing the people of society closer together from each other by dissolving many customs and traditions and melting them into one crucible and the behavioral patterns they produce. And similar social aspects make them closer and more attracted to the current social and economic dynamics, in addition to the important role that education plays in refining social behavior and liberation from customs and traditions that stand in the way. Thus, farming methods were improved and advanced agricultural practices were used to increase productivity and achieve agricultural sustainability **(A. Dr. Dhamnoullah Khakhnou Sweifah Hafsou Swinnaim, Dadallah 12, 2018, pp. 221–2).** The aim of the agricultural experiment is the key point in addressing food problems and creating more job opportunities, especially in rural areas. Agriculture has the potential to combat environmental degradation and address water scarcity. Farmers in Iraq are equipped with agricultural information to implement hydroponic systems effectively. This aims to enhance agricultural productivity and economic prosperity, while meeting Iraq's needs. On the other hand, the Food and Agriculture Organization of the United Nations (FAO), in partnership with the Ministry of Planning, the Ministry of Agriculture, the Ministry of Health and Environment, and the Ministry of Water

Resources, launched a multi-sectorial platform for implementing, planning and following up on agriculture, water and environment projects in Iraq. Agriculture is considered the backbone of achieving sustainable development in Iraq, enhancing food security and improving the living conditions of farmers. This is the goal of the research paper presented to highlight the importance of agricultural education in increasing awareness among farmers and workers in the agricultural sector and thus increasing growth in Iraq(World Health Organization. Regional Office for the Eastern Mediterranean, Food and Agriculture Organization. Global Health Organization. Regional Office for the Eastern Mediterranean, 1949). □

1. Research methodology :first, the research problem: What is the impact of the current agricultural education on the growth of the agricultural sector in Iraq, what are the challenges facing the development of this education, and how can it be improved to enhance sustainable agricultural development? ”

Second: The Goal of the Research Paper Presented to Highlight Increasing Growth in Iraq. Third: The importance of research: Research in the relationship between agricultural education and the development of the agricultural sector in Iraq is of the utmost importance to achieving sustainable development and improving the standard of living of the Iraqi people. Fourth: Society and Research Seam: Iraq

Fifth: Research Approach: Ku Sixth: The temporal and spatial frame

Seventh: Research structure: The first axis, theoretical side, and the second axis, theoretical aspect The first axis. Theoretical. It relies on the use of synthetic chemical fertilizers to feed plants. - It uses chemical pesticides to combat pests and diseases.

- It relies heavily on excess irrigation, which leads to wasting water.

- Regular agriculture uses hybrid varieties (developed for specific advantages such as resistance to pests or increased productivity) at the expense of traditional local varieties. - It relies heavily on non-renewable energy resources such as fuel (**AL-KULABI, Ali Khazaal Jawadi, 2022, 3.1: 1-13).**

4. Sustainable Agriculture: It relies on combating pests and diseases through biological control and the use of beneficial insects and beneficial microbes. - It is concerned with saving water and achieving high efficiency in its consumption by using advanced irrigation techniques and effective water management. - It enhances agriculture, Sustainable local varieties, and genetic diversity. - It relies on the use of renewable sources of energy, such as solar and wind energy, to meet its energy needs.

-The first innovation: vertical farming in cities.

- The second innovation: using drones to monitor crops and determine their needs.

We can conclude that sustainable agriculture plays a crucial role in improving the economic sustainability of rural communities and enhancing the livelihood of farmers. By rationalizing the use of water resources, water use efficiency is improved, and soil quality is improved, leading to increased crop productivity and improved farmers' income. In addition, crop diversity provides greater economic opportunities for farmers and reduces financial risks associated with crop price fluctuations. Besides, recycling agricultural waste improves soil composition and

reduces dependence on synthetic chemical fertilizers, which protects the environment and conserves natural resources.

When farmers adopt sustainable agricultural principles and practices, they achieve tangible economic benefits, as well as save the environment and enhance the long-term sustainability of agricultural activity. By improving the economic sustainability of rural communities, we can see improved quality of life for farmers and increased economic opportunities for them and the entire community There is a relationship between the number of workers in the agricultural sector and the gross domestic product of the agricultural sector, as the gross domestic product increases with the increase in the number of workers in the agricultural sector, which leads to an increase in the per capita share of agricultural output and thus leads to a direct relationship between them. This is the most important finding of the research, as increasing awareness Agricultural education contributes significantly to increasing agricultural output, which affects the growth of the agricultural sector, and this is the goal of the research that we aim to achieve Iraq It was observed that there is a one-way causal relationship extending from agricultural employment to agricultural GDP, and there is also a one-way causal relationship extending from spending on agricultural education to the number of faculty members in agricultural colleges and institutes. There is no doubt that these results are restrictive for decision makers in the field of education economics.

5. The Hidden Problem in the Agricultural Economy: In this part of the unit, we will learn about the role of agriculture as a major economic sector and its importance in providing food and achieving food security. We will explain how agricultural

production contributes to the economy. **(Muhammad Ali Nassif, 1994**), The sample of this paper analyses the impact of the agricultural sector's gross domestic product on the average per capita share of agricultural output and clarifies the ratio between the number of workers in the agricultural sector and the number of teaching staff members in agricultural schools. We will use real data and economic information to understand how the agricultural sector affects the economy in general. This is shown in Table 1. Innovation in Agriculture: (**FAO: Challenges and Opportunities in One World - Page 169**) In this section, we will discuss the importance of innovation and technology in developing agriculture and improving productivity and efficiency. We will learn about the latest technologies used in agriculture, such as hydroponics, organic farming, and the smart use of pesticides and fertilizers.

A work sample showing successful technological innovations in agriculture and how they impact the local and global economy. Talking about vertical farming in cities and the use of drones to monitor crops and determine their needs (**Muhammad Salman Hassan • 1965)**

6. Agriculture is considered a Major Economic Sector in all Countries, as it plays a Crucial Role in Providing Food and Achieving Food Security

6.1. Meeting the Population's Food Needs: Agriculture is the main source of food that people need to survive. They provide us with vegetables, fruits, grains, meat,

dairy and other food products. Without agriculture, communities would have great difficulty meeting their basic food needs (**Dr Muhammad Salman, 2007**).

***6.2. Food Security*:** Agriculture ensures sustainable sources of food and thus enhances food security. Food security means the availability of sufficient and sustainable food for all population groups at all times. By developing and strengthening agriculture, we can ensure the availability of food for all, avoiding famine and food shortages.

6.3. Contributing to Economic Growth Agriculture contributes significantly to the economic growth of a country, whether evolutionary or developing. It provides employment opportunities for many individuals, whether they are farmers or workers in food industries related to agriculture. In addition, agriculture contributes to achieving a trade balance, as the country can export agricultural products and achieve important economic returns. Example: Suppose there is a country that relies heavily on exports of crops such as wheat and rice. If this country is exposed to a shortage in its agricultural production, it will find it difficult to meet the needs of its population for basic food, and at the same time, it will face major economic challenges as a result of the decline in export revenues. Suppose we are studying the economy of a country called an "agricultural country." This country relies heavily on agricultural production as a major source of national income and export. We will analyze this country's foreign trade data over recent years.

7. Agriculture as a Source of Income and Employment: The role of agriculture as a source of income and employment. Agriculture is not just an economic sector, but rather an integral part of the country's growth and prosperity. Agriculture plays an important role in providing food and improving the living standards of the population, as well as providing job opportunities and increasing national income. Here are some points related to the importance of agriculture as a source of income and employment (**Al-Mawla, Abdul Sattar Raif Hassan Hammadi, 2003-2011, 2012).**

- Agricultural production requires many skilled and unskilled workers in various stages of agricultural work, such as cultivating land, irrigation, harvesting, and preparing crops for market. Thus, the agriculture sector contributes to providing job opportunities for many individuals and improving their livelihood.

- Increase national income: Agriculture is a major source of national income for the country. When the agriculture sector is developed and expanded, the production of crops and agricultural products increases, which leads to increased revenues and national income for the country. Hence, this additional national income can be used to finance the economic and social development of the country.

- Improving trade balance: The agriculture sector is one of the main areas where the country can achieve a positive trade balance. When agriculture grows and increases its production, a country can increase exports of agricultural products, improve the trade balance and reduce dependence on agricultural imports.

- Rural development: The agricultural sector represents the main activity in rural areas, and contributes to improving infrastructure and basic services in those areas. When invested in agriculture, roads, transportation, agricultural irrigation, health services, education, and other necessary services are developed. Agriculture is of

great importance in providing job opportunities for local communities. It provides diverse jobs in various aspects, such as growing crops and raising animals Let's take a look at some. Ways and reasons farmers can get income from farming. Plant Cultivation: Animal Husbandry: Farming Technique. Agricultural industries: In addition to growing crops and raising animals, farmers can do this. Exploiting opportunities available in agriculture-related industries. For example, they can perform processing and packaging operations. Producing agricultural crops, creating fodder and natural fertilizers, or even managing agriculture and tourism. Events happen on farms. Overall, peasants can generate income by growing crops and raising and making use of animals. Using available technology to take advantage of opportunities in agricultural industries. These activities are not appropriate. It provides jobs to local communities and contributes to meeting their food needs as well. Meeting countries' needs and promoting economic growth. Creativity in the field of agriculture and its essence (**Al-Sibai, Nadia Hassane al., 2021, 11.1: 192-201**).

High performance means achieving results effectively and on time. Developing agriculture helps to apply modern technologies and increase the efficiency of agricultural production. Improving the agricultural industry. It helps enhance productivity and quality, reduce costs and risks, and promote. Preserving the environment. In addition, technological advances can help expand the area of agricultural land. Increase its production and enhance its competitiveness in the global market. Depending on what you requested, we will provide the service as soon as possible. Strengthening the agricultural sector and improving efficiency: through innovation and implementation of advanced agricultural methods, it can be enhanced, and productivity can be increased. It is possible, for example, to exploit smart irrigation technologies. Ensuring effective use of water, achieving cost savings and increasing crop productivity. In addition, there are smart fertilizers. It is possible to use antibiotics to enhance crop productivity and improve quality. Please paraphrase the text you would like me to assist with. Improving performance and reducing costs: by utilizing technology, innovation, and enhancing efficiency, it is possible to enhance agriculture and reduce costs. For instance, robots and automation can be used in. Implementing agricultural operations reduces dependence on labour and improves organization and execution. Monitoring and remote sensing systems can be used to monitor land and crops to help with this. Make decisions more accurately and enhance efficiency.1. Doctor. Environmental balance and sustainability can be achieved by leveraging technology and innovation as powerful tools Achieving environmental balance and sustainability in agriculture. Improving water flow are all important methods for preserving the environment and improving agricultural production. Chemical fertilizer. One of the benefits of organic farming is that it preserves the environment and promotes health. Biodiversity and technology used in agriculture. Beneficial insects and thus reduce the need for pesticides.

- Intelligent use of fertilizers: Use of slow-release fertilizers: Slow-release fertilizers are used to provide sustainable Using Smart Fertilizers: Smart fertilizers use advanced fertilization systems that rely on careful analysis of the nutritional needs

of plants and provide fertilizers according to these needs. Example: Cluster sensor-based fertilization systems can be used to determine precise concentrations of nutrients in the soil and deliver fertilizers in a targeted manner.

Among the most prominent technologies used in agriculture are hydroponics, agriculture, and organic agriculture (Asmaa **Abbas Alwan (3), vol(01) January,** 2022) - Hydroponics: Hydroponics depends on using water effectively according to the needs of plants. There are several techniques for hydroponics, including:

- Hydroponics: Plants are grown in a non-cultivation medium, such as sand or Rockwool, and are supplied with water and nutrients directly. - Growing crops by placing them on water films and feeding them with desalinated water. - Use continuous irrigation systems to ensure water savings. Continuous feeding of live plants. - “The teacher praised the students for their hard work and dedication in completing the project on time.”

-"The students were commended by the teacher for their effort and commitment in finishing the project within the deadline." Organic farming relies on natural resources and avoids chemical pesticides and artificial fertilizers. Some organic farming techniques include: - Rotation of crops, where different crops are grown on the same land to prevent the accumulation of pests and improve soil quality. - Raising beneficial insects: Bees and other insects are used to control pests and improve the pollination process. - Organic fertilization: animal manure and plant waste are used to feed plants.

- The third text is also summarized using the same input language and keeping the same number of words. Intelligent use of pesticides and fertilizers is essential in modern agriculture to ensure efficiency and effectiveness. Among the technical methods used: directed spraying. Targeted spraying techniques are used to direct pesticides and fertilizers to specific locations only, thus reducing overuse and minimizing pollution. - Remote sensing: Remote sensing systems can be used to monitor plant condition and accurately analyses the needs of plants, which helps in determining the appropriate number of pesticides and fertilizers. - Agriculture Sorry for the interruption. Do you need more explanation or examples on the smart use of pesticides and fertilizers in agriculture? Or do you want to proceed to the next part of the course

The second axis: the practical aspect

Table 1. Shows the percentage of workers in the agricultural sector and the average **per capita GDP of the agricultural sector for the years (2015-2020) at current prices.**

years	Gross domestic product of the agricultural sector at current prices (million dinars)	Population: one thousand people	Average per capita agricultural output (at current prices) million dinars	graduating students (workers in the agricultural sector)	Number of faculty members	Percentage % of workers in the agricultural sector
2015	8,160,769.70	35,213	231.8	26,877	45,911	0.763
2016	7,832,046.90	36,169	216.5	23,111	50,518	0.638
2017	6,598,384.70	37,140	177.7	117,586	52,392	3.166
2018	7,572,265.10	38,124	198.6	119,661	59,196	3.138
2019	10,411,174.4	39,128	266.1	115,149	60,729	2.942
2020	11,716,003.5	40,150	291.8	37,600	168,202	0.936

We note that the percentage of workers in the agricultural sector reached its highest percentage in the year 2017, where the percentage reached (3.166), where the average per capita share of agricultural output is (177.7) with a population of 37.10

and the gross domestic product of the agricultural sector is 6,598,384.70, and the lowest value for the percentage For workers in the agricultural sector, it reaches (0.638) in the year 2016, where the average per capita share of agricultural output is 216.5, with a population of 36,169, and a gross domestic product of the agricultural sector of 7,832,046.90. We also note that the highest average per capita agricultural output reached 266.1 in 2019, with a gross domestic product of 10,411,174.40.

The lowest value of the average per capita agricultural output reached 177.7 in 2017, with a domestic product of 6,598,384.70. Through the table2 above, we conclude that there is a relationship between the number of workers in the agricultural sector and the gross domestic product of the agricultural sector, as the gross domestic product increases with the increase in the number of workers in the agricultural sector, which leads to an increase in the per capita share of agricultural output and thus leads to a direct relationship between them, and this is the most important thing. The research concludes that increasing awareness and agricultural education contribute significantly to increasing agricultural output, which affects the growth of the agricultural sector, and this is the goal of the research that we aim to reach.

Table 2. This is also explained through the following statistical analysis. Statistics

tuOtuO	tttuupOp to	epddum	sOudmoOS	gmphcpoT
N Valid	6	6	6	6	6
Missing	1	1	1	1	1
Mean	41,905,874.23	37,6540	230.4167	73330.6667	72824.6667
Std.ErrorofMeaning	21,800,559.83	,75391	17.34757	19841.40950	19207.90473
Median	7,996,408.300	37,6320 a	224.1500 a	76374.5000 a	55794.0000 a
Mode	6,598,384.70 b	35,21 b	177.70 b	23111.00 b	45911.00 b
Std. Deviation	53,400,247.69	1,84670	42.49270	48601.32905	47049.56561
Variance	285158645369	3.410	1805.630	2362089185.0	2213661623.867
Skewness	.994	.043	.373	-.035	2.374
Std.ErrorofSkewness	.845	.845	.845	.845	.845
Kurtosis	-1.719	-1.193	-.967	-3.220	5.714
Std.Errorof Kurtosis	1.741	1.741	1.741	1.741	1.741
Range	110,561,650.3	4,94	114.10	96550.00	122291.00
Minimum	6,598,384.70	35,21	177.70	23111.00	45911.00
Maximum	117,160,035.0	40,15	291.80	119661.00	168202.00
Sum	251,435,245.4	225,92	1382.50	439984.00	436948.00
Percentiles 10	6,695,772.7	35.3086 c	179.7900 c	23487.6000	46371.7000 c
20	7,280,100.980	35,8822	192.3300	25747.2000	49135.9000
25	7,572,265.100	36,1690	198.6000	26877.0000	50518.0000
30	7,650,199.640	36,4603	203.9700	30093.9000	51080.2000
40	7,806,068.720	37,0429	214.7100	36527.7000	52204.6000
50	7,996,408.300	37,6320	224.1500	76374.5000	55794.0000
60	17,755,867.13	38,2244	235.2300	115392.7000	59349.3000
70	75,326,451.71	38,8268	255.81	116854.9000	60269.1000
80	108,026,231	39,4346	273.8100	118208.500	92970.9000
90	115,855,205	40,0478	289.2300	119453.500	157454.7000

a. Calculated from grouped data.

b. Multiple modes exist. The smallest value is shown

c. Percentiles are calculated from grouped data.

Attention to education leads to achieving optimal exploitation of the resources available to society as a whole in general. Hence, it is logical that achieving agricultural development goals is linked to the degree of... A document on agricultural education and the extent of its adequacy and efficiency. By knowing the extent of the impact of agricultural education on the growth of the agricultural sector in Iraq, it was observed that there is a one-way causal relationship extending

from agricultural employment to agricultural gross domestic product, and there is also a one-way causal relationship extending from spending on agricultural education. To the number of faculty members in colleges and institutes of agriculture. There is no doubt that these results are restrictive to decision makers in the field of economics of education. Agricultural education aims to provide basic knowledge about various aspects of agriculture such as soil, crops, water resources, and sustainable agriculture techniques. Developing practical skills. The goal of agricultural education is also to develop skills. The process required in agriculture such as growing crops, managing farms, and using advanced agricultural techniques. Enhancing environmental awareness: Agricultural education seeks to enhance environmental awareness and understanding of the relationship between agriculture and the environment and the importance of preserving biodiversity and environmental sustainability in agriculture. We conclude that innovation and technology are important in developing agriculture and improving productivity and efficiency. We learned about the latest technologies used in agriculture, such as hydroponics, organic agriculture, and the smart use of pesticides and fertilizers. There are successful cases of innovation in the field of agriculture and how these innovations affected the local and global economy. Farmers can gain knowledge on growing high-value crops such as exotic fruits and produce. Medicinal plants. This product can be sold at higher prices, resulting in increased profits for farmers. These are the important results I achieved**.**

Conclusions and recommendations. Conclusions - There is a one-way causal relationship extending from agricultural employment to agricultural GDP, and there is also a one-way causal relationship extending from spending on agricultural education to the number of faculty members in agricultural colleges and institutes. There is no doubt that these results are restrictive for decision makers in the field of economic education.

- We conclude that innovation and technology are important in developing agriculture and improving productivity and efficiency. We learned about the latest technologies used in agriculture, such as hydroponics, organic agriculture, and the smart use of pesticides and fertilizers. There are successful cases of innovation in the field of agriculture, and how these innovations affected the local and global economy.
- Agricultural education can contribute to enhancing agricultural sustainability by training farmers in sustainable agricultural practices and the use of modern technologies. Instead of relying on traditional operating methods that may be unsustainable and deplete natural resources, farmers are taught about the efficient use of available resources and the adoption of organic and integrated farming practices.
- There is a relationship between the number of workers in the agricultural sector and the gross domestic product of the agricultural sector, as the gross domestic product increases with the increase in the number of workers in the agricultural sector, which leads to an increase in the per capita share of agricultural output and thus leads to a direct relationship between them. This is the most important finding of the research, as increasing awareness of Agricultural education contributes

significantly to increasing agricultural output, which affects the growth of the agricultural sector, and this is the goal of the research that we aim to achieve.

Reference:

[1] ALZOBAIDY, Dakhel Hussein; MOHAMMED, Mohammad A. Agricultural education: reality and ambition. Al-Mukhtar Journal of Sciences, 2003, 10.1: 9-24.

[2] The Messenger, Ahmed Abu Al-Yazid, et al. The impact of investment in agricultural education on the growth of total factor productivity in the Egyptian agricultural sector. Egyptian Journal of Agricultural Economics, 2023, 33.1: 313-327.

[3] Khattab, Magdy Abdel Washable al. Analysis of the importance of extension research topics by extension researchers at the Agricultural Extension and Rural Development Research Institute. Alexandria Journal for Scientific Exchange, 2021, 42.2: 1059-1078.

[4] Agricultural education and its impact on the growth of the agricultural sector in Egypt. Dr. Zelob Loserlady A. Dr. Dhamnoullah Khakhnou Sweifah Hafsou Swinnaim, the Egyptian Independent Send the columns to the committee Alawi Araza Ladas, Teqala Yaamatj, Arazala Yelak, Rosanna Amaj, Haddallah 8, Dadallah 12, 2018, pp. 221–2

[5] World Health Organization. Regional Office for the Eastern Mediterranean. Food and Agriculture Organization. Global Health Organization. Regional Office for the Eastern Mediterranean, 1949.

[6] AL-KULABI, Ali Khazaal Jawad. The Concept of Desertification, Its Causes and Effects, and Treatments. Journal La Lifesci, 2022, 3.1: 1-13

[7] Muhammad Ali Nassif, et al. Identification of weed species at the College of Agriculture Research Station at the University of Tripoli. Libyan Journal of Agricultural Sciences, 2019, 24.2.Muḥammad ʻAlī ʻUthmān Wāqiʻ al- taʻlīm al- thānawī al- zirāʻī wa-subul taṭwīrihi fit . books.google.iq › book · 1994 ,

[8] Economic development In Iraq - books.google.iq page › books , Muhammad Salman Hassan • 1965

[9] Dr.. Muhammad Salman, The International Conflict over Water: The Environment of the Nile Basin - books.google.iq › books 2007 •

[10] Al-Mawla, Abdul Sattar Raif Hassan Hammadi. The role of technical and vocational education and training outcomes in responding to labor market requirements in Iraq: a comparative study 2003-2011. 2012.

[11] Al-Sibai, Nadia Hassane al. The role of television programs in the Misr Agricultural Channel. Journal of Environmental Studies and Research, 2021, 11.1: 192-201.

[12] Mother. Dr . Kazem Abadi Hammadi Al-Jassem, Better use of water resources in Arab agricultural production, University of Maysan/ College of Education/ Department of Geography, Issue 6, Journal of the College of Basic Education/ University of Babylon, March 2012.

[13] Asmaa Abbas Alwan, Evaluating the performance of development achievement of development goals, Sustainable sustainability in Iraq... promising prospects , published research, Entrepreneurship Magazine, issue(3), vol(01) January, 2022