

The standard method of analyzing variables and explaining the reasons for low areas and production through standard analysis

استخدام الاسلوب القياسي في تحليل المتغيرات وبيان الاسباب لانخفاض المساحات والانتاج من خلال التحليل القياسي

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Summary

This study was conducted in three provinces of Middle Euphrates (Babylon, Karbala and Qadisiyah), Where the research methodology was based on a questionnaire in which stated the reasons for the decline of agricultural areas in those province during the period between (1991-2010), Depending on the classified data through forms that have been given to the departments of agriculture and then to the peasants and farmers at the studing areas.

The main objective of the study is to find out the defect and the reasons for the lack of agricultural production points in Iraq receding agricultural areas and the reasons of this decline in the production of many crops.

Results showed that of more in the production, the lack of production is influenced by the scarcity of water for irrigation and inefficient irrigation and drainage networks, with the increase in costs incurred on the crop so that production could not read these costs, thus the financial benefits included in the negative accounts which increases the reluctance of the farmer and the farm for production, as well as the provinces show that more influential in the decline of the cultivated area is the province of Babylon, as recorded nearly half of the area this is due to the lack of the reclaimed area of the (10%) of the total agricultural land of the province.

الخلاصة :

اجريت هذه الدراسة في ثلاث محافظات من الفرات الاوسط هي بابل ، كربلاء والقادسية اذ اعتمد منهاج البحث على استمارة استبيان ذكر فيها اسباب انحسار المساحات الزراعية في تلك المحافظات خلال العامين (1991- 2010) ، بالاعتماد على البيانات المبوبة من خلال الاستمارات التي تم توزيعها على مديريات الزراعة ومن ثم الى الفلاحين والمزارعين.

يعد الهدف الرئيسي من دراسة الاسباب اعلاه هو معرفة نقاط الخلل والاسباب لقلّة الانتاج الزراعي في العراق وانحسار المساحات الزراعية واسباب هذا الانحسار وللعديد من المحاصيل.

تبين من النتائج ان اكثر الاسباب تأثيرا في المنطقة لقلّة الانتاج هو شحة مياه الري وعدم كفاءة شبكات الري واليزل ، مع زيادة التكاليف المصروفة على المحصول بحيث لا يسد الانتاج هذه التكاليف ، وبالتالي المردود المالي يدخل في حسابات سلبية مما يزيد من عزوف الفلاح والمزارع عن الانتاج ، وكذلك تبين ان اكثر المحافظات تأثيرا في انحسار المساحة المزروعة هي محافظة بابل اذ سجلت ما يقارب نصف المساحة وهذا عائد لقلّة المساحة المستصلحة البالغة (10%) من مجموع الاراضي الزراعية للمحافظة .

Introduction :

What the world brought about by the revolution in agriculture for the purpose of doubling agricultural production especially in recent years through the introduction of many improvements in production elements of agricultural tools, agricultural soils as well as irrigation water and the quality of seeds as well as the diverse membership of chemical fertilizer, all this led to a break the balance between living organisms, which showed diseases and pests that formed a threat to agricultural production [1].

There is a problem in the research and extension institutions but a misunderstanding of the nature of local knowledge to farmers, some believe that what he knows is a primitive farms or unscientific, therefore, the researcher believes beacon side the farmers have to change what they own knowledge in order to develop, therefore, the agricultural techniques reached away from the eyes and ears of farmers [2] .

The above method unidirectional and it showed a lack of effectiveness in the development of agriculture , because there are no definitive answers to the problems facing officials Lahti in making sound decisions about the resources in the environment, this created the foundation for a new era of research and development [3], this alternative based on research and encourage farmers to adapt the technology to their circumstances represents a radical shift towards new patterns of Agriculture and discover techniques because it requires an effective partnership between the professional side and farmers In order to enhance local capacity to experiment and innovate [4] .

The aim of economic development , its axes and distances are all achieved as much as possible for the needs of society, of various goods and services , thus it can be said that the increase of production not the ultimate goal of development , but it is a means , the aim is to raise the level of individuals, expressed in terms of social welfare, in the light of this the subject of consumption leads , played a prominent role in building theories human resource development models, as the study of household consumption , the average per capita share is one of the key indicators , which reveal (to a large extent) the march of economic development , which requires familiarity with the factors affecting it, with a view to their examination and analysis of access , to the indicators necessary for their adoption , in the planning process [5] .

Target of the research:

1. study the reasons that led to the decline of agricultural areas in Iraq and , in particular, the search area .
2. know the flaws in the lack of agricultural production .
- 3- Develop the solutions required of us as academics and processors then disseminated to farmers.

Materials and methods of work :

Before entering the details of the materials and methods of research , Some concepts must be addressed , which pertain to the research vocabulary:

1- Productivity:

Is the relationship between the inputs of the production process on the one hand, and between the outputs resulting from this process on the other hand, as production efficiency increases , the higher the proportion of output to the user resources, it can be said that the productivity number = Production quantity / actual working hours.

the term productivity is also known as a measure of the ability of enterprises to achieve Outputs from inputs, it is also known as the possibility of achieving The maximum amount of output possible from a given input quantity, the term productivity is one of the most prominent terms the most heavily traded in the economic and industrial fields, different areas of work, , it is a strong indicator of the ability of the elements of production to synergy in order to carry out a correct production process.

as for agricultural production Productivity is a type of production which consists of animal and plant products which are produced in the field, that is, all agricultural sector products in general , includes events leading to the creation or increase of benefits, , and the amount of agricultural production depends on the base , are as follows: Productive elements that are used In agricultural production processes, areas of use, methods and production methods used in production processes.

a human being the most important factor in the production process, without this element, power will not be available On the exploitation of raw materials, the application of production processes, enterprise management , and so on, in agriculture, the human element is the farmer and the farms .

2- The farmer :

Is a person based on agriculture which reclaims the land , Plow it, Plant them , sowing process , irrigation of crops and crops, then harvest to harvest the crop, thus, the process will be resumed and for each season.

3- Farms:

He is an agricultural person as well, but takes a broader concept in terms of abundance of possibilities from education and financial resources , the productive resource , as well as space for the land and other concepts.

4- Agriculture :

Is the science , art of manufacturing and producing plant and animal crops which benefits man , the definition of agriculture is a recent science because agriculture was old was seen it is just a seed sowing process in the soil then leave the seeds for growth under normal conditions , until the harvest comes for farmers to harvest , Agriculture is one of the oldest occupations Absolutely.

5- Location :

Find area between latitudes located $31^{\circ} 0' - 33^{\circ} 8'$ north, and between longitudes $43^{\circ} 32' - 45^{\circ} 55'$ east , the easy Center sedimentary from Iraq , located up between 20-44 m above sea level [6] .

6- Soil :

Most of the site soils are alluvial , as it consists of layers vary in texture and installation of metal , as well as being of a flat topography, Soil and renewed on an ongoing basis through additions light layers of soil borne with rivers .

7- Climate :

Iraq has three distinct types of climate :

A- Mediterranean climate : prevail in the mountainous region in the northeast of the country, It is characterized by cold sifting as snow falls over the peaks of the mountains, the amount of rainfall ranges between 400-1000 mm annually, the summer of the region shall be moderate temperatures shall not exceed 35°C in most of its parts.

B- the steppe climate: transitional climate between the mountainous northern region the warm desert climate in the south , it is often located within the boundaries of the undulating area, the annual rainfall ranges between 200-400 mm, this amount is sufficient for the need for quarterly pastures.

C- Hot desert climate: prevail in the sedimentary plain and the western plateau, includes 70% of the territory of Iraq, the annual rainfall ranges between 50-200 mm, it is characterized by large temperature range between night and day, summer and winter and warm atmosphere, The temperature remains above the degree of exhaustion for only a few nights.

The research area can be distinguished by the third type of climate, with two main seasons, the hot summer for months May, June, July, August and September, the maximum temperature ranges between $42-47^{\circ} \text{C}$, Up to 50°C , the changes begin in the cell protoplasm at 40°C temperature, most plants die between $45 - 50^{\circ} \text{C}$ [7] , with minimum temperatures between 27 and 34°C , with two types of wind being distinguished here south-east and east –south , with a cold winter for the months of November, December, January and February, the average temperature is great here between $16 - 17^{\circ} \text{C}$, with average minimum temperatures between $4-5^{\circ} \text{C}$, and 90% of rain occurs between November and April , especially from December to March , the area within the rain line is between 150-200 mm / year, so be within the semi-arid region [8] .

8- problem and hypothesis of research:

Estimates of agricultural land affected by salinity in Iraq by 50 percent for your information prevails Iraq desert climate in 70% of its territory especially in the alluvial plain and the western plateau as annual rainfall ranging between (50-200) mm [9], and fell land covered by trees that space, vegetation has been the author of the trees and shrubs to damage due to the indiscriminate cutting of trees , overgrazing and shifting cultivation and converting vast agricultural tracts to

residential buildings and industrial facilities , the number of palm trees has also declined from about 32 million palm trees constitute 38% of the world's total palm trees , with an annual output of more than 440,000 tons of dates, and exported by Iraq more than 300 thousand tons, Only 9.5 million palm trees remain , most of them are poor, old and poorly productive dates production in 2005 fell to 400,000 tons Or only 14 percent of the world's total production of dates, Iraq retreated to fifth place in exporting dates in the past years , after he was ranked first in the 1980s[10] , this is because of wars and lack of water, agricultural diseases and neglect , So the vegetation has deteriorated, an important factor in environmental degradation and its tendency towards drought in the world in general and in Iraq in particular [11] .

given the difficulty of accounting for and select this community because of the lack of accurate statistics the number of peasants and farmers in agriculture directorates in the provinces , it has been selected by a random sample a hundred peasant and farmer from every province , were contacted directorates of agriculture and its affiliates in addition to some teachers of the universities in the three provinces , the meeting was attended by farmers and field farmers as a group or individual, and they posed a lot of problems for them, they were asked to fix the problems mentioned in the questionnaire, which was distributed to them after putting up problems for them.

9- Preparing questionnaires :

To be closer to the truth, and those with a direct contact with her in our research we relied on this questionnaires it was chosen as the three provinces most agricultural area and the abundance of produce from the Central Euphrates provinces It Karbala , Babil and Qadisiyah , emphasis was placed on the winter crop is wheat , as the most strategic crops in global production in addition to the adoption of farmer and peasants on this crop both in financial benefits or domestic consumption , with an emphasis on some summer crops and with lucrative Summer runs for eight months in the region , these include okra crop ,Cucumbers, eggplant , tomatoes and maize . Three hundred have been adopted form during the month of March / 2014 , Per hundred form province , find all the community of peasants and farmers may represent in the three provinces included in the study , through the concerned departments and teachers of the universities the questionnaires were distributed to peasants and farmers as it was filled with the appropriate information for crop state the reasons handicapping ratios receding spaces each farmer , the educational level of farmers and peasants between reads and writes to the faculty graduate with a very small percentage level not read or write .

It collected the completed questionnaires and then were their own information for each agricultural area in each of the three provinces which lasted almost a year, and dispense each province separately and then the knowledge of the similarities and differences between provinces , and find out more reasons impact on crop yields ,and methods of treatment required of us as researchers and circles interested in this aspect and farmers with a direct connection to the land through the conclusions and recommendations which were presented at the end of the search.

Results and discussion :

In the beginning , to see how low agricultural production in Iraq in general, we refer to a section of the study of the General Authority for Agricultural Land ("The agricultural sector has witnessed in recent decades a significant decline that has had a profound impact on the decline in agricultural production in the country , an important factor behind the low level of agricultural production is the difficulty for small farmers to obtain loans, Poor access to seeds, fertilizers, pesticides and agricultural tools, as well as the high prices, high costs of agricultural services) .

The important factors behind the low level of agricultural production also , which not only threatens the future of agriculture but also the future of socio-economic development in Iraq , failed projects drainage and networks to stop the march of salinity in the soil, [12] .

Note of the most influential of the receding spaces in the three provinces reasons through Figures (1 , 2) , Table (1)

Table (1) Percentage of reasons for receding areas of the three governorates

s	Reason	Percentage Babylon	Percentage of Karbala	Percentage Qadisiyah
1	Inappropriate environmental conditions.	1.5	7.7	3.5
2	Lack of agricultural equipment.	16.4	11.1	19.6
3	Lack of energy sources.	12.3	12.1	9.5
4	Irrigation water scarcity.	14.9	8.7	30
5	Inability of soil for agriculture and inefficient irrigation and drainage networks.	12.1	13.5	23.4
6	The movement of labor in agriculture to other occupations.	7.5	12.4	10.0
7	Low price of crop.	7.2	4.3	2.4
8	Pests and diseases.	11.5	12.9	1.0
9	Lack of agricultural income compared with income of other professions.	12.6	12.9	0.3
10	Other causes (lack of good seeds, high prices of fertilizer and pesticides, lack of fertilizer and other doses).	4	4.3	0.3

turned out to be the most influential reasons for the province of Babylon, in (Hilla , Mahaweel , Hashemia and Musayyib) is the lack of agricultural equipment both in terms of automation , backup materials and means of control as well as water pumps such proportion (16.4 %) , the second reason for the effect here is water scarcity by (14.9 %) , and it causes less impact here are the reasons that mentioned before peasants and farmers themselves which was referenced in the form of a questionnaire (other reasons) including lack of availability of quality seeds , prices high of fertilizer and pesticides and lack of fertilizer doses given to the crop the form of the percentage (4%).

The province of Karbala more reasons influential form of proportion (13.5 %) it is on the validity of the soil for farming , inefficient irrigation and drainage networks And more than what is observed in this Fariha areas , alkhariat and Ibrahimia as these areas represent 25% of the province area The reason was due to the lack of reclamation projects in the province especially during the years of the blockade imposed on Iraq and beyond, the second reason was in effect causes the eighth and ninth Alemtemthelan agricultural pests and diseases [13] and the lack of farm income compared with other professions income the rate for both of them (12.9 %) , the least influential reasons for the decline in the area of Karbala was equal two reasons also in effect (4.3 %) , the first is the low price of the crop another reason stated terms of what the province of Babylon, in the paragraph other reasons.

In the form of Qadisiyah fourth reason on the scarcity of irrigation water causes more influence (30%) it was followed by the reason for the validity of the soil for planting , inefficient irrigation and drainage networks by (23.4 %) and most of what has been seen in the areas of Sumer , Shinafiyah and Budair [14] , this is due to soil salinization due to lack of efficient drainage system , Thus rolled reasons sequentially to the ratio (0.3 %) for reasons relating to a lack of farm income compared to income of other professions the other reason is as stated in the previous two provinces other reasons , and here formed three reasons of the ten reasons which mentioned in the

questionnaire (73%) a high proportion these are water scarcity, Soil is not suitable for agriculture , and Lack of agricultural equipment.

Summary as previously mentioned reasons that more influential in the region is the scarcity of water for irrigation , inefficient irrigation and drainage networks , this is due to lack of irrigation rationing by peasant and farmer By following the old ways somewhat in irrigation, as the water loss exceeds the exploited for farming water, in addition to increasing the costs spent on the crop Both things mechanization , in fertilizer doses or good quality seeds , and therefore does not produce the crop fills these costs.

We conclude that the reasons mentioned earlier that there is a shift from agriculture to other occupations , to see this effect , for example, the number of farmers in the province of Babylon, the year in 2000 (26549) Farms , while the number after the year 2003 decreased to (23029) Farms [15], down on more than 3500 farms and by more than 13% , another example in influencing land reclamation in the same province reclaimed land reclamation ratio amounted integrated does not exceed 10% , of the total amount of farmland (1105366) donem of iraq, as an example strategically important crop is wheat total acreage rate during the nineties of the last century to preserve (325547) donem of iraq, while these spaces fell between 2003- 2008 to (228074)donem, a decrease of (30%) [16].

Through Figure 2 note that the province of Babylon it accounted for the biggest decline in agricultural areas (49.44 %) relative to the remaining two provinces , then Qadisiyah (38.1 %) and Karbala, the lowest rate (28.69 %); this is due to the lack of reclamation developments (10%) of the total agricultural land in this province although agricultural spaces that more than one million donem capacity, it (Figure 1) , we find that six of the ten reasons that were mentioned in the questionnaire which ranged between rates (11.5 % - 16.4 %) of the province of Babylon, influenced direct influence over the remaining two provinces , through the convergence of rates. For the information that the three governorates constitute 15.06% of Iraq's agricultural area, which represents one-sixth of the area and market about a quarter of Iraqi agricultural production to the Iraqi market, so it is important in this aspect compared to the remaining provinces.

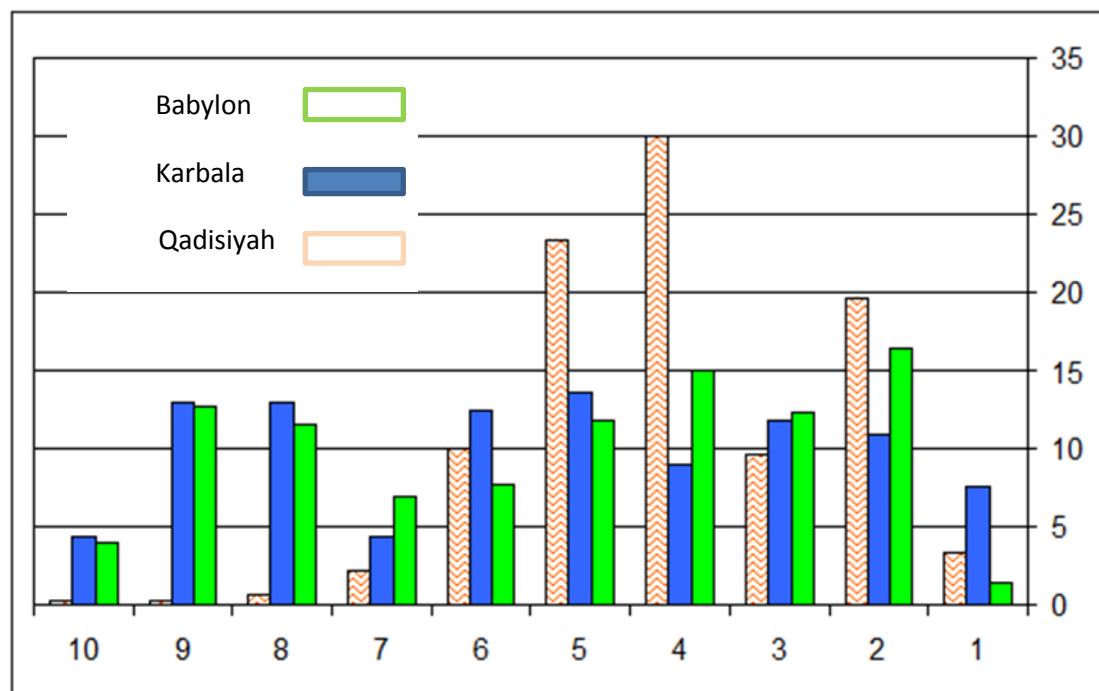


Figure (1) the proportion of the reasons for each province in the decline of agricultural areas

Causes the light sequence in the form of a questionnaire :

1. environmental conditions inappropriate
- 2 .The lack of agricultural equipment .
3. The lack of energy sources .
- 4.scarcity of irrigation water .
- 5.lack of validity of the soil for farming and inefficient irrigation and drainage networks.
- 6.Transfer of manpower in agriculture to other occupations.
- 7.Decline in the price of the crop.
- 8.Pests - diseases.
- 9.lack of farm income compared with other professions income .
- 10.Other reasons (lack of availability of quality seeds , fertilizers and pesticides high rates, few doses of fertilizer , etc).

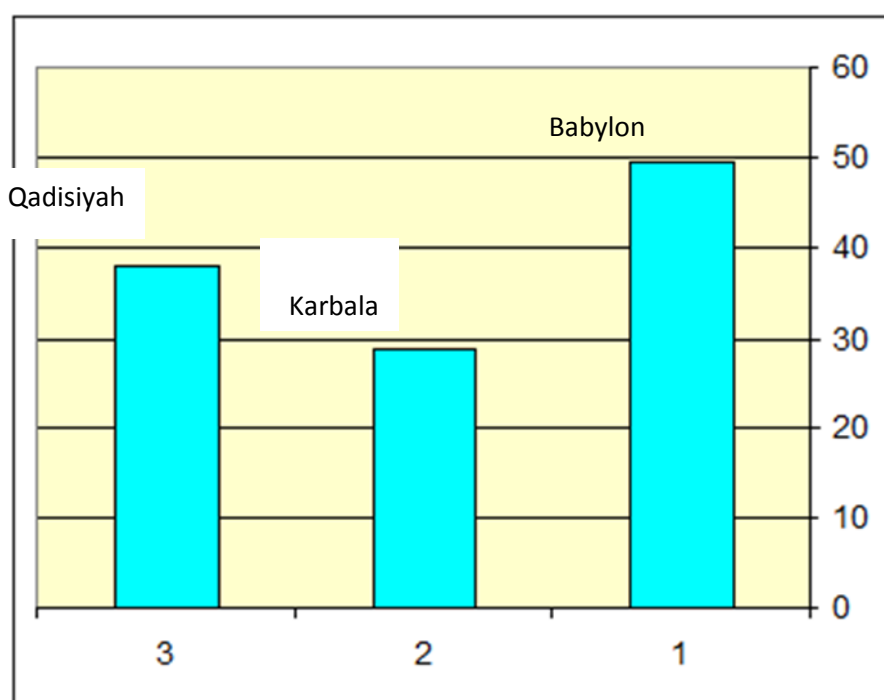


Figure (2) percentage decline in the agricultural area of the three provinces

Conclusions :

1. Develop an agricultural plan for each region in light of the existing requirements.
2. There must be multiple irrigation methods, especially modern irrigation of drip or spray irrigation , with the support and awareness of farmers to the importance of the acquisition of modern irrigation methods replacement of old methods of watering.
3. The obligation of each farmer to the areas to be planted with the type of crop, after providing the necessary requirements by the responsible authorities at subsidize prices.
4. Accelerating the reclamation of reclaimed land, and the completion of semi-reclaimed land.
5. Search for alternative sources of water for watering In agricultural areas that do not have a water quota , through the drilling of artesian wells

recommendations :

- 1 .Care of the administrative bodies in the farmers ,and Production of important and influential things in production.
2. Develop a price policy to support agricultural products and their production requirements.
3. Establishment of scientific laboratories for soil and water analysis, prevention and plant.
4. The use of satellite technology in geological surveys, to benefit from groundwater and know its depths, in order to meet the shortage of rain water and rivers .
5. Knowledge of the rate of agricultural production through satellite data Calculates cultivated areas and know the rate of production per donem , and multiply it in the total area and thus get approximate value , Closer to field survey and faster.

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