

الاستثمار في الزراعة الحديثة في مصر خلال الفترة 1995-2018

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استلام البحث: 28/08/2021 مراجعة البحث: 09/09/2021 قبول البحث: 10/09/2021

ملخص الدراسة:

أغلب الدول مقيدة بأن تنتج شكل كفاء خاصة في مجال الإنتاج الزراعي وذلك للحفاظ ولحماية مصادر المياه المتاحة. والزراعة الحديثة والتي تعد أكثر الطرق كفاءة وخاصة الهيدرونيك والأكوابونيك تعد هي الحل السحري لهذه الدول التي تعاني بشكل أساسي من الندرة النسبية لمصادر المياه. الهدف الرئيسي لهذا البحث هو إلقاء الضوء على أهمية مثل هذه التكنولوجيات في الاستخدام الكفاء للمياه وتعزيز المعرفة للمستثمرين المرتقبين عن كيفية تشغيل هذه التكنولوجيات لإنتاج منتجات غذائية آمنة وذات كفاءة عالية، حيث يمكن لكلاً من الهيدرونيك والأكوابونيك المساهمة بشكل فعال لإتباع الطلب المتزايد على المنتجات الزراعية في مصر خلال الفترة 1995-2018، باستخدام منهجية ARDL لتحديد العلاقة طويلة و قصيرة المدى بينهما. وتوصلت الدراسة إلى تحقق اختبار الحدود من وجود التكامل المشترك بين المتغيرين الأكوابونيك والهيدرونيك ومستوى الإنتاج الزراعي في مصر حيث مكنها من تحقيق هدف مزدوج: زيادة المنتجات الزراعية الآمنة بأقل استخدام للمياه وكذلك تخفيض الاعتمادية على العالم الخارجي من خلال الاكتفاء الذاتي من هذه المنتجات.

الكلمات المفتاحية: الزراعة الحديثة، ندرة مصادر المياه، الأكوابونيك، الهيدرونيك، منهجية.

Investment in modern agriculture in Egypt during the period 1995-2018

Abstract:

Most of the countries are restricted to produce efficiently, especially in the field of agricultural production, in order to preserve and protect the available water resources. Modern agriculture, which is the most efficient method, especially hydroponics and aquaponics, is the magic solution for these countries, which suffer mainly from the relative scarcity of water resources. The main objective of this research is to shed light on the importance of such technologies in the efficient use of water and to enhance knowledge for prospective investors on how to operate these technologies to produce safe and highly efficient food products, where both hydroponic and aquaponics can contribute effectively to follow the increasing demand for agricultural products in Egypt. During the period 1995-2018, using the ARDL methodology to determine the long and short term relationship between them. The study concluded that the boundary test verified the existence of common complementarity between the two variables, Aquaponics and Hydroponic, and the level of agricultural production in Egypt, as it enabled it to achieve a double goal: Increasing safe agricultural products with less water use, as well as reducing dependency on the outside world through self-sufficiency in these products.

Keywords: modern agriculture, scarcity of water resources, aquaponics, hydroponics, ARDL methodology

Introduction:

Agriculture is defined as the process of using natural resources such as fibres, timber and leaves to produce food, industrial raw materials and energy sources. It includes multiple aspects, such as: growing and marketing crops, and everything related to farms from an environmental and social point of view, and raising livestock, in addition to matters related to the processing of agricultural products. In terms of packaging, storage, selling, fertilizers, agricultural pesticides, and more.

The origin of agriculture does not go back to a single origin or reference, because it has spread since ancient times in different places and times. However, the emergence and development of agriculture occurred in the late Pleistocene. That is, about 11,700 years ago, when changes occurred in the ecosystems on the Earth's surface, especially in the temperate regions more than the tropics, and these changes include melting glaciers, rising sea levels, in addition to climatic changes, such as: rising temperatures and their impact on the environment.

Agriculture witnessed a great development that included new ways of managing diverse groups of plants and animals by the Australian Aboriginal and American peoples in western North America, and it is worth noting that agriculture and its origins were not related to poor societies, and many new animals and plants were developed through the process of domestication, which

Contribute to maintaining dominant lifestyles, such as hunting, providing and storing food for use in lean seasons.

Modern farming technology is used to make improvements in the types of practices farmers use to improve production, using hybrid seeds from a selection of a single crop, technically advanced equipment, and much more; Such as choosing appropriate methods of irrigation, types of fertilizers, and appropriate pesticides. Modern methods of agriculture also relate to finances, manpower, and how to use agricultural equipment including; Wheat threshing machines, winnowing machines or wheat harvesting and gathering machines, combines, in addition to the extensive use of technology, such as: selective breeding, types of pesticides, and chemical fertilizers.

Agriculture in Egypt:

The Egyptians have been associated with the Nile River since ancient times, and Egypt and its civilization were associated with agriculture. The ancient Egyptians invented agricultural machines and irrigation machines. The Egyptians took care of photographing agricultural operations such as plowing, irrigation, harvesting and storing on the walls of their temples. They laid the basis of the agricultural calendar. Egypt was the first country in which agriculture was organized by dates.

The agricultural sector occupies about 30% of the total workforce, and contributes about 14.8% of the GDP, and agricultural exports contribute about 20% of the total merchandise exports, making the agricultural sector one of the important sources of national income.

The state has adopted supportive policies to create an attractive and encouraging climate for agricultural investment, the most important of which is facilitating investors in new reclaimed lands by providing infrastructure for the areas allocated to them from irrigation water, roads, services and utilities, in addition to providing credit lines at an appropriate cost, with tax exemption for several years until these Areas to limit production according to the nature of each area.

The history of agriculture in Egypt:

Agriculture in Egypt, since prehistoric times, relied on the waters of the Nile and its continuous annual flooding of Egyptian lands; By the flood that supplied it with water and silt. Thus, the lands were irrigated annually regularly through what is known as the "watershed irrigation" system; It is a system that involves dividing the land into basins, which is the construction of mud walls, and water flows from canals to basins, and each channel carries water to about eight of the basins; one by one. In this way, the quorum of the lands closer to the shore of the river increases, Irrigation methods developed in ancient Egypt; Towards artificial irrigation: with the aim of preserving the surplus water, after the flood, in basins close to the river shore in order to be used in the irrigation of more basins that were not reached by the flood water. This was achieved by digging more canals and bridges. Industrial irrigation is an ancient Egyptian achievement that required full cooperation between the state and the nation with perseverance.

Agriculture in the modern era:

Since the revolution of July 1952 until now, interest in the agricultural sector has continued and work has been done to develop and develop this important sector, and Egypt has known the implementation of giant irrigation projects, so the construction of the High Dam was started in 1960, and this project contributed to achieving water security for Egypt, which allowed the implementation of horizontal development projects and increase continuous agricultural land.

The year 2007 witnessed the implementation of the first steps to modernize agriculture by turning it into a private sector managed according to free market mechanisms within the framework of the economic liberalization program that Egypt is currently implementing.. Where the Ministry of Agriculture began implementing many measures, including the expansion of the use of agricultural technology by implementing the laser leveling program For agricultural lands to maximize the added value, which is estimated at about 315 million pounds, as a result of the regular distribution of seeds, which led to its success in reaching the agricultural growth rate to 4.1% annually.

The agricultural development process continued, raising the annual agricultural growth rate on average from 2.6% in the eighties to 3.4% in the nineties, to reach 3.97% in the third millennium, and the area of agricultural land increased by about 2.3 million acres during this period, and Egypt set out towards agricultural expansion projects The giant that contributes to the addition of 1.3 million acres and to the increase in the populated area from 5.5% of the area of Egypt to 25%, and to the redrawing of the population map after creating new urban communities in the depths of the Egyptian desert, forming areas of population attraction because of the new job opportunities it provides.

Vertical agricultural development projects have contributed to the crop area reaching 15.2 million feddans in 2007, and Egypt has started implementing a long-term plan to add about 3.4 million feddans of new reclaimed lands until 2017, and within the framework of this plan, 150,000 new feddans are being added. Every year for the agricultural patch.

Advantages of the agricultural sector in Egypt:

The agricultural sector in Egypt is distinguished by the success of investing in it, due to several factors, including the following:

Stability: Egypt enjoys stability on the political, security, and economic levels, which encourages investors to set up large projects in it.

The strategic location: Egypt's location provided a greater opportunity for the export of agricultural products; This is due to its proximity to the markets of the Middle East and North Africa, and the location of Egypt is characterized by its ideal climate for agriculture.

Investment Support Policies: The two investment laws contributed to giving the private sector more freedom in the field of production, the field of exporting and importing agricultural commodities, and distributing and importing agricultural production requirements.

Price flexibility: by liberalizing the prices of agricultural crops, and liberalizing the prices of agricultural production requirements according to global economic variables, in addition to the free marketing of cotton.

Availability of production factors: Egypt is characterized by the presence of many arable lands, as it is equipped with the necessary facilities for its reclamation, and with inexpensive trained labor, in addition to the availability of the necessary natural resources; Such as water sources and agricultural raw materials.

Infrastructure: Egypt has a developed infrastructure throughout the country, represented by the road network and modern facilities.

Development of the agricultural sector in Egypt:

The Egyptian state has developed policies related to the agricultural sector as one of the most important means necessary to advance economic and social activities towards achieving sustainable development goals and developing the living conditions of Egyptian farmers, by defining the relationship between the private sector and development policy, and pumping government and private investments to serve the agricultural sector; In order to achieve integration and participation in the planning process, and among the most prominent ways to develop the agricultural sector in Egypt are the following:

- Implementation of development and service projects specialized in the reclamation of agricultural lands, the development of the necessary resources, and the increase of various agricultural activities. Among the projects that were implemented in the period from 1995 to 2018 are:

El-salam Canal Project:

Al-Salam Canal and its branches extend for 262 km and are divided into two phases. The first phase includes the extension of the canal with a length of 87 km from the outlet on the Nile to the 219 km until the Suez Canal, and serves 220,000 acres of new reclaimed land west of the canal.

The second phase of the project includes the construction of the Al-Salam Canal under the Suez Canal to reach the Nile's waters in Sinai to serve 400,000 acres of reclaimed land, and the construction of a new canal with a length of 86.5 km, known as the Sheikh Jaber Canal, including 8 branches. The total investments implemented in the project amounted to about 5.7 billion pounds.

Shark EL- Owainat Project:

Shark EL- Owainat project is located in the southwestern part of the Western Desert. The project aims to reclaim about 255 thousand feddans on groundwater in the region, with investments amounting to 3.5 billion pounds. The project began in 1997 and has been planted so far about

47.5 thousand feddans, and one of the most important crops Which has been successfully cultivated wheat, barley, fruits, vegetables, medicinal and aromatic plants.

Darb Al Arbaeen:

The Darb Al-Arbaeen project is located in the Western Desert, and contributes to the addition of 12,000 acres of new lands completely irrigated by groundwater. The lands are cultivated using organic farming and modern irrigation systems. The project area witnessed the establishment of 16 new villages and ownership contracts were distributed to small beneficiaries. The most prominent crops that have been successfully cultivated are olives, dates, fruits, vegetables and aromatic plants.

Project to establish 400 new villages:

The new village program aims to establish 400 new villages in the desert hinterland during the period (2006-2011). These villages provide the opportunity to reclaim one million feddans in the desert. These areas are divided into small, medium and large holdings, whereby 700,000 feddans have been allocated to small holdings by 10 acres for each family, and 300,000 acres for large holdings. New villages are encouraged to grow a major crop of export crops and focus on organic farming, while working to achieve cooperation between investors, export companies and smallholders in management, production and marketing operations. The project contributes to creating 420,000 opportunities An annual average of 70,000 jobs are created annually.

- Implementation of projects specialized in agricultural training, marketing, food security, and fisheries development.
- Cultivation of new crops characterized by a high percentage of exports, such as: quinoa and cassava, within the 1.5 million feddan project.
- Conducting national campaigns with the aim of promoting strategic crops; Such as wheat, corn, cotton, and rice.
- Paying attention to the economic reform program that includes the liberalization of the exchange rate, which contributes to increasing the prices of some strategic import crops, which encourages farmers to plant them, such as: soybeans, yellow corn, and municipal beans.
- Cooperation and exchange of experiences between Egypt and African countries. Three joint Egyptian farms have been established in Mali, Congo, and Togo. Cooperation has also taken place with other countries, such as: Germany, China, Mauritania and Vietnam.
- Enact new laws that serve the simple peasant, increase the efficiency of cooperative societies, protect agricultural lands, and regulate fishing.

All these efforts helped increase agricultural investment opportunities in Egypt.

Agricultural Investment Law in Egypt:

One of the most difficult laws, given that it may not be able to provide the infrastructure sometimes, such as the one-stop-shop project established by the state in order to benefit from investment projects, but it is unfortunate that it has not achieved any success so far. This has helped the Egyptian agricultural investment law to grant the private sector working in the field Importing and producing some agricultural requirements freedom to perform his work, as well as giving him freedom in all import and export movements of agricultural commodities without restrictions.

- The state helped increase agricultural investment opportunities in Egypt by opening the door to everyone. It also provided many advantages and exemptions as follows:
- Giving everyone the freedom, whether an individual or a company, to set up any investment project, regardless of the nationality of the capital.
- The state granted everyone the right to own land. -
- Public sector laws do not apply to investment projects, so they are considered private projects.
- The state gave everyone the freedom to sell to others and set the price of any product in order to make a profit
- The state has provided many investors with some things in order to encourage them to increase agricultural investment opportunities in Egypt
- The state provided investors with some services such as roads and multiple facilities, in addition to providing credit lines and programs at special prices.
- Exempting investors from taxes so that those investments can achieve the expected productivity.

Conditions for agricultural investment in Egypt from 1995 to 2018:

- Availability of agricultural investment opportunities in Egypt through an investment climate and a good environment for the establishment of investment projects, in order to help facilitate business and establish projects to achieve targeted profits.
- It is necessary to observe the rules of supply and demand and the possibility of accessing production inputs easily, which are raw materials, capital, machinery and equipment.
- It must be known that the investment does not come to the country that you want, but rather it comes to the country that can offer it the intended profit.

Obstacles to agricultural investment in Egypt

The agricultural sector in Egypt is exposed to some obstacles that stand in the way of completing its path of success through the establishment of investment projects for several reasons, the most important of which are the following:

- Exposure to waste large amounts of irrigation water, especially in brown clay soils.
- There are large areas of agricultural land characterized by a high level of salinity, and that salinity causes a reduction in the production of those lands.
- Increasing the concentration of some fertilizers, and the farmer is not able to deal with it or understand its composition.

- Water scarcity in some lands, especially with the country's money, because those areas are based on agriculture according to the amounts of rainwater in them.
- Not appointing qualified technical cadres in agricultural associations that work to improve the productivity of the farmer and provide him with the necessary information to deal with the quality of land, fertilizers and seeds.
- The use of groundwater has not yet been discussed in lands that are characterized by the scarcity of water access to it.
- The state's failure to provide training groups to teach farmers water rations and new techniques that help in the prosperity of agriculture.

Solutions to the problems and obstacles facing agricultural investment in Egypt:

The state has reduced pressures and made things easier for investors through some measures that helped increase investment in the Egyptian agricultural sector, through the following:

- Facilitate all procedures in the possibility of reclamation of agricultural land.
- Providing the required spaces and the appropriate facilities, especially irrigation water.
- Exempting those lands from taxes for an agreed period.

Egypt's Future Project for Agricultural Production

The project aims to provide a lot of high-quality agricultural products at the same time at low prices for citizens and until the state limits import and bridges the gap between production and import, which will result in the provision of foreign labor and the provision of thousands of job opportunities for young people in addition to the fact that the project provides thousands of indirect opportunities for all categories The people are men and women, in addition to the investment opportunities that the project provides for major companies that are interested in the agricultural field.

The Future of Egypt project, which extends over an area of 500,000 feddans, is among the strategy set by the state, which is to maximize the productive opportunities in the field of agricultural production and land reclamation, and it is a new addition to the series of giant national development projects that the state is adopting and implementing in various development, industrial and commercial fields.

The project is located along the El-Dabaa axis, which is one of the new roads that have been paved within the national network of roads, where the site was chosen, as it has many geographical advantages as it is close to ports, airports, industrial areas and many main roads, as this facilitates the process of transporting agricultural products to all Throughout the Republic, it has had a significant impact last year in providing agricultural products to citizens during the Corona virus crisis.

The future of agricultural investment in Egypt

The future of agricultural investment in Egypt is characterized by a set of factors that give chances of success and achieving the greatest return, which are as follows:

- The strategic location that characterizes Egypt, as it is in the middle of the Middle East markets, as it is located in the middle of Africa and the Arab world, causing its numerical control over the number of sources.
- In addition to that, the distinctive climate it enjoys, which helped increase the quality of agricultural products.
- It also provides local markets helps the success of the Emirates significantly.
- It is also the political stability that Egypt is experiencing, which has harmed the security and economic stability, which led to
- To be assured of investing and starting many new projects without fear of results.
- Some laws also that helped liberalize the prices of crops were among the success factors of those investments.
- In addition to liberalizing the price of agricultural sector requirements, it also helped achieve success.
- And most importantly, when the marketing of cotton was liberalized, it helped increase investment in its cultivation.

Conclusion

Agriculture is a major source of food supply to mankind for several centuries, as all countries depend mainly on agriculture for their food; whether the country is developing or developed, and with the continued demand for food, the demand for more arable land is also increasing in order to cultivate it and produce more food. It is worth noting that agriculture is an important factor for the development of any country; In addition to providing foodstuffs, agriculture is a primary source of raw materials for several industries, such as: textiles, sugar, cotton, oils, fruit and vegetable processing, and rice, and Egypt is one of the most important countries for which agriculture is of great importance in Africa, and the state is working in various ways to develop the agricultural sector significantly to achieve self-sufficiency in products and crops, and to attract investments significantly, and the state is working to facilitate the investment process for investors significantly, and it is expected that Egypt will be one of the most important countries that attract agricultural investment in the coming years.

References:

1. Dr. Abdullah bin Mohammed Bahjat, 2004, Optimum investment and its returns
2. Journal of Science and Technology, 2013, Agriculture -
3. Agriculture, 2021, www.sciencedaily.com
4. <https://www.sciencedaily.com/terms/agriculture.htm>
5. Agriculture and fishing, 2020, Egypt--
6. <https://www.britannica.com/place/Egypt/Transportation-and-telecommunications>
7. Agriculture in Egypt - statistics & facts, 2020, https://www.statista.com/topics/5674/agriculture-in-egypt/#dossierSummary_chapter1
8. Saleh, M. A. K., & K.R., M. (2021). Embracing Entrepreneurial Change: Enterprising In Yemen Compared With Other Least Developed Countries. Journal of Advanced Research

- in Economics and Administrative Sciences, 2(4), 1-22.
<https://doi.org/10.47631/jareas.v2i4.336>
9. Abdul WahabDahri, 2018, Economic analysis of agricultural production processes.
10. Map of FAO projects in Egypt, 2020, <http://www.fao.org/egypt/programmes-and-projects/project-list/en/>
11. -Mega Agricultural Projects in Egypt, 2017, https://link.springer.com/chapter/10.1007/698_2017_208
12. Egypt: foreign investment, 2019, <https://santandertrade.com/en/portal/establish-overseas/egypt/foreign-investment>
13. Dr. GamalHamdan, 2008, Map of Egyptian Agriculture.
14. M, A. . . , & C.S.P, S. . (2021). Perception Level of Small Medium Enterprises Employees and Their Environmental Corporate Social Responsibility Practices. Journal of Advanced Research in Economics and Administrative Sciences, 2(4), 40-54.
<https://doi.org/10.47631/jareas.v2i4.369>