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The consistency of export and agricultural policies in Egypt

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THE CONSISTENCY OF EXPORT AND AGRICULTURAL POLICIES IN EGYPT

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List of Acronyms

AFCFTA	African Continental Free Trade Area
COMESA	Common Market of Eastern and Southern Africa
FAO	Food and Agriculture Organization
FTA	Free Trade Agreement
GAFTA	Greater Arab Free Trade Area
GDP	Gross Domestic Product
MALR	Ministry of Agriculture and Land Reclamation
MWRI	Ministry of Water Resources and Irrigation
WTO	World Trade Organization

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Supervised by Dr. Khaled Abdelhalim

ABSTRACT

This study examines Egypt's agricultural policies, trade policies and their synergies or inconsistence. The analysis of the agricultural sector and its performance over time identifies constraints to increasing production and exports. It also examines the key role of trade in encouraging inclusive agricultural development. After a review of current trends in the agricultural sector and trade policies, the study elaborates on the main policies regulating the current agricultural export sector. It also explores the factors influencing the water scarcity problem and what could mitigate it. This qualitative research attempts to illustrate to what extent the Egyptian agricultural export sector policies are effective, consistent, and reliable. Findings demonstrate that there are contradictions in the guiding principles of these policies, and rectification is required to maintain better results in this sector. In addition, the high price of irrigation water and the government policies of water conservation are not met with policies to encourage introducing water saving technologies to support producers. The study concludes by recommending policy changes to improve trade performance and agricultural production, and to create more consistency with the export policies.

Keywords: Egypt, agriculture exports, agriculture sector, export sector, policies, consistency.

1. INTRODUCTION

Agriculture is a major component of the Egyptian economy, contributing up to 91811.80 million Egyptian pounds of GDP in the fourth quarter of 2018 even though it decreased as it was 128955.80 million Egyptian pounds in the third quarter of the same year. (Trade Economics, 2019). According to 2017 World Bank indicators, agriculture stimulates favorable economic growth and supports livelihoods of approximately 25 percent of Egyptians working in this sector. Agriculture is essential for food and manufacturing and is a source of local and international trade and balance of payments (Lamb et al., 2002). Agriculture is related to every aspect of the economic structure of any country and to many other sectors such as banking, transportation, tax and tariff structure, subsidies, local and international markets, and most importantly health (OECD, 2013). In fact, agriculture remains a key component of the Egyptian economy. It accounts for about 17 percent of the Egypt's gross domestic product (GDP) and approximately 20 percent of its foreign exchange earnings and provides livelihoods for about 55 percent of the population, which is mainly rural (ElHawary and Rizk, 2011). Moreover, the preservation of agricultural resources and inputs correct market failures (FAO, 2009).

Egypt is currently facing a number of challenges concerning water and land resources. In late 50s, agreement between Egypt and Sudan, granted Egypt approximately 55.5 billion m^3 of Nile water per year. However, the construction of the "Ethiopian Grand Renaissance Dam" on the Blue Nile in Ethiopia has affected the quantity and quality of flow of blue Nile water to the downstream countries of the Nile including Egypt. Moreover, climate change and the sea level rises have led to continuous threats in the Nile Delta which is the most fertile arable land in Egypt (Tayie and Negm, 2018). In addition, over 900 km^2 (approx 214 thousand feddans) (1 feddan = 1.038 acres) of land were converted to urban areas at the

expense of fertile agricultural land and natural vegetation in the Nile delta (Radwan et al., 2019). Megahed et al. (2015) mapped, analyzed and modeled urban expansion over the Greater Cairo Region from 1984 to 2014, revealing that 357 km2 of agricultural land had been lost to urban development. Moreover, although the Delta region alone hosts 80% of Egypt's agricultural lands due to its fertile soil, the increasing population in the Delta region has resulted in a rapid loss of agricultural lands.

With regards to agricultural exports, Tayie and Negm (2018) explained that because Egyptian agricultural exports could not achieve their prospective targets in 2011, prices soared, raising the importation bill to around 3,964 million USD, causing a commercial balance deficit of 2,552 million in the same year and negatively impacting the Egyptian economy. Unfortunately, the same scenario has recurred in more recent years. It is evident that increasing agricultural exports reflect in an increase in agriculture's share of GDP and Egypt is currently experiencing high dollar price against its local currency, a matter that requires increasing exports to provide strong foreign reserves (Ahmed and Sallam, 2018). Accordingly, the Egyptian government needs to implement policies that could increase the export of agricultural products by monitoring relevant bodies. To the strengthening of the Egyptian economic performance, Ahmed and Sallam (2018) address the issue of implementing policies to safeguard exporters. They refer to farmers who face the problem of a lack of exporters' commitment to forward contracts and suggest the need for government intervention and regulation of such contracts and the application of fines for breaches of such contracts. Therefore, there is an urgent need to assess interlinked policies of the two sectors of agriculture and trade to improve Egypt's economic performance.

Accordingly, setting an efficient and effective policy system is very important to solve agricultural problems and improve and work on the solutions for better results. Efficient agricultural policies are crucial to meet the increasing demands for sustainable nutrition and

raw agro-materials. While growth in demand presents a significant opportunity for agriculture, government policies are needed to address challenges ranging from the need to increase productivity, enhance environmental performance, and adapt to climate change and other unforeseen circumstances. Agricultural policies take into account the laws that manage agricultural activity and decisions, which include domestic agriculture, as well as, agricultural imports (El-Sanhouty, 2003). Governments set an agricultural strategy to identify agricultural development issues and mechanisms, and adopt a comprehensive approach to satisfy all stakeholders including the farmers, civil society, and other interested parties in public and private sectors. The strategy targets the growth of agricultural outputs to meet consumer demand, which may result in product sufficiency of certain types of food, better living standard for the farmers and equity in income distribution. Efficient policies support government strategies and clearly separate targeted measures to increase farm productivity, sustainability, farmer income, resilience and overall profitability. Policy evaluation is necessary to provide evidence for governments to guarantee that their agro-policies address these challenges effectively OECD (2019).

Agricultural policy is of particular significance for its repercussions on different areas such as food security, water, environment, jobs, and the economy. There are challenges with regards selecting the appropriate policy instrument which most suits and promotes the development of agricultural sector in Egypt. Agricultural policies are interrelated with other policies (El-Enbaby et al., 2016). Reviews of agricultural policy in Egypt have been done by several scholars focusing on a specific policy dimensions. For instance, El-Enbaby et al. (2016) highlighted the inter-link between agricultural policies targeting self-sufficiency and Egypt's agricultural trade balance and analyzed procurement and price policies within the agriculture sector. Egypt's long history of food subsidies has been the focus of many studies over the years (e.g. El-Sanhouty, 2003). Several studies have also highlighted the

interrelationship between natural resource management and the development of the agriculture sector. El-Enbaby, et al., (2016) reviewed water distribution policies in Egypt with an emphasis on the irrigation system. However, the literature covering agricultural development and policies in Egypt are scant.

Developing agricultural areas and supporting agro-industry is among the objectives of the strategic visions of SDG pillars outlined in Egypt Vision 2030 (SDS Egypt 2030). In fact, the government reclaimed new areas of land outside the delta by converting around 2061 km2 from bear land to agricultural land in an effort to cater for the exponential population growth, achieve self- sufficiency of food production and maximize national GDP by delivering fruits and vegetables to export markets (Radwan et al., 2019). Currently, the 1.5 Million Feddan project aims to increase arable land by 20% by reclamation of agricultural lands, create investment opportunities in various fields, support food industries and develop urban areas to create a sustainable environment in line with the 2030 strategy (www.investinegypt.gov.eg).

The 2030 Sustainable Development Agenda and relevant global agreements mandate cross-sectorial actions to achieve multiple objectives, maximize synergies among the Sustainable Development Goals (SDGs) and their targets. This places high demands on policy-making processes to improve coordination across various organizations. However, Calicioglu, et al., (2019) claims that this is not easy because past-sector specific policies were not effective owing to deficiencies in governance mechanisms including regulation, monitoring, and accountability. They maintain that the agricultural sector depends on several trans-boundary resources and rapid changes in resource availability require supportive governance mechanisms that include financing agriculture development; planning of agro-employment; supporting food and commodity trade; and providing open data and statistics to support decision-making in governance.

Hence, the need to develop the agricultural sector requires evaluating and monitoring

relevant policies. This paper mainly targets the policy development and planning decisions within the Ministry of the Agriculture and Urban communities in Egypt with an aim of achieving long-term sustainability and food sufficiency.

The study highlights the significance of aligning policies in the agricultural and trade sectors in the Egyptian economy and examines causes of misalignment.

1.1Research Problem

In the 70's, according to Richards (1980), Egypt's agriculture accounted for some 45-47 percent of total employment, for around 30 percent of gross domestic product, and for more than 50 percent of exports. Moreover, above 50 percent of Egypt's industry consisted of agriculturally based manufacturing sectors such as textile and food processing. However, these statistics have fallen to almost half with agriculture suffering from low productivity, scarce and over-exploited natural resources, sluggish technological and human resource development, inadequately low incomes for farmers, and inefficient export-based growth of the agricultural sector (Tellioglu, 2017).

Policy making aimed at increasing agricultural exports and sustainable use of resources could create employment in rural areas, increase productivity, enhance rural incomes, and ultimately contribute to sustainable and inclusive agricultural and economic development in Egypt. However, the problem with agricultural reform in Egypt pertains partly to policies. Springborg (2017) indicates that "the gap between official policy and actual performance in state economic management is, according to the Arab Reform Initiative's Democracy Index, greater in Egypt than in any other Arab country included in the assessment" (p. 186). Former Assistant Secretary General of the UN World Food Conference and former Chair of the Economics Department at the American University in Cairo Adel Beshai maintained that one of the problems facing farmers is selling crops. He mentions that

the number of wholesalers ranges between 150-200, while farmers are in the hundreds of thousands. Consequently, farmers are forced to sell at very low prices. “That is a problem in the structure of policymaking in Egypt,” Beshai explains, noting that policies need to support farmers to enable them to achieve profits on some crops while sustain losses on others.

The problem with agricultural policies is not limited to farmers. Major challenges to agricultural trade with the EU and Arab regions, for example, are based on policy problems. Torayeh (2013) summarizes the policy-related barriers to Egypt's agricultural export as including: "export credit guarantee programs; export incentive schemes, logistics, quality management product, food supply chains" (p. 153). Solving these urgent policy issues could enable the growth of Egypt's share in those markets.

Egypt's continuous population increase, limited water resources, and high dependence on food imports are related to a successful agricultural policy plan. The persistent decline of agricultural products to meet the needs of the international markets has led to regional food prices experiencing rapid fluctuations because of the climatic disturbances, as well as, other factors (Hamza, et al., 2004). Egypt needs to focus on sector-level policies to promote agricultural export. This paper reviews agricultural and trade policies and their impact on the overall Egyptian agricultural export sector. Reviewing these policies serves to develop a more comprehensive agricultural export strategy and policy framework that aligns agricultural and trade policy objectives in a consistent and effective manner.

1.2 Research Question

To what extend are agricultural and export policies consistent in favor of Egyptian agricultural exports?

1. What are the effects of agricultural policies on agricultural exports?
2. What are the effects of export policies on agricultural exports?

3. What are the gaps in the two sets of policies?
4. What are the areas of improvement or policy reform towards creating synergies between the two sets of policies?

1.3 Research Objective

This paper focuses on examining the agricultural policies implemented by the Egyptian government by examining alignment of such adopted policies, specifically focusing upon agricultural production development via producers' responses. It also looks at how functional these policies are to the Egyptian agricultural export sector.

The objective is to understand the policy alignment problems resulting in impediments facing agricultural exporters. Examining alignment of relevant policies would be an important step towards agricultural trade reform and hence comprehensive economic and social reform. However, it is important to note that trade policy is not the only determinant of trade performance in Egypt. There are other government regulations and interventions needed to boost agricultural trade as well as other institutional, political, legislative, and social considerations. Awareness of the need to revise and reform policies would be an important step towards the potential overall improvement in this sector.

2. LITERATURE REVIEW

2.1 Agriculture in Egypt: An overview

The Arab Republic of Egypt covers an area of 1001450 km2, but owing to the extreme aridity of its land, the population, 96 million inhabitants, are concentrated along the narrow Nile Valley and Delta, while 98 percent live on only 3 percent of the total area (http://www.fao.org). The agricultural sector is the third largest economic sector, but its share in the GDP declined from 16 percent in the 1990s to almost 11.5 percent in 2019 (http://mpmar.gov.eg/). The Agriculture Sector provides livelihoods for 55 percent of the population and employs about 30 percent of the Egyptian labor force. However, Egypt imports about 40 percent of its food needs and at a total cost of USD 2.5 billion per year. Territorially, Upper Egypt governorates have a higher share of labor work and contribution to GDP from agriculture compared to Lower Egypt (Ender et al., 2003).

Based on the literature, it was found that Egypt has developed from an agricultural nation to a nation with an increasingly varied economy, and agriculture itself gradually declined in conspicuousness as a pillar of the Egyptian economy (Tellioglu , 2017). Patterns in the commitment to agriculture as a source of national income reflect this decline. Between the years 2007 and 2018, agricultural contribution to GDP declined by an average of 29 percent (http://www.investinegypt.gov.eg). This trend is likewise reflected in high unemployment and poverty levels. However, Egypt's agriculture sector still accounts for a 14-15% of the country's gross domestic product (GDP). It provides 30% of employment and is the main source of livelihood for more than half of the Egyptian population (IFAD, 2014). Agriculture is also a crucial source of food for a large segment of the Egyptian population, especially for people living in rural areas. The sector's multi-faceted role within the Egyptian society and its capacity for social and economic development make it a pivotal engine for

growth (SAT, 2010). Agriculture is a source of income, employment, and nutrition for Egyptian citizens. Agricultural production in Egypt still assumes a significant job in the nation's economy in spite of the decrease in its relative significance in late decade. It adds to the general sustenance needs of the nation, gives local ventures crude materials, and adds to send out incomes; notwithstanding, a creation of paid agricultural work and inclusion of different stakeholders such as wholesalers, processors, exporters, transporters of rural wares.

2.2 Agricultural Policies in Egypt

The objectives of agricultural policies are often to increase agricultural productivity, ensure a fair standard of living for the agricultural community, stabilize markets, and the availability of supplies for consumers at reasonable prices.

Over the past three decades, according to Kassim, et al. (2018) several policy reforms were made. The first was *The Agricultural Production and Credit Project (1987-1995)* reform that resulted in the reduction of subsidies of some agricultural inputs, and the removal of controls on area allotments, pricing, and marketing restrictions for some major crops. The second was *The Agricultural Policy Reform Program* (1996-2002) was adjusted to provide incentive for the private sector to play an active role in exportation of agricultural commodities leading to the privatization of public firms (Soliman, et al., 2010). In parallel, the *Economic Reform and Structural Adjustment Program* in 1991, with directives from the World Bank and the International Monetary Fund impacted the agriculture sector. The government policy shift from a state-controlled to a market economy accelerated market liberalization and encouraged the active role of private sector in agriculture trading. And in 1996-1998, The *Formulation and Demonstration of Sustainable Reuse of Wastewater in Agriculture* policy formulated a national policy and strategy for the comprehensive

management of treated wastewater, national capacity building to provide trained human resources.

In 2015, Egypt launched *Egypt Vision 2030*, a sustainable development strategy and plan for implementing the 2030 Agenda, and specifically SDG, the promotion of food security, nutrition, gender equality, women's empowerment and sustainable agricultural growth. The Egyptian Government's present strategy for agricultural development for 2030 (SADS, 2009) argues that the following actions are essential for agricultural development:

1. Promoting agricultural growth through the efficient and environmentally sustainable management of land and water
2. Rationalizing the use of irrigation water and improving on-farm water management in the old lands
3. Increasing new land reclamation, using water savings from the development of on farm irrigation systems in the old lands
4. Promoting private sector activities in new land reclamation
5. Improving technology transfer and capacity building activities at the farm level.

According to the Agricultural Development Strategy Towards 2030, policies to increase the competitiveness of agricultural trade products depend on six inter-related policies, which are (1) contract farming policy, (2) Agricultural commodity marketing policy, (3) Agricultural commodities electronic marketing and trade policy, (4) Regional agricultural organizations policy, (5) Inter-state cooperation with international organizations and agreements policy, and (6) Agricultural information system development policy.

2.2.1 Contract Farming Policy

This policy introduces entities for arbitration that are neutral, and it penalizes responsible parties. The policy is also used for breaching and registering agricultural marketing contracts.

It introduces a new system which resolves disputes through establishing specialized economic courts. In addition, it introduces credit lines to provide farmers with loans that are suitable and uses contractual farming contracts as collaterals.

2.2.2 Agricultural Commodity Marketing Policy

This policy is responsible for introducing different crops such as cereals in the form of exchange through *Alexandria Commodity Exchange and Cotton Spot Exchange*, as well as, other commodities' exchanges for other crops. The clearing house guarantees loans and provides insurance for both brokers and its members by establishing a streamline for future market roles. In addition, this policy helps to establish a system which decides upon the rates and the prices that the committee settles in the different financial positions of each trading session closure.

2.2.3 Agricultural Commodities Electronic Marketing and Trade Policy

This policy is basically responsible for electronic transactions to facilitate the communication system as it sets national policies and rules to regulate trade electronically. It has a registration system placed centrally for dealing with documents and data as it provides updated websites to facilitate market design worldwide. Moreover, it includes protecting and encoding electronic trade operations in such marketing sites to support and update the price change, exchange rates, and cost.

2.2.4 Regional Agricultural Organizations Policy

Agricultural cooperation is the main concern of this policy as it establishes joint boards with states that have suitable investment and agricultural opportunities mainly with projects related to food security. These boarders propose joint projects for investment and cooperation and coordinates positions of international conferences. It also monitors implementation

decisions established by the MALR, executes projects, supports regional cooperation, and prepares studies for sustaining joint cooperation.

2.2.5 Inter-state Cooperation with International Organizations and Agreements Policy

This policy activates and supports how to monitor the way other countries implement agriculture related aspects through international agreements taking into consideration national interest. In addition, it protects intellectual property rights by registering national products, trademarks, and documents of all brands. Finally, it monitors international agricultural issues by upgrading and improving skilled staff.

2.2.6 Agricultural Information System Development Policy

This policy discusses assigning a particular unit to administer a network for agricultural information and implements developing programs for supporting information infrastructure at the MALR. It also establishes a database in support of strategic objectives and helps in monitoring and evaluating related activities.

2.3 Policies interacting with Agricultural Policies

In the literature, four main interdependent policies are seen to affect agricultural production: Food Policies, Financing and Investment Policies, Water Policies. and Pricing Policies

2.3.1 Food policy

Food policies are linked to all agricultural and economic policies and are a reflection of the success of these policies (El-Enbaby et al., 2016). Countries, local, regional and global organizations attach great importance to food security. Food security is linked to self-sufficiency and is measured by the ability of the household to provide its targeted food needs,

and to provide factors of production such as land and labor. Food security is defined at three levels: global, national and individual, and thus means the availability of food at each of these levels (El-Enbaby et al., 2016). The Arab Organization for Agricultural Development (AOAD) defines "the provision of food in quantity and quality necessary for activity and health, and on a continuous basis for all members of the Arab nation based on local production first and on the basis of the comparative advantage of producing food commodities for each country and making it available to Arab citizens at prices commensurate with their income and financial potential" (SAT, 2010).

Basic to achieving and maintaining self-sufficiency is to secure higher self-sufficiency levels of strategic crops such as maize and wheat, with the ultimate aim of achieving greater food security of those basic staple foods (Kassim, et al., 2018). In addition, Egypt's Sustainable Agricultural Development Strategy Towards 2030, or SADS 2030, increases production of these strategic crops are considered together with the efficient and sustainable use of natural resources, now and in the future (Kassim, et al., 2018). The food subsidy policy has aimed to keep consumer prices down in the face of inflation, urbanization, rapid population growth, and currency devaluations despite the fact that it has been a major drain on the country's fiscal resources.

2.3.2 Financing and Investment Policies

Financing and investment policies play a major role in supporting and developing the agricultural sector. The interest of Egypt in the agricultural sector is reflected in the increasing investment allocations to the agricultural sector in the development plans at the country level. According to Minister of Planning Hala el-Saeed, the 2018/2022 sustainable development medium-term plan allocates direct investments of LE 217 billion to the agricultural sector (Egypt Today, 2018). According to the planning minister, the investments

in the agricultural sector are directed to establishing supportive programs, expanding the area of agricultural land, and developing the mechanization of the agricultural tenure system. This medium-term plan also includes creating a database of holders and audited data to help monitor the agricultural development programs, development of waterways, and rationalization of water consumption. The objective of this plan is to increase net foreign direct investment (FDI) to $11 billion in 2018/2019 and then to reach $20 billion in 2021/2022 from a starting point of $7.9 billion in 2017/2018.

The objectives of the medium-term sustainable development plan are to provide 750,000 job opportunities in 2018/2019 to gradually increase and create approximately 870,000 opportunities in 2021/2022 via absorptive capacity building of the labor market (Egypt Today, 2018). Nevertheless, the agricultural sector's share of investment is still low compared to other economic sectors, with the bulk of investment being allocated to the sectors of trade, services, and industry (El-Enbaby et al., 2016).

The following are the main features of agricultural policies related to agricultural investment. An updated policy was adopted to support exporters and reduce their financial burdens to administrative and tax systems. Resulting in a significant improvement in the investment climate in general, agricultural activities, especially land reclamation, were at the forefront of tax-free activities (Lamb et al., 2002). Agricultural exports were at the top of the list of goods that received financial support and contributed to its external marketing expenses, by reducing international shipping costs and costs and promotion expenses in foreign markets (Oweis et al., 2003). The objective of the future is to reduce the conflict in the laws and legislations governing direct and indirect agricultural investments, and coordinate among the competent authorities and departments related to agricultural investment and its services and requirements, whether belonging to the Ministry of

Agriculture or other organs and ministries, and facilitate the executive procedures for investment in agricultural projects (MALR, 2009).

The types of investment policies and loans depend on whether the country is centrally planned or one with a free economy. First, in centrally planned countries, government is represented by the public sector. It provides the necessary funds for agricultural loans according to the agricultural plan approved by the central planning bodies, which determine the amount of funds needed for agriculture, and the necessary agricultural inputs and prices, and interest rates. The companies and public institutions main task is import and distribution. Second, in countries with a free economy, economic reform programs are implemented by financing and agricultural lending which are provided through private financial institutions (Ender et al., 2003). The full powers are given in practicing this activity according to market standards.

2.3.3 Pricing Policies

Agricultural prices also play an important role in inflation, unemployment and economic growth (Lamb et al., 2002). Successful price policies require extensive knowledge of consumer and producer reaction to changes. There are two groups in society whose interests and objectives conflict with regard to agricultural prices. The first group consists of farmers and producers, represented in councils, legislative bodies, and by the Ministry of Agriculture. The second group includes consumers, manufacturing establishments and export agencies, who oppose the prices of agricultural products to be high, so as not to affect their standard of living or the return of their economic activity (El-Enbaby et al., 2016).

Since agricultural prices suffer from year to year or seasonally, and since there are cross-linkages on the crop side and there are reciprocal and complementary linkages on the demand side, in many cases this requires government intervention to adjust prices and guide

agricultural production. Price policy does inspire farmers to develop some key yields, for example, cotton, sugar cane, wheat. Under this approach, the government has invested in setting an assurance cost for ranchers qualified for pitching their items to the State inside this cost (El-Enbaby et al., 2016). Related to economic development or emergency situations, there are different ways in which governments manage their price policies, including leaving prices that are effective to supply and demand in the market (SAT, 2010). For example, according to the free market system prices are determined through the supply and demand. The difference between the two cases is the subsidy policies, and incentive rates and other policies.

To solve the dilemma between provision of crops and the limited agricultural land, there is a need to increase food production by 1) increasing self-sufficiency and reducing dependence on imports; 2) stabilizing prices and agricultural incomes and mitigating the impact of global price fluctuations to serve development plans. 3) raising the standard of living of the farmers; 4) developing the use and allocation of available resources for agricultural exploitation, 5) increasing production capacity by reclaiming new lands or working to increase the productivity of the exploited land, and 6) providing economic incentives and soft loans (MALR, 2009). Thus, increasing production agricultural production and hence supply of foreign currency would lead to an increase in self-sufficiency and improve agriculture's contribution to the trade balance, all of which are factors benefiting the sector.

Agricultural policies are a standout amongst the most significant strategies received by the Arab nations to control their monetary and social exercises. This is on the grounds that the farming segment speaks to an extraordinary significance for the investment funds of most Arab nations and among the improvement plans important to accomplish the advancement objectives (Oweis et al., 2003). Given the idea of Arab economies, farming strategies assume

a crucial job in the steady movement of different phases of financial combination among the Arab nations.

2.3.4 Water Policies

Water policies were implemented in Egypt as early as the beginning of the twentieth century. All policies were based on 'development', with water allocated first to domestic use, followed by industrial requirements and the remainder went by default to agriculture. With the exhaustion of all water resources, the last policy of 1997-2017 became an 'allocation' policy (El-Enbaby et al., 2016). This meant that no more agricultural expansion could be implemented after the total cultivated area reached between 4.20 and 4.62 million hectars (between 10 and 11 million feddan, approximately 10.38 and 11.38 million acres).

Water pricing for agriculture is one of the major debates in Egypt. The main obstacle towards the application of pricing is land fragmentation, which requires the installation of millions of water meters and the employment of thousands of meter readers. However, since small farmers are barely able to survive because of costly inputs and the unfair practices of middle-class who under-value their commodities, cross subsidies could be a potential solution. This intervention would charge big investors the costs of their irrigation water and increase the tariff for potable water for large consumers, hotels, and industries in favor of small farmers (MALR, 2009).

In 2009, additional water policies were issued by the MOA and the MWRI. These policies focused on improving the methods of irrigation to avoid the misuse of water supply and to recycle the water used for certain crops for irrigation in others (FAO, 2010). In the period between 1997 and 2017, several water-related policies were issued, the last of which dedicated the entire water supply for areas in need of irrigation and the remnants to be distributed to the remaining sectors in need. The policy was distressing as it opposed the

established norm whereby water is allocated to irrigation only after it has satisfied the needs of other sectors (El-Enbaby et al., 2016). As a result, the country witnessed a shift in water usage to other sectors such as mining, industry and tourism where water is key in developing new spheres, thereby demonstrating the upsetting nature of this policy (El-Enbaby et al., 2016). Ultimately, the policy was deemed as a bureaucratic approach that focused more on paper values than on field values (El-Qausy et al., 2011). The Egyptian water approaches include reusing agricultural waste water in addition to accessible water assets to satisfy the developing need for this significant asset (MWRI, 2005). This can be achieved by blending agricultural seepage water with water in certain trenches and fundamental water system channels. With the appropriation of various water treatment plans, water specialists have expanded the supply of treated water, notwithstanding the incredible endeavors in the arrangement of water system foundation in numerous zones of new agriculture. The Government has likewise executed countless waste undertakings, which have kept up extensive territories of developed land (MALR, 2009).

2.3.5 Rural Resources Policies

The previous two decades have seen critical advancements in the improvement of normal agriculture resources particularly land and water providers.

Due to quality issues with the EU such as pest control and water management, the old lands provide food for the Egyptian population as very little is exported, with declining land availability and increased demand food will have to come from elsewhere. Another thread to agricultural production of the "old lands" is farm size. In 2025 farm sizes will have shrunk even more and about 80% of the farmers will have a holding of less than 3 feddan (3.114 acres). Modernization measures to create bigger farm size will result in higher unemployment rates. In 2025 vision for sustainable rural development, there will be different development

model. In agriculture general adoption of good agricultural practices can aid in sustaining high value agricultural production. Good agricultural practices entails wise use of agro-chemical, water and other agricultural inputs. Application of technology that will keeps productivity high while improving the quality of production. If there is viable agriculture in the old lands, resources can be freed for expansion into new agricultural areas that are predominantly export-oriented. Good agricultural practices can help to ensure that environmental issues such as water quality, do not deteriorate further or can even improve.

The following situation in the old lands with respect to the vision

- Good production levels to supply the local market and possibly to a certain extent the export market. This is possible by preventing current agricultural land from shrinking and improving productivity of that land. The result is suitable marginal farming.
- Social impacts to be provided as to maintain a socio-cultural infrastructure. Part of this can be achieved by promoting efficient and safe land use and promoting clustering to prevent further fragmentation. There are adequate safety nets to protect the poorest segments of the rural population that are usually hardest hit in globalization processes.
- Promote market oriented farming in a sustainable local economy. This includes promoting agro-industries.
- Better water management.
- Improvement of Human Development Indices. Implying that the gap between rural and urban is almost zero. This means that the rural poor must have adequate access to basic services and infrastructure.

2.3.6 Land Resources Policies

The new land circulation strategies received by the legislature starting at 1980 have prompted the extension of the rural land region, utilizing the supplies of groundwater in numerous agriculture territories, which prompted a critical increment in the rural territory amid the period 1980-2007). The point of the venture is to lessen waste and waste in rural terrains to a base, with an incorporated structure for adjusting the necessities of the urban extension of the provincial populace, which directs the quick development of the rustic populace and the need to save Egypt's agricultural resources.

2.3.7 Agricultural Foreign Trade Policies

The drop in real economic growth rate and the political volatility directly affected the increase in trade deficit rates. In addition, other factors contributed to this deficit intensity, including the rise of the Egyptian Pound value against other currencies such as the Euro, lack of hard currency, and significant escalation in Egyptian budget deficit (Tellioglu, 2017).

The export marketing systems have been developed and the volume of agricultural and food exports has increased. In recent years, the value of these exports has increased to about four times that of the mid-1990s, with the relative expansion of the processing, and the development of techniques in the fields of production, marketing and promotion. Some new patterns have also been seen in the marketing channels and the outlets for food commodities, and the related developments in the field of sorting, facilities and capabilities available from some facilities and marketing services, especially related to manufacturing and export activities, as well as, some development in regulations (Hatab et al., 2010).

Moreover, the adoption of modern technologies, advanced production and marketing methods have resulted in remarkable export achievements. The objective of the future is to give increased attention to the development of products in terms of quality and quality characteristics, according to the requirements of external and internal markets and marketing

and manufacturing requirements, especially in the framework of research and guidance programs, and related to the development and application of quality standards and specifications of agricultural products (MALR, 2009).

Modern technologies in the information and communication systems can serve the agricultural sector whereby the development of facilities and marketing services are dealing in agricultural products and the development of pre-transactions (Hatab et al., 2010). Post-harvest, these technologies would lead to raising the quality of products and their marketing efficiency, supporting and strengthening the linking of farmers and especially their young people with the markets, encouraging the establishment of farmers' marketing organizations, and providing market information and marketing guidance. In addition, to activating and strengthening the governmental role in areas that achieve efficient balance between this role and market mechanisms, modern technology is included the fields of supervision and quality control, input and product specifications, promotion of competitiveness, prevention of monopoly and fraud, consumer protection, and supporting the role of civil society organizations (Hatab et al., 2010).

2.4 Agriculture in support of Industrialization

Agriculture is also considered one of the essential backbones to the industrial sector. Agriculture and agro-industries are basic to the economies of developing countries like Egypt as they contribute to the economic stability of many villages and towns by converted valued agro raw materials to products with an extended “product life” and more marketable form. Such products can be sold more steadily and consistently over a longer period than primary agricultural products that may only normally sustain a limited storage period and are mostly seasonal in nature. In developing countries agro-industries and agriculture based production contribute more than 50 percent of the added value to the manufacturing sector. Even when

agro products are only semi-processed and sold in bulk, they can still make an essential contribution to the economy of a country (Clarke, 2000). Agro-industries systems are defined as "the series of activities in which agriculture interacts with other associated sectors such as fertilizers, pesticides, animal feed and food, catering and distribution industries" (Clarke, 2000, p. 12). The author highlights the importance of agro-industries systems in providing food to consumers, fibers and other raw materials for domestic industry, a market for agro industrial products, and foreign currency earnings. Government agro-industrial policies affect the industrialization process through the influence over land use patterns, choice of crops, technological advances, production techniques, environmental legislation and trade policies.

Concluding all these policies, it is noted that the priority of all the above mentioned agricultural policies that affect exports are: water policy and food policy. The government proceeds to be more involved in the assignment and maintenance of water through the Nile irrigation framework. Some of the main effective policies such as the water and food policies which are related to the provision of the agricultural inputs, the government has continuously moved from full control towards greater liberalization with expanded inclusion of private firms. The focus on self-sufficiency in staple crops has driven to the selection of interlinked policies food subsidies, whereas a series of reforms has pursued to address the consequences of such policies.

2.5 Export Policies in Egypt

Export policy is generally consistent with the World Trade Organization (WTO). There are, however, some serious non-tariff barriers (NTBs), including application of non-science based standards and inappropriate inspection and testing requirements.

There is no foreign trade agreement (FTA) between the United States and Egypt and no other free trade agreements with respect of U.S. products as they are eroding the competitiveness, however, the 1999, U.S.-EGYPT Trade and Investment Framework

Agreement provides a kind of forum to invest and expand reciprocal trade. While, Egypt signs FTAs with the European Union, the (MERCOSUR) officially known as the Southern Common Market, Turkey, and the (COMESA). In addition, Egypt is also a member of the (GAFTA), which composes of 18 member states, and recently Egypt joined the (AFCFTA) and became a member with 44 countries. Nevertheless, it is one of the main members of the Tripartite Free Trade Areas, which composed of member states and partners from the Southern African Development Community, the (COMESA), and finally the East Afican Community. In 2017, U.S. food and agricultural exports to Egypt grew to $796 million or up nearly three percent compared to $775 million in 2016. Leading imports were corn, soybeans, wheat, cotton, beef and beef products, dairy products, soybean meal, and vegetable oils. U.S. food and agricultural exports to Egypt in 2018 are up $896 million, almost 132% (www.export.gov).

The Egyptian government has recently taken other measures to reduce restrictions and liberalize the trading system. In 1998, the Egyptian government reduced the maximum tariffs on most products (imported or exported) from 50 per cent to 40 per cent (excluding poultry, alcoholic beverages, cigars and automobiles) and United tariffs fell to 35 per cent, 45 per cent and 30 per cent respectively Egypt passed the tariff ban on most textiles in early 1998 as related to the Convention on Textiles and Males and lifted the remaining ban on bananas in 2003. The tariff on rice imports has been reduced from 20 percent to 5 percent in 2003 (Wellons, et al., 2005). Egypt has defined the inspection procedures and options applied in ports in order to reduce the import costs and agreed to accept the certificates of accredited laboratories. Refined tariffs on raw sugar reeds and beet sugar went down from 24% to 5%. Tariffs on refined sugar have been reduced from 24 per cent to 10 per cent. In addition, the government abolished development restrictions and many other non-tariff

barriers to imports. Most of the tariff reductions since 1991 have been in the context of the economic reform program that began to persist in that year (Ender et al., 2003).

Egyptian Presidential Decree 25 (2016) increased tariff rates on a wide range of imports, including agricultural and food items, to limit outflows of hard currency. The government stressed that the tariff increases are in compliance with WTO obligations, as the increases are within the bound rates. Tariffs on fresh apple, grapes and pears increased from 30 percent to 40 percent, while tariffs on nuts increased from 10 percent to 20 percent. Overall, Egypt's agricultural import applied tariffs are set lower than the bound rate.

Concluding that the Egyptian commitments with regards to improve market access in respect to the foreign products; this does not generally expect to lead to reductions in the levels of tariffs, unless the Egyptian government decides to take this step to improve efficiency and enhance the competitive of the Egyptian products.

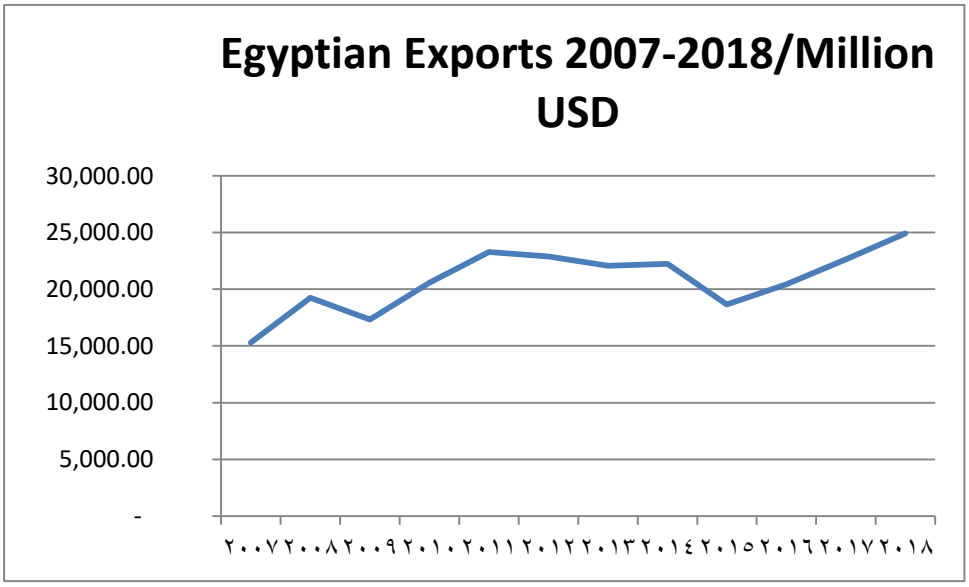
Most of Egypt's exports are destined for the EU, Russia, North Africa and the Middle East. Egypt's major agricultural exports to the world are potatoes, cotton, and fresh fruit, primarily citrus. In 2017, Egyptian exports of food and agriculture products to the United States reached a record $127 million, up ten percent or $12.5 million compared to 2016. Main exports to the U.S. included processed fruit and vegetables, spices, essential oils and herbs.

Table 1: The Total Exports of Egypt during the period 2007-2018/ Million USD

Year	Total
2007	**15,292.62**
2008	**19,237.47**
2009	**17,318.60**
2010	**20,556.78**
2011	**23,287.79**
2012	**22,870.83**
2013	**22,079.69**
2014	**22,237.60**
2015	**18,659.38**
2016	**20,417.60**
2017	**22,629.65**
2018	**24,901.30**
Grand Total	**249,489.32**

Source: GOEIC (2018)

Figure 1: Total Egyptian Export between 2007 to 2018/Million USD



Source: Compiled by author based on GOEIC (2018)

As is demonstrated in table 1 and line graph above, Egyptian Exports from 2007-2008 witnessed a slight increase then decrease reaching 15,150.000 million USD in the year 2009. From the year 2009 to 2011, the Egyptian exports recorded a huge increase reaching almost 25,000.00 million USD and then declined the following years to reach to almost

16,200.00 million USD in 2015. Finally, by the end of the year 2018, exports increased back to reach to its highest peak of 25,000.00 million USD.

There are several factors affecting Egyptian agricultural exports. According to Hatab, et al. (2010), bilateral trade flows in Egypt increase in proportion to the GDP of the trading partner and decrease in correlation with the geographical distance. Accordingly, in order to increase bilateral trade flows, it would be more desirable for Egypt to promote exports to countries which are in close proximity and have large economies. Because logistics are key in the export process, it is important to improve infrastructure and connections via direct air travel and maritime transportation between Egypt and its trading partners. The authors add that sharing the same language promotes exports. In other words, Egyptian agricultural exports usually increase with countries where the official language is Arabic, which suggests expanding and promoting agricultural exports to Arabic speaking countries. Surprisingly, the researchers found that membership in regional trade agreements does not encourage agricultural trade. "The insignificance of regional economic groupings may be constrained by problem of similar comparative advantages, consumption issues, overlapping membership, policy harmonization and poor private sector participation" (Hatab et al., 2010, p. 142).

Summing up the export policies and their impact on the agricultural sector, the most important of which are mentioned above that shows a great impact on the Egyptian agricultural export sector is the tariff reduction policy which facilitates the trade agreements between Egypt and other countries.

2.6 Agricultural Exports

In the 70s, and despite considerable investment in land reclamation, agriculture which is considered as the dominant economic sector has lost its position. In 1960s agricultural exports which accounted for about 87 percent had faced a decrease to almost 35%, but fell to 11% only in 2001. Agriculture accounted for about 34% of employment and almost 17% of GDP in 2000 (Tellioglu, 2017).

The amount of crops harvested depends on the total surface covered by the Nile floods which is approximately 20,000 and 34,000 square Kilometers. However, the pre-green-revolution, yields are limited as most of the lands are desert and only 5-7% of land is used for farming to lead to produce around 1.5 and 2.5 million tons of corn and 750 kg/ha as a base for wheat yield. Egypt agricultural export is considered a main prospect industry sector for its economy as it takes into account food security and recognizes the limited availability of water and land resources. As a result, it could not reach self-sufficiency in agricultural products and thus Egypt's imports which largely consists of food and agricultural products represents almost 40% (http://www.aecegypt.com).

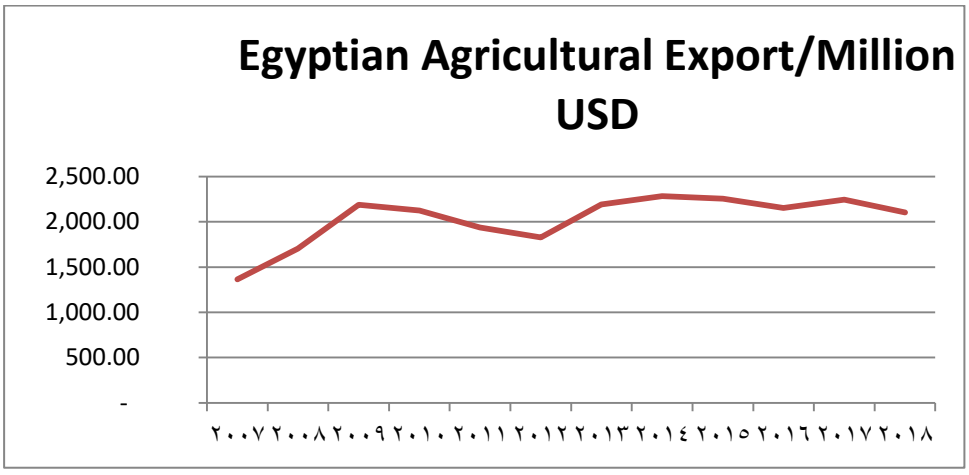
According to the data provided in Table 2 and the following figure 2, the Egyptian agricultural export witnessed an increase in the years from 2007-2009 to reach to its peak of 2188.57 million USD and then declined to reach to 1829.11 in the year 2012. It started to increase gradually to reach till 2102.06 in the year 2018 (GOEIC, 2018).

Table 2: Egyptian Agricultural Export during the period 2007-2018/ Million USD

Year	M-USD
2007	**1,362.54**
2008	**1,703.22**
2009	**2,188.57**
2010	**2,126.04**
2011	**1,937.48**
2012	**1,829.11**
2013	**2,190.02**
2014	**2,283.21**
2015	**2,255.43**
2016	**2,152.70**
2017	**2,243.93**
2018	**2,102.06**

Source: GOEIC (2018)

Figure 2: Egyptian Agricultural Export between 2007-2018/Million USD



Source: Compiled by author based on GOEIC (2018)

This increase in agricultural exports was due to several factors. Egypt's agricultural quarantine is striving to open up new markets such as Australia, China and Serbia. Thus, these countries are required to contribute to increase the exports. Ministerial Decision No. 67 of 2017 on the system of agricultural exports has been implemented. The implementation spans crops and the countries contributing to the increase in export facilitation inspection procedures by sending the engineer of the quarantine of the filling stations in the sorting of the source contributing of the procedures and increase the exports (MALR, 2019).

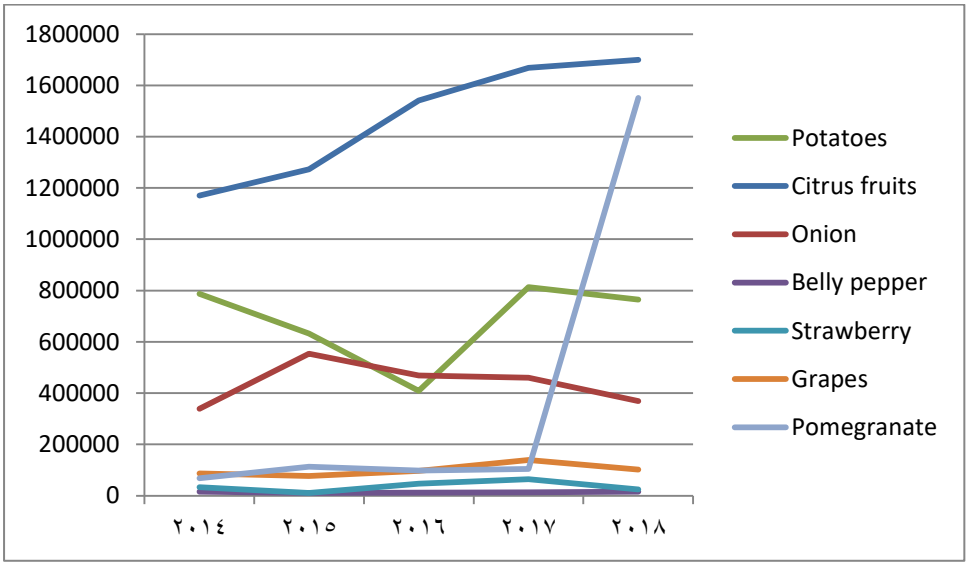
Based on data provided by the Agricultural Export Council, most Egyptian agricultural production comes from approximately 2.5 million hectares (6 million acres) in Nile valley and delta fertile land. Desert land is being reclaimed for agricultural purposes, including the Toshka project in Upper Egypt. Egypt produces a wide range of high quality fresh products that include the most common crops such as potatoes, onions, green beans, green pepper, cucumber, garlic, etc. in fruits, mainly citrus fruit, strawberries, grapes, mango, and watermelon. Apart from fruits and vegetables, Egypt exports cut flowers, herbs and spices and food ingredients (http://www.aecegypt.com). The following table illustrates the most important agricultural exports over a four year period (from 2014 to 2018).

Table 3: Egypt's most Important Agricultural Exported Products (Ton)

Crops/products	2014	2015	2016	2017	2018
Citrus fruits	1170770	1273022	1541543	1667750	1700050
Potatoes	787400	632673	408484	813455	764117
Onion	338738	553220	468727	459738	369173
Bell pepper	15510	11213	12545	12966	15255
Strawberry	32970	10930	47392	64414	24431
Grapes	86856	76607	97028	138757	101355
Pomegranate	68738	113447	97930	104445	1551149

Source: CAPQ (2019)

Figure 3: Egypt's most Important Agricultural Exported Products (Ton)



Source: Compiled by author based on CAPQ (2019)

Based on the information in Table 4, Egypt exports agricultural products to a number of countries top of which are Kingdom of Saudi Arabia and Russia as well as other countries such as United Arab of Emirates, China, India and Indonesia (MARL, 2019).

Table 4: Egyptian Export Destinations for the year 2018

Country	Quantity exported (Ton)
Kingdom of Saudi Arabia	767930.06
Russia	761291.81
United Arab of Emirates	345043.55
China	113167.57
India	96667.88
Indonesia	30404.15

Source: CAPQ (2019)

Despite the fundamental decrease in Egyptian exports value, according to the decline in petrochemicals exports, the diversity of Egyptian exports, which participated to the qualified commitment of the Egyptian exports before significant global volatility, was one of the core reasons for Egyptian exports sustainability. Table 5 below shows the diversity of Non-Petroleum Exports from 2011-2015 in million USD to demonstrate the relationship

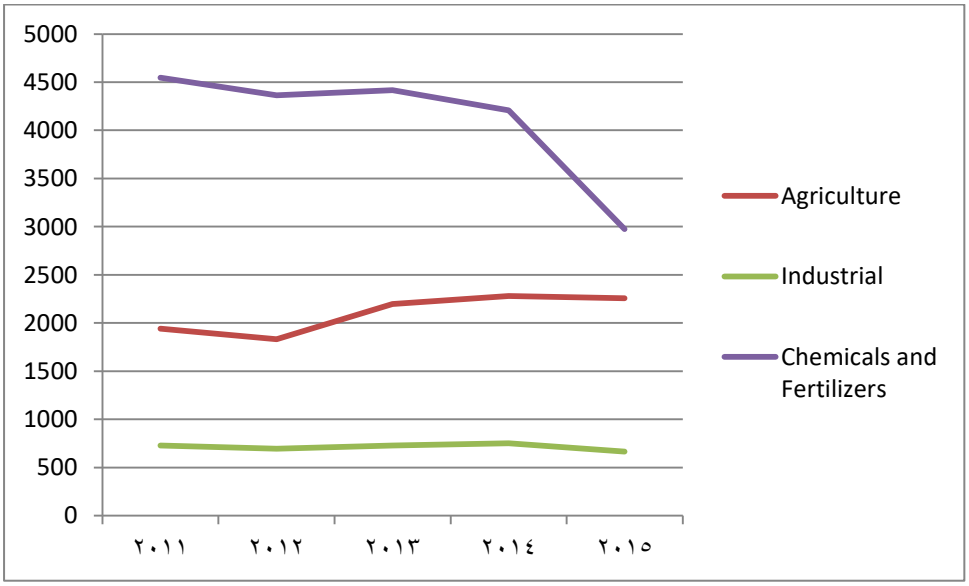
between textiles as an agricultural manufactured byproducts with those of exported products of the agricultural products all measured in the same amount (MTI, 2016).

Table 5: Diversity of Non-Petroleum Exports from 2011-2015/ Million USD

Products	Years				
	2011	2012	2013	2014	2015
Agriculture	1942	1830	2196	2279	2258
Industrial	729	696	728	752	665
Chemicals and Fertilizers	4547	4363	4416	4207	2974

Source: MTI (2016)

Figure 4: Non-Petroleum Exports from 2011-2015/Million USD



Source: Compiled by author based on MTI (2016)

Based on the above table and figure 4, it is clear that agricultural exports are seeing a steady increase compared to other non-petroleum exports. Egyptian exports still remains the most important and reliable source of foreign currency, when comparing it to different sectors such as remittances, tourism, Foreign Direct Investment (FDI), and Suez Canal revenues, it exceeds them by 2.1, 2.7, 3.1, 3.7 times more respectively for the year 2011/2014 data. This

proves the significance of Egyptian exports, and in particular agricultural exports, as a main source of foreign currency, such that it requires massive development efforts (MTI, 2016).

Table 6: Agricultural Exports Compared to All Products in Thousand USD

Exported	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
All products	16167 275	25966 761	24182 270	26331 836	31582 439	29417 006	28779 409	26812 196	21967 323	22507 389	25943 200
Total agricultural products	11427	29039	40229	38009	43433	37678	43525	56168	49464	66854	63847

Source: Trade map, 2017

Compared to other Egyptian exports, agricultural export represents almost a fifth, which is a significant value.

The Ministry of Agriculture and Land Reclamation, seeks to minimize the gap in the balance of trade by increasing Egyptian exports and rationalizing imports. The achievement of this goal requires agricultural exports rise by 20% per annum over the coming years from 2017 to 2030, bringing the total target of agricultural exports to rise to more than 5.2 million tons with the collaboration with the export council for agricultural crops. (The Agriculture Export Council (AEC), 2018).

Many challenges and opportunities were added to the agricultural trade files, at the local, regional and global levels, owing of the change in the financial, monetary, trade and industrial policies of importing countries, such as devaluation of their currencies, and transferring their industries to foreign markets because of their economic status (Abdel-Hafez et al., 2011). The Egyptian economy has been directly affected by world's economic developments, evidently seen in exports, direct and indirect foreign investments, tourism and remittances. Moreover, the Egyptian economy had been influenced by the decline in major countries economic growth forecasts, especially EU countries and USA, with these countries

being Egypt's most significant commercial partners, and main sources of direct foreign investment and economic exchange.

Owing to increasing the dominance of imports to exports, there is a continuous deficit in the trade balance, which fluctuates from year to year, with an average deficit of about $ 3,489.35 million, followed by the export coverage of imports, which amounted to about 31.

However, industrial agro exports can be increased by boosting their competitiveness, particularly via pricing, either in current or prospect markets - markets which have a growing demand for these exports yet are challenged by poor promotion. Industrial agro exports sectors include food industries, agri-business, textiles and readymade garments industries (MTI, 2017).

2.7 Hindrances to Agricultural Exports

The global economy has witnessed and suffered several fluctuations and deteriorations which reflected on the average expansion of international merchandise trade (measured by the average exports and imports) forcing it to reach 1 percent in early 2016, however ,this was the lowest growth rate since the financial crisis in 2008. Global trade features dramatic decline , whether in nominal size or value. This was caused by the decrease in aggregate demand from developed countries , followed by the consequence of structural reform of Egypt's main trade imports supplier, China, which aims at escalating domestic production, increasing investment and export sectors, reducing Chinese imports which represents about 10 percent of global imports, as well as increasing protective measures, promoting growth based on domestic consumption, and the restrained liberalization of trade policies (OECD, 2019).

According to The Ministry of Agriculture and Land Reclamation (MOALR), there are many obstacles facing the export of agricultural products and hindering the export of

agricultural in different countries of export, including problems related to production, low product quality, non-compliance with international standards, lack of use of advanced production technology, which follow the farms, whether small or large, which led to the lack of the crop to homogeneity, failure to follow the export instructions required by the global markets, delay producers in the delivery of production and marketing services on time (MALR, 2003).

In addition, The Ministry of Agriculture and Land Reclamation confirmed that among the obstacles that threaten the decline of agricultural exports are the use of poor seedlings in agriculture, which leads to the weirdness of the messages to the specifications and requirements of phytosanitary, and the multiplicity of diseases, insects and rodents that affect the crop marketing, and lack of strategic planning for production for export (MALR, 2003). Moreover, it was pointed out by the Ministry that the most important problems related to the export of agricultural products, the poor quality of the packages and their inadequacy, the high cost of preparing and processing the crop for export and the inaccuracy of the data recorded on the packages, and the multiplicity and complexity of procedures. In addition, the absence of a database of information and statistics serving exporters, the absence of new export markets, the lack of the necessary infrastructure for the birth of a marketing system, the existence of problems related to maritime transport to perishable products, and the number of intermediaries settled for the crops (CDAE, 2006).

For Egypt there can be no uncertainty that agriculture is a fundamental and essential part of the economy. Numerous new agricultural innovations disregard the complexities of rural life, just as the social and social contrasts among networks. Original or local agricultural practices and information that were created over numerous ages have offered route to the improved, institutionalized methods of the green evolution. The solid feeling of qualities that supported conventional agriculture has been ousted by a creation framework that is disturbed

from the community. Current government policies highlight addressing urbanization needs and consign agriculture to the situation of aid sector. Voices of concern have been raised about the developing predisposition against agriculture for industrialization, which is believed to be built-in to economic change (El-Enbaby et al., 2016).

Over the years, the composition of trade products has changed. After the 1973 war and since the return of the Sinai oil fields; gas and oil which are considered as 'primary exports' have increased substantially and agricultural commodities, mainly cotton, became no longer considered as dominant exports. While, imports considered to be increasingly manufactured, in particular capital goods and specifically oil industry related goods. However, despite the efforts related to control prices of food products and maintaining self-sufficiency imports related to such products, especially flour and wheat, still represents 20% of merchandise imports (Saad, 2007).

The foreign trade sector disgracefully reflects a considerable anti-trade bias owing to a number of direct and indirect policy interventions, particularly significant increase in tariff and nontariff trade barriers supporting the industry, and an overvalued exchange rate throughout the period until about 1997 (Saad, 2007). In late 1990s, agricultural production was forced by increased levels of protection for manufacturing, and this was improved by non-tariff barriers such as “red tape” (delay in actions) costs of importing and a restrictive system of standards and quality control (El- Araby, 2002). In the past decade, Ghoneim (2018) states that the tariff and trade reform appears to have a little impact on the extent of tariff increase between processed food and primary agriculture and the tariff decrease for primary agriculture, from 4.6 % in 1995 to 1.9 % in 2005, has increased the gap between it and tariff protection for non-agricultural primary sectors which has remained steady of about 10 percent on average.

In the 1960s and 1970s, the exchange rate appeared to be overvalued since it was almost below the black market rate, but devaluations occurred in the late 1970s, the late 1980s and following the current decade have corrected its misalignment at times periodically. However, the inflation rate varied, but exceeded to reach 10 to 15 percent for much of the 1970s and 1980s before decreasing significantly in the 1990s (Abdel-Aziz, 2003).

2.8 Agricultural Development

Agricultural development in Egypt is carried out via water resource management and improvement of production to meet export needs. The agricultural strategy calls for a high rate of agricultural growth, that is largely based on (1) "horizontal expansion" of agricultural area, and (2)"vertical expansion" by improving farming techniques that increase yields and adjust the crop mix in order to achieve higher value agriculture crops and increase livestock. Increasing the agricultural production horizontally and vertically aims at efficient allocation and use of soil and water resources (Radwan et al., 2019).

First, according to horizontal expansion, available water is first allocated to domestic and drinking purposes, followed by industrial needs, and then by default, to agriculture (Abdel Mageed, 2017). Accordingly, Soliman et al., (2010) as well added that the country has been able to establish a number of expansion projects that started in waterlogged areas parallel to the Mediterranean and then moved to desert spots along the fringes of the Nile Valley and Delta.

Second, vertical development is achieved by increasing production per unit area. Interventions include the improvement of seeds, the promotion of better varieties, the installation of field and open drainage, land leveling, night irrigation, the application of fertilizers and agrochemicals, the cleaning of irrigation canals, weed control, the application

of post-harvest techniques, the conservation of irrigation water, the increasing of crop intensity, the introduction of short-age varieties, and the change in crop patterns. Maintenance and development of the natural resource base is an integral part of Egypt's sustainable agricultural development program (Abou-Ali et al., 2010).

The agricultural development policy, including horizontal and vertical expansion and maintenance, is expected to create higher levels of employment, increase rural incomes significantly, alleviate poverty and enhance exports, would mainly come from the export of traditional crops such as cotton and rice, as well as other forms of agricultural crops, in which Egypt has a significant export advantage in both to the Gulf and the European Union (EU). The new economic development plan envisages limited government role and heavy reliance on the private sector in providing non–public support services and market forces in balancing the production needs (Calicioglu, et al., 2019).

Extending agriculture to desert lands and maximizing water-use efficiency are the two main components of the national strategy to increase agricultural production in Egypt. Sustainable agricultural development in the new lands demands care and understanding of the fragile desert ecosystem. Present threats, mainly are low irrigation water quality, shortage of water, and poor management practices are all main factors causing a gap in Egypt's food. This is the sustainability of production systems which are recognized in huge reclaimed areas of the country (FAO, 2005).

Development projects in Egypt's deserts should be implemented alongside measures to protect the resource base and better manage dry land resources (IFAD, 2014). Resource inventories of soil, and climate, for example, should be made in order to develop data bases for good planning. Implementing sustainable land reclamation projects in Egyptian deserts should have been based on these concepts in order to expand agricultural activities in the

Western and Eastern deserts on either side of the Nile Delta and Valley. Intensive irrigation projects required huge quantities of water from the Nile (El-Enbaby et al., 2016).

2.9 Reforming Policies towards Improving Agricultural Exports

The Egyptian government has implemented reform policies in various sectors. The economic reform policies have greatly impacted the agricultural production exports and trade. These policies include the liberalization of foreign trade by encouraging the private sector to play a key role in promoting Egyptian exports and simplifying export procedures (Bush, 2007). The Egyptian pound exchange rate has been liberalized to reach its real value.

The governments committed to remove quotas, subsidies and tariffs over a period of time. Unfortunately, harm is caused to the developing countries as the current agreement and how it is implemented favors the developed countries. Subsidizing agriculture in developed countries is continued and thus allowing such economies to market their products at cheaper prices. Moreover, the flow of agricultural products are still restricted as the trade barriers are in place especially those coming from the developing economies (El-Enbaby et al., 2016).

3. Conceptual Framework

As identified in the literature review of this paper, policies are the main factors affecting the decisions in the agricultural and export sectors as a whole. Imposing conflicting policies on both agricultural and export sectors results, given the current situation in Egypt, in further deterioration in the agricultural and food production and in making the country more vulnerable and unable to increase its yield and export. Such vulnerability is caused by climate change risks and increasing exposure to food market fluctuations due to Egypt's dependence on food imports.

This research attempts to understand to what extend these policies are effective and how each sector benefits the other in order to lead competitive economic development through foreign trade and reliable effective sector improvement. The three main research variables in this study are agricultural policies, trade policies and agricultural exports, and the main assumption is that inconsistency between the two kinds of policies is hindering agricultural exports. In other words, aligning policies would positively influence growth of agricultural exports.

Figure 5: Conceptual Framework

Source: Conceptualized by author

4. Research Methodology

4.1 Research Strategy

This study heavily depends on in-depth interview and personal observation strategies in addition to an extensive literature review. "In-depth interview strategy stipulates an essential strategy for social event information" (Marshall and Rossman, 2006). Personal interviews were very crucial to hearing and discussing personally the issues of the participant in order to know exactly the challenges to come up with effective recommendations (Abdel-Hafez et al., 2011). For triangulation purposes, the study includes secondary data collection (published and unpublished) such as:

1) Documents from the Ministry of Agriculture and Land Reclamation, Economic Affairs Sector, Central Administration of Agricultural Economics-Central Agency for Public Mobilization and Statistics, National Information Centre.

2) Trade Agreements from the Ministry of Commerce and Industry, and the Statistical guide for the marketing of agricultural crops in Egypt (El-Enbaby et al., 2016).

3) United Nations data through the Food and Agriculture Organization of the United Nations and though the social media 'Internet' such as the website of the World Food and Agriculture Program (FAO), and the website of the Information and Decision Support Centre of the Ministry Cabinet, www.idsc.gov.

The use of primary data is meant to identify the main threads within the framework of the research questions while the secondary data is used to strengthen and support the findings from the interviewing process.

4.2 Research Design

The research methodology in this paper has a qualitative exploratory design aimed at examining the current situation of both the Egyptian export policies and agriculture policies in order to investigate the challenges faced by each sector to favor of the main sector which is the Egyptian agricultural export sector (Abdel-Hafez et al., 2011). It gives an insight on how the agricultural policies should work to be consistent with of the export sector, how the policies for the Egyptian export sector implement its policies to work on the growth of this sector to increase its contribution to the Egyptian economy and GDP. Finally, it highlights the perspectives of export and agricultural representatives over the effective development interventions of such policies (Wellons, et al., 2005).

This qualitative research relies on semi-structured interviews. The suitability of the subjective methodology comes accordingly to the exploration diving in different elements, and in this manner, in creating nations, and hence face-to-face interviews is preferred to questionnaire form (Ahlstrom, Young, Chan and Bruton 2004). The researcher conducted face-to-face interviews of 30 to 45 minutes with 5 interviewees: 1 businessman (exporter), 2 interviewers from the agriculture sector working with the ministry and decision makers, and finally 2 from the export sector and working with the governmental side. In addition, phone interviews were conducted with 2 people working in the field of agricultural export, making them 7 interviews in total.

Purposeful sampling method was used to select the respondents. To assure flexibility in collecting the data, the interviewer or the researcher had to be friendly, well- listener, flexible, and understandable to the respondent's ideas and views, and their honesty. Some of the qualitative data collection methods include documentation, audio, and interviews. Wellons et al (2005) discovered that subjective research makes a genuine picture about a

genuine common setting, which brings up itemized perspectives on data and general picture from the exploration's member. Therefore, this qualitative research aims to investigate the perspectives of different stakeholders towards the relevant policies affecting agricultural production exports. This would allow an in-depth view of the problems they experience in exporting agro products and the challenges they encountered because of the policies imposed (Abdel-Hafez et al., 2011). In addition, Wellons, et al. (2005) indicated that semi-structured interviews include both particular questions and open ended questions to get all the more generously unexpected data. The interviews which lasted between 30-45 minutes for each interviewee, as mentioned previously, were conducted in flexible, friendly and subjective manner to get point by point data with no pressure or influence.

To achieve reliability, the respondents' answers were recorded in the voice memo in the interviewer's mobile phone, and the researcher depends on taking notes on a hardcopy. The transcript is matched with audio tapes and the interviewer's notes.

The data collection structure includes three questions. First question asks whether the agricultural sector in Egypt has an important and reliable effect on the Egyptian export sector. The second question is open ended questions and inquiries about the restrictions or obstacles faced when exporting agricultural products. The third question asks participants about their opinion regarding Egypt's 2030 Vision including the strategic plan and its policies favoring the agricultural export sector.

The most convincing element of qualitative research is that it acknowledges the estimations of setting and scans for more profound comprehension of the participants' information which is exceedingly significant for this exploration (Wellons, et al., 2005). In addition, the author of this thesis has utilized personal contacts leading to a snowball sampling as different participants helped create new contacts with additional ones. To

maintain autonomy and integrity, before conducting interviews, the researcher summarized the purpose of the study as a need to investigate the enablers and hindrances of agro exports in Egypt. Participants were informed that their participation was strictly voluntarily, and they were free to refrain from continuing at any time during the interview.

4.3 Sampling

The sampling type used in this study is a non-probability random purposive sampling technique to identify key interviewees. The rationale behind selecting this typology of sampling is the nature of the topic focusing on the consistency of the export policies with that of the agricultural policies, so it is difficult to rely on random sampling due to the coherence of the topic and to be able to know the where the misleading parts are. This is why snowball sampling is functional. This method was appropriate because the key element was investigating whether policies being implemented are reliable for both sectors or not, and the non-random sample implied the use of personal contacts and snowball sampling by finding other participants recommended by the interviewed subjects.

Therefore, the credibility of the information obtained in this context is of much importance as to be able to have a full understanding of the issue to give effective recommendations. The randomized snowballing sampling strategy, even with a small identified sample, is the most appropriate technique for this study.

The number of interviewees is 7 informants. Interviewees are chosen purposively to include: (a) businessmen (exporters) to be able to understand the restrictions or the obstacles faced when exporting agricultural products especially when taking into consideration the Egyptian export policies; (b) formal government representatives to investigate whether they are concerned about the benefit of both sides and a win-win situation.

4.4 Ethical Considerations

Ethical considerations are considered during the research study as the primary data collection involves human subjects. Participants' anonymity and confidentiality is guaranteed in order not to cause any harm for participants. For this reason, pseudonyms are used. An informed consent for participation was delivered in written for before conducting the interview.

4.5 Data Analysis

In-depth interviews are conducted based on a design of structured and semi-structured questions. The information collected from the participants were written briefly and coded using the coding technique. This method relies on elaborating the themes of the paper along with its sub-themes. The coding technique used in this paper depends on parts of literature review and the conceptual framework.

4.6 Limitations of the study

Limitations of the study are mainly concerned with and related to the fact that the data obtained for this study and resulting findings can only be generalized to the Arab Republic of Egypt. Findings of this study derive from the available data from interviews with particular stakeholders and other data sets may produce different results. Other country data and accessibility to different key stakeholders would be needed to make similar or contradictory findings.

The person conducting the interviews and collecting the data is the same person who is conducting the research. To avoid any mistrustful sample selection or biased sampling, it was important to organize a number of visits and interviews covering the different areas of the research till reaching to a point of satisfaction. A further limitation was the difficulty

accessing formal public data related to the topic of this research whether online or through public institutions or personnel.

The scope of this paper is to investigate the consistency of the two Egyptian policies for export and agriculture only, the findings and recommendations can only be relevant to these two sectors. This implies that other policies in Egypt regarding any other sector are out of the scope of this paper.

5. Results

5.1 Agricultural Policies

Based on the interviews with an executive director working in the agriculture export council and other officials working in the Egyptian agriculture quarantine in the Ministry of Agriculture and Land Reclamation, the state of agricultural exports in Egypt has been witnessing significant progress in the last five years.

One interviewee (*an official in the Agricultural Quarantine*) commended the development in the field of agro exports. He explained that Egypt started its export from the year 2000 gradually increasing to 2011 which was the year with the highest peak, after which there was saturation in the Egyptian export sector, and exporter were not able to exceed their export target. The ministry target was within a normal range of 3 to 5 % increase. He added that now the Council of Exports is exploring new markets to enter like East Asia, Canada, and Australia to export strategic products such as grapes and citrus fruits, which are greatly demanded by these countries. He thus believes that agricultural policies have supported agro exports and since 2016 Egypt is starting to reap good results. In addition since 2006, China has started to test the Egyptian export agricultural products and has imported about 1000 ton of citrus fruits each year, and by now it has reached about 120 thousand ton. Moreover, the interviewee explained that all these efforts were mostly exerted by the private sector. However, the government has not been working on such policies to improve both agricultural and export sector, and it needs to issue policies in favor of both sectors in order to increase the exports and rely on the Egyptian agricultural export sector.

Another interviewee reported that exports for the fiscal year 2018/19 have increased and were not affected by the water problem. He said that:

> *" It might be that certain crops have changed, but this is to fulfill the local production demands by the Egyptian market and not what is exported. The*

countries we will be exporting most to this year are the usual ones, and nothing has been affected. Saudi Arabia is importing 767930.06 tons, and Russia is importing 761291.81 tons, and mostly the crops are potatoes and citrus fruits, and this was our highest yield since the last five years" (Senior Agricultural Specialist at the Agricultural Quarantine).

One other interviewee (*Executive Manager of the Agricultural Export Council)* lamented the Egyptian product competitiveness which decreased against exports of other countries. He added that the export incentives program has partially stopped because of the burden subsidies have on the public budget. These factors have had a negative impact on the price competitiveness of the Egyptian exports in foreign markets. He noted that more recently, the private sector started increasing its total agricultural exports, and they have imported new seedlings for new crops which are demanded by certain countries that started to deal with the Egyptian export sector after severe changes in their climate condition that does not allow them to produce such crops. Among the total of agricultural products, citrus fruits have increased significantly and were required. These fruits have recorded 40% increase from the total exported agricultural products of about 3 million. Such crops are known as 'Valencia' (kind of Oranges).

A third interviewee (*an exporter in one of the main export companies, known as the Agrofood)* added that the private sector has started to focus on the quality of agricultural exports to meet international standards. He stated that many exporters send farmers for training to know how to produce effectively and efficiently much needed crops which are not common in the Egyptian local farming. For example, some farmers were sent to Chile to learn about new crops among which were a new species of grapes.

With regards to the water problem in Egypt, informants clarified the importance of water in the production of the required agricultural crops for export. As mentioned in the literature (section 2.3.4), one of the main factors affecting agro production is water

sufficiency for irrigation. Water shortage and political problems have affected the amount of water supply for agro production. Interviewee (*Supervisor of Statistics Department at the Agricultural Quarantine)* explained that because of the construction of the Grand Ethiopian Renaissance Dam (GERD), the government has taken procedures in order to ration water consumption by preventing the cultivation of certain water demanding crops. The Minister of Irrigation and Water Resources, Mohamed Abdel Atti, required that farmers reduce the agricultural area used in cultivating rice from 1,700,000 feddans (1,764,600 acres) to 724,200 feddans (751,719.6 acres); thus, saving three billion cubic meters of water. In parallel the ministry is launching campaigns to raise farmers' awareness about the need to reduce water usage.

The interviewees from the ministries of Trade and Industry and Agriculture and Land Reclamation were very satisfied with the yield of agricultural crops. In their interviews, they had a positive point of view of the situation. They considered that agricultural products are not affected by the water shortage, and farmers were able to export the amount demanded and agreed on with other countries.

It was stated by an official in the agricultural government that there could be some proposals for solving the problem of water and to make the exporters, either owning private companies or governmental ones, able to increase their yield and export with the quantity and quality needed without facing any water limitations. He stated,

> *" There are several solutions to be taken by the ministries to solve the water problem. One of them, and in my opinion, the most fastest and most stimulating measure, is that of converting irrigation water in Delta to a more advanced and technological irrigation water even if the county would be charged for part of this project as this will save an amount of water which will be enough to improve new lands for producing*

agricultural products with sufficient amounts of water" (official in the agricultural government).

This perspective belonged to another official interviewee, from the export council, offering solutions for the usage of water in an efficient way so as to maintain the production of the different types of crops that are highly demanded by importing countries. He said that there should be different ways for rationing water. He concluded:

"Crops relying on underground water and not Nile water are affected by water wastage; the problem we are all facing nowadays in the country, and due to lack of awareness and that the Egyptians are not taking it serious, we will suffer from negative impacts in this sector. Thus, flood irrigation should be banned, and the government should interfere and start using advanced ways for watering the land such as 'drip irrigation' and 'central (mehwary) irrigation' and as a result it will lead to rationing water and saving it as well" (official in the export council).

The statement made by the above interviewee reflects how there are different ways for solving the water problem and that the government should take actions to solve the problem. Solutions offered by the Ministry of Agriculture and Land Reclamation would be the most effective as its experts are the ones working in the field and are well aware of the alternatives to manage the yield with the water quantity needed for better and beneficial results in the export sector.

This comes in line with what was discussed in Tellioglu, 2017, and El-Enbaby, 2016, on how to solve the problem of water in Egypt as it will not only affect the citizens but also lead to several disasters, and it will definitely affect the economy as a whole and the agriculture sector as a main source for increasing the county's GDP. This corresponds to what was stated by the Egyptian National Water Research Center (NWRC), which released a long-term plan of Egypt's water management for the years 2030 and 2050. The plan includes the

need to optimize the use of water by using advanced technologies and reducing the consumption of water for industrial, agricultural and residential purposes, and steps have been taken to mentor the introduction of drip irrigation in agriculture.

In addition, (NWRC) issues monthly reports on water quality. Those reports show that most industrial wastewater in Egypt is not dumped directly into the Nile River, but goes through preliminary treatment, with some exceptions in Upper Egypt where violations are much more common. Nile water pollution was surprisingly not touched upon by any of the interviewees in this study.

Finally, a major problem was voiced by one of the officials working in the Central Administration of Plant Quarantine is that in accordance with law 3007 for the year 2001, the Ministry of Agriculture and Land Reclamation issues policies as per the demand of other countries and does not base policies on the government recommendations to support exportable agricultural products. He indicated that this created policies that do not support exporters.

5.2 Influence of Export Policies on Agricultural Export

A major concern voiced by most of the interviewees concerns the logistics and transportation of agricultural products. One of the ministry officials responsible for maritime transport of agricultural exports diagnosed the barriers to agricultural export and related it mainly to logistical problems. He explained that 85% of the world trade movement (exports and imports) is transported by sea through the fleet of commercial vessels of different types. Therefore, one of the important indicators of the increase or decrease in the movement of international trade is the drop in demand for the maritime market as a demand for ships. It is necessary to have a fleet of ships equipped to work on the transfer of all types of products. Talking about the fate of the specific and foreign agricultural trade, whether exports or

imports, most of the foreign source trade is regulated by a fleet of foreign vessels due to the lack of shipping lines covering and connecting all Egyptian ports. This is negatively affecting a number of Egyptian agricultural exports, especially those targeting African markets. This is due to the lack of economic feasibility of operating a shipping line linking Egypt with African countries, specifically from the eastern side of the Black Continent. (Port Sudan - Djibouti - Dar El-Salaam) or from the western side of the Egyptian ports overlooking the Mediterranean Sea and West Africa (Addis Ababa) as the port of many African countries that are locked and uninhabited.

He further added that in spite of the presence of a number of Egyptian shipping companies, the largest of which is the National Navigation Company (a company that was established to secure the transfer of the strategic goods of the state such as grain, etc.), the transport capacity and the quality of their tanks cannot cover the requirements of Egyptian exports. This is despite the presence of shipping lines linking the Egyptian ports to some of the main ports of the African continent, from the east (Port Sudan - Djibouti - Dar El-Salaam) back regularly or from the west (Addis Ababa).

He further added that despite the fact that the African market is in need of Egyptian products, especially agricultural ones, or semi-manufactured, lack of sufficient Egyptian transportation lines represent a clear barrier. The rest of the world, whether Africa, America, East Asia or the Gulf region, has sufficient lines to do so, most of which are foreign lines and have various funds at their disposal. The service, however, weakens the competitiveness of Egyptian exports as a result of the high cost of transport through foreign lines, which carries the export product at an additional cost that affects its competitiveness.

5.3 Agricultural Export

There were concerns regarding the government policies. A number of exporters were not satisfied by the government performance and were criticized. Even though there were reforms made by the government, but still did not favor export policies and as a result were not consistent with them. An interviewee said that:

> *"We as exporters are worried about our future nowadays. Reforms regarding export and agricultural policies should be done, but it should be done step-by-step so as not to get negatively affected all of a sudden. It should be a 'bottom-up' reform which reflects the voices of exporters working in such sector". (Exporter).*

By this he meant that the government should take actions to identify the needs of the exporters as they are the ones practicing in the field and are working in accordance with the agreements settled by the trading countries and their standard policies which are completely not aligned with the policies imposed by the Egyptian government. Another private sector company stated that there is no consistency between the agricultural and export sectors and noted that the government is not exerting any efforts to develop the Egyptian agricultural export sector. He stated that:

> *"Governmental policies are not consistent with the types of products to be exported known as the 'strategic products' such as grapes, oranges, and strawberries, and no one thinks of developing the policies. Really, Egypt can benefit a lot from other countries' experiences. That is way the agricultural sector is relying on the private sector and not the government to develop the sector. The government's only support is by giving little financial support". (Businessman, exporter).*

He stated that each ministry is working separately and does not try to fill the gaps between the agricultural and export sectors. And as a result, the private sector exporters are forced to take action and solve their problem by themselves. The exporters mostly agreed that

they did not receive any support from the government. For example, one of the exporters complained that lack of agricultural incentives for the production of exportable agricultural products left them at a disadvantage compared with foreign exporters whose agro production is subsidized by their governments. Taxes on agricultural exports and insufficient energy subsidies supporting the producers' exportable agricultural crops also affect the competitiveness of Egyptian agricultural exports.

The water shortage was a common problem voiced by most interviewees, particularly those working with exporters who complained that their yields started to decrease over the past two years when water supply began decreasing, and this was before the government officially announced that the country was facing a severe water problem. In support to this, an exporter, an owner of one of the biggest companies for exporting agricultural products to many different countries such as Switzerland, said:

> *"My profits have been decreasing over the last two years as my company is dealing with other countries such as Switzerland and Greece to export to them particular crops in need especially potatoes of a certain quality, but the yield was seriously affected and reduced by half the amount due to the water shortage. The country was dividing the percentage among companies equally and not according to the irrigation needs of each crop." (Exporter, private company).*

However, this opinion was not consistent with those of the interviewees from the ministries of Trade and Industry and Agriculture and Land Reclamation. In fact, they were very satisfied with the yield of agricultural crops after the new water policies.

The Egyptian investors expressed their willingness to take part in developing the agricultural sector as they believe that it is a very important sector to rely on in terms of the capabilities the country has towards developing such a sector. From the perspective of the private sector it was said that:

" It started from the early 90s that the Egyptian investors were working on developing the agricultural sector, and now you can see that the 'Masr Alex el sahrawy' road (Desert Highway) is becoming very similar to 'Masr Alex agriculture' road (Highway cutting through agricultural land) in terms of how green and well developed it has become. The investors started to use technological methods for controlling the water system and satellites to monitor the climate change to maintain and manage their agricultural production. In addition, the pre-cooling process has been recently adopted as one of the technological ways for safe production and storage of the crops and has resulted in an increase in the export yield. But is the government supporting producers to use new technology and improve quality to be competitive with international agro products?", (Export Council - brackets inserted by researcher).

From the point of view of this interviewee, technology is fundamental in developing agricultural production and in turn agricultural exports. However, he is skeptical about whether the government is doing enough to support production and whether the policies in place are suitable for a modern agricultural process that requires high priced technology for export goods to remain competitive on the international market.

6. Discussion

The data collection process exposes the real side and practical daily life experience of the people in the field. The constraints facing people in the field either working in the agriculture production or trade are affected by the policies.

One main problem revealed through the analysis of the interviews was that the government officials were in denial when asked about the problems that exporters faced in terms of quality of exportable goods, production cost and pricing, and shortage of water. Moreover, export policies were align with the export agreements between Egypt and other countries, but do not take into consideration the needs of Egyptian exporters who are at a disadvantage when confronted with competitors in the global market. This is because export policies do not include incentives to support exporters or farmers producing exportable goods.

Based on the literature and interview data covering agricultural policies and export policies, it is evident that the perspectives of ministries and exporters were contradictory. It was assured from the point of view of the exporters that they felt that the government agricultural strategy and policies do not manage the situation or tackle the problems the agricultural production sector is facing.

Egypt's agriculture sector has long suffered from issues relating to water scarcity and misuse, as well as the low availability and mismanagement of agricultural lands (Tellioglu, 2017). The issue of water scarcity is of particular importance given that Egypt's agriculture sector is almost entirely dependent on Nile water for irrigation. Moreover, water transportation and field irrigation systems are largely inefficient; with more than 30% of Nile water being lost on its way to the fields and out-dated irrigation systems, the efficiency of which is estimated at only 50%. These issues, in addition to others related to agricultural land

availability and food security, are compounded by Egypt's rapidly increasing population. Agricultural policies need to be revised and developed to solve the water crisis that is hitting agro exports. Admittedly, the high price of irrigation water and the government policies of water conservation are not met with policies to encourage introducing water saving technologies to support producers, which would translate into more sustainable agro production that meets international standards and which can be exported at a competitive price.

7. Recommendations (Implications for Reform of Egyptian Agricultural Export)

MALR holds the responsibilities of water management, setting of policies and legislations related to water use in agriculture. It is in charge of water resources, development, and distribution, as well as, agricultural research and extension, land reclamation, and agriculture, fisheries, and animal wealth development. In addition, the ministry's Agricultural Research Centre (ARC) comprises 16 institutes and 11 central laboratories and is the scientific body of MALR for all aspects related to agricultural development. The ministry and its affiliate centers need to coordinate with the private exporters as key stakeholders in the export process. Policies need to take into consideration the needs of exporters in terms of logistics, transportation cost. Policy makers and the ministries of Trade and agriculture need to adopt a bottom up approach that is more inclusive of stakeholder needs, particularly those of exporters of Egyptian agro products.

Agriculture is the largest water consumer, but after domestic and industrial water needs it comes third. Therefore, with increasing domestic and industrial requirements and further new lands requiring irrigation water, water pressure will be inevitable for the "old lands". As far as water resources are concerned, the fixed quantity of water Egypt receives from the Nile will be distributed among a wider and more diverse (MWRI, 2005). The present quota of 875 l / capita will drop to 630 l / capita in 2025 by nearly 30 percent. Similarly, the present 5,000 cubic m / year is anticipated to decrease by 20 percent to 4,000 cubic m / year with water for agricultural use. Furthermore, the enhanced pressure on natural resources due to population growth in the lack of enforced environmental regulations leads to widespread water reducing the capacity for using the already scarce water resources.

According to the Vision 2030, the Egyptian government plans to align its development objectives with sustainability concerns. Increasing production of staple food such as wheat and maize through increasing productivity and area harvested is not its only objectives. The strategy or plan for increasing the yield of exported yield of crops needs to be included not just as a plan in Egypt's Sustainable Agricultural Development Strategy (SADS) towards 2030, but also as a means of supporting exporters. Moreover, the government should play a more important role in the development of the agricultural export sector, especially after Egypt signing the intellectual property rights for the plant products this agreement known as the International Union for the Protection of New Varieties of Plants (UPOV). As there is no law for protecting it, it is recommended to take this agreement serious and to be commercially registered as the invented product which will definitely benefit the economy so that production rights of exportable Egyptian agro products are not to be stolen as there is no copy right for many of Egyptian products. This agreement is very important and needs to be taken more seriously.

The study suggested modifications of the present agricultural policies rely on reviving the government intervention role in both production and marketing, in addition to sustaining exports. The government withdrawal, due to privatization, seems hasty and inconsiderate of small farmers' conditions, which in turn affects the quantity and quality of exportable agricultural products. Exports are a major source of increasing national income, on the one hand, and increasing the supply capacity on the other hand. This is despite the fact that the Egyptian foreign trade policy in recent years has achieved remarkable success in increasing the diversification and diversification of export commodities in general and agricultural ones in particular. Public agricultural investments, sharing no more than 3% of gross public investments, require more government support.

In addition, there should be more awareness for the farmers, and giving them training on the importance of the crop safety and quality as not to result into having problems with the product not meeting the standard qualifications for export. Egypt should have a plan on taking care of the farmers' skills and knowledge as to increase their living standard on the one hand and the standard of agricultural exportable products so as to increase Egyptian exports. There should be monitoring and evaluation of the farmers and the types of pesticides along with training given to the farmers for sustainable processes of production.

Moreover, the government should have an integrated system and take into account how to work on having consistency of trade and agricultural policies. An official in the ministry of agriculture admits that no one is talking with the farmers or exporter, and the concept of agricultural advisor no longer exists which indicates a gap in the reporting and monitoring system. The job of an agricultural advisor is to give awareness and guidance for the farmers on the whole process of the production, so this is much recommended to gain better results. The government should give information to the farmers for what they have to produce and in what quantity and to know the other countries' demand; as a result, there would consistency between the two policies, agriculture yield would increase.

Finally, The Ministry of Agriculture and Land Reclamation should have a clear strategy and plan aligned with the market so as to support the new crops that are demanded and are in low supply. This requires making a market feasibility studies to set a pricing policy and decrease the causes of waste. In addition, it should work on the extension strategy for improving its performance, such as creating a system to provide farmers with reliable information with respect to market conditions and price trends as a vital requirement for farmers’ production and marketing planning.

8. Conclusion

Agricultural exports are found to be highly affected by agricultural policies, trade policies as well as their synergies or conflicts. It is concluded that to advance agricultural exports it is legitimate to make each set of policies adaptive to the other set. For example, agricultural policies need to encourage types of crops that can be exported and which meets the standard of targeted markets. On the other hand, trade policies need to create the right incentives to exports of agricultural products.

Considering globalization and Egypt's international trade that includes several opportunities and challenges, Egypt's development needs should be taken into account. In addition, the focus on the sector improvement and reliance for the economy's performance and hence increase in GDP. Therefore there are serious challenges being faced on both of the sectors. First, there is an absence of actions to be taken for solving the water shortage problem which has a great effect on the agricultural production. Moreover, there is no clear agricultural strategy working on the policies based on Egypt's availability of resources and exporter needs. In addition, **e**xport policies do not coordinate with market mechanism and competition. Finally, the government is not imposing aligned policies to favor the agricultural and agro export sectors to support them for better results.

Egypt faces difficulties and problems resulting from the international economic changes that hinder the state's attempts to increase its exports of agro commodities and the future modern agricultural production, which naturally requires the necessity of working on the development of policies and programs that are safe and capable of improving production as well as quality. In accordance with the requirements of foreign markets, in addition to study of exporter needs together with the distribution and pricing of exports and imports of

Egyptian agricultural goods domestically, and the introduction of modern technology, in particular, all determine the possibility of maximizing the export proceeds.

Finally, to respond to all these factors affecting the development of the Egyptian agricultural export sector, which include challenges as well as the gaps between the two sectors, several trade and agricultural policies need to be developed and integration of the government is needed to attain better results for such a sector to rely on for better economy.

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