

## Review of the Syrian Agriculture and Future Prospects for Reconstruction

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Received on 29/3/2018 and Accepted for Publication on 26/11/2020.

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### ABSTRACT

Agriculture played and continues to play an important role in the Syrian economy, both in terms of the gross domestic product and employment. The consequences of the seventh-year crisis continue to affect the agricultural sector. The lack of inputs and high prices, coupled with the difficulty of harvesting and marketing crops, are among the most important agricultural issues that resulted from the crisis. Before the crisis, the agricultural sector suffered from many problems resulting from the government's neglect of it, represented by the weakness of governmental investments in agriculture, in addition, the complex administrative problems of management and organization, which led to a decline in productivity and efficiency. After the outbreak of the crisis, a large number of people were forced to leave the rural areas, which led to a very significant deterioration in agriculture and production. Syria has imported most types of important crops, such as wheat, from abroad to cover the needs of the local market, and this will be discussed in detail in this article. Therefore, this article shows the need for serious efforts to restore the agricultural sector which is the most important element in the Syrian economy and sustainable food and nutrition security for the urban and rural areas. Even though the crisis is not over, the conditions for investing in the recovery of the sector are present in many areas of the country. Such investment will not only reduce the need for humanitarian assistance but will also reduce migration and encourage the return of migrants.

**Keywords:** Agriculture, agricultural policies, reconstruction, self-sufficiency, war, Syria.

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### INTRODUCTION

Syria's uprising turned into a violent proxy conflict in 2011. The ongoing conflict has subsequently triggered one of the worst humanitarian emergencies and the largest refugee crisis of the post-World War II era (Gürçan, 2017). Instability has taken hold of the country for an extended period and has affected the Syrian economy.

In March 2011, starting the Syrian crisis unfolded into an armed conflict between the opposition and the regime. Syria had already become a battleground for several forces, causing civilians to be caught between conflicting interests and regional and international accounts. This

presents the alarming prospect that the situation will persist and that the crisis will last for years. This reality has impacted the Syrian economy, particularly on agriculture.

The agricultural sector is considered the main driver of economic development in the country and the source of income of 45% of the active population (NAPC, 2017). Due to the vital role of the sector in the domestic economy, the concerns of farmers dominated the disputed issues in Syria.

Syria extends on an area of land 185,180 km<sup>2</sup>, of which 1,550 km<sup>2</sup> is water. The arable area and forest area are about 6.5 million hectares, representing 35% of the

country. The arable land is cultivated with various types of agricultural crops like; cereals, cotton, legumes, almonds vegetables, fruits, olives) and animal breeding (sheep, cows, goats, poultry, buffaloes). Agricultural activity is considered one of the most important productive activities, starting with the year 1980, as the areas of irrigated land have been increasing after the establishment of large irrigation projects on the Euphrates river. The use of modern agricultural machinery increased government interest in agriculture, infrastructure development, water resources, and investment in the agricultural sector (Agricultural economics and investment directorate, 2007).

The study reviews previous development of Syrian agriculture, analyses the agricultural policies that have led this sector for decades and identifies the weaknesses and the strengths of the agricultural policies and their tools. In addition, it concludes some insights for the reconstruction phase in the country.

### **1. Method and Material**

The economic history approach is applied in order to give an in-depth look at the economic and social features of the agricultural sector and to review damages in agriculture resulting from the ongoing war. Economic History is the historical study of the economic aspects of human existence. The broad intellectual range of the discipline enables it to extend beyond purely economic themes (such as the organization of production and distribution, the relation of state and industry, aspects of trade and commerce) and so consider, among other things, inequality, living standards, welfare, social transformation, science, technology, and education (Godden, 2015).

The review will employ a number of statistics from various local, regional, and international literature, published reports, and previous studies that show the development and changes of the agricultural sector prior and under the crisis which is already suffering from vulnerability.

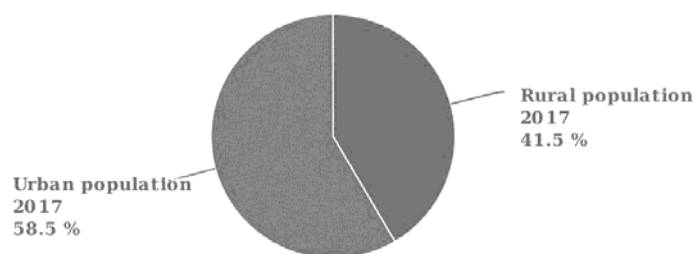
### **2. Importance of the agricultural sector for the country**

Many agricultural studies demonstrate the influential role of the agricultural sector in the sustainable development and stability of the domestic economy in all developing countries. Therefore, the importance in the Syrian case comes from the significant contribution in the gross domestic product (GDP) which is between 17-33%, and his share in the foreign trade ca. 10.5%. In addition, it provides local consumers with major food and non-food products such as wheat and cotton. It provides many industrial enterprises with raw materials as well, in particular cotton and sugar beet.

It provides the local market with animal products. However, animal production contributes to ca. 34% of the value of agricultural production (NAPC, 2013). About 11% of the total labor force works in animal production and more than 35% of rural households keep animals, particularly sheep and cattle. In 2011, the number of sheep was 17.7 million, goat 2.27 million, cattle 11 million, camels 54 thousand head, buffalo 7 thousand heads (Ministry of agriculture and agrarian reform, 2011).

The agricultural sector employs about 20% of the labor force, especially in the regions of Aljazeera in northern and Horan in the southern of the country. Furthermore, it is the main income source for more than 46% of the rural and urban population (Habib, 2008). Figure1 shows the ratio of the rural population to the urban population in the country (FAO, 2018).

The percentage of agricultural exports is about 31% of the total exports. This high contribution to foreign trade considerably improves the Syrian trade balance. With this contribution, it ranks in the second position after oil in the total revenues (NAPC, 2013).



**Figure 1. Percentage of the rural and urban population in 2017**

Source: FAOSTAT, 2018

According to the crop productivity, Syria achieved the second-largest global productivity of cotton after Australia (Jamal, 2003 cited by Nasser, *et al.* 2014). In addition, it is the third Arab producer of citrus after Egypt and Morocco and ranks 19<sup>th</sup> in the world. The cultivated area of citrus is estimated at ca. 40,000 hectares planted with 13.3 million trees. In olive production, Syria ranks the first producer within the Arab countries and fifth in the world after Spain, Italy, Greece, Turkey. Whereas, 65% of the forested area is planted with about 100 million olive trees (Central bureau of statistics, 2010-2016).

### **3. Constraints and limitations affecting the agricultural production**

This section reviews the most important challenges faced by the agricultural sector, which significantly restricts any progress in agricultural and rural development.

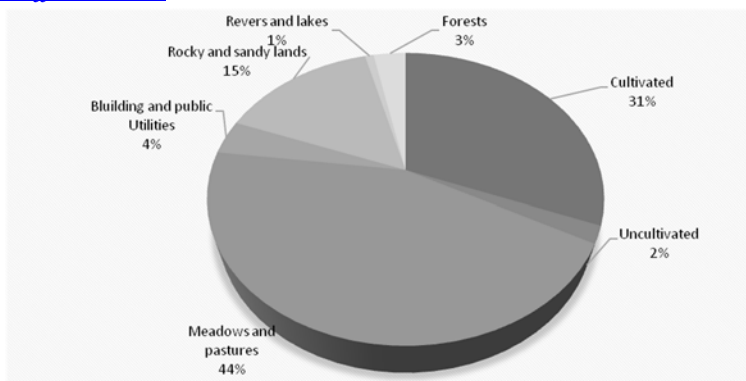
#### *1. Scarcity of the natural and agricultural resources*

Regarding the resource water, the agricultural sector consumes more than 88% of the total freshwater of 15.5 billion cubic meters, annually (NAPC, 2013). The recurrent drought and continued overexploitation have affected the available water for irrigation. However, the water deficit increased to 3.5 billion cubic meters (Fiorill and Vercueil, 2003). Therefore, the decline in precipitation and lack of alternative water resources have a dramatic impact on agricultural production which

presents difficulty in livestock production resulting in the absence of vegetation in most grazing areas (Qatana, 2016). Aw Hassan argues that the fuel subsidy is an important driving force in groundwater depletion and over-abstraction, water becomes scarcer and pumping becomes costlier, the farmer could increase water productivity by shifting from crops with high water consumption to those with a short growing season, such as vegetables (Aw- Hassan, 2014). The amount of rain in winter of 2017 in Damascus and its countryside did not exceed 35 mm compared to 132 mm, as like all other governorates in Syria, where the rate of rainfall exceeded 75% except for the coastal area, which approached the average for this year (Alissa, 2018).

With regard towards to the use of natural land resources figure (2) shows all types of land uses in Syria. The figure shows that the pasture land has the biggest share of the country area about 44%, followed by the cultivated area (31%) of the total country size.

The cultivated area has been quickly extending during the period (2007-20016) with a growth ratio of 8%. The country continuously expands the cultivated land through reclamation projects.



**Figure 2. Types of land use in 2016**

Source: Agricultural ministry of Syria, 2017.

## 2. *livestock production*

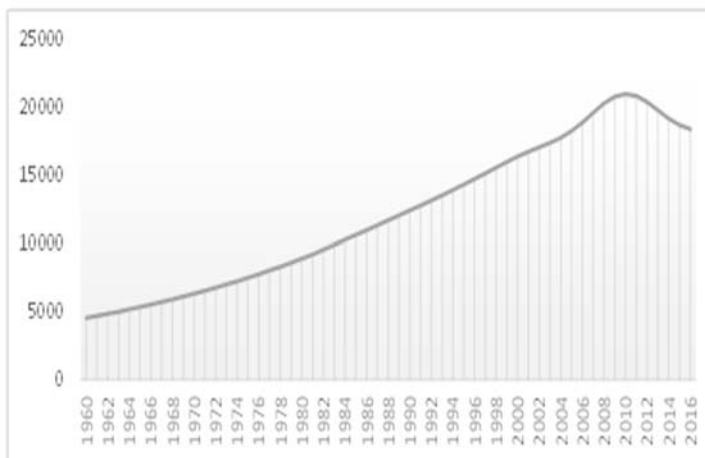
Livestock production relies heavily on keeping different types of animals like sheep, cows and goats. The bees and camels have marginal importance in livestock production in Syria. Animal production contributes 32-34% to the value of agricultural production and 15% to the value of agricultural exports (Komenz, 2000).

However, the traditional breeding system, lack of animal health inputs, the misregulation of animal products marketing, and the small size of the available grazing land represent factual challenges to keep the animals in the country (Qatana, 2016).

## 3. *Increasing population growth rate*

The population growth reached 2.54% annually versus less than 1% growth rate in land and water resources in 2010 which caused high unemployment, low food security, and a transition from self-sufficiency in agricultural production to import food and crops to meet the domestic demand (Qatana, 2016).

The total population reached its peak with 21 million inhabitants in 2010 (figure 3). However, the population declined significantly during the war and about 4 million Syrians migrated to the neighboring countries, and 8 million were internally displaced (Syrian observation for human rights, 2016). This demographic change has major implications for the agricultural economy in particular.



**Figure 3. Population in Syria between 1960-2016**

Source: World Bank, 2016

#### 4. *Agricultural labor*

About 20% of the Syrian are working in the agricultural sector (NAPC, 2010). Agricultural employment is still unregulated, labor-free, seasonal and is characterized by an unstable income, low wages, child and women labor, and the lack of access to wages.

Due to the recurrent drought in the period between 2006-2010 and the fuel subsidy cut (Almohamed and Birner, 2019), many agricultural families migrated from their villages to the big cities. The migration has led to a decline in the number of agricultural workers (Lund, 2014). In addition, the war has significantly affected agricultural labor because of the displacement of farmers from their villages and regions to safer areas and leaving the farms without planting.

#### 4. *Public and private agricultural investments*

The agricultural sector is not very attractive for investment because of the high risks and vulnerability to climatic conditions, the absence of any insurance system, the dependence on small farmers with small agricultural land size (less than 2 he), and inefficient markets.

The most governmental investments allocated to the irrigation and agriculture sectors have declined by 2000. Only 10% of the governmental investments go to the agricultural sector, while the agricultural sector contributes to gross domestic production (GDP) with more than 27% in 2001 (NAPC, 2013).

Due to the war, the private sector has stopped investing in the agricultural sector because the security conditions and governmental investments significantly decreased for the same reason. Before the crisis, the productive capacities of the agroindustry sectors have not developed in parallel to the increase in agricultural production which led to a large surplus in the production of vegetables, apples, and citrus, in particular. In addition, the decline in the agricultural subsidies provided by the state led to an increase in production costs, transport and prices of fuel and fertilizers. Furthermore, the failure of

integration between the agricultural and industrial sectors is very clear despite the governmental policies and intervention (Authority of the planning and international cooperation, 2016).

#### 5. *Multiple administrative and regulatory organizations supervising the agriculture*

The multiplicity of agencies being responsible for the agriculture and the poor coordination mechanisms between them led to the failure to achieve the efficiency of managing the agricultural and natural resources, e.g., the ministry of water resources prepares the irrigation projects and the ministry of agriculture organizes water distribution and the water legislation according to the agricultural annual plan. However, many experts like (Qatana, 2016) claim that no rational management of available agricultural resources has been achieved yet.

#### 6. *Modifying agricultural policies without consideration of an adaptation phase*

The agricultural policies have been modified since the application of the tenth five-year plan including the amendment of the agricultural subsidy systems and the transition from subsidizing production inputs to supporting the final products. This shift was due to the government's goal of joining the WTO (Almohamed and Birner, 2019).

Even though the farmers make a quite better profit than previously they have disagreed with the new agricultural policies because of no adjustment phase of these major changes. In addition, the weak communication between farmers and governmental institutes, the absence of adequate rehabilitation and training courses, and problems in land tenure and borrowing systems contribute to the intensification of agricultural problems (Saris, 2001).

#### 7. *High costs of agricultural production*

Starting in 2008, the cost of production has increased due to the price liberalization of fertilizers and fuel. The crisis increased the input prices of transportation, fodder, pesticides, and seeds because of the increase in the foreign

exchange rates and the appearance of oligopolistic markets.

According to these changes, the quantities of wheat have decreased from 2 million tons in 2012 to 480 thousand tons in 2015 because of the high price provided by the traders compared to the official price (FAO, 2017).

For cotton, the input prices have increased by 77% between the period (2011-2015) compared to (2005-2010). However, the official price increased by 109% (Syrian minister of agriculture, 2016).

The General Organization for Cotton Ginning and Marketing (GOCGM) could buy in 2015 small amounts and it requested from the producer to deliver their products to the purchasing centers in the governorates of Homs and Hama. Nevertheless, the transport ways were very risky because the most cultivated areas were outside the state's control.

In terms of crop production like potato, garlic, tomato, citrus, and olive oil have their prices increased in the same periods by 277%, 324%, 436%, 91%, 146%, respectively. In addition, the wholesale prices of animal products like cow's milk, sheep cheese, and meat have increased as well by 230%, 192%, 257 %, respectively (Al Khalil, 2009). These price changes posed a real challenge to farmers and consumers alike.

#### 8. *Lack of coordination between administrative institutions supervising the agriculture*

The administrative weakness is reflected in the inability to develop long-term strategies for the management of the role within the national economy, the absence of transparency and lack of reliable data leads to formulating policies paper only, but never implemented, special committees are formed to study various aspects of the modernization of the agricultural sector, but final reports are never produced, studies are conducted, but never followed, laws issued, but not applied. These self-made problems were added to the "drought disaster" in 2006-2010 and reached the peak of 2007-2008, it was the season the worst regional drought for 40 years ago, affecting the country and global production as a whole

(Lund, 2014).

#### 9. *Decline the agricultural areas*

The increasing number of buildings and infrastructure on agricultural land represents a serious challenge. The agricultural area has been decreasing, as a result, the incomes of farming families have been reducing and the unemployment rates have therefore increased. Urbanization leads to many problems, such as the decline of agricultural production and food insecurity. Therefore, the state is forced to import food and crops to meet the local demand, which carries a lot of burdens and debts for the country. The urban creeping leads to desertification and the agricultural land is not more suitable for agriculture. Therefore, it is necessary to find an adequate solution for the urbanization on the fertile agricultural land which causes extremely negative individual and social outcomes for agriculture-based countries.

#### 10. *Complete reliance on the external production requirements*

Syria imports agricultural machinery, chemical fertilizers, pesticides, and agricultural technologies which contributes directly to high production costs and low ability to compete in the international markets, and the lack of comparative advantage in crop production despite the adaptation of climatic conditions and achieves the relatively high productivity in many crops.

#### 11. *Lack of integrated rural development*

Agricultural activities dominate rural areas in Syria, as in many developing countries. However, agriculture is no longer the only economic sector affecting rural areas, but it is complemented by many activities such as industry, services, and tourism, all of which contribute to increasing rural household incomes and restricting migration to urban centers and to abroad. Therefore, rural non-agricultural activities should be given importance when establishing rural development projects because they have emerged as an important source of income for rural households.

Indeed, agriculture in Syria is facing many problems

which significantly increase during the war.

#### **4. Economic and social effects of the crisis on the agriculture**

The agricultural sector suffers from the consequences of the terrorism that hit all the economic, social, and human sectors in the country. Thus, the crisis has had a clear negative impact on this sector in many aspects.

##### **4.1 Effects on plant production**

In the last few years, due to the war the irrigation networks and infrastructure have been hardly damaged which causes enormous difficulties for the farmers, the shortage of fertilizers and chemical pesticide in the markets, bad quality of seeds, unavailability of fuel, difficulty of reaching them in time, locking the roads between cities, burning of agricultural land, stealing the water pipes, violent displacement of rural families, and block of internal trade road. A big area was under the control of the militants.

These facts significantly led to the reduction of cultivated areas and the destruction of hundreds of hectares of agricultural land.

Furthermore, the international sanctions also contribute to 28% of the total losses of GDP during the crisis, especially in the sectors of oil, transport, industry, and finance until 2012 (Nasser et al, 2013). Therefore, the economic sanctions and the disruption of markets, the huge inflation rate, index of food consumer prices by 800% (Syrian Central Bureau of Statistics, 2016) and decline the Syrian pound from 50 to 530 equal one dollar, and high prices of inputs caused large losses to Syrian farmers (Central bank of Syria, 2016).

##### **4.2 Effects on animal production**

Like crop production, livestock faces many challenges due to the war. It suffers from unprecedented high death rates in sheep, cattle, and goats because of indiscriminate slaughter. In addition, animal smuggling, particularly sheep from the areas outside the government control to Kurdistan of Iraq and Jordan led to a significant decline in the supply of animal products in the domestic market

and added to the huge increase in the prices more than 500% for most animal products (Nasser, et al. 2013)

Insecurity, shortage of fodder, high input prices, and lack of safe pastures have forced many sheep breeders to sell or slaughter their animals. Furthermore, the veterinary care system is already running out of supplies of animal vaccines and regular medicines which is making it more difficult for breeders to keep their livestock healthy and productive.

It is worth mentioning that Syria was an export country for sheep and currently, the sheep number decreases by 30%, goats by 40%, and poultry by 60% (Syrian ministry of agriculture and agrarian reform, 2016).

##### **4.3 Effects on agricultural marketing and trade**

###### *Wheat production*

Wheat is the most important crop for bread and flour and it is strongly subsidized by the Syrian ministry of agriculture and agrarian reform. Therefore, the local price of wheat is sometimes 2 times higher than the international prices (Syrian ministry of agriculture and agrarian reform, 2016).

Before the war, Syria had 3.5 million t strategic reserves of wheat. It is equivalent to almost one year's domestic consumption and is mostly stored in areas that are now outside of state control. Syria produced about 4.1 million t in an area of 1.6 million hectares in 2010. More than 3 million tonnes of wheat are delivered to the governmental center. However, due to the war, the country faced scarcity in food supply and therefore it imported about 2.4 million t of wheat in 2013. In 2014 wheat production reached the lowest level 25 years ago (United nations organization, 2014). This created a gap in the domestic demand for this crop about 800 thousand t.

###### *Cotton and Sugar beet production*

Cotton production lay on 428 thousand tonnes in 2010 and the production has declined less than 50 thousand in 2015 because of the complexity of seed and fertilizers supply on time and risky access to the fields.

Sugar beet is mostly produced in Hama, Raqqa, and Aleppo. The production is ca. 60 thousand t per year and about 300 tons of white sugar. However, these three governorates produced in 2012 only 40 thousand of white sugar.

The difficulty in the transport and the problem of market fragmentation have forced the producers, transporters, and traders sometimes to pay very high marketing costs and they face security risks and instability of the markets (FAO, 2017).

#### 4.4 Effect on food security

Regarding the UN reports, 4.8 million citizens have migrated and become refugees in bordering countries or in Europe, as well as 6.5 million Syrians who forcibly left their homes and have been displaced, some of them were displaced more than once in Syria. In addition, the unemployment rate in Syria reaches 53% in 2016, the poverty rate was 85% out of the 69% are extremely poor. This group of poor people suffers from poverty, hunger, lack of education for children, the spread of diseases, and deprivation, which strongly affected the economic

situation, nutrition, and health (Hanna, 2016).

For these reasons, the level of food security in Syria has been reflected in the inability of the agricultural sector to secure the main needs of food commodities and products (Nasr, 2013). Despite the huge impact of the crisis on agriculture, the two main sources of income in rural areas remain the sale of agricultural production and livestock. Over 75 percent of rural households still grow food for their own consumption and more than a third of rural households rely on their own production for over a quarter of their food requirements (FAO, 2017).

The central bureau of statistics, the planning and international cooperation authority, and the world food program (WFP) conducted a field survey of food security assessment in 2017, which included more than 5,000 households in 11 governorates in Syria. The results show the percentage of food insecurity and vulnerability of households in different governorates. Table 1 shows that the majority of the population is vulnerable to food insecurity about 45.6%.

**Table 1. State of food security in Syria in 2017(%)**

	Food safe	Vulnerability to food security	Food insecure
<b>Damascus</b>	<b>32.5</b>	<b>47</b>	<b>20.5</b>
<b>Aleppo</b>	<b>13.2</b>	<b>46.6</b>	<b>40.2</b>
<b>Damascus Countryside</b>	<b>24.1</b>	<b>40.7</b>	<b>35.2</b>
<b>Homos</b>	<b>28.8</b>	<b>53</b>	<b>18.2</b>
<b>Hama</b>	<b>12.3</b>	<b>48.6</b>	<b>39</b>
<b>Lattakia</b>	<b>34.9</b>	<b>54.4</b>	<b>10.7</b>
<b>Al Hasakah</b>	<b>16.2</b>	<b>46.5</b>	<b>37.3</b>
<b>Tartous</b>	<b>38.3</b>	<b>40.2</b>	<b>21.6</b>
<b>Daraa</b>	<b>17.1</b>	<b>40.4</b>	<b>42.5</b>
<b>Swaida</b>	<b>13.7</b>	<b>39.9</b>	<b>46.5</b>
<b>Quneitra</b>	<b>31.6</b>	<b>41.4</b>	<b>27</b>
<b>Total</b>	<b>23.4</b>	<b>45.6</b>	<b>31</b>

Source: The Central Bureau of Statistics, (2017)



The capital Damascus enjoys a high level of food security followed by provinces on the Mediterranean coast, namely Tartous and Lattakia. The largest percentage of food insecurity was in the governorate of Sweida, Daraa, and Aleppo. However, all governorates have generally been vulnerable to food security with a high percentage of 40%.

Indeed, the war has extremely created food, development, and health problems in all Syrian governorates without exception, according to experts' expectations they actually need years to be resolved and overcome.

##### 5. Figures of the statistic of losses in the agricultural infrastructure

The counted values of losses and damage caused by the Syrian war are about 226 billion dollars, four times more than the Syrian GDP in 2010 (World Bank, 2017). The Syrian government estimates them about 400 billion dollars and this value is still increasing. FAO noted in its report of 2014, the total damage to the Syrian agricultural sector was estimated at about 1.8 billion dollars until the

end of 2013 and the total losses can be estimated until the end of 2015 as more than 2 billion dollars. In its report of 2017 has FAO estimated the losses in the Syrian agricultural sector as about 16 billion dollars in terms of production, destroyed assets, and infrastructure (figure 4) (FAO, 2017). This loss is added to the total losses of the Syrian economy, which amounted to 226 billion dollars so far (Word Bank, 2017). FAO estimates the cost of reconstruction of the land about 180 billion dollars and 17.1 billion initial costs of rebuilding the agriculture over a three-year period (FAO, 2017).

However, the Syrian Ministry of Agriculture estimated the total losses of the agricultural sector at the end of 2015 at 220 billion Syrian pounds, including 20 billion Syrian pounds in livestock, 10 billion Syrian pounds in the poultry production, and more than 190 billion Syrian pounds in plant production like facilities, irrigation systems, research centers and human resources (Ministry of agriculture, 2016).

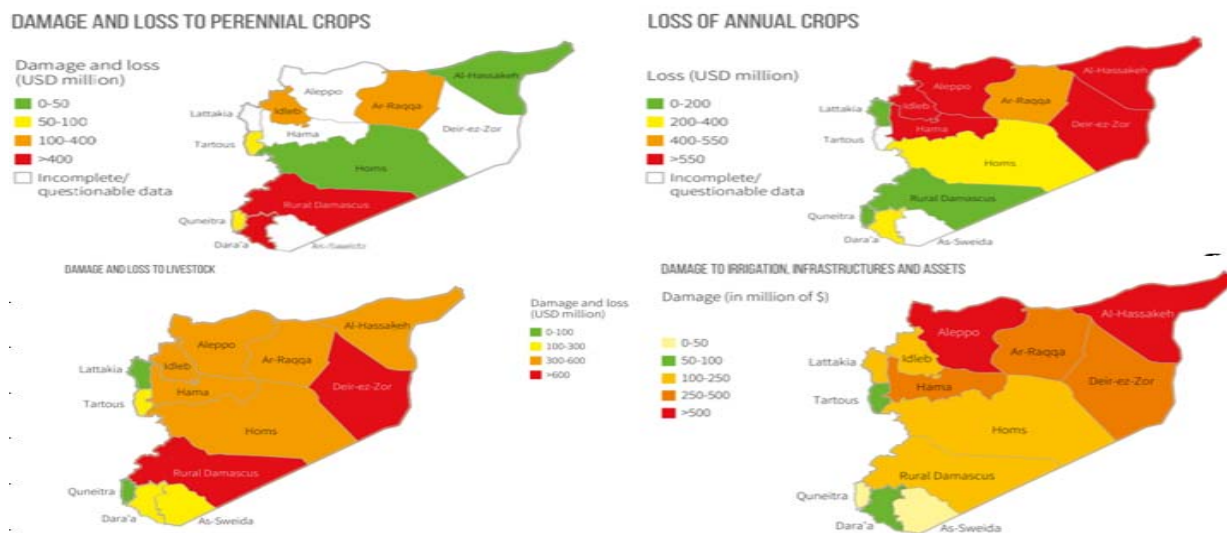


Figure 4. Damage and Losses to agriculture in Syria (2011-2016)

Sources: FAO, (2017)

## **6. Agricultural policies and future vision in the reconstruction**

The process of reconstruction faces many difficulties and challenges such as the lack of national security yet, damaged infrastructure, brain drain, inflation, the spread of poverty, weak investments in the productive projects, poor performance, and corruption, but they're definitely light at the end of the tunnel. The urgent and important recommendations should support the reconstruction efforts in Syrian agriculture and all economic sectors which are the focus of this section.

- **Rehabilitation of agricultural infrastructure**

Syria is characterized as an agricultural country and agriculture constitutes a large share of the GDP and it employs about 26% of the economically active population (FAO, 2017). Even during the war, agriculture has remained an important part of the economy. Therefore, it is necessary to think first about the rebuilding and development of this sector in the first stages of reconstruction. At the beginning of the reconstruction stage, the damaged infrastructure should be rehabilitated through the biggest share of investment, and offer all possible and adequate incentives for farmers to return to their safe villages and to cultivate the fields, as a step toward restoring the food security.

- **Sustainable use of agricultural resources**

Despite the scarcity of water resources, the resource has been inefficiently used especially by applying the surface irrigation systems which its efficiency doesn't exceed 50% (Doppler et al, 2009). In this regard, one of the basic components of the agricultural strategy is to improve the efficiency of in-field irrigation systems by the transition to water-saved modern irrigation like sprinkler or drip irrigation systems.

In addition, the agricultural areas suffer from two major challenges; change from agricultural to non-agricultural uses, and the continuous degradation of soil fertility in many agricultural areas due to the excessive

use of fertilizers and applying the surface irrigation system. Therefore, regular soil surveys should be conducted and compacted to specific fertilization systems. The information system of land classification maps should be employed in the analysis of negative phenomena, ex-ante discovering problems that require special treatment. Choice of the appropriate agricultural rotations in each environmental zone, applying the integrated agricultural systems (animal-plant), and the expansion of organic agriculture in terms of maintaining human health and the quality of the ecosystem is strongly needed.

- **Improving the investment climate**

In order to improve the agricultural investment conditions, sustainable agricultural development strategies should introduce unified management of land allocation for agricultural investment, review the legislation and measures for land re-allocation, issuance of ownership and credit policies, and facilitate access to credit.

- **Improving the living standards of the rural population**

Improvement of livelihoods and the living standards of the rural population is an essential objective for rural and agricultural development. It could be reached by developing the rural communities and infrastructure and supporting the small rural trades and environmental industries, thus creating new employment opportunities and focusing on small-scale agricultural projects and income-generating enterprises of poor households and empowering the role of rural women in rural development and diversifying the rural economic activities.

## **7. Implementation means**

### *1) Reforming and strengthening the agricultural institutional structures*

The institutional structure of the agricultural sector is characterized by a high degree of complexity, duplication, overlapping of competencies, and the absence of the institutional framework. If there are institutional

frameworks, then they do not have the appropriate tools to carry out their tasks or they approach tasks that are incompatible with their basic function.

Therefore, the institutional and structural development of the Ministry of Agriculture is more relevant than ever to rehabilitate this sector.

In addition, the governorate is called to revise the law of agriculture and its complementary laws to be in line with economic and social international developments.

## 2) *Development the agricultural policies*

The agricultural policies are the most important tools to improve the agricultural sector. These policies should consider the consistency with national goals over time. In addition, they must directly contribute to enhancing the performance of small farmers, guide them to cope with the internal and external changing market requirements, participate in decision making and encourage the private sector to participate effectively in agricultural development.

The agricultural policies have to give more attention to increasing the effectiveness of agricultural research and adopt new smart technologies in agriculture. Indeed, according to many reports of World Bank, agricultural support has not made a decisive contribution to the development of the agricultural sector, but in turn, has contributed to maintaining the basis for the continuity of the agricultural production, especially in the period of crisis and to help the crop producers to return to their land in areas that have not been destroyed and in relatively safe areas. A comprehensive vision of the new support strategy should be developed.

Therefore, strong, well-defined, highly targeted, economic subsidies are to be the target that should consider the environmental and social aspects to achieve long-term development and growth of the agricultural sector.

## **Conclusion**

The figures appear to be very large in relation to the damage and to rehabilitation and reconstruction in Syria. The consequences of the eight-year war in Syria continue

strongly to affect the agricultural sector. The lack of inputs and high prices combined with the difficulty of harvesting and marketing the crops are among the most important agricultural issues that resulted from this crisis. Indeed, the availability of agricultural products on the markets couldn't be denied, but the critical issue is the high levels of prices of the food at 800% in 2017 in comparison with prices in 2011 (FAO, 2017).

Starting from the importance of the agricultural sector for the country Syrian government and international organizations are appealing to give agriculture rapid attention and they should support the agricultural activities and related agricultural industries, provide agricultural inputs at reasonable prices, and help farmers to stay in their land which can maintain food security. Scientific and technical management of natural and agricultural resources is very important in the Reconstruction phase. The agricultural sector needs to development of appropriate agricultural programs to rationalize the use of the resources which boosts the efficiency of investment and helps to achieve the comparative advantage. Therefore, there is a strong need to review implementations of law and legislation in terms of rights and restrictions. In addition, creating a trustworthy agricultural database is required to help planners in rural development projects during the period of reconstruction. In fact, there are many differences between official statistics and international statistics, which creates a real challenge to scientific researchers, economic planners, and the countries likely to participate in reconstruction.

Even though the war is not over, the conditions for investing in the recovery of the sector are present in many areas of the country. This investment in the agricultural sector will not only reduce the need for humanitarian assistance but also stem migration and encourage the return of migrants. If productive farming areas are neglected, more people will be forced to leave already depopulated rural areas making eventual recovery harder, longer and costlier to achieve.

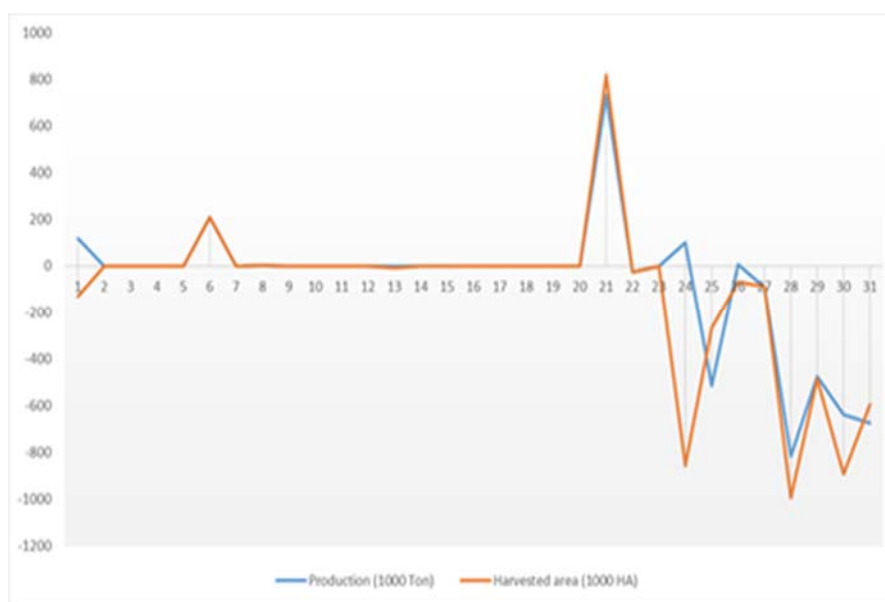
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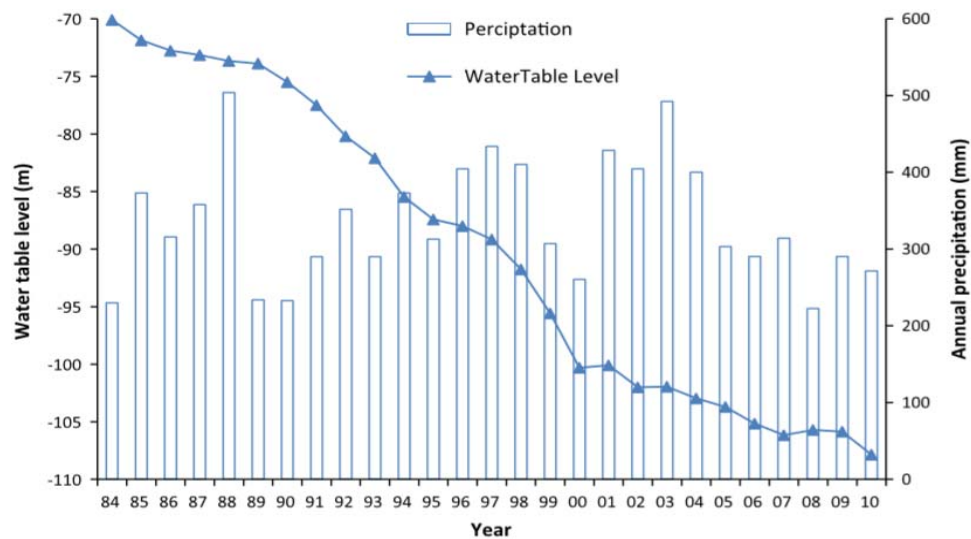
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## Appendixes

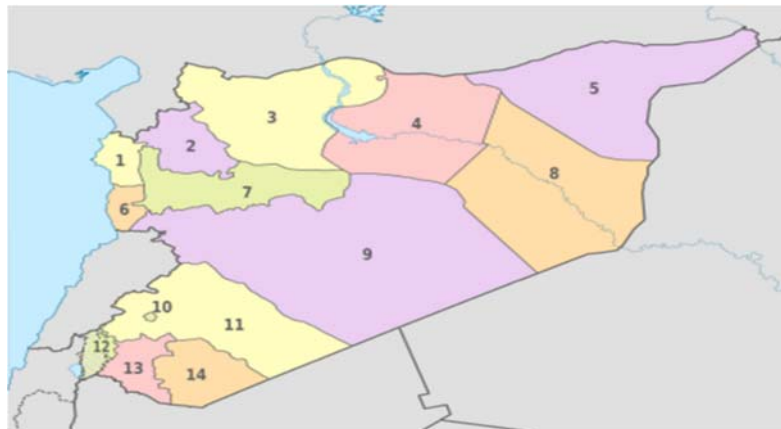


**Appendix (1): Deviation of the official values of the production and area of wheat in Syria from the values of the United States of America Department of Agriculture from 1986 to 2016.**  
Source: The agricultural ministry of Syria and United States of America Department of Agriculture



**Appendix (2): water table level and annual precipitation for the period 1984-2010**

Source: Aw- Hassan, 2014.



- |              |                |                 |
|--------------|----------------|-----------------|
| 1. Latakia   | 5. Al-Hasakah  | 10. Damascus    |
| 2. Idlib     | 6. Tartus      | 11. Rif Dimashq |
| 3. Aleppo    | 7. Hama        | 12. Quneitra    |
| 4. Al-Raqqah | 8. Deir ez-Zor | 13. Daraa       |
|              | 9. Homs        | 14. Al-Suwayda  |

**Appendix (3): Administrative divisions in Syria**

Source: Martini, Ghalia (2017): Presentation about the culture of Syria (BRP), Department of Forest Resources and Environmental Conservation, Virginia Tech , Blacksburg, USA.

## مراجعة واقع القطاع الزراعي في سورية والآفاق المستقبلية لإعادة الإعمار

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تاريخ استلام البحث 2018/3/29 وتاريخ قبوله 2020/11/26.

### ملخص

كان ولازال للزراعة دورا هاما في الاقتصاد السوري، سواء من حيث الناتج المحلي الإجمالي أو العمالة. وتستمر عواقب الأزمة للسنة الثامنة في التأثير على القطاع الزراعي، حيث يعد نقص المدخلات وارتفاع الأسعار ، بالإضافة إلى صعوبة حصاد وتسويق المحاصيل، من بين أهم المشاكل الزراعية التي نتجت عن الأزمة. قبل الأزمة ، كان القطاع الزراعي يعاني من العديد من المشكلات الناتجة عن إهمال الحكومة له ، والذي يتمثل بضعف الاستثمارات الحكومية في الزراعة ، بالإضافة إلى المشكلات الإدارية المعقدة للإدارة والتنظيم، مما أدى إلى انخفاض الإنتاجية وكفاءة إدارة الموارد الزراعية. بعد اندلاع الأزمة، اضطر عدد كبير من الناس إلى مغادرة المناطق الريفية المكتظة بالسكان مما أدى الى تدهور كبير جداً في الانتاج. حيث لجأت سورية الى استيراد أنواع من المحاصيل الهامة كالقمح لتغطية حاجة السوق المحلية وهذا ما سيتم مناقشته في هذا المقال. من الواضح أن هناك حاجة إلى بذل جهود جادة لاستعادة القطاع الزراعي لأهميته الانتاجية، حيث يعد العنصر الأكثر أهمية في الاقتصاد السوري والأمن الغذائي المستدام للمناطق الحضرية والريفية. على الرغم من أن الأزمة لم تنته بعد، إلا أن شروط الاستثمار في إعادة انتعاش القطاع موجودة في العديد من المناطق ولن يقلل هذا الاستثمار من الحاجة إلى المساعدة الإنسانية فحسب، بل سيقبل أيضاً من الهجرة ويشجع عودة المهاجرين.

**الكلمات الدالة:** الزراعة، السياسات الزراعية، الأزمة، الاكتفاء الذاتي، سوريا.