



# ■ Syria

Food Security in Syria and the  
Impact of the Conflict

Syrian Center for Policy Research

## INTRODUCTION

Over the past eight years, Syrian society has suffered the consequences of a protracted conflict that has depleted natural, human, economic, and social resources. Syrian human rights have been violated on all levels, from dignity and freedoms to the most basic right to adequate food. In particular, the research reviews the impact of the war in Syria on food sovereignty, based on a historical reading of the evolution of the food security situation up to the current conflict. It will present the SCPR's main findings regarding the state of food security before and during the conflict. It also summarizes the key determinants in exacerbating the food deficit and undermining food sovereignty at the national, local, and individual levels. Finally, the research presents the most relevant recommendations and policies to contribute to solving the problem of food security and ensuring long-term food sovereignty.

The main findings of the research indicates a significant decline in the food security index during the conflict. Access to food, in particular, registers one of the worst indicators during the conflict, followed by the usage index indicating the quality of available food and the decline in access to improved drinking water, considered critical indicators of food security deterioration. The study also showed a downturn related to food sovereignty, reflected in the decline in the ability of Syrian individuals and households to obtain adequate healthy food; the destruction and disruption of the agricultural economy, such as infrastructure, facilities, equipment, land, and natural resources; the destruction and disruption of the food industry; the control by military forces and conflict profiteers over production and distribution processes and the provision of production requirements; the dismemberment of the agricultural economy, the use of siege policies, and the prevention or restriction of movements of individuals and goods; the increasing dependence on humanitarian assistance; the huge disparities between the various Syrian regions according to their proximity to the border; and the nature of dominant forces, external support, and battle intensity. Syria is witnessing the conditions of the absence of food sovereignty. During the conflict, institutions were formed to violate rights, entrench marginalization and exclusion, and destroy human and material resources.

The research concludes with the importance of re-

storing the right to food and starting from food sovereignty policies to overcome violence and dismantle conflict economies. Agriculture, irrigation, and food industries provide an opportunity to restore productive labor-intensive work that provides jobs and urgent food needs; promotes opportunities to build social harmony and the population's return to the areas from which they were displaced, particularly in the countryside; and to mitigate the effects of violence on environmental sustainability.

### Foundations of the Food Sovereignty and Food Security Concepts

FAO's defined food security as the state where all people at all times have economic, social, and material access to adequate, safe, and nutritious food, meeting the nutritional needs and preferences necessary for a healthy and active life (FAO, 2002). The food deficit was defined as the loss of permanent access to sufficient food to meet basic needs (FAO, 2009).

In contrast, the 2007 Nyeleni Declaration on Food Sovereignty set forth food sovereignty as the right of people to access healthy and culturally appropriate food produced in a sustainable manner, taking into account environmental sustainability and their right to choose their food and agricultural systems. Interest in the transition from food security to food sovereignty implies a shift in the nature of the political economy of food. Food sovereignty focuses on the interests of food producers, distributors, and consumers and places them at the center of food policies and regulations, rather than market and corporate priorities. It embraces the development of local and national markets and economies, the empowerment of farmers and farming families, and guaranteeing their rights to use and manage the land. It also incorporates new social relations, free from oppression and inequality between genders, different populations, ethnic groups, social classes, or generations (Patel, 2009).

However, the concept of food sovereignty is under development and there is no ultimate formula. It transformed over time and shifted its focus from national self-sufficiency in food production (State rights) to local self-sufficiency (people's rights). More emphasis was placed on the rights of women and other vulnerable groups, as well as building consensus on the question of food (Agarwal, 2014). The food sovereignty concept includes six criteria that have been added to the concept of food se-

curity, which take into account the importance of food as a basic need and a government policy priority that should not be considered as a commodity; supporting sustainable livelihoods; respecting the work of food producers; and localizing food systems by reducing the distance between producers and consumers and rejecting inappropriate dumping and food aid; and resisting dependence on offshore and unaccountable companies. Food sovereignty guarantees the right of all to share and benefit from land, grazing, water, seeds, livestock, fish, and other natural resources. It also focuses on developing knowledge and skills through local research and studies that contribute to supporting local production. Finally, sustainable action ensures the preservation of ecosystems and natural resources (Food Secure Canada, 2012).

Via Campesina considers that the question of food starts with food security and ends with food sovereignty. While food sovereignty is a form of resistance to liberal economic policies and unbalanced trade relations (Pottier, 1999), its supporters see the need to shift the concept of food security to a rights-based, rather than a needs-based, discourse, moving from technocratic planning processes to participatory planning and from fragmented to integrated agricultural and food policies (Carney, 2012). The former and current concept of «food security» failed to provide for the participation of marginalized communities at every stage of the planning process or in identifying, influential policies and their impact (Patel, 2009; Pimbert, 2007; Schiavoni, 2009; Windfuhr & Jonsén, 2005).

Distinction between food security, the right to food, and food sovereignty is essential. As Windfuhr & Jonsen described it in their 2005 book, *Food Sovereignty: Towards Democracy in Localized Food Systems*, «[while] food security is more of a technical concept, and the right to food a legal one, Food Sovereignty is essentially a political concept.» It cannot be achieved without recognizing the human right to food, including a major shift in power from centralized decision-making to socialized decision-making and according greater authority to farmers, agricultural workers, citizens, and consumers (Patel, 2009).

The right to food is linked to its availability and how it can be obtained. Availability is not a sufficient condition for obtaining food, due to local and global State policies.

## Food and Conflict

Armed conflict contributes to local food insecurity due to the disruption of food production and agricultural markets. Despite the topic's importance in the context of tracking global food security, applied research on the impact of conflict on food on particular countries is scarce. The 2017 Weezel study, based on data at the national level covering 106 countries in Africa and Central and South America between 1961 and 2011 was used to assess the relationship between conflict and food security. The results show that conflict is associated with lower levels of food security (Weezel, 2017). However, the situation in Syria shows the opposite, as the pre-conflict food security situation does not help in predicting its eruption.

Conflicts are occurring frequently, mostly in developing countries. However, their nature has changed, as they became concentrated within countries in the form of civil wars, leading to a significant rise in civilian mortality rates. The causes, severity, and extent of conflicts are often the result of a complex mix of interrelated economic, environmental, political, cultural, and religious factors, often contributing to the long-term aggravation of conflicts. Their prevention must thus take a multidimensional approach and be implemented as a long-term strategy.

The human, social, and economic costs of armed conflict are horrendous. Thousands of men, women, and children are dying each year as a direct and indirect consequence of war. By the end of 2018, millions of people have been displaced by conflict and saw their per capita GDP decline every year. The formal sector is shrinking rapidly and the informal sector is expanding. Although the agricultural sector is less affected than industry and is considered the economy's last resort, per capita agricultural production declines annually in times of conflict. Food production usually falls, and in some cases collapses dramatically, leading to hunger, starvation, and the forced migration of great numbers of people. While food aid might mitigate the situation, the rate of calorie availability per person per day is reduced. When food is used as a weapon, the food deficit is greatly intensified. The destruction of basic rural infrastructure, loss of livestock, burning of forests, widespread use of landmines, restricting population movements, dispossession of household assets, and large-scale migration all have negative

impacts on food production and hence the decline in food security and food sovereignty in the broadest sense, especially when these factors interact with natural disasters that often add to the destructive impact of conflicts, thus spreading hunger and famine (Teodosijević, 2003).

The numerous factors related to conflict and food insecurity often combine to create more compound and systemic devastation. Their effects spill over into the economy and expand over the years, when farmers, herders, and others fall victim to battles, terror, and destruction. Depletion of assets, the destruction of physical and social infrastructures, and forced recruitment undermine the ability of communities to engage in productive activities, including food production. People resort to subsistence agriculture, crop diversification, divestment, and migration as survival strategies. Concurrently, the rural sector plays a pivotal role in survival strategies for affected individuals and families. The recovery of the agricultural sector is necessarily dependent on the demobilization of soldiers, demining, and rural infrastructure reconstruction, particularly roads and irrigation. The costs associated with conflict and reconstruction strongly suggest that its prevention should be seen as a top-priority investment from a humanitarian perspective. Reconstruction is a long and costly process. Coping strategies vary depending on the nature of the war, location, and the options available to the affected populations (Teodosijević, 2003).

The conflict in Syria brought various types of large-scale violations and destruction for relatively long periods of time. In this context, the research will attempt to read the political economy of agriculture in Syria and measure the impact of the conflict on food sovereignty, in addition to trying to develop a range of alternatives aimed at overcoming the conflict and achieving food sovereignty.

## I. Agriculture in Syria

The agricultural sector in Syria used to represent a viable component of successive civilizations in the Levant region, providing abundant food and benefiting from the moderate Mediterranean climate and its network of rivers. Agriculture contributed to the stability of human societies, as well as the emergence of institutions or rules to regulate human relations. It necessitated the organization of land, the protection of crops, cooperation in irrigation, and the distribution of yields. Techniques were developed as a result of advancements in agricultural methods, irrigation tools, and fertilizers, in addition to the development of trade based on agricultural surplus. On the other hand, the region suffered from simultaneous droughts due to its varied nature and topography, climate variability, global warming, and other environmental crises produced by poor environmental and agricultural management of natural resources (SCPR, 2019).

Nevertheless, agriculture remained close to subsistence levels for thousands of years, until the Industrial Revolution caused a quantum leap in production (Maddison, 2003) through the use of machinery. Mechanization, and later automation, in addition to the extensive development of knowledge on biodiversity and environmental research, led to an increase in agricultural production at record rates. The effects of the Industrial Revolution did not reach Syria until the early 20th century and spread following independence.

The agriculture sector constituted an economic and livelihood pillar since independence, but it suffered from several obstacles, such as lack of investment, marginalization of farmers, and neglecting rural areas in general, poor management of natural resources, especially water resources, and heavy dependence on rainfed agriculture, with varying impacts during waves of drought. On the other hand, «leftist» forces and parties expanded following independence. They focused their efforts on confronting the exploitation of peasants and workers by the feudal sector and the emerging bourgeoisie in the main city centers, in addition to expanding the role of the state in the provision of education and health services and improving infrastructure through the adoption of economic planning. This was reflected in the Agrarian Reform Act of the 1950s, during the unification with Egypt, and then reinforced when the Ba'ath took power in 1963. These radical transformations led to the emergence of central state institutions in con-

junction with the increasing influence of peasants in the political sphere during that period. The rural population enjoyed free education, employment in the public sector, and investment in irrigation projects and dams, such as the Euphrates Dam, and later the development of agro-industries. However, lack of participation and accountability, the prevalence of political despotism, and the continued violence and fighting in the region, from the Israeli occupation and its frequent expansionist wars and conflicts between or within the region, to the weakness of formal and informal institutions, contributed to the unbalanced development and low efficiency in resource management. The discovery of Syrian oil and the increase in direct and indirect aid from oil-producing countries also contributed to expanding rentierism, corruption, and crony capitalism (the economy where business booms due to return on funds raised through corruption between elite businessmen and the political class (SCPR, 2019).

The development phase since the 1960s, which SCPR calls Low Equilibrium Development, has been characterized by the provision of basic infrastructure and necessities such as water, electricity, subsidies for basic food commodities, and free education and health services. On the other hand, the same period was accompanied by denying political participation and accountability, the constriction of freedoms, the siege of public culture, weak scientific research, and the suppression of highly productive sectors. Civil society organizations were besieged, while the General Union of Peasants represented the only «semi-official» trade union organization established by the Baath in 1964. It regulated peasant issues as a form of party control over trade unions and cooperatives at the national level. Cooperatives and unions implemented the directives of the authorities, rather than representing community interests (SCPR, 2019). This is a clear indication of the decline in food sovereignty in its political sense, as the ability of farmers to participate in decision-making, achieve their rights, and benefit from resources has declined.

Governments pursued central planning in policy making. The government plans (especially the third plan) included an expansion of public investment in irrigation and land reclamation projects, particularly following the investment in the Euphrates dam, the increase in irrigated and rainfed areas, and support to the agricultural sector and regulation of agricultural production through Law 14 of 1975. This law regulates the agricultural sector through

a development strategy; an annual production plan; the provision of production requirements; the pricing of strategic crops; the organization of their marketing by government institutions; setting the form, methods, and volume of support provided to farmers; addressing the problems and difficulties facing the development of agricultural production; and developing related laws and regulations. Several supporting agricultural policies, such as subsidizing agricultural crops, have been adopted through the government's purchase of crops at preferential rates, especially strategic crops such as wheat, barley, chickpeas, lentils, sugarbeet, cotton, and tobacco, providing positive incentives for these crops' farmers. Support was also provided to fertilizers and animal feed, and the role of the Agricultural Cooperative Bank and the Commercial Bank in granting agricultural loans. Agricultural credit was expanded to enable farmers to acquire the means of production and modern technologies and to develop agricultural facilities. Support services were also provided to farmers in the fields of agricultural scientific research, extension and rehabilitation systems, training, agricultural education, general control, animal husbandry development, provision of necessary feed at subsidized prices, and implementation of veterinary care and animal health programs (2010, *قطنا*, 2017؛ *سالم*, 2010).

The 1980s witnessed radical transformations. The First Gulf War and the end of support from Gulf countries, the Israeli invasion of Lebanon, the events of Hama, the Western economic blockade, and the increased dominance of security institutions over public institutions, accompanied by drought waves, led to the deterioration of agricultural production and food security. The period witnessed a sharp decline in the performance of institutions, increased corruption, a worsening budget deficit, and accelerated immigration. The country went through a severe deficit in the provision of food products, including flour. On the other hand, the government adopted extraordinary subsidy policies for wheat, cotton, and beetroot to provide basic foodstuffs. These crops extended over large areas, achieving some gains for their farmers but at the expense of other vital crops (SCPR, 2019).

In the 1990s, medium-sized loans were provided for fruit trees, contributing to the extensive growth of citrus and fruit production. The increase in agricultural production was accompanied by major imbalances, such as the emphasis on water-consuming crops like cotton, beetroot, and wheat; poor irrigation methods; and over-exploitation of ground-

water and desert tillage, adding to desertification, salinity, loss of biodiversity, and biases against unsubsidized crops. In addition, some of the industries established in preceding years without accurate environmental studies, such as the paper plant and beetroot and cement factories caused damage to the natural environment (SCPR, 2019).

Despite the approach to support strategic crops in response to the food insecurity impasse in the 1980s, the general trend in economic policy was geared towards economic liberalization, ever since the Ministry of Economy Decree No.35 of 1986 allowing the establishment of public-private companies. Later, Law No.10 of 1991, inaugurating the period economic openness, sanctioned private investment in all sectors except in oil and extractive industries. Referring to the shift towards market policy consolidation, the government stopped issuing five-year plans from 1985 to 2000.

During the 1990s, cultivated areas, particularly irrigated ones, expanded and more capital was invested in agriculture and technological development. This led to the increased production and productivity of agriculture and animal husbandry (see Appendix 1). The industrial sector related to agriculture, such as textile and food industries, grew. However, the cultivation of the Badia, overgrazing, and the indiscriminate movement of machinery caused the deterioration of natural pastures in the Badia and the acceleration of desertification as a result of the government's decision to allow cultivation in the region. Unsupervised water use and illegal drilling of wells, as well as the use of traditional irrigation methods, led to the deterioration of the water balance. The government relied on indirect control of water consumption in agriculture by identifying areas that can be cultivated only without installing water consumption meters. The export of raw agricultural materials also resulted in the loss of added surplus from manufacturing processes (ويستليك، 2017؛ النجفي وآخرون، 2010؛ قطن، 2001).

Neoliberal policies were broadened in the new millennium through the gradual liberalization of energy prices, expanding the private sector's role, the decline in public investment, the gradual reversal of many subsidies such as public health services, and the expansion of trade openness. The new economic structure produced a rise in prices and living costs; the absence of social protection, especially for farmers and informal workers; and the decline in job creation in productive sectors, especially agriculture. Poverty increased and real estate became

the pioneer sector. The country experienced two waves of sharp real estate speculation, in the first half of the 1990s and then in the new millennium, opening the door to a «war» on agricultural land. The returns on selling land to real estate appeared more profitable than agriculture and had a profound impact on the economic structure (SCPR, 2013).

Despite the adoption of neoliberal economic reform policies, they were not accompanied by political reform consistent with institutional requirements, such as participation, accountability, anti-corruption, and law enforcement. The ninth (2001-2005) and tenth (2006-2010) five-year plans included a theoretical shift towards a social market economy, such as the emphasis on productivity and investment in human capital, investment in technology and knowledge, and institutional reform. However, the focus was placed on economic liberalization, leading to the spread of marginalization and exclusion. Peasants and the countryside were hardest hit, with plans to target poverty in poorer rural areas such as Aleppo and al-Jazira, and the financial and real estate service sectors expanded but failed to create enough jobs. Most importantly, the former developmental stability was dismantled without providing an alternative. Incentives to farmers were reduced and their political role and participation in public life or decision-making did not actually improve. The modest government response to the 2008-2009 drought is a clear example of the marginalization of agriculture, farmers, and their families. About 60,000 families from the eastern region were forced to flee to Damascus and Daraa as a result of the deteriorating living conditions in the areas facing the brunt of the unprecedented drought (SCPR, 2019).

The first decade of the new millennium began with a search for alternatives to compensate for the decline in the contribution of oil in production, exports, and public revenue, as a result of the decline in oil production. However, actual change in development policies was limited to mainly economic liberalization measures without producing radical change in institutions and dealing with imbalances related to inefficiency, corruption, and exclusion. The main focus was on the communications, banking, and real estate sectors, with a corresponding decline in the agricultural sector, which led to the expansion of the informal sector and the increasing economic and social inequality, benefiting the dominant elite and the so-called crony capitalism (SCPR, 2019).

## Agriculture's Contribution to the Syrian Economy Before the Conflict

Between 1970 and 2010, the country achieved relatively high economic growth rates, averaging at about 5.6% annually, compared to a 3% average population growth rate annually over the same period. The per capita share grew at a yearly rate of about 2.6%.

The average annual growth rate in the agricultural sector for the same period was about 3.9%; its contribution to the growth reaching about 23%, in addition to the links this sector has with other sectors such as food industry, textile, construction and reconstruction, and utilities (Figure 1).

Agricultural sector indicators demonstrate its vital role in terms of contribution to the national Syrian economy. A main characteristic of this sector remains its high growth rate and its relatively large contribution to the overall economic growth. However, the sector witnessed a decline in the 1980s and the beginning of the new millennium as a result of economic policies and environmental and climate factors. High volatility in agricultural growth has also led to instability in overall growth rates.

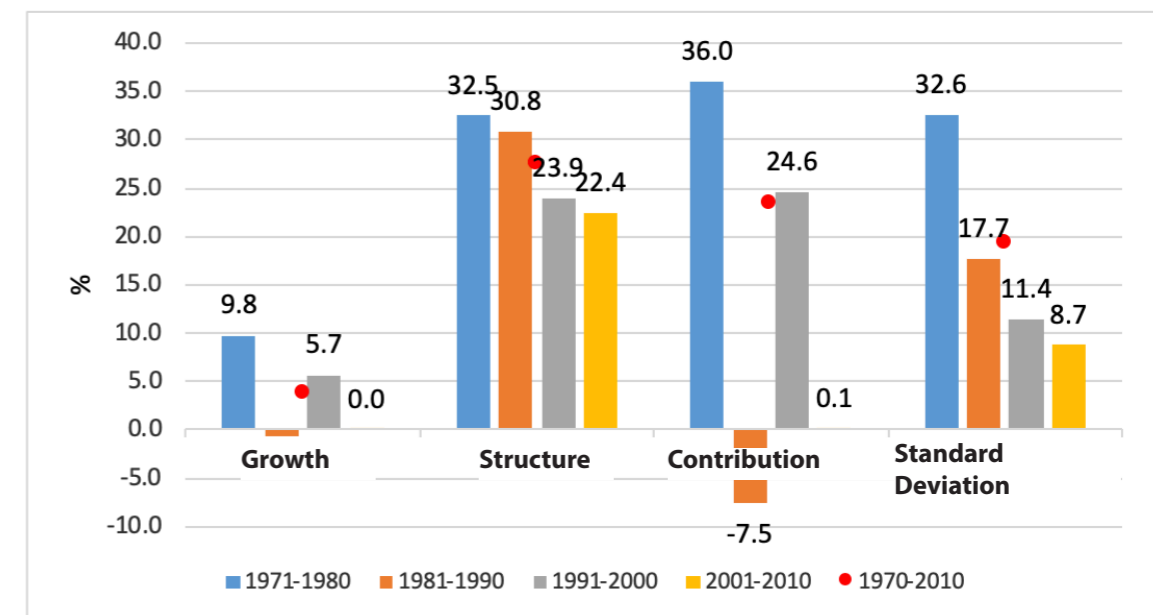
Coupled with the 2008 global food crisis, climate conditions, particularly the 2007-2009 drought,

impacted agricultural growth rate, which in turn affected economic growth (see Figure 2).

The per capita share of agricultural output has not increased, despite quadrupling the output between 1970 and 2010. Agricultural growth rates went along with population growth rates, declining from 3.3% in the 1970s to 2.7% in the 1990s, with the decline in fertility rates. The decline stopped in the 1990s and the population growth rate returned to 2.9% in 2010.

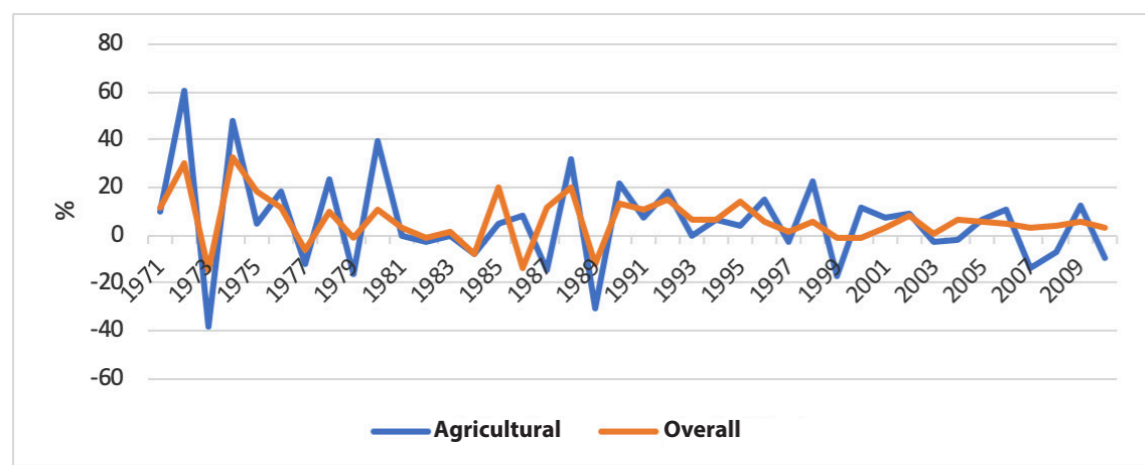
Employment in the agricultural sector declined rapidly. The structural transformation of the Syrian economy is highlighted by the decline in the share of the agricultural sector of GDP and the share of agriculture in employment. The share of agriculture in total employment in the Syrian economy fell from about 50% in 1970, to about one-third of workers at the beginning of the 1980s, and about a quarter of workers in the early 1990s. The proportion of workers in the agricultural sector increased in the 1990s, reaching 30% of the total employment by the end of the decade. In the first decade of the new millennium, the share of workers in agriculture fell sharply even before the recent drought in 2007-2008 and reached about 14% in 2010, bringing the number of workers in the sector to 655,000, which is lower than the 1970 figure. This decline impacted the livelihoods of rural families and low-skilled workers and contributed to a reduction in labor force par-

**Figure 1:** Contribution of Agriculture to GDP in Syria 1970-2010: Growth, Structure, Contribution to Gross Growth, and Standard Deviation.



Source: Central Bureau for Statistics and SCPR estimates.

**Figure 2: Total Economic Growth Rate and Growth of Agricultural Sector 1971-2010**



Source: Central Bureau for Statistics and SCPR estimates.

participation for these groups. This reflects a lowering of the priority of the agricultural sector and the role of peasants and rural people in public policies, in the absence of an economic alternative that creates jobs, reduces poverty, and provides a development balance.

Between 1996 and 2000, public investment also declined and private investment increased, reflecting the general trend of economic policies to focus on reducing public investment according to a clear neo-liberal orientation, contrary to the development plans prepared by governments in the last decade that were concerned with increasing the efficiency and size of public investment. Private investment rose at a high rate in the first decade of the millennium and exceeded public investment for the first time in 2007. Private investment was concentrated in equipment and machinery, compared to a small contribution to construction, where public investment was concentrated. However, the sharp decline of public investment during the years of drought and the failure to achieve the modern irrigation project made public investment policy a factor in the decline of agriculture, rather than helping the sector and farmers to overcome this critical stage.

Demographically, public policies towards the agricultural sector affected the population's geographic distribution and a rural-urban migration trend appeared. Figure 9 shows that the proportion of the population in urban areas increased from 43% of the population in 1970 to 54% of the population in 2010, accompanied by the relative decline in ag-

ricultural employment and production rates.

Paradoxically, the richest regions in terms of agricultural production, especially the eastern and northern regions (except Aleppo), had been the most deprived areas in Syria in terms of various development indicators, such as education, health, and material and immaterial poverty. This disparity encouraged rural migration and the gradual decline in participation in the agriculture sector, aided by public policies that favored the services at the expense of production.

Analysis of the 2009 Labor Force Survey shows that the wages from work, both primary and secondary, in the agricultural sector are the second lowest in the national economy. Comparing the national poverty line with the total wages earned by agricultural workers, 58% would be living in extreme poverty if they depend on wages from agriculture. Compared to the higher poverty line, 72% of the employed are poor. This means that most agricultural workers and their families suffer from poverty as a result of low wage levels (Table 1).

**Table 1: Poverty Levels by Economic Activity 2009 (in case of wage being the sole source of income)**

| Economic Sector                       | Extreme Poverty Rate | Poverty Rate |
|---------------------------------------|----------------------|--------------|
| Real estate brokerage and rent        | %24.10               | %43.50       |
| Education                             | %24.10               | %42.70       |
| Health and social work                | %28.80               | %44.40       |
| Financial Brokerage                   | %33.80               | %46.20       |
| Mining and quarrying                  | %34.40               | %46.40       |
| Electricity, gas, and water           | %37.90               | %63.60       |
| Wholesale and retail sale             | %42.70               | %61.10       |
| Transport, storage, and communication | %43.40               | %67.40       |
| Public Administration and Defense     | %45.00               | %66.80       |
| Total                                 | %45.90               | %64.60       |
| Hotels and restaurants                | %46.10               | %68.00       |
| Manufacturing industries              | %46.80               | %67.50       |
| Social services                       | %54.10               | %70.60       |
| Construction                          | %55.00               | %71.00       |
| Agriculture, forestry, and fishing    | %57.90               | %72.50       |
| Domestic services                     | %62.00               | %82.90       |

Source: Source: Labor Force Market Survey 2009,

Central Bureau of Statistics and SCPR estimates. The bargaining power and the active participation of agricultural workers declined with the pre-conflict economic approach, the economic structure's shift towards services, the decline in the role of the state, and the accelerated implementation of neo-liberal policies that reduced support, without improving the social protection or working conditions of men and women in the food-supporting sector. The non-inclusive development model (that lacks participation and balanced development at the level of various regions, classes, and groups, especially the marginalized and most vulnerable) and policies that promote inequality led to exclusion, marginalization, growing deprivation, and reduced opportunities for participation in productive sectors. Ignoring environmental sustainability has also led to a deterioration of the state of natural resources. These factors have made food abundance unstable

and unsustainable, as the report shows in the analysis of food security later.

### Agriculture's Contribution to the Syrian Economy During the Conflict

The agricultural sector became more vital during the conflict, due to its role in providing food security and maintaining minimum living conditions for thousands of Syrian families, directly or indirectly involved in agricultural activities. However, the sector deteriorated dramatically and armed conflict continues to damage agricultural production by destroying irrigation systems and looting its tools; restricting access to land in many areas; the lack of production requirements, especially fertilizers, seeds, and fuel; the inability to safely transport of agricultural products to markets; and the lack of manpower. As a result, agricultural GDP contracted by 19.4% in 2014 compared to 2013, 69.5% of which is attributed to the decline in plant production, while the remaining 30.5% is due to the decline in livestock production.

In 2015, Syria witnessed good weather, which aided in increasing the productivity of agricultural land. The share of the agricultural sector in GDP reached 28.7% in 2015 compared to 25.4% in the previous year. Despite the ongoing armed conflict, it was estimated and projected that the GDP of the agricultural sector in 2015 achieved positive annual growth for the first time since 2011, by 7.5% compared to the output of the sector in 2014. This growth is fully attributable to improved plant production, as animal products declined during 2015. The economy contracted sharply in 2016 by 11.5% as a result of intensified hostilities and government policies that continued to raise the prices of petroleum products. Rainfall also declined 32% from the national average in 2016, affecting agricultural production, especially in irrigated areas, which account for 70% of arable land (SCPR, 2019).

## II. Components of Food Security

### Supply Conditions

Climate conditions have a significant impact on agricultural production, with more than two-thirds of the land invested in agriculture. The region has consistently experienced fluctuations in natural weather and studies have shown that the overall regional global warming trend matches the global warming model caused by human activity, and therefore cannot be attributed to natural change alone. In addition to a drought wave and climate change, Syria is facing the emergence of new kinds of pests, including wheat rust disease, leading to the erosion of food security for the inhabitants of the Badia and the northeast region in the governorates of Hasaka, Raqqa, and Deir Ezzor.<sup>1</sup> The region experienced major droughts in the 1950s, 1980s, and 1990s. However, 2007-2009 was the worst and longest. The country suffered a drought, which hit its northeastern region leading to a decline in agricultural production and the death of scores of cattle, especially sheep. The Syrian government did not respond to support migrating families in the face of the crisis, due to lack of participation and accountability and the dominant neoliberal economic policy model that hampered the implementation of its promised economic reforms.

Arable land constitutes about 33% of the total area, 70% of which depends on rain and 90% having an average rainfall of less than 300 mm, which is the minimum necessary to complete the winter crops life cycle to give economic agricultural production. The remaining area (30%) is irrigated.

According to the Ministry of Water Resources, 1.6 million out of 4.6 million hectares are irrigable. It estimated that less than 500,000 hectares were irrigated during 2017-2018, of which 300,000 were irrigated from public networks. Most irrigation-dependent fields suffer from a low level of irrigation, either because of intermittent water availability or because farmers are unable to afford fuel or energy to operate their pumps at the frequency needed to provide adequate irrigation. In Hasaka for example, farmers indicated that fields are irrigated two out of three times (FAO & WFP, 2018).

<sup>1</sup> UN Mission to Syria to investigate the impact of drought and climate change on the agricultural sector 2008-2009.

Over the past 30 years, agricultural lands have been subjected to encroachment, especially since 2000, with the construction of residential buildings and industrial, craft, and service facilities. It came as a result of the lack of planning to meet the needs of the population and the requirements of industrial and craft development.

During the years of the conflict, violations against agricultural land has been devastating and led to the neglect of fertile lands and reclaimed lands in government irrigation projects from agricultural investment. Meadows, pastures, and forest areas were also severely burned and cut during the conflict, leading to tremendous environmental damage and a great loss in pastoral vegetation needed for livestock breeding.

Official statistics indicate that cultivated land shrank during this period from 4579 million hectares in 2011 to 4040 million hectares in 2016, resting areas grew from 1,137 thousand hectares in 2011 to 1,691 thousand hectares in 2016, of which 395 thousand hectares are irrigated and 698 thousand rainfed. The above was due to lack of security and safety, military activities, presence of war remnants in agricultural land such as mines, or sabotage of the structure of agricultural land. This is added to the migration of farmers from their places of origin to safer regions or urban areas. Farmers suffered losses in the means of production. Agricultural equipment and well pumps were stolen or vandalized. Production requirements could not be easily secured, becoming scarce, costly, and monopolized (such as fertilizers, seeds, fuel, and pesticides) and farmers lacked the financial resources to buy them. Also worth mentioning is the serious environmental impact on the quality of arable land based on the size and type of weapons used in the conflict. On the other hand, the conflict destroyed major parts of the infrastructure, the water sector being one of the most important components. The network was subjected to extensive destruction, looting, and vandalism. The presence of Syria's major water sources, such as Tabaqa Dam and purification plants, in conflict areas resulted in a large deficit in its capacity to provide water to the population. Many water resources were directly targeted by the parties to the conflict as a war tactic. Ongoing power cuts hampered the ability to operate many wells that supply water to Syrian cities and towns. Difficulties in securing sterilization materials for drinking water institutions were expounded. In addition, many water sources, bodies, or groundwater

aquifers have been contaminated, especially in areas where crude oil is being refined and produced through primitive means or due to shelling and the consequent sewage seepage into surrounding wells or rivers (2016، شوقي).

Unauthorized drilling of artesian wells continued in 2018 (FAO & WFP, 2018).

Agricultural production also deteriorated considerably due to the ongoing armed conflict, which resulted in the destruction and looting of agricultural and engineering tools and machinery, the significant destruction of irrigation systems, and the difficulty of access to arable land in many areas. The conflict has also led to a lack of production inputs, including fertilizers, seeds, fuel, the safe transport of agricultural products to markets, and agricultural labor.

According to estimates related to production quantities, the agricultural GDP in Syria decreased by about 50% since 2010. Both plant and animal production decreased by approximately 49% and 51% respectively. The performance of the agricultural sector varied during the conflict years. Agricultural production improved in 2011 due to the good rainy season and the absence of military operations. The following years witnessed a steady decline in the agricultural sector, except in 2015, where Syria witnessed good weather conditions that played an important role in increasing the productivity of ag-

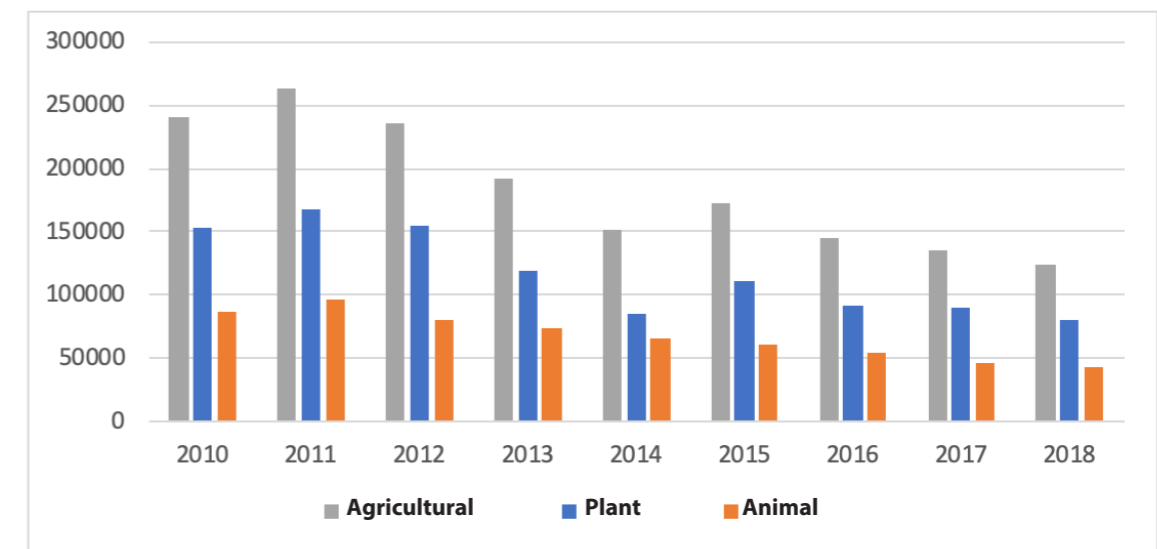
ricultural lands. It is estimated that the agricultural GDP in 2015 achieved positive annual growth for the first time since 2011, 7.5% compared to the output of the sector in 2014. This growth is entirely due to the improvement of plant production and the decline in animal production during 2015 (SCPR, 2016). The drop in agricultural production continued in 2016-2017 and although fighting abated in 2018, agricultural production deteriorated, especially for irrigated crops that depend on rain due to unfavorable climate conditions.

Although it dropped significantly, agricultural declined at a lower rate than other sectors, increasing its relative importance in the GDP, from 17% in 2010 to about 31% in 2017. The sector formed a safety net for many Syrians who wanted to secure food and a minimum income.

istics, and SCPR estimates.

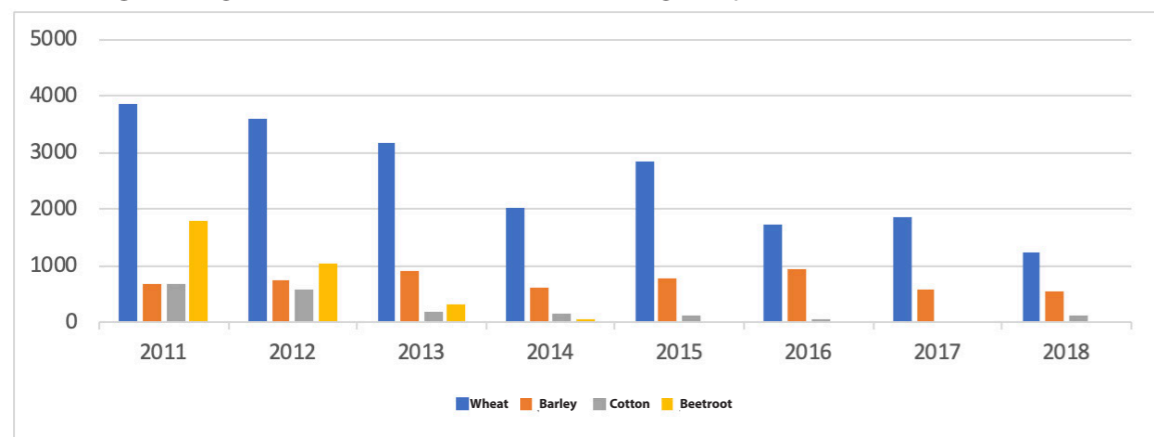
Wheat production decreased from 3,083 thousand tons in 2010 to 2,024 thousand tons in 2014. It showed an improvement in 2015, but deteriorated sharply to about 1,227 thousand tons in 2018, a decrease of 61% compared to 2010. A decrease in rainfall in 2018 affected wheat production sharply. On the other hand, barley production maintained its relative level during the conflict until 2017 and is mostly grown in hot spots.

Figure 3: Agricultural, Plant, and Animal GDP in constant prices (2010-2018)



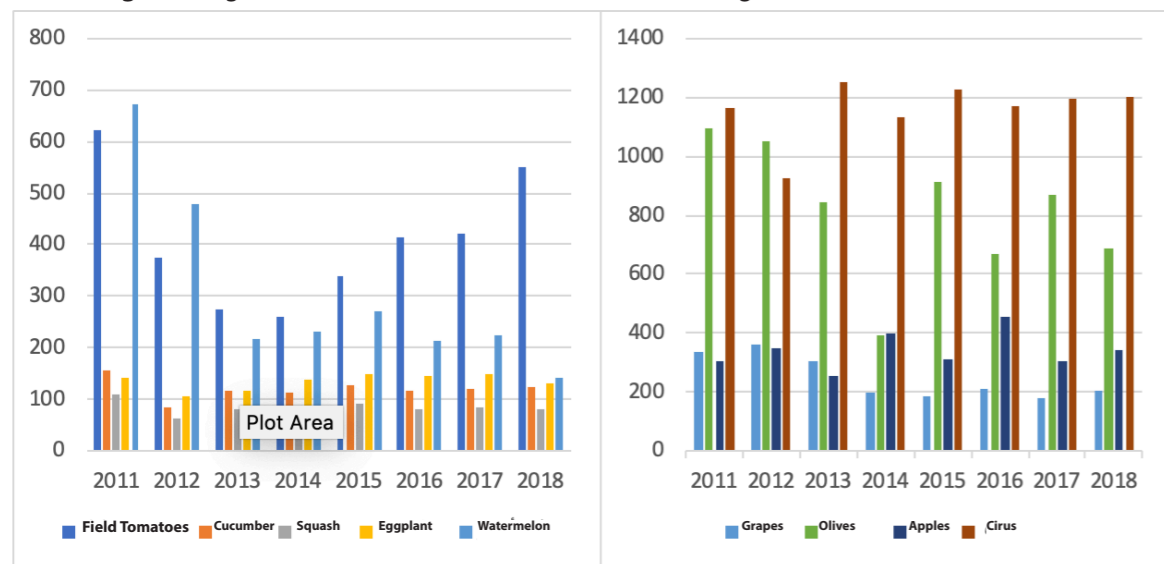
Source: Agricultural Group, Central Bureau for Sta

**Figure 4: Agricultural Production Quantities (strategic crops) 2011-2018**



Source: Agricultural Statistics Group and SCPR estimates.

**Figure 5: Agricultural Production Quantities (fruits and vegetables) 2011-2018**



Source: SCPR estimates

Figure 3 illustrates the collapse in the production of cotton and beetroot that need heavy irrigation and special care. Cotton production fell from 672 thousand tons in 2011 to 124 thousand tons in 2018. The production of beets decreased from 1,473 thousand tons in 2010 to just 5 thousand tons in 2018.

Figure 4 illustrates a decline in the production of most vegetables during the conflict, especially in 2013 and 2014, followed by a relative improvement of some produce like tomatoes, cucumbers and eggplants between 2015 and 2018. Other crops, such as watermelon and potatoes continued to decline during the conflict. On the other hand, the

production of cultivated and irrigated citrus is particularly concentrated in the governorates of Latakia and Tartous, which have not been subjected to military operations or siege. Citrus, in particular, maintained the level of production during the conflict. Olive production has gradually declined due to the lack of organic fertilizers and the prevalence of disease.

Animal herds, namely poultry, cows, goats, and sheep were also reduced during the conflict. The number of sheep fell from 18 million in 2011 to 8 million in 2018, similarly for other livestock and poultry. It constitutes a huge loss in this wealth that

had grown and accumulated over the decades. Securing subsidized agricultural inputs during the conflict period became difficult, as they became monopolized and traded among intermediate circles spread. Prices of inputs rose in parallel with the devaluation of the Syrian Pound from 50 SP compared to the US dollar to more than 500 SP per dollar in the same period. The official price of one liter of diesel was raised from 15 SP 2011 to 180 SP in 2018, but reached up to 300 SP in the parallel market in some areas. (SCPR, 2019).

Official fertilizer prices were increased significantly, bringing the price of nitrogen fertilizer to 175,000 SP per ton in 2018, an increase of 260% compared to 2010. In 2018, the price of phosphorus fertilizer had increased by 200% compared to 2010 and Potash cost 412,000 SP per ton, an increase of 790% compared to 2010. Prices of fertilizer imported by the private sector saw a much greater increase (SCPR, 2019).

As of the labor force, the total employment rate fell sharply during the conflict, from 39% in 2010 to 20.9% in 2017; unemployment reached 52.7% in 2017. This represented a loss of 2.8 million jobs by the end of 2017 (2018). Agricultural employment declined from 724,000 in 2010 to about 200,000 in 2014 and then gradually increased to 350,000 in 2018, or about half of the number of workers in the sector in 2010.

### Demand Conditions

The population reached 19.2 million in 2017, showing a negative rate of population growth: -2.3%, -2.9%, and -1.9% in 2015, 2016, and 2017 respectively, due to the high mortality rate, especially among males, and increasing numbers of refugees and migrants, estimated at 5.3 million (UNHCR, 2017). The birth rate dropped sharply from 38.8 to 25 per thousand between 2010 and 2017 (SCPR, 2019).

People living in Syria suffered from harsh living conditions and a deteriorating economy, especially in besieged and conflict areas and among the displaced and forced migrants. In addition to the massive destruction of infrastructure and the dangerous security conditions, living costs continued to rise as income sources, wages, and jobs diminished. Many families lost their breadwinner and were forced to rely on subsidies that do not meet their daily needs. Cost of living estimates rose sharply, the consumer

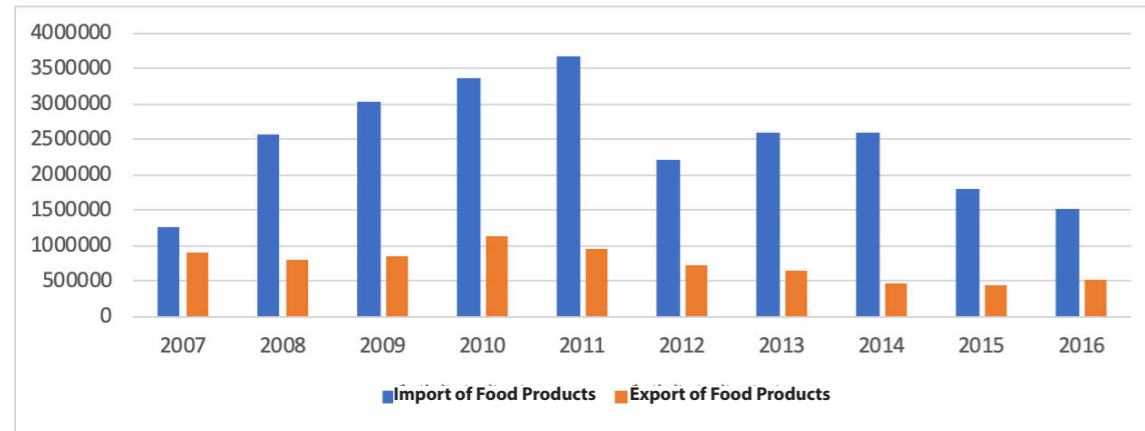
price index reached 44.8% at the end of 2016 compared to the same period in 2015. This was a result of the 35% rise in official prices of petroleum products in mid-2016 and the increase in electricity prices, which doubled in 2016. It led to a further decline in the purchasing power of the Syrian pound, in light of the substantial decrease in real wages. The price differential between different Syrian regions is worth noting, especially the sharp rise in besieged areas compared to safer areas, due to the monopoly, on the one hand, and the difficulty of supplying necessary materials to the former areas, on the other. The price index continued to increase by 26.9% in 2017, according to SCPR estimates.

In fact, prices inflated by more than eight and a half times between 2011 and 2017, with large discrepancies between regions. Average monthly wages were around 29,700 SP in 2017. However, real wages did not constitute more than 24% of nominal wages according to SCPR estimates. This reflects the serious living situation facing Syrians, especially in light of the high dependency rate of 7.73 people in 2017.

Poverty and deprivation rates also rose to serious levels, reaching 93.7% at the end of 2017, based on the total household poverty line (equal to an average of 181,000 SP per month) and extreme poverty reached 59% in the same year. This was a result of the war situation and the predatory nature of economies of violence, on the one hand, and neoliberal policies coupled with conflict economies, continued to be followed by the government, on the other, which included raising the prices of some of the main food commodities and oil derivatives, in addition to increasing indirect duties and taxes, especially in 2015 and 2016.

Finally, with regard to the sustainability of food security and the level of dependency on imports, the import of cereals, oils, rice, sugar, and other agricultural and food products continued to cover the needs of the population. Merchants were able to bypass the economic sanctions imposed on Syria by importing through intermediary companies. But this reflected negatively on commodity prices and their standard specifications and quality. The trade of agricultural and food products between Syria and neighboring countries also continued in an irregular manner. Neighboring countries were a major source of food and agricultural products, especially in border cities and towns.

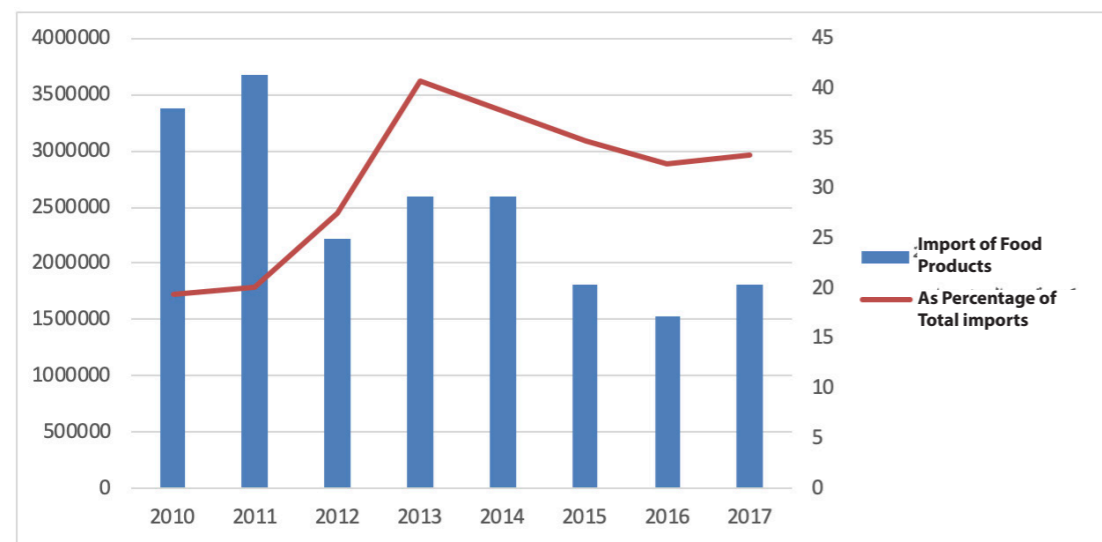
Figure 6: Exports and imports of vegetables, animals, and other food products 2007-2016



Source: WITS 2019

Figure 6 shows the rise in imports and the decline in exports between 2007 and 2010 as a result of the high demand for food products caused by the drought crisis. Food foreign trade generally declined during the conflict due to the destruction of economic assets, widespread violence, and the lack of security and rule of law, as well as the impact of economic sanctions.

Figure 7: Share of food products from total imports



Source: WITS 2019

Nevertheless, as the conflict escalated, the share of food imports increased gradually and the share of food products from total imports reached 16% in 2014, the highest during the conflict (see Figure 5).

In fact, a rise in the value of food imports negatively impacts the degree of food sovereignty in general, by enhancing dependency on imports, and contributes to raising food prices. However, the decline in agricultural and food production during the conflict imposed the need to seek alternatives through import.

### III. Food Security and Food Sovereignty Index and Determinants

Literature on food security relied on a number of measurable quantitative indicators, such as the self-sufficiency index measured by the proportion of agricultural production available on demand and the food sufficiency index measured by the ratio of available demand.

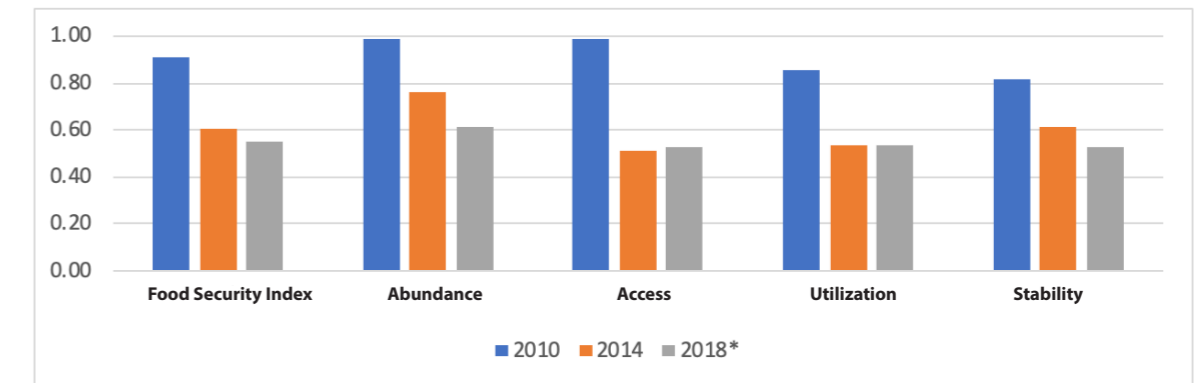
### Food Security Index

The Syrian Center for Policy Research (SCPR, 2019) presented a detailed study on the state of food security in Syria, based on the 2014 Human Status Survey. Each has a number of components as shown in Table 1.

The study showed that Syria enjoyed high levels of food security prior to the conflict.

Figure 6 shows that the level of food security during the conflict declined sharply by about 34% between 2010 and 2014, reflecting the disastrous effects of conflict, depriving the population of food security. All components of the Food Security Index declined, especially the access component. Household access to food, which fell by 48%, as a result of blockades, restrictions on movement, and reduced purchasing power. The decline in usage, stability,

Figure 6: The Food Security Index and its four components at the national level (2010-2014-2018)



Source: Human Conditions Survey and SCPR estimates.

Table 1: Food Security Components

| Macro Index         | Sub-indicators | Sub-indicator Component           | Weighing | 2018 Projections                                    |
|---------------------|----------------|-----------------------------------|----------|---|
| Food Security Index | Availability   | Availability of Basic Foodstuffs  | %25      | Plant and animal production                         |
|                     | Access         | Ability to obtain basic nutrients | %25      | Food Security Surveys and Humanitarian Needs Report |
|                     | Utilization    | Quality of food                   | %7.50    | Nutrition Survey                                    |
|                     |                | Availability of drinking water    | %7.50    | Water Production                                    |
|                     |                | Availability of cooking gas       | %2.50    | Domestic gas consumption                            |
|                     | Stability      | Food structure                    | %7.50    | Nutrition and food security surveys                 |
|                     |                | Sources of basic foodstuffs       | %12.50   | Imports   |
|                     |                | Sources of income                 | %12.50   | Output, poverty rates and dependency on aid         |

Source: SCPR 2019

and abundance was 37%, 25%, and 23% respectively. Between 2014 and 2018, the index decreased by about 8%, although the access component improved by about 3% due to the lifting of some sieges cases and abating military operations, thus improving access to food in relative terms. However, abundance, stability, and usage components dropped by 20%, 14%, and 1% respectively.

\*SCPR projections

## Food Security Determinants: From Food Security to Food Sovereignty

The food security index above reflects the degree of food deprivation suffered by Syrian society before and during the conflict, which in turn indicates the overall level of food security in Syria. However, it does not clearly reflect the relationship of food security to government policies and institutional weaknesses that exacerbate deprivation and hunger and affect food sovereignty, which refers to the political and human rights aspect of food security. Several studies point to the relationship of food security to a number of economic, social, and institutional factors (Martin-Shields C., Stojetz, W., 2018; Jaron & Galal, 2009; ADBInstitute, 2017).

The SCPR study mentioned above (SCPR, 2019) provided an analytical reading of the relationship between food security and a number of its determinants through a mathematical model based on the results of the 2014 human conditions survey. It is discussed above as a dependent variable, in addition to a set of key independent variables, based on the literature and estimates of the research team, consistent with the conflict situation in Syria. It reflects the link between food security and variables, but does not necessarily indicate a causal link between them.

**Institutions:** The results indicate that the institutional performance of the dominant forces in the region is the most important determinant of food security. The relationship between the state of food security and the inclusion of institutions and non-discrimination among the population is statistically positive and significant. That is, the central factor in the deterioration of the food security situation has been the dominance of actors, their exclusion of the population, and mismanagement. This reflects an unprecedented use of armed violence, lack of rule of law, and the subjugation of the population through blockade or denial of access to food and decent liv-

ing conditions. The analytical framework of the political economy of food illustrates the emergence of several authoritarian forces during the conflict. They destroyed resources and infrastructure, harnessing resources in favor of war; excluding of producers, distributors, and consumers from the food security system; and even displacing the population to sustain their hegemony. The various authoritarian forces (the dominant forces on the ground, such as the Syrian government, the armed opposition forces, or foreign forces that dominate militarily in some areas) used violence and coercion, wasting and destroying human and material resources, and forcibly redistributed wealth, power, and opportunities, which suited them as institutions based on violence, intimidation, and exclusion. These policies produced immense grievances and large disparities among social groups in relation to food security.

**Public Health:** The Public Health Index, made up from sub-indicators representing the prevalence of both infectious and chronic diseases during conflict, was used for adults and children. The results of the model show a statistically positive and statistically significant link between the Food Security Index and the health status and follows the role of institutions in importance. These findings are consistent with several sources demonstrating the strong relationship between food security and health status in society. The failure of the food security system directly impacts the health status of individuals and is associated with the deterioration of the health system and living conditions.

**Social Capital:** To measure the relationship between the Food Security Index and the social relations in the studied area, the model used the Social Capital Index, which is based on the Human Status Survey 2014 (SCPR, 2017), which consists of sub-indicators measuring both social networks and social trust and food security values and habits. The model demonstrated the positive and statistically significant relationship between the Food Security Index and the Social Capital Index. These results show the importance of trust, solidarity, cooperation, and volunteerism in alleviating the food security crisis for Syrians during the conflict, including civil and local initiatives based on solidarity to alleviate the heavy burden of conflict on society. The rupture of social relations - through polarization and the spread of a culture of violence, hatred, discrimination, rejection of the other, and politicization of identity through incitement based on religion, nationality, region, or sex - contributed to the de-

terioration of food security, an issue that requires further research and investigation, where the role of culture and informal institutions in reducing human insecurity, including food insecurity, is largely absent. The role of violence in the spread of murder, kidnapping, robbery, looting, rape, child exploitation, and monopoly must be noted, as they all lead to the disintegration of social solidarity and reduce the ability of society to cope with disasters and conflicts. Consequently, peace-building, integration, and social harmony are at the core of strategies to overcome food insecurity.

**Mortality:** Loss of life is the most serious result of the conflict, as the violation of the right to life is irreversible. It remains a testament to the intensity of military operations and grave violations during the conflict in Syria. The model uses the ratio of conflict-related mortality in the studied population. The results indicate a statistically negative and significant correlation between the food security index and conflict-related mortality. It is an indicator of the extent of direct involvement/exposure to violence during the conflict and has significant repercussions, as most casualties are of productive age, which has implications on food security both in terms of production and the ability of households to provide the necessary income for food, in addition to distorting the structure of families and communities.

**Forced Displacement:** During the conflict, more than half of Syria's population was displaced or sought refuge outside the country, losing the environment in which they have built their relationships and businesses and becoming vulnerable to various types of marginalization and abuse. Three indicators of displacement were used. The first is the percentage of total departures, including refugees abroad. The negative and statistically significant relationship between the Food Security Index and forced displacement is evident as the population has abandoned areas where conditions and opportunities for food security have deteriorated. This result applies to the proportion of people leaving the country in the second model, where the rate of internal displacement is pushed up as food security deteriorates. The third model uses the ratio of IDPs to the total population in the studied area. The results indicate the positive and statistically significant relationship between the percentage of IDPs in the area and the food security index, i.e., the IDPs are moving to areas with higher levels of food security, including those receiving food and humanitarian assistance. This linkage points to the importance

of including addressing the issue of deterioration in food security with the issue of voluntary repatriation of displaced people and ensuring decent living conditions.

**Economies of Violence:** An indicator for engagement in illegal acts such as smuggling, theft, royalties, looting, and participation in hostilities was used. The results showed a negative relationship between the prevalence of violence-related economic activities and the Food Security Index. It is an important issue in changing the structure of relations, power, and wealth in a society where impoverishment and the destruction of livelihoods are exploited by authoritarian forces and, in return, provide incentives to engage in violence and declare loyalty. This new economic structure produced warlords and capitalists, new and transnational criminals who used the war to build wealth and power and directly contributed to denying the majority of the population access to food by looting property, monopoly, speculation, smuggling, and royalties or exploiting humanitarian aid by monopolizing or distributing it in a discriminatory manner. Dismantling the economies of violence is a key strategy in the transition towards inclusive productive economies that provide food security through productive and broad participation, providing fair opportunities and sustaining resources.

## IV. Recommendations to Improve Food Sovereignty

The concept of food sovereignty relates to the import of providing an economic, social, and political environment as a basis to enable the state and society to provide the necessary food security for citizens, to reduce poverty, and allow individuals and families to achieve their natural right to food and to democratic participation in political decision making related to food and food security and to take into account society's culture and immaterial heritage. The concept of food sovereignty emphasizes the right of everyone, locally, to share and benefit from all natural resources. It aims to support sustainable livelihoods, to respect the work of food producers, to localize food systems, and to stress the need to develop knowledge and skills through local research that contributes to supporting local production, working in a sustainable manner to conserve the ecosystem and natural resources. Thus, achieving food sovereignty and the right to food occurs on several levels: macroeconomic national, local, and household levels in the short, medium, and long terms. This also requires sectoral action, with agriculture, irrigation, energy, services, and the environment incorporated in research to improve food security.

It is also necessary to provide the appropriate environment to achieve the above, which is linked to access to democracy and its functions that ensure the protection of human rights, public and private liberties, and freedom of expression. Based on the Syrian experience, it should be emphasized that the right to food, both in quantity and quality, must also be achieved in times of peace and war, which necessitates a clear mechanism to dismantle the mechanics of using food as a tool of war to pressure society to make concessions affecting human rights, freedom, and dignity. Moreover, the use of food as a weapon of war must be considered locally and globally as a war crime, especially in the current circumstances that have led to humanitarian disasters, famines, and epidemics, which continue to kill many, especially children.

The conflict in Syria has demonstrated the importance of the concept of food sovereignty in achieving the right to food. Institutional hegemony and the marginalization of productive and societal forces prior to the conflict contributed to instability and the clash with the authorities. During the conflict,

authoritarian forces also demonstrated their capacity to destroy food security in favor of continued violence and control. The political economy framework provides a deeper understanding of the components of food sovereignty and provides a broader space for reflection on policies that ensure the right to food in a sustainable manner.

The following reviews several recommended policies to achieve food sovereignty.

### The National Level

- **Criminalize the use of food as a weapon through blockades or restrictions on access to food as part of war tactics. The situation of areas and communities that have been besieged, starved, and deprived is a priority for intervention, especially for children suffering from malnutrition.**
- **Dismantle the institutions of violence that have destroyed food security and undermined food sovereignty; progressive development of participatory and accountable institutions guaranteeing the right to food.**
- **Develop policies to ensure the restoration of human capital in the field of food security, especially agriculture, irrigation, energy, and distribution.**
- **Expand participation and representation in the food production and distribution chain. And activate the role of civil society and the private sector through granting public and private freedoms and freedom of expression and ensuring accountability of warring parties with regard to food security and food sovereignty.**
- **Follow up the peaceful political solution in disputed areas and cities at the local level, by negotiating with the people of the region, meeting their livelihood demands, and allowing their participation in the selection of options.**
- **Sectorally, the agricultural sector must be restored through the rehabilitation of arable lands damaged as a result of combat operations, by including them in a special agricultural plan, in addition to the rehabilitation of irrigation systems, dams, groundwater, and artesian wells that supply irrigated land in need of water and providing raw materials for pumping water, such as electricity and fuel. Modern**

irrigation projects must also be resumed. Poultry farms and livestock pens destroyed during the war must also rehabilitated. Seeds, fertilizers, and feed must be provided to farmers and agricultural producers and the stability of prices of seeds and fertilizers and expanded access to agricultural loans ensured.

- **Review agricultural policies pursued by the government, in a participatory manner and reactivate the work of the Agricultural Support Fund in order to help implement agricultural policies, contribute to food security, raise the economic efficiency of production and enhance its competitiveness, combat the phenomenon of monopoly that contributed to raising the prices of production inputs, and expand farmers' options with agricultural loans.**
- **Develop a plan in response to the climate factors affecting agricultural production in the short term, through allocating budgets for natural disasters such as drought or floods; provide cash subsidies in areas most affected by rainfall, especially those that depend on rain, to compensate for the losses caused by delayed rainfall and damage to crops.**
- **Control the export of foodstuffs, guiding agricultural production and national food industries to meet the needs of the local market, which reduces the need for import and ensures the sustainability of food security and greater stability of food prices.**
- **Consider displacement and refugee issues a top priority, as IDPs are among the most vulnerable groups to food insecurity internally, in addition to refugees, especially in neighboring regions. Provide job opportunities for IDPs and refugees in the areas and cities they left due to the war, where the people of the region have priority in obtaining the opportunity to work in these areas according to specialization and experience. Provide long-term housing loans for the reconstruction of houses and residential areas, thus ensuring the availability of agricultural labor that had migrated or was displaced by the war.**
- **Update poverty data at the macro and local levels and develop social support programs for the poorest families. Work to reduce poverty and high costs of living, which worsened significantly during the war,**

through a set of macro policies, such as the adoption of a clear monetary policy aimed at price stability as a priority, where the Central Bank sets a deliberate mechanism to ensure price stability so as to determine the limit that should not be surpassed. Provide an updated and accurate monthly price index to monitor inflation and take the necessary measures to return it to the required limits, provided that inflation rates should not exceed %5 as an indicative target. Balance income levels and prices by developing guidelines and pricing mechanisms.

- **Provide job opportunities for youth, women, and PwDs in particular, through up to date studies on unemployment in Syria and the establishment of social security programs focusing in particular on households that lost their breadwinner and highlighting the issue in reconstruction plans at the social level.**
- **Activate the role of local communities, represented by farmers' unions and CSOs concerned with food and environmental security, allowing them to participate in decision-making and granting them public freedoms to express community demands for change, through providing the economic, social, and political environment necessary to achieve food sovereignty.**
- **Local community participation in the development of recovery plans and budgets; expand the margin of administrative and economic independence of local councils to act quickly and effectively.**
- **Collaboration between local communities and the central government to formulate comprehensive long-term local development plans that reduce poverty and ensure the necessary livelihoods.**
- **Determine the damage caused by the war at the local level and work to form local teams from the public, private, and civil society sectors to follow up the implementation of plans to overcome violence and rehabilitate agricultural lands, dams, irrigation systems, private and public property, and public utilities and ensure community participation in the reconstruction and rehabilitation process.**

## The Household Level

- **Ensure the availability of basic food products in the local market at reasonable prices. Ensure access to food, which is determined by the ability to securely access outlets, on the one hand, and increase the purchasing power of Syrian households through job opportunities, higher wages, and controlling prices. Improve the ability of households to obtain food in the most affected and deprived governorates and areas.**
- **Increase the value of real wages so that they take into account the necessary food basket and other livelihood matters, since income from work is the main source of household income.**
- **Review the distribution of support and assistance to ensure it reaches its beneficiaries. Establish social security programs for households that lost their breadwinner and PwDs and provide an appropriate environment to increase women's participation in work.**
- **Activate the role of consumer protection agencies and civil society to ensure food quality and put an end to monopolies, which exacerbated this phenomenon and led to the distribution of low quality products at high prices.**
- **Provide drinking water to all Syrian households to mitigate health risks and the rapid spread of epidemics in their areas and to other Syrian cities and regions. Thus, public networks supplying drinking water to the different areas must be rehabilitated and their sterilization processes monitored as a top priority. Controls must be set on those supplying water through tanks, ensuring that they meet safety and public health requirements, providing free means of sterilization, and raising household awareness through periodic campaigns to ensure the sterilization of water before use for drinking.**
- **Providing oil derivatives to all regions at reasonable prices and control sales operations managed by local brokers.**
- **Ensure sustainability of food security by providing food commodities from the local community as a primary source and control the import and export of foodstuffs.**

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**Annex 1:** Food availability and self-sufficiency of major products in Syria 2002-2011 (1000 tons)

|                   |                           | 2002  | 2003  | 2004  | 2005  | 2006  | 2007  | 2008  | 2009  | 2010  | 2011  |
|-------------------|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>Cereals</b>    | <b>Available</b>          | 4404  | 4703  | 4218  | 4370  | 5256  | 3406  | 2512  | 5592  | 4576  | 4649  |
|                   | <b>Self-sufficiency %</b> | 108.4 | 104.5 | 107.6 | 106.8 | 93.8  | 118.6 | 85.1  | 66.2  | 67.4  | 83    |
|                   | <b>Imports %</b>          | 5.1   | 8.5   | 7.7   | 8.9   | 7.8   | 8.3   | 20.2  | 33.8  | 33.1  | 17    |
| <b>Vegetables</b> | <b>Available</b>          | 2435  | 2560  | 2855  | 2698  | 2629  | 2464  | 2312  | 2241  | 2238  | 2933  |
|                   | <b>Self-sufficiency %</b> | 109.5 | 108.7 | 108.1 | 110.7 | 111   | 127.6 | 124.4 | 144.2 | 133.3 | 109.4 |
|                   | <b>Imports %</b>          | 2.6   | 2.9   | 4.1   | 4.9   | 2.1   | 5.7   | 10    | 6.3   | 6.8   | 8.3   |
| <b>Fruits</b>     | <b>Available</b>          | 2787  | 2410  | 2978  | 2623  | 3445  | 2544  | 3138  | 2998  | 3000  | 3251  |
|                   | <b>Self-sufficiency %</b> | 100.6 | 99.7  | 98.4  | 100.7 | 99.3  | 102.4 | 97.7  | 110.3 | 108.2 | 107.8 |
|                   | <b>Imports %</b>          | 4     | 4.6   | 4.6   | 5.8   | 9.6   | 8     | 8.8   | 7.3   | 8.6   | 8     |
| <b>Legumes</b>    | <b>Available</b>          | 225   | 218   | 127   | 166   | 185   | 131   | 67    | 211   | 140   | 221   |
|                   | <b>Self-sufficiency %</b> | 114.5 | 134.5 | 168.2 | 157.6 | 159.8 | 145.8 | 158.1 | 97.4  | 116.6 | 94.1  |
|                   | <b>Imports %</b>          | 3.7   | 2.2   | 6.6   | 3.7   | 3.6   | 9.2   | 6.8   | 7.9   | 10.4  | 13.7  |
| <b>Meats</b>      | <b>Available</b>          | 268   | 366   | 380   | 384   | 466   | 494   | 387   | 498   | 445   | 443   |
|                   | <b>Self-sufficiency %</b> | 116.9 | 104.8 | 106.7 | 110.1 | 95.9  | 95.6  | 116.6 | 92.3  | 97.2  | 100.6 |
|                   | <b>Imports %</b>          | 3.9   | 3.2   | 4.6   | 3.6   | 4.1   | 4.8   | 5.7   | 13.4  | 13.2  | 5.6   |
| <b>Eggs</b>       | <b>Available</b>          | 3311  | 3342  | 3954  | 3084  | 3751  | 3429  | 2929  | 3247  | 3745  | 3457  |
|                   | <b>Self-sufficiency %</b> | 100.3 | 103.2 | 101.2 | 100.7 | 100.8 | 100   | 90    | 100   | 107.1 | 100   |
|                   | <b>Imports %</b>          | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| <b>Milk</b>       | <b>Available</b>          | 1855  | 1965  | 2230  | 2458  | 2606  | 2781  | 2479  | 2644  | 2404  | 2707  |
|                   | <b>Self-sufficiency %</b> | 95.2  | 95.6  | 95.5  | 95.9  | 97.3  | 96.4  | 97.8  | 91.1  | 93.2  | 94.5  |
|                   | <b>Imports %</b>          | 5.6   | 4.4   | 4.5   | 4.1   | 2.9   | 3.6   | 2.2   | 8.9   | 6.8   | 6.1   |

Source: National Agricultural Policy Center, Food Security in Syria 2013