SYRIAN WHEAT REALITY
Syrian Wheat Reality
Issued by Assistance Coordination Unit
Syrian Food Security Program (Qamh)

2016/07/27
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Introduction

Farming in Syria has been a cornerstone of the country’s economy and it contributed approximately of a quarter of the gross domestic product (GDP) of the country. Syria before 2011 was the only self-reliant Arab country in providing its needs of food especially wheat which ranks first among grain crops.

In 2016, More than half of the Syrians suffer food insecurity after the decrease in cereal production by 40% lower than it was before 2011 according to Food and Agriculture Organization of the United Nations (FAO) which assured that: “Without additional assistance to the agriculture sector, Syria’s food security situation will continue to worsen. Already, Syria has lost half of its livestock. Crop production has declined each year progressively. The 2014-2015 cereal harvest was 40 percent below pre-crisis levels due to a combination of reduced planting and drought conditions. The violence has destroyed agricultural infrastructure, displaced farmers and disrupted regional food and agricultural input trade.”

Both soft and durum wheat are grown in Syria refined and irrigated over large areas in all Syrian governorates. The land planted with wheat reached 1,7 million hectares in 2007, which produced 4 million tonnes with an average production of 2423 kg/hectare.

Syrian Ministry of Agriculture in collaboration with international organizations has worked to find new technologies that increase wheat productivity and improve the quality of wheat including improved crop varieties cultivation, the use of fertilizers and modern irrigation methods, and encouraging farmers to use mechanization aiming at raising wheat production in Syria as high as possible. New developed wheat varieties suitable for various agricultural seasons, especially rainfed conditions, were also cultivated.

There is a crucial need for promoting food security, integrating relief and development efforts, and prompt support to enable Syrian families to cultivate agricultural land, produce their food, reduce aid dependency and restoring the pivotal role of agriculture in promoting resilience especially after the high increases in the prices of food products in Syria especially wheat. ‘As national food production has dropped off, food prices in Syria have soared, with prices in some markets for wheat flour and rice jumping by as much as 300 percent and 650 percent, respectively, over the past 18 months,” said FAO Director-General José Graziano da Silva.

The rapid events in Syria made it crucial to review food security plans and policy and to develop ambitious programs and projects in order to increase the ability of accessible areas to be self-dependent in producing the highest proportion of their food needs. In this context, Assistance Coordination Unit (ACU) launched Syrian Food Security Program (Qamh) in an ambitious trial aiming to contribute to the coordination process to achieve Syrian food security and to keep food out of the Syrian conflict. There is a focus on wheat for the following reasons:

1. Wheat is a backbone to achieve food security strategy.
2. providing the right climate and good space for cultivating.
3. Keeping the basic varieties of wheat that Syrian researchers spent years in purifying and establishing them.
4. Wheat is the basic material for food security support through the provision of flour in the local market for producing bread which is the basic food in Syria, and reducing monopoly which leads to high prices.
5. Decreasing unemployment rate by creating new vacancies in the wheat sector and integrated activities.
6. securing fodder material from the milling remnants which contributes to the development of livestock production.

Methodology:
This section presents an overview of the methodology adopted in the assessment process. The general methodology contains quantitative and qualitative techniques. The assessment includes interviews with farmers within assessed governorates.

Assessment Sample
This study aims to assess wheat cultivation, crop prices and the percentage of areas infected by field mouse within assessed accessible areas in the assessed six governorates during wheat planting season 2015-2016. The purpose is knowing the reality of wheat farming and benefiting from the study in the agricultural year 2016-2017, and identifying the difficulties that farmers face and their need priorities. Assessment sample included 11,648 wheat farmers, the total area of their land was 697,683 dunums within accessible areas in the following six governorates: Idleb, Dar’a, Hama, Aleppo, Homs and Qunineitra as the following figure shows.

Assessment Tools
The tools used in this assessment include a questionnaire designed by technical experts in the Syrian Food Security Program (Qamh) and Seed Multiplication Foundation in consultation with Information Management Team (IMU). Questions of the questionnaire were set based on specific criteria in order to learn the reality of wheat growing in Syria. After the design of the final questionnaire, enumerators collected data through the questionnaire via interviews made with sources of information represented by wheat farmers.

Data Collection
Data collection phase started on February the 20th and completed on April the 25th. Data collection was carried out by technical experts in the Syrian food security program centers. Thirty agronomists took part in the assessment who moved daily within their governorates in order to assess wheat land. Those agronomists were recruited by Syrian Food Security Program (Qamh) based on their knowledge of assessed areas, technical competence in the field of cereals and their social network, especially with the local community. Enumerators’ ability to work under pressure with efficient communication skills have also been considered in the selection.
**Data Management and Analysis**

After IMU’s network coordinator had received 11,648 questionnaires electronically based on the KoBo template programmed by data analysis team, data management and analysis went through the following steps:

1. Collected data was exported to Excel database.
2. Statistical program SPSS was used to explore missing and external values, where missing and external numerical values have been detected.
3. Data review phase lasted eight days. Non-numeric values that appeared not logical were reviewed by contacting the technical experts who filled the questionnaire and correcting those values.
4. Data visualization phase where the analysis team produced tables, charts and graphs that are an important part of the analysis of the results of evaluation. Excel and SPSS programs have been used in the production of charts and figures.
5. Crosstabs (data triangulation) was used in visualizing collected data; this type is used during the study of common values between two variables. For example, exchange rate was triangulated with parties that received crops from farmers to show all special cases within analysis results.
6. The IMU’s designer shaped tables, figures, and the whole report layout using Adobe Illustrator program.
7. IMU Reporting Officers produced a first draft of the report in Arabic language and submitted it for review by Syrian Food Security Program (Qamh). Upon approval of the draft report, the reporters proceeded with report translation into English language.

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**Data Management and Analysis**

1. Some enumerators encountered unwillingness to cooperate by some local councils and difficulty of responding and lack of motivation by some farmers especially before they were informed about the importance of the study.
2. The high number of questionnaires (11,648) required extra effort for revision and slowed down data entry to KoBo form.
3. The shortage of staff.
4. The weak media awareness campaign due to the security conditions.
5. The working team lack of personal computers (laptops) delayed sending daily reports.
6. Transportation and long distances between villages were obstacles to the team. So, Hama staff was divided into two teams to be able to assess more areas.
7. The security situation in some areas forced the team to change the dates of some rounds.
Key Findings

Assessed Agricultural Lands

Assessment included 11,648 wheat farmers, the total area of their lands was 697,683 dunums within the following six governorates: Idleb, Dar’a, Hama, Aleppo, Homs and Quneitra. The largest areas of assessed lands were in Idleb and Dar’a due to high accessibility.

Figure: Assessed Land Area

- **280,263 dunum**
  - Idlib Governorate

- **181,511 dunum**
  - Daraa Governorate

- **106,705 dunum**
  - Hama Governorate

- **52,890 dunum**
  - Aleppo Governorate

- **41,069 dunum**
  - Homs Governorate

- **35,245 dunum**
  - Quneitra Governorate
The following map shows the percentage of the assessed planted lands area to each sub-district area. The largest coverage percentage was in Tassil sub-district in Dar’a where 28% of the whole sub-district area- which is equal to 59,500 dunum- was assessed, followed by Hrak sub-district in the same governorate where 26.9% of the sub-district area was assessed.
The area of the land planted with wheat amounted 426,341 dunums with a percentage that exceeded 61% of the whole assessed lands of wheat farmers while 13% was planted with barley, whereas the rest was planted with other crops including chickpeas, lentils and anise with 21% and 5% uncultivated land.

The area of the land planted with wheat amounted 426,341 dunums out of the complete assessed land area 697,693 dunums, and the largest areas of land planted with wheat were in Idleb and Dar’a due to high accessibility.

Figure: Percentage of land planted by wheat

The Percentage of Planted Wheat Crop and Other Crops in the Assessed Wheat Farmers’ Lands.
The following map shows the percentage of the area of assessed wheat planted lands to each sub-district area. The largest coverage percentage was in Tassil sub-district in Dar’a where 21.9% of the whole sub-district area was assessed, namely 13,070 acres, followed by Hrak sub-district in the same governorate where 21.2% of the sub-district area was assessed.
The area of the land planted with wheat amounted 426,341 dunums out of the complete assessed land area 697,693 dunums, and the largest areas of land planted with wheat were in Idleb and Dar’a due to high accessibility.

Information about Grown Wheat

The Type of Grown Wheat

The area of the land planted with wheat amounted 426,341 dunums out of the complete assessed land area 697,693 dunums, and the largest areas of land planted with wheat were in Idleb and Dar’a due to high accessibility.
The following map shows the percentage of soft and durum wheat while the pie charts size refers to the area of wheat planted lands in each sub-district measured by dunum. The map shows that 100% of the wheat planted lands in most sub-districts in Dar’a and Quneitra were planted with durum wheat, whereas 77% of the 38,300 dunum planted with wheat in Atareb sub-district were grown with durum wheat, and 23% were grown with soft wheat.
Durum Wheat Varieties

Nine varieties of hard wheat were grown in assessed areas. The percentage of (Cham -3) was nearly the half which is a drought-resistant wheat widely resilient at the different agro-ecological zones. Followed by (Douma1) for rainfed agriculture in 1st agro-ecological zone and two which is drought resistant widely resilient at the different Syrian agro-ecological zones, and it is resistant to moderately resistant to yellow and black rust diseases. (Cham-5) for rainfed agriculture in 2nd agro-ecological zone in Dar’a, Hama, Idleb and Aleppo governorates which is also drought resistant, widely resilient and it adapts to frost, and (Cham-7) for irrigated agriculture characterized by high-yielding, high resilient in irrigated environments, resistant to yellow rust and leaf rust diseases.
Ten varieties of soft wheat were grown in assessed areas. The percentage of (Cham-4) exceeded 40% which is adopted for irrigated agriculture, and rain-fed agriculture in 1st agro-ecological zone, it is characterized by its high-yielding and its resistance to yellow rust disease. (Cham-8) adopted for irrigated farming in irrigated land characterized by high-yielding, resilient at the different agro-ecological zones, resistance to leaf rust. However, it is sensitive to yellow rust disease. (Cham-6) adopted for rain-fed agriculture in 1st and 2nd agro-ecological zones, characterized by high-yielding and wide resilience in dry environments. Its grains are characterized by good quality and consistent green color.
Wheat farmers in Syria before 2011 used to receive all support types including concessional loans and seeds and fertilizer support. After the regime had stopped support for out of regime control areas farmers became unable to grow their lands. FAO mentioned that: “Agricultural production is possible in many parts of Syria. However, many farmers cannot access or afford once-subsidized inputs that have soared in price. Limited and costly production is increasing food prices, with serious implications for the three-quarters of Syrians currently living in poverty. Many of them are farmers.”

Only 22% of the assessed lands received support. The highest support percentage was in Aleppo and Homs governorates.

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The following map shows the percentage of supported agricultural lands within assessed sub-districts. 100% of the assessed agricultural lands were supported in Quneitra centre sub-district in Quneitra and Zarbah sub-district in Aleppo (an area of 180 dunum and 260 dunum respectively), followed by Talbiseh sub-district where 97.6% of assessed area in it were
Support Types

Concessional loan headed support types by 39.37%, followed by seed support by 36.49%. 645 wheat farmers got concessional loans within Homs governorate, followed by Idleb where 239 farmers got concessional loans, whereas the highest percentage of seed support was in Idleb and Aleppo.

It is worth mentioning that Assistance Coordination Unit (ACU) in cooperation with Syrian governorate councils launched Syrian Food Security Program (Qamh) aiming to buy the largest quantity of wheat crop and sell it at motivating price in order to enhance the farmer’s linkage to his land through ensuring marketing his crop, and encouraging farmers to grow wheat constantly, and providing flour to contribute in providing bread for citizens in line with their purchasing power.

Figure: Support Types by Governorate
There were various sources of the seeds provided to farmers. Grain traders were the main source of almost half of seeds amount, while 32% of seeds were personally produced by farmers. The rest of the farmers either got seeds free of charge or purchased them at a subsidized price. Free of charge seeds were almost only available in Aleppo and Idlib where 1086 lands got free seeds whereas only 17 lands in the other four governorates got free seeds. While the highest percentage of lands that got seeds at subsidized prices were in Homs, and the highest percentage of personal production of seeds was recorded in Idlib.

Wheat farming faced many difficulties headed by high cost, followed by, security problems, lack of fertilizers and the difficulty of selling the crop. High cost topped difficulties in Idleb, Homs and Hama, whereas security problems were the most prominent problems in Aleppo and Dar’a, while most farmers in Quneitra faced difficulties in selling their crops. Difficulties also included weak financial capacity of the farmer, Lack of pesticides and seeds, Irrigation difficulties in addition to lack of agricultural mechanization.
High cost and security problems also headed difficulties in the lands where uncultivated area rate was 50%. However, the weak financial capacity of the farmer jumped to third place, followed by the lack of fertilizers and pesticides and the difficulty of selling the crop.

It is important to support wheat farmers to enable them to withstand in their villages and cultivate their land in order to achieve food security and to prevent deliberate attempts of blockade and starving people knowing that supporting grains’ farming costs less than importing grains as FAO assured: “Restoring Syrian agriculture wherever possible is significantly cheaper than importing food assistance. For example, $100 in support enables a farmer to produce 1 tonne of wheat, whereas the same amount of cereal is much more expensive to import.”

Regime forces usually target agricultural lands in general and wheat lands in particular by bombardment aiming at impoverishing farmers and depriving the population of food. Wheat farmers have to harvest the crop and sell it as quickly as possible lest it burns and they lose the harvest as a result of bombardment. Purchasing wheat crop topped support priorities followed by harvest loans because farmers did not have enough money to cultivate and take care of their land until they catch the price of the crop in all governorates except Hama where supplementary irrigation topped priorities.

Support Priorities

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The highest price for the sale of wheat was recorded in Homs (245$), followed by Dar’a. While the lowest price was recorded in Aleppo as a result of the field situation which ascended quickly forcing farmers to sell their crop unless they lose it.

### The Prices and Dates of the Sale of Wheat

**The Average Price of Tonne of Wheat per Dollar According to the Governorate**

The highest price for the sale of wheat was recorded in Homs (245$), followed by Dar’a. While the lowest price was recorded in Aleppo as a result of the field situation which ascended quickly forcing farmers to sell their crop unless they lose it.
The average purchase price of wheat by the various parties exceeded 200$. Grain traders together with local councils paid the least price (201$), whereas Syrian Food Security Program (Qamh) and Grains Foundation recorded higher prices.

**The Average Price of Wheat According to the Party that Received the Crop**

The average percentage of lands infected by field mouse was 56% in assessed governorates and the highest percentage was in Aleppo which exceeded 85% of the assessed lands. The percentage the infected area decreased as a result of the successful campaign made by Syrian Food Security Program (Qamh) where they distributed free pesticides to wheat farmers.

**Land Infected by Field Mouse**

<table>
<thead>
<tr>
<th>Governorate</th>
<th>Land Square (by dunum)</th>
<th>Land area Infected by Field Mouse (by dunum)</th>
<th>The percentage of Infected Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quneitra</td>
<td>35,245</td>
<td>23,707</td>
<td>67.26</td>
</tr>
<tr>
<td>Homs</td>
<td>41,069</td>
<td>11,526</td>
<td>29.04</td>
</tr>
<tr>
<td>Aleppo</td>
<td>52,890</td>
<td>46,427</td>
<td>88.09</td>
</tr>
<tr>
<td>Hama</td>
<td>106,705</td>
<td>39,901</td>
<td>37.38</td>
</tr>
<tr>
<td>Daraa</td>
<td>181,511</td>
<td>117,404</td>
<td>64.68</td>
</tr>
<tr>
<td>Idlib</td>
<td>280,263</td>
<td>154,115</td>
<td>55.01</td>
</tr>
<tr>
<td>Grand Total</td>
<td>697,683</td>
<td>392,540</td>
<td>56.26</td>
</tr>
</tbody>
</table>
The following map shows the percentage of the lands areas infected by field mouse within the assessed lands to the whole area of assessed sub-districts. The largest percentage of infected area was 19.77% in Hrak sub-district in Dar’a, followed by 18.8% in Tassil sub-district in Dar’a too.
Recommendations

1. Providing necessary cash for needy wheat farmers through concessional loans.
2. Securing the necessary agricultural mechanization.
3. Securing wheat production inputs such as seeds, fertilizers and pesticides at reduced rates.
4. Buying wheat from farmers at promotional price immediately after harvest in order to encourage them to continue planting wheat and not to replace it with other crops, taking into account the security situation which may threaten damaging the crop.
5. Providing water sources and reactivating irrigation networks and securing the necessary irrigation equipment.
6. Providing Seeds in coordination with Seed Multiplication Foundation and maintaining the quality of Syrian wheat by limiting the introduction of strange wheat varieties.
7. The investment of public cultivable lands to grow wheat aiming to achieve food security.
8. Monitoring and early detection of pests and insect injuries through regular rounds and ensuring technical, financial and logistic support to combat them.
9. Activating agricultural extension and organizing awareness courses for farmers on pest control.
10. Coordination and cooperation with specialized authorities in neighboring countries to achieve the maximum benefit from control operations.

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