Arab food security monitoring framework

Country reviews

Tunisia

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Economic and Social Commission for Western Asia

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Tunisia

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Key Messages

The monitoring framework highlights that Tunisia is on the right track with its food security situation, as rates of both undernourishment and obesity are low. The country relies on food imports and faces elevated rates of child stunting and wasting and anemia among women. The country profile reviews the impact of COVID-19, early measures against it and their effect on the food situation.


CHILD STUNTING


CHILD WASTING


ANAEMIA

Introduction

The United Nations Economic and Social Commission for Western Asia (ESCWA) and its partners developed the Arab Food Security Monitoring Framework that helps countries assess their food security situation despite its complex and multidimensional nature.[1] The Monitoring Framework is an outcome of the project entitled "Promoting Food and Water Security through Cooperation and Capacity Development in the Arab Region", implemented in collaboration and partnership with Arab countries, the Arab Organization for Agricultural Development (AOAD), the Food and Agriculture Organization (FAO), academia and other experts, and with the support of the Swedish International Development Cooperation Agency (Sida).

The framework builds on the globally agreed upon definition of food security as existing "when all people, at all times, have physical, social and economic access to sufficient safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life",[2] which, as defined, comprises four dimensions, namely availability, access, utilization, and stability, can be evaluated at individual, household, national, regional, or global levels and can be seasonal, transitory or chronic. The framework was developed over a period of three years and involved consultations with more than 200 Arab and international experts. It involved a wide-ranging literature review to account for the latest thinking and experiences in assessing and monitoring food security at national, regional and global levels as well as a mapping of past and present policies, strategies and action plans.

The encompassing review led to the development of a comprehensive monitoring framework that tracks food security at different spatial levels, considers its four dimensions and accounts for both individual and household food security while facilitating a follow-up of the implementation of the Sustainable Development Goals (SDGs). The end result was the Monitoring Framework that expresses food security and nutrition as a function of a multitude of indicators spread in its four dimensions, though approximately five to six indicators under each dimension account for most of the variations and thus are more consequential than the rest. Most of the selected indicators are already widely used globally to monitor aspects of the food system, and the SDGs and other plans of actions are used by major global institutions as development, economic, social, health, or environmental indicators. It was also ensured that the indicators are measurable, relevant to the Arab context and available for at least 50 per cent of Arab countries or the regional population, or both.

1 Economic and Social Commission for Western Asia (ESCWA), 2019. Tracking Food Security in the Arab Region (E/ESCWA/SDPD/2019/4). Beirut. Available at https://www.unescwa.org/publications/tracking-food-security-arab-region.

2 Food and Agricultural Organization (FAO), 2009. Report of the Committee on World Food Security: Final version. Agenda item III, Thirty-fifth Session of the Committee on World Food Security, 14, 15 and 17 October 2009, CFS:2009/2 Rev.2. Rome.

The 24 indicators that were selected are split into a core pillar with three ex post or outcome indicators — prevalence of undernourishment, moderate or severe food insecurity and obesity, while the remaining 21 ex ante or causal indicators were further split into the four food security dimensions as shown below. All the indicators are global in nature while catering to regional specificities and are grouped as follows:

- **The Core Pillar** comprises three outcome indicators that provide a picture of the prevailing food security and nutrition situation resulting from policies and programmes being implemented as reflected in the form of malnutrition – undernutrition (low caloric intake), overnutrition (excess caloric intake) or nutrient deficiency (low nutrient intake);

1 Core Indicators (CO)

Code	Indicator description	Short name	SDG linkage
CO1	Prevalence of undernourishment (R) %	Undernourishment	2.1.1
CO2	Prevalence of moderate or severe food insecurity measured using FIES (R) %	Food insecurity	2.1.2
CO3	Prevalence of obesity in the adult population (18 years and older) (R) %	Obesity	

(R): Reversed During Normalization

- **The Availability** dimension comprises six indicators reflecting the supply side of food, namely, physical food inflow and outflow at macro and micro levels through production, trade, distribution, and others;

2 Food Availability Indicators (AV)

Code	Indicator description	Short name	SDG linkage
AV1	Primary wheat yield as a percentage of potential achievable yield - %	Yields	2.3.1
AV2	Agriculture Orientation index for government expenditures - Index	Agriculture expenditure	2.a.1
AV3	Food losses (% total food available) (R) %	Food loss	12.3
AV4	Average dietary energy supply adequacy - %	Dietary energy supply	
AV5	Wheat import dependency ratio (R) %	Import dependency	
AV6	Share of water resources used in agriculture out of total renewable water resources (R) %	Agriculture water	6.4.2

- **The Access** dimension comprises five indicators reflecting the ability of the population to acquire needed food through financial means and/or socioeconomic strengths with determinants including income/revenues, prices and supply-chain infrastructure;

3 Food Access Indicators (AC)

Code	Indicator description	Short name	SDG linkage
AC1	Poverty headcount ratio (R) %	Poverty	1.1.1/1.2.1/1.2.2
AC2	Share of food consumption expenditure in total household consumption expenditure (R) %	Food consumption	
AC3	Unemployment rate (R) %	Unemployment	8.5.2
AC4	Logistics performance - index	Logistics	
AC5	Inflation, consumer prices (R) %	Inflation	

- **The Utilization** dimension comprises five indicators touching on nutrition impact or factors affecting it such as availability of basic water and sanitation infrastructure and critical health parameters showing the impact of food unavailability or nutrient deficiency, namely, stunting, wasting and anaemia;

4 Food Utilization Indicators (UT)

Code	Indicator description	Short name	SDG linkage
UT1	The population using at least basic drinking water services - %	Drinking water access	1.4.1/6.1.1
UT2	The population using at least basic sanitation services - %	Sanitation access	1.4.1/6.2.1
UT3	Children under 5 years of age affected by stunting (R) %	Child stunting	2.2.1
UT4	Children under 5 years of age affected by wasting (R) %	Child wasting	2.2.2
UT5	Anaemia among women of reproductive age (15-49 years) (R) %	Women anaemia	

- **The Stability** dimension comprises five indicators highlighting the variability in food production or supply factors that might affect these such as climate change, weather events, price shocks and sociopolitical conditions, all of which might impact the other food security dimensions and the core pillar as well;

5 Stability Indicators (ST)

Code	Indicator description	Short name	SDG linkage
ST1	Climate change vulnerability index (R)	Climate change	
ST2	Food price anomalies standard deviation (R)	Price anomalies	2.c.1
ST3	Political stability and absence of violence - ranking	Political stability	
ST4	Per capita food production variability - $1,000/capita (R)	Production variability	
ST5	Per capita food supply variability - kcal/capita/day (R)	Supply variability	

Data are collected and computed using a dedicated Excel template. The results are presented in the form of a dashboard with two overlapping doughnut charts whose ten rings represent the data normalized to score between 0 (worst performance) and 10 (best performance), as depicted in the graph below. The inner doughnut displays the results of the core indicators while the outer doughnut shows those of the four food security dimension indicators. During the normalization process, indicators with a low value indicating good performance were reversed and are represented with an (R). The doughnut chart is always accompanied by a table presenting the raw indicator data together with the year of data collection and the overall trend between two time periods.

By design, the framework is mechanistic for two reasons: (i) indicators are set and distributed across the food security core pillar and four dimensions; and (ii) the interpretation of results follows a determined path consisting, first, in evaluating results of the three core indicators to identify food security and/or nutritional outcome, and second, in examining the 21 dimension indicators to identify hotspot areas that need immediate action. Stakeholders only need to enter data into the provided Excel template to generate the doughnut graph and related table containing raw data and trends. The data can be sourced at the regional, national and, if available, sub-national levels and disaggregated along gender lines or others noting, however, that a great majority of indicators cannot be disaggregated below the national level.

A complete description of the framework, which was endorsed by the Executive Council of AOAD in March 2019, was published and is available at ESCWA official publication website[3] under the title "Tracking Food Security in the Arab Region".[4] In addition to providing a full background on the framework, the publication presents the key results of tracking food security at the Arab regional level and the trend over the considered years and reviews selected policies and actions that might be considered under each of the indicators to remedy arising concerns. The publication is accompanied by a technical document entitled "Manual for Monitoring Food Security in the Arab Region", which provides a more detailed description for each of the 24 indicators comprising the monitoring framework including, when applicable, computation methodology, justification for selection, linkage to SDGs, potential data sources, and normalization process. It also overviews the use of the accompanying Excel template. Since the completion of the Food Security Monitoring Framework, numerous national agricultural and statistics experts from Arab countries have received in-depth training that took place in Tunis[5] and Beirut[6] and which focused on how to utilize the framework and interpret results for maximum impact for policy and programme design and development.

This report provides a series of food security overviews for the 22 Arab countries, which build on the above-described Arab Food Security Monitoring Framework. Its aim is to further highlight how to use the framework as well as to build capacity on its use with a focus on the national level. As such, it supports Arab countries in their endeavours to utilize the framework in the implementation of food security programmes, to assess the prevailing situation and

3 See https://www.unescwa.org/sites/www.unescwa.org/files/publications/files/tracking-food-security-arab-region-english_1.pdf.

4 See https://www.unescwa.org/sites/www.unescwa.org/files/publications/files/manual-monitoring-food-security-arab-region-english_1.pdf.

5 See https://www.unescwa.org/events/training1-food-security-monitoring-framework-arab.

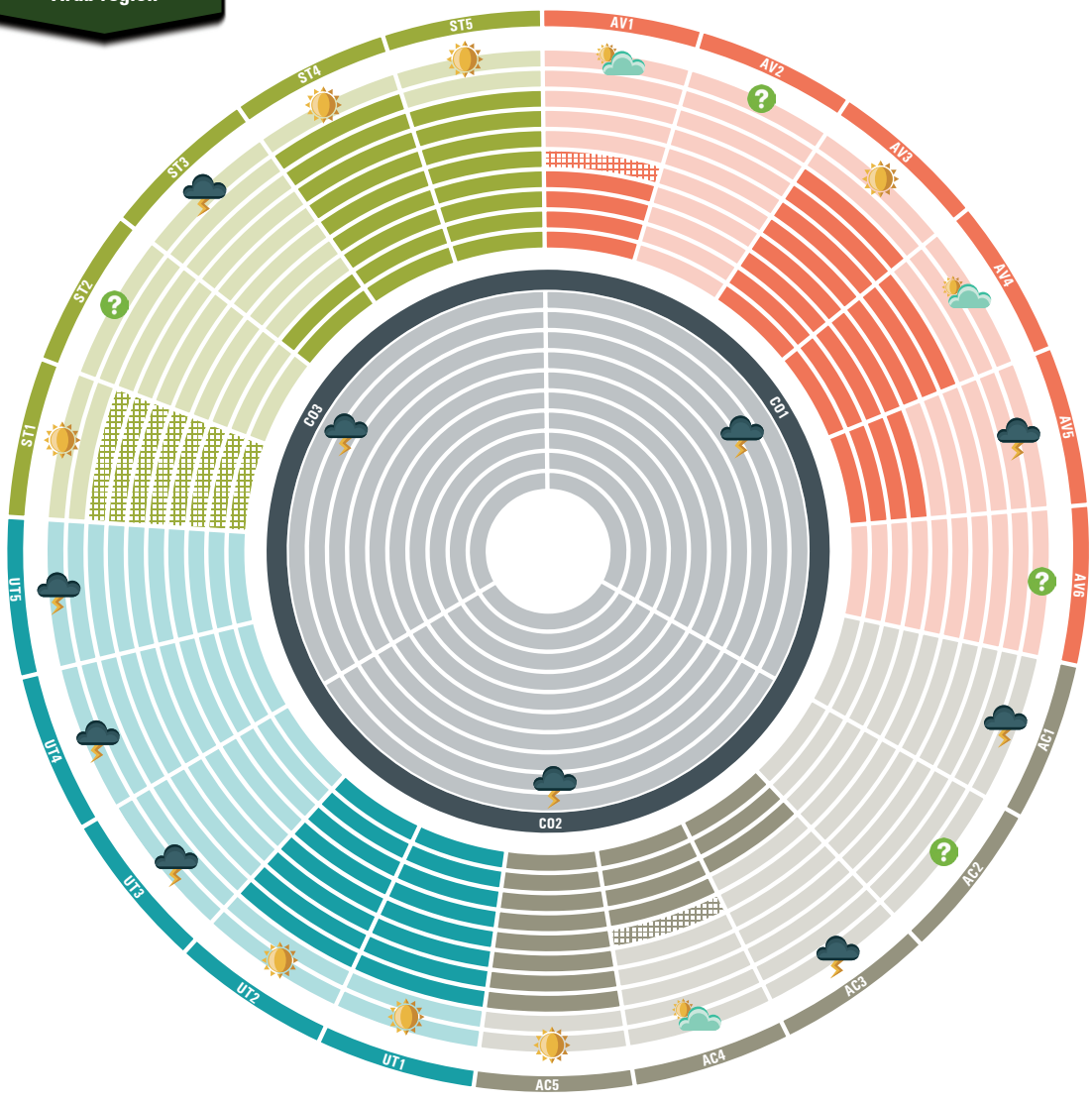
6 See https://www.unescwa.org/events/training2-food-security-monitoring-framework-arab.

to follow up on progress achieved towards the implementation of selected SDGs. It should further enhance capacity at country level and support efforts of national experts to collect focused data, analyse them using a dedicated framework and interpret meaningfully the results to provide policymakers with an overall view of their respective country's food security situation while also outlining alternative paths to address the situation.

The country overviews were produced by ESCWA with data delivered by national experts who provided or reviewed the underlying data (see attached list) and from global databases, as appropriate. For some countries, critical data are still missing, which should serve as a call to action to collect and provide the necessary data as the basis of more accurate and focused advice. The data were collected prior to the COVID-19 pandemic; thus, some results might not reflect the current situation. It is hoped that the report will raise the necessary awareness so that countries can make additional efforts to remediate the lack of data.

Food security dashboard

Arab region



2010 Data: Latest Data:

Performance: High: Proceed Action | Average: More Action | Low: Urgent Action | No Data

Food security indicators, world vs. Arab region

Indicators		World		Arab region			
		Latest		2010	Latest		Trend
Code	Description	Value	Year	Value	Value	Year	
CORE INDICATORS							
CO1	Undernourishment (R) %	10.8	2016	11.5	12.1	2016	🟡
CO2	Food insecurity (R) %	9.2	2018	n.a.	12.2	2016	
CO3	Obesity (R) %	13.0	2016	24.6	28.4	2016	🔴
AVAILABILITY INDICATORS							
AV1	Wheat yields - %	n.a.		76.5	82.2	2017	🟢
AV2	Agriculture expenditure - index	n.a.		n.a.	n.a.		
AV3	Food loss (R) %	n.a.		7.3	6.8	2013	🟢
AV4	Dietary energy supply - %	n.a.		131	131	2017	🟡
AV5	Wheat Import dependency (R) %	n.a.		62.5	65.0	2012	🟡
AV6	Agriculture water (R) %	n.a.		n.a.	n.a.		
ACCESS INDICATORS							
AC1	Poverty (R) %	26.2	2015	n.a.	16.6	mult.	
AC2	Food consumption (R) %	n.a.		n.a.	n.a.		
AC3	Unemployment (R) %	5.0	2018	9.6	10.4	mult.	🔴
AC4	Logistics - index	2.8	2016	2.6	2.7	2016	🟢
AC5	Inflation (R) %	2.5	2018	5.7	12.8	mult.	🔴
UTILIZATION INDICATORS							
UT1	Drinking water access - %	88.5	2015	84.3	86.9	2015	🟡
UT2	Sanitation access - %	68.0	2015	78.9	80.8	2015	🟡
UT3	Child stunting (R) %	22.2	2017	n.a.	22.9	mult.	
UT4	Child wasting (R) %	7.5	2017	n.a.	8.7	mult.	
UT5	Women anaemia (R) %	32.8	2016	34.2	35.5	2016	🟡
STABILITY INDICATORS							
ST1	Climate change (R) - index	n.a.		n.a.	0.1	2019	
ST2	Price Anomalies (R) - index	n.a.		n.a.	n.a.		
ST3	Political stability - ranking	n.a.		20	14	2017	🔴
ST4	Production variability (R) - $1,000/capita	n.a.		10.3	10.1	2016	🟡
ST5	Supply variability (R) - kcal/cap/day	n.a.		32.8	29.8	2013	🟢

(R): Reversed During Normalization n.a.= Not Available mult.= Multiple years

🔴 Red: Negative Trend 🟡 Yellow: Neutral Trend 🟢 Green: Positive Trend

Source: Computed by ESCWA.

Country background

A. Natural resources

Tunisia, with its 136,610 km^2, harbors more than 11 million ha of agricultural land, half of which are rangelands and forests and the other half is under cultivation, with nearly 10 per cent under irrigation. Fertile soils are found in the northern valleys of the Tunisian Dorsal or Tell mountain range, an extension of the Rif and Atlas ranges, part of the High Steppes region and mostly the humid coastal plain in the east.[1] Its 1,300 km of coastline is an asset for the development of fisheries.

Box 1. Tunisian household's resilience to food insecurity

Due to a decrease in household income, an increase in food prices and a negative effect of climate change on agricultural production, Tunisia faces a difficult food security situation, especially in rural and arid areas. Household resilience to food insecurity in two villages, Selta and Zoghmar, in central Tunisia was studied in a recent paper.

A cross-sectional survey of 250 sample households was conducted in those villages. The results indicate that only approximately 36 per cent of the households were resilient at different levels. In Selta, 62.8 per cent and in Zoghmar, 66.7 per cent of the households were vulnerable. Income and food access, adaptive capacity and social safety net were important dimensions of household resilience to food insecurity, being positively correlated with the resilience index. However, asset possession and climate change negatively affect household resilience.

The authors recommend interventions that address the different levels of resilience and that contribute to building farmers' knowledge of how to face the different difficulties and challenges.

Source: Dhraief, M.Z. and others, 2019.

1 Brown, L.C. and others, 2020.

B. Socioeconomy

In 2017, Tunisia's population was 11.5 million, with a population growth rate close to 1 per cent. Approximately 25 per cent of the population is below 15 years of age. The gross domestic product (GDP) in 2018 was $40 billion for a per capita GDP of approximately $4,000/year. Agriculture, which is an important sector in Tunisia, accounts for 10 per cent of GDP, a significant figure for the Arab region. It employed 15 per cent of the active labour force in 2014 and contributed up to 6 per cent of the country's export earnings.[2]

C. Agriculture and food security

The country is self-sufficient in a number of commodities such as fruits and vegetables, milk and meat. Wheat, which remains the main staple crop, is imported. Depending on weather conditions, the country imports between 40 and 85 per cent of its wheat needs. The country food exports[3] mainly comprise fruits and vegetables and olive oil. However, expanding agriculture and the accompanying irrigation is a drain on water resources, which is leading to coastal aquifer salinization.[4]

During 2017-2019, some 2.3 million people were classified as moderately or severely food insecure.[5] Tunisia is undergoing a nutritional transition towards increased meat, milk and dairy consumption, but cereals still account for 50 per cent of the calories consumed, the highest rate in the world.[6]

2 Food and Agriculture Organization (FAO), 2017.
3 ITES, n. d.
4 FAO, 2020.
5 FAO and others, 2020.
6 ITES, n. d.

Data and trends

A. Core indicators

- **Prevalence of undernourishment (CO1)** recorded a favourable decrease from 9.3 per cent in 2010 to 5.1 per cent in 2016, which is below the Arab region's average of 12.1 per cent;
- **Prevalence of severe food insecurity (CO2)** official sources indicate that, in 2010, this indicator did not have available data, and that it recorded 7.5 per cent in 2016. This is lower than the Arab average of 12.2 per cent;
- **Prevalence of adult obesity (CO3)** levels were at 6.6 per cent in 2016. This rate is a positive decrease from its 2010 value of 10.4 per cent) and is well below the average in the Arab region of 28.4 per cent.

B. Availability

- **Wheat yield to potential (AV1)** increased from approximately 36 per cent in 2010 to 47 per cent in 2017, but still represents a large yield gap. However, both wheat and barley yields were expected to be 40 per cent higher in 2019 than usual due to favourable weather;[7]
- **Agriculture orientation index (AV2)** was 0.73 in 2010 but dropped to 0.59 in 2012 indicating a decreased prioritization of agriculture in the Government's budget;
- **Food losses to food available (AV3)** stood at 6.8 per cent in 2010 and is identical with the Arab regional average. The values reported by the country account for barley, soft wheat and durum wheat;
- **Average dietary energy supply adequacy (AV4)** was 105 per cent and 109 per cent in 2010 and 2015, respectively, which is low compared to the Arab regional average of 131 per cent. Vulnerable population might have difficulties accessing food;
- **Wheat import dependency (AV5)** was 57.5 per cent in 2010 and increased to 61.4 per cent in 2017. Official sources report a slightly different computation methodology than used in the framework.[8] The dependency ratio is high, which negatively affect the country during times of high volatility in global markets;
- **Water resources used in agriculture (AV6)** was around 82 per cent in 2018. This is an

7 FAO, 2019. Global Information and Early Warning System (GIEWS). Country Briefs - Tunisia.
8 100*import/(production + import).

unsustainable practice as the country's total renewable water resources stand at 400.2 m^3/capita/year,[9] which is less than half the water scarcity threshold (1,000 m^3/capita/year).

C. Access

- **Poverty ratio at $3.2/day (AC1)** stood at 9.5 per cent in 2010 according to national official data and dropped to 2.5 per cent in 2015. Poverty is essentially rural and exceeds 32 per cent in the central, western and north-western regions;[10]
- **Food consumption share of expenditures (AC2)** was almost one third of the total consumption expenditure for both 2010 and 2015, namely, 29.3 per cent and 28.9 per cent respectively, noting a slight decrease;
- **Unemployment rate (AC3)** increased from 13 per cent in 2010 to 15.3 per cent in 2019, well above the Arab regional average of 10.4 per cent. Unemployment for women was at 24 per cent and for youth at 38 per cent;[11]
- **Logistics performance (AC4)** was 2.8 in 2010 and decreased to 2.6 in 2018, similar to the average for the Arab region (2.7). Further improvements would be needed in the food supply chain;
- **Inflation, consumer prices (AC5)** was at 4.3 per cent in 2010 and increased to 7.5 per cent in 2018. The fluctuation in inflation might affect the purchasing power of households and particularly the most vulnerable groups.

D. Utilization

- **Population using basic drinking water services (UT1)** reached 85.7 per cent of the population in 2010 compared to 85.9 per cent in 2018. Greater efforts are needed to meet the related SDG target by 2030;
- **Population using basic sanitation services (UT2)** reached 84.2 per cent of the population in 2010, which increased to 96.6 per cent in 2015, a substantial improvement. Efforts should be kept up in order to achieve the related SDG target by 2030;
- **Stunting in children under five years (UT3)** was at 8.3 per cent in 2018 according to official national data. The latest value is well below the target set by the World Health Assembly (WHA) for 2030;[12]
- **Wasting in children under five years (UT4)** in 2018 was 2.1 per cent. During the same year, 14.3 per cent of the children were overweight. This value is below the WHA's target for 2030;[13]

9 FAO, n. d.
10 ITES, n. d.
11 World Bank, n. d.
12 FAO and others, 2019.
13 Ibid.

- **Prevalence of anaemia among women (UT5)** was 27.4 per cent in 2010 and increased to 31.2 per cent in 2016, which is below the Arab regional average of 35.5 per cent. The rate is still high, and dedicated programmes are needed.

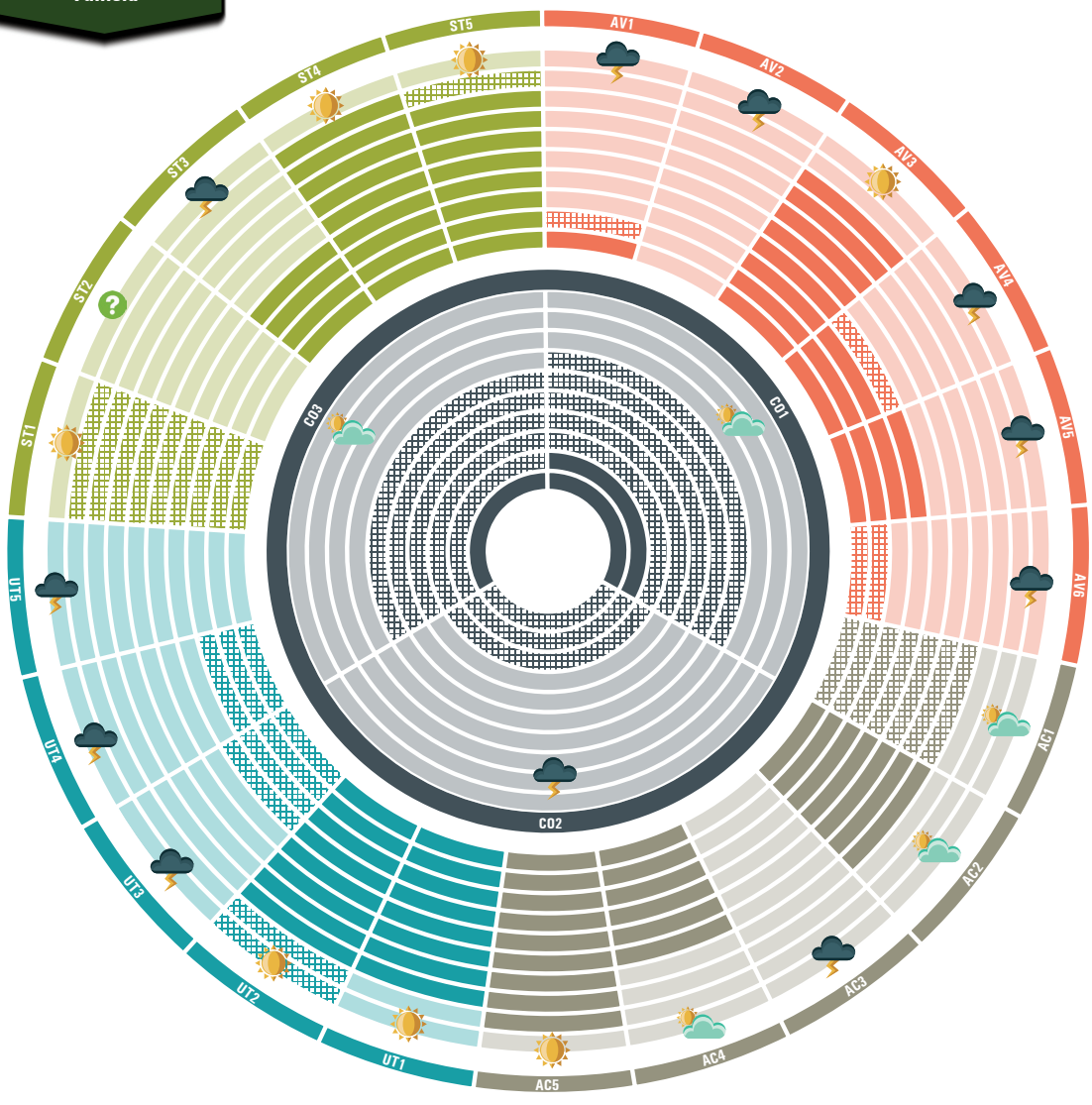
E. Stability

- **Climate change vulnerability (ST1)** stands at 0.07 indicating a low vulnerability to weather-related disasters, sea-level rise and loss of agricultural productivity;
- **Food price anomalies (ST2)** official data are not available;
- **Political stability (ST3)** ranking stood at 44 in 2010 but dropped to 16 in 2018, which might reflect the crisis the country has experienced since 2011;
- **Food production variability (ST4)** grew from $11,100 to $36,600[14] per capita between 2010 and 2016, indicating more fluctuation in food production and less stability across time;
- **Food supply variability (ST5)** was 30 kcal/capita/day in 2010 and dropped to 16 kcal/capita/day in 2013. This relatively low value reflects a more stable supply of food for Tunisians.

14 Constant 2004-2006 International USD.

Food security dashboard

Tunisia



2010 Data: Latest Data:

Performance: High: Proceed Action | Average: More Action | Low: Urgent Action | No Data

Food and security indicators, Tunisia

Indicators		Arab		Tunisia			
		Latest		2010	Latest		Trend
Code	Description	Value	Year	Value	Value	Year	
CORE INDICATORS							
CO1	Undernourishment (R) %	12.1	2016	9.3	5.1	2016	🟢
CO2	Food insecurity (R) %	12.2	2016	n.a.	7.5	2016	
CO3	Obesity (R) %	28.4	2016	10.4	6.6	2016	🟢
AVAILABILITY INDICATORS							
AV1	Wheat yields - %	82.2	2017	35.6	47.5	2017	🟢
AV2	Agriculture expenditure - index	n.a.		0.73	0.59	2012	🔴
AV3	Food loss (R) %	6.8	2013	6.8	n.a.		
AV4	Dietary energy supply - %	131	2017	105	109	2015	🟡
AV5	Wheat Import dependency (R) %	65.0	2012	57.5	61.4	2017	🔴
AV6	Agriculture water (R) %	n.a.		n.a.	81.8	2018	
ACCESS INDICATORS							
AC1	Poverty (R) %	16.6	mult.	9.5	2.5	2015	🟢
AC2	Food consumption (R) %	n.a.		29.3	28.9	2015	🟡
AC3	Unemployment (R) %	10.4	mult.	13.1	15.3	2019	🔴
AC4	Logistics - index	2.7	2016	2.8	2.6	2018	🔴
AC5	Inflation (R) %	12.8	mult.	4.3	7.5	2018	🔴
UTILIZATION INDICATORS							
UT1	Drinking water access - %	86.9	2015	85.7	85.9	2018	🟡
UT2	Sanitation access - %	80.8	2015	84.2	96.6	2018	🟢
UT3	Child stunting (R) %	22.9	mult.	n.a.	8.3	2018	
UT4	Child wasting (R) %	8.7	mult.	n.a.	2.1	2018	
UT5	Women anaemia (R) %	35.5	2016	27.4	31.2	2016	🔴
STABILITY INDICATORS							
ST1	Climate change (R) - index	0.1	2019	n.a.	0.07	2019	
ST2	Price Anomalies (R) - index	n.a.		n.a.	n.a.		
ST3	Political stability - ranking	14	2017	44	16	2018	🔴
ST4	Production variability (R) - $1,000/capita	10.1	2016	11.1	36.6	2016	🔴
ST5	Supply variability (R) - kcal/cap/day	29.8	2013	30.0	16.0	2013	🟢

(R): Reversed During Normalization n.a.= Not Available mult.= Multiple years

🔴 Red: Negative Trend 🟡 Yellow: Neutral Trend 🟢 Green: Positive Trend

Note: Unless otherwise indicated, all data are from national sources.

Food security snapshot

A. Drivers and determinants

The framework shows that the food security situation in Tunisia might be on the right track as undernourishment (CO1) and obesity (CO3) show improvement even though food insecurity experience (CO2) remains a concern.

Hotspot areas include the following:

- **Availability:** wheat yields (AV1), agriculture orientation (AV2), average dietary energy supply adequacy (ADESA) (AV4), import dependency (AV5) and water use in agriculture (AV6);
- **Access:** unemployment (AC3);
- **Utilization:** stunting (UT3) and wasting (UT4) among children and anaemia among women (UT5);
- **Stability:** political stability (ST3).

Tunisia is still undergoing a political transition, but the changes of the past decade have generally been positive in terms of food security. Undernourishment (CO1) is low and so is the prevalence of food insecurity (CO2). Obesity (CO3) is on the rise, indicating more affluence and the advent of a nutritional transition. The country is a net food importer, especially of wheat, its main staple. It is unlikely that this will change, in spite of the cereal production strategy the country has initiated which aims at increasing acreage and productivity to reduce import dependency. However, climate fluctuations can act positively or negatively on the sector. Tunisia is a renowned olive oil producer and exporter and is also attempting to boost the sector to offset some of the food imports.[15]

Unemployment, poverty and inequality, especially in rural areas, coupled with price inflation can cause food insecurity among the marginalized population. The Government's food subsidies offer temporary help, but more sustainable solutions may be needed especially in light of the decline in political stability. There is an increase in anaemia in women, similar to what is observed in other Arab countries, indicating the need for collaboration to address this important issue.

15 FAO, 2017.

B. Action areas

Policy recommendations will include the following:

1. Proceed with attempts to improve cereal yields, focusing on green water in order to avoid overuse of blue water;

2. Initiate a major effort to implement healthy dietary guidelines and mitigate the dreadful impacts of the nutrition transition. Malnutrition is a serious problem in Tunisia, especially among women and children, and must be urgently targeted;

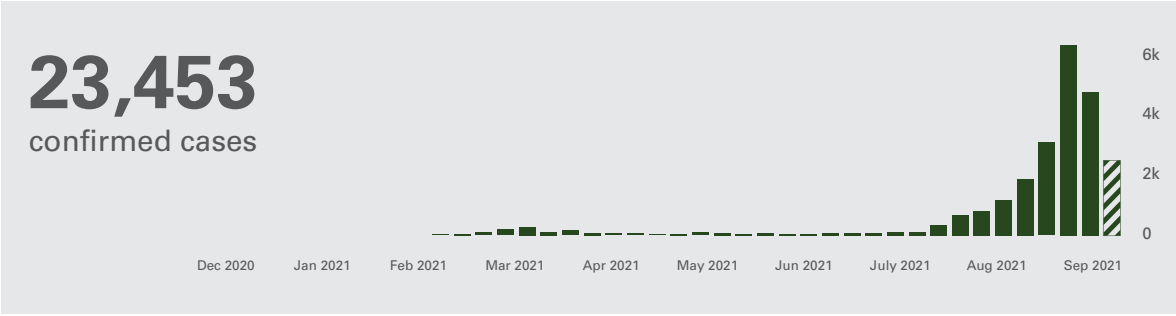
3. Adopt sustainable water use management techniques to keep water use within the renewable range;

4. Develop policies to address unemployment, especially among women, and link these to the rapid urbanization rates and their impact on the livelihoods of the vulnerable groups.

Impact of COVID-19

The COVID-19 pandemic reached Tunisia in early March 2020 and, by October, had affected close to 23,500 people with more than 300 recorded deaths. Tunisia recorded less than 50 daily occurrences of COVID-19 until mid-August but has since witnessed a sharp rise in cases peaking at more than 200 cases per day with the highest daily infection recorded at 465 cases in mid-September.

Weekly cases



Source: World Health Organization (WHO), n. d.

The pandemic affected most of the population with the two lowest quintiles feeling the highest impact in terms of higher prices and job losses. Close to 80 per cent of people in those quintiles reported job losses according to interviews conducted by the Institut National de la Statistique and the World Bank.[16] The unemployment rate is projected to increase by as much as 12.2 per cent, following a total loss of 430,000 jobs over a three-month lockdown period from March till May, with the majority of losses occurring in the services sector, which is affecting urban areas.

The agricultural sector is expected to be least affected from the pandemic even though it has already witnessed a huge decline in activities due to decreasing demand from restaurants and hotels and disruptions in traffic. Consequently, urban non-poor households are prone to experience the greatest loss in average income level with an estimated monthly loss of $155.87, followed

16 World Bank Blogs, 2020.

by rural non-poor, rural poor and urban poor with an average loss in income of $125.69, $71.37 and $62.49 respectively.[17] Remittances are expected to decrease by 12.2 per cent to reach 4.4 per cent of GDP in 2020. Tunisia experienced cuts in external trade; for instance, in March, exports decreased by 30 per cent and imports by 27 per cent.[18]

Food availability is anticipated to be much affected by lockdown measures[19] and stockpiling. Local markets witnessed shortages in the supply of fruits and cattle due to movement restrictions.[20] Increased demand of staple food products such as semolina, flour, sugar, oils and dairy products led to shortages and disruptions throughout the supply chain; an increase by 26 per cent in the demand of wheat was recorded.[21] Export of agricultural products dropped significantly because of import restrictions on fresh produces imposed by the European Union. An estimated loss of slightly less than $5 million on fish exports was noted.[22]

The impact of the COVID-19 pandemic could further harm the economy, which was already struggling due to the high public debt and youth unemployment. Travel restrictions will strongly affect the tourism sector, a mainstay of the national economy, which accounted for approximately 14 per cent of the economy and employed 11 per cent of the workforce. The confinement has also affected the informal sector, which employs 60 per cent of the labour force.[23]

17 The exchange was about 0.35506 USD/Tunisian Dinar in September 2020.
18 IFPRI, 2020.
19 Closure of land and sea borders, educational institutions and restaurants, and restricting domestic movement.
20 IFPRI, 2020.
21 Ibid.
22 IFPRI, 2020.
23 Brookings, 2020.

Box 2. Examples of initiatives

Government-led

The Government established a National COVID-19 Monitoring Authority that tracks the supply of basic commodities and the distribution of social aid to the poor and the vulnerable, in addition to reassuring consumers on the availability of all food products.[a]

The organization for Consumer Protection in Tunisia called on citizens to moderate their purchases and limit panic buying. It reassured them on the availability of all commodities.[b]

The Government allocated $876 million, of which slightly less than $160 million are intended for unemployment compensation and $52 million for vulnerable and low-income registered people. This money will benefit 260,000 families in need, 464,000 families with limited income and 382,000, 121,000 and 286 families looking after children, elderly and people with disabilities, respectively.[c]

The Government issued a decree that prevents firing workers because of pandemic-related confinement measures.[d]

The Government took the following measures to support small businesses:

- Deferring the payment of taxes;
- Deferring the payment of loans by banks to those earning less than $343/month by providing a three-month extension from April until June;[e]
- Introducing new loans for businesses in affected sectors;
- Providing $103 million to support continuity of small and medium-sized enterprises (SMEs).[f]

Other initiatives

The International Fund for Agricultural Development (IFAD) committed $200,000 as cash transfer to 750 primary school students in the Siliana region to compensate for the absence of nutritious school meals for six months.[g]

WFP will initiate a price-monitoring and market analysis to technically support the Government and ensure food access of the vulnerable population.[h]

Italy provided the Central Bank of Tunisia with a loan of approximately $57 million to support companies impacted by the crisis.[i]

The European Union donated $276.5 million to aid in combating the socio-economic impacts of the pandemic.[j]

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a Organisation for Economic Co-operation and Development (OECD), 2020.
b Babnet Tunisie, 2020.
c Arab Reform Initiative, 2020.
d Ibid.
e OECD, 2020.
f Ibid.
g World Food Programme (WFP) 2020.
h Ibid.
i OECD, 2020
j Ibid.

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