Workshop on Tracking and Monitoring Food Security for Palestine

Monitoring framework indicators and sources of data

Rami Zurayk,

Minerva Sadek

Fidele Byiringiro

Layale Gedeon

Indicators

Core — 1

2 — Availability

Access — 3

4 — Utilization

Stability — 5

1-DEFINITION

2-METHOD OF MEASUREMENT

3-JUSTIFICATION, ARAB RELEVANCE AND LINK TO REGIONAL STRATEGIES

4-LINK TO SDGs

5-DATA SOURCE

6-NORMALIZATION

=> DATA AVAILABILITY

Core 1

2 Availability

Access 3

4 Utilization

Stability 5

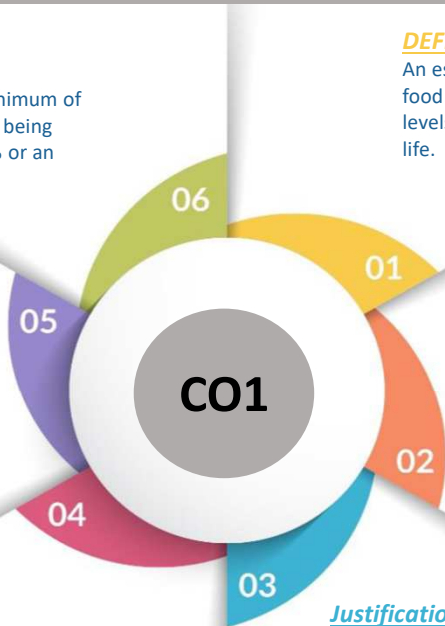# CO1 – Prevalence of Undernourishment (%)

NORMALIZATION:
PoU is normalized on a scale from 0 to 10, with minimum of 2.5% (below it is not measured) and the maximum being the lowest between the world average and 12.50% or an eighth of the population being undernourished.
PoU is a Reversed indicator.

DATA SOURCE:
FAOSTAT

LINK TO SDGs:
The indicator is directly related to SDG 2 and measure progress towards target 2.1. It is also connected to other targets and goals which are implicitly mentioning undernourishment, such as target 2.2. It is as an *ex-post* indicator, which informs about the outcomes of food insecurity based on measured data.

DEFINITION:
An estimate of the proportion of the population whose habitual food consumption is insufficient to provide the dietary energy levels that are required to maintain a normal active and healthy life.
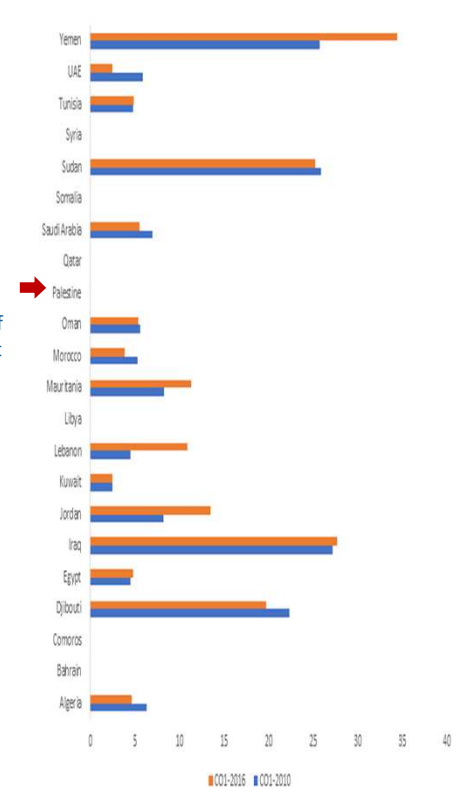
METHOD OF MEASUREMENT:
It is obtained already computed. Food deprivation, referred to as "prevalence of undernourishment (PoU)," compares usual food consumption in terms of dietary energy (kcal) with certain energy requirement norms. The part of the population with food consumption below the energy requirement norm is considered undernourished ("underfed").

Justification, Arab relevance, link to regional strategies:
PoU is closely linked to food availability and access, and thus to the overall food security status of the country. It leads to illnesses, increased mortality and childhood metabolic imprinting leading to long term developmental impacts. Monitoring PoU is crucial for tracking food security performance.
Strategies: Arab Regional Strategy for Sustainable Consumption and Production (En) (ASCP) and the Arab Strategy for Agricultural Development (En) (ASAD).

CO2 – Prevalence of Moderate to Severe Food Insecurity (FIES) (%)
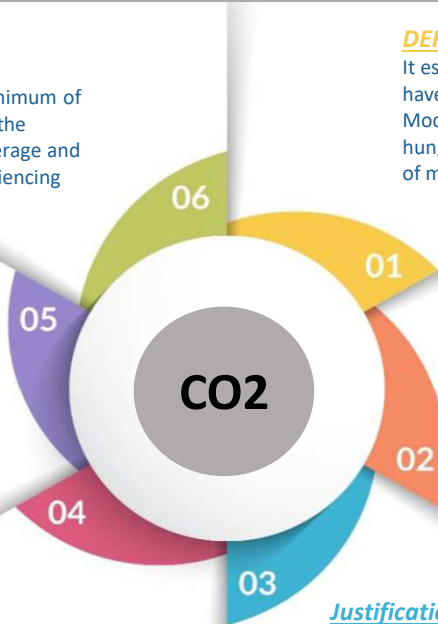
NORMALIZATION:
FIES is normalized on a scale from 0 to 10, with minimum of 2.5% (threshold for most nutrition indicators) and the maximum being the lowest between the world average and 12.50% or an eighth of the population being experiencing moderate to severe food insecurity.
FIES is a Reversed indicator.

DATA SOURCE:
FAOSTAT

LINK TO SDGs:
This indicator was selected as it one of the SDG 2 indicators and is used to track progress towards target 2.1. It is also connected to other targets and goals, such as target 2.2. This core indicator was selected as an *ex-post* indicator, which informs about the outcomes of food insecurity based on measured data.

DEFINITION:
It estimates the percentage of individuals in the population who have experienced food insecurity at moderate to severe levels. Moderate to severe food insecurity is characterized by feeling hungry but not eating, or not eating for an entire day, due to lack of money or other resources.
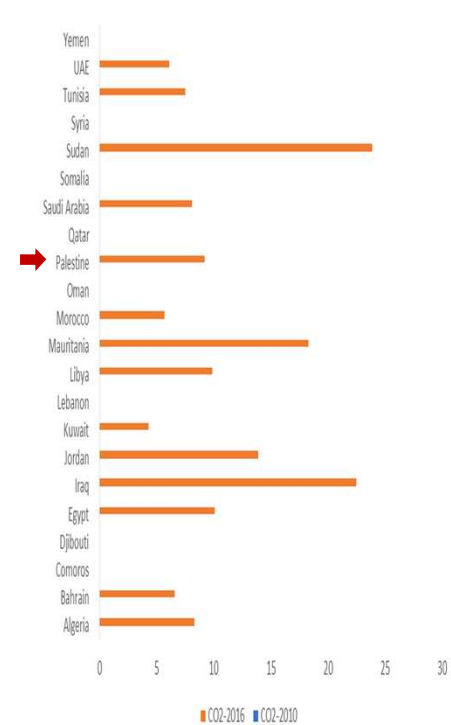
METHOD OF MEASUREMENT:
This FAO-developed indicator consists of an-8 questions survey that investigates people's experience with access to adequate food.

Justification, Arab relevance, link to regional strategies:
The inability to access food results in a series of experiences and conditions that that range from being concerned about the ability to obtain enough food, to the need to compromise on the quality or the diversity of the food consumed, to being forced to reduce the intake of food by cutting portion sizes or skipping meals, up to the extreme condition of feeling hungry and not having means to access any food. It links to the four pillars of food security and is crucial for tracking food security performance
Strategies: Arab Regional Strategy for Sustainable Consumption and Production (En) (ASCP) and the Arab Strategy for Agricultural Development (En) (ASAD).

CO3 – Prevalence of Obesity in the Adult Population (%)

NORMALIZATION:
Obesity is normalized on a scale from 0 to 10, with minimum of 2.5% (below is not estimated) and the maximum being 11.7% (the 2030 target of the World Health Assembly).
Obesity is a Reversed indicator.

DATA SOURCE:
Available on FAOSTAT but usually estimated by WHO

LINK TO SDGs:
There is no direct mention of "obesity" in the SDGs, but as it is related to food consumption quality and patterns leading to the widespread increase of non-communicable diseases, it's related to the SDGs through Goal 3 more specifically target 3.4 "By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being". Obesity was selected as it is the outcome of food access and food utilization, thus being an *ex-post* indicator.

DEFINITION:
Abnormal or excessive fat accumulation that may impair health. The Body Mass Index (BMI) is a simple index of weight-for-height that is commonly used to classify overweight and obesity in adults. It is the weight in kilograms divided by the square of height in meters (kg/m2).
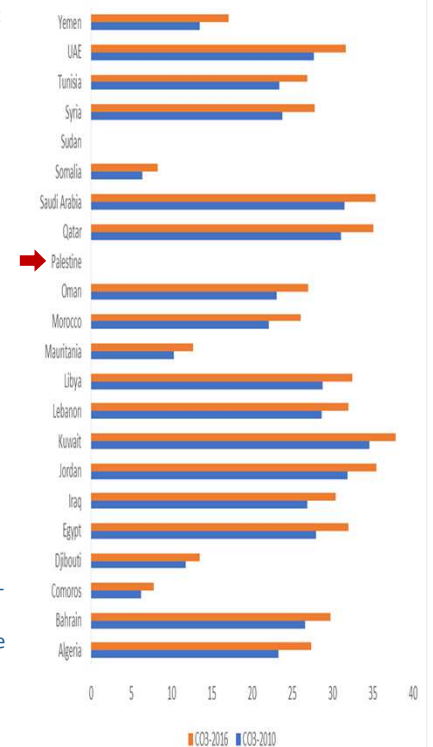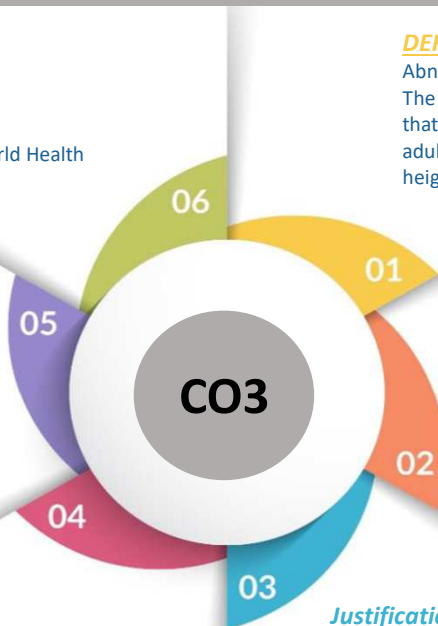
METHOD OF MEASUREMENT:
Obesity is defined as having a BMI equal or greater than 30. Therefore, this indicator reveals the percentage of individuals in the population reaching or surpassing this BMI.
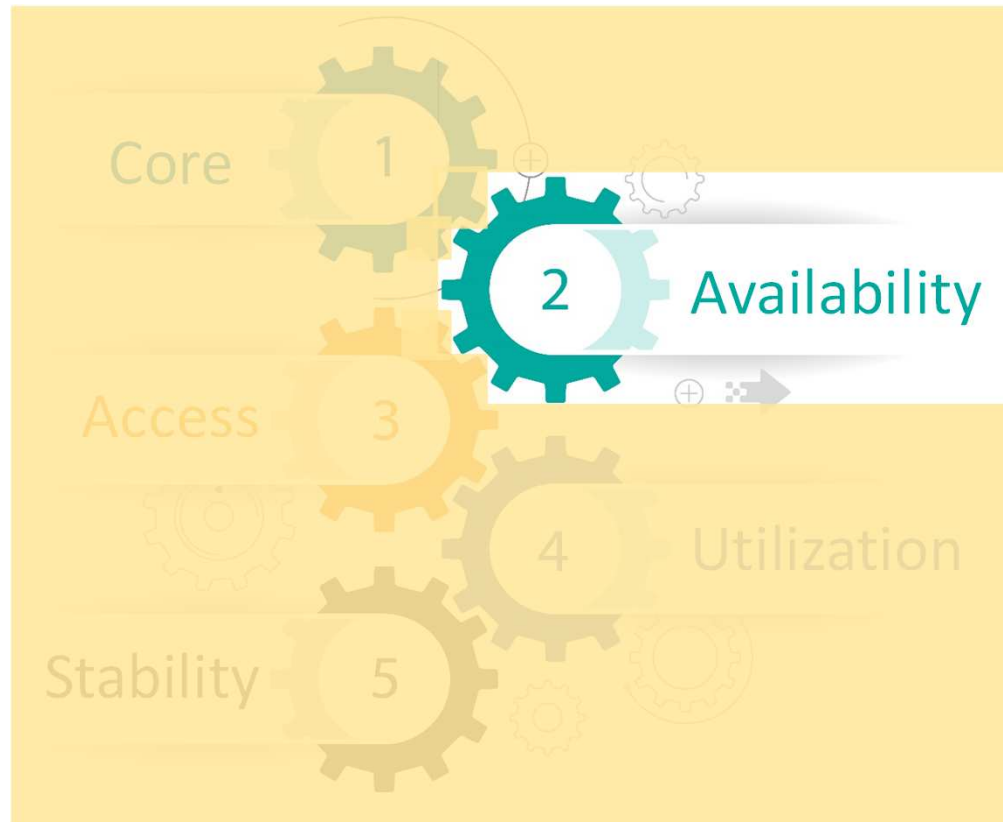
Justification, Arab relevance, link to regional strategies:
The nutrition dimensions of food security are now fully recognized. Obesity is due to an overconsumption of calories. It might engender non-communicable diseases and illnesses, impedes full economic participation and growth and environmental sustainability. In low income groups, obesity is a sign of poor diet due to an overconsumption of cheap and unhealthy foods as healthier ones might be more expensive. In the Arab region, obesity is escalating at alarming rates and affects nearly one quarter of the population due a nutritional transition as food consumption habits become more westernized habits.
Strategies: Arab RegStrategy for Sustainable Cons and Prod (En) (ASCP) and the Arab Strategy for Agricultural Development (En) (ASAD).

- **CO1 – CO2**   http://www.fao.org/faostat/en/?#data/FS

- **CO3**   http://apps.who.int/gho/data/node.main.A900A?lang=en

Core 1

2 Availability

Access 3

4 Utilization

Stability 5

AV1 – Primary wheat yield as a percentage of potentially achievable yield (%)

NORMALIZATION:
Wheat yield potential is normalized on a scale from 0 to 10, with minimum at 50% of potential yield and maximum at 100%.

DATA SOURCE:
Muller et al, 2012, and FAOSTAT

LINK TO SDGs:
This indicator is directly related to SDG 2, specifically to target 2.3.

DEFINITION:
It reflects the wheat yield gap, a limiting factor of food availability from national sources. It was proposed by ESCWA in consultation with national and international experts for the specific purpose of this monitoring framework and as such has no associated metadata and needs to be calculated from various sources. It shows the recorded primary cereal yield as a percentage of a country's potentially achievable yield, to assess if countries are reaching their production potential).
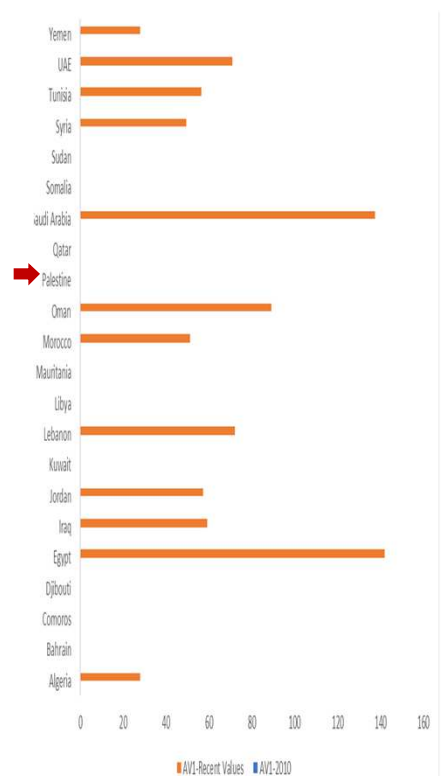
METHOD OF MEASUREMENT:
Uses data on potentially achievable wheat yield from Mueller et al, 2012, a paper in Nature. The actual achieved wheat yield, extracted from FAOSTAT, is then used to calculate the percentage, using the following formula:

$$\frac{\text{Achieved Yield}}{\text{Potentially Achievabe Yield}} \times 100$$

Justification, Arab relevance, link to regional strategies:
Closing the primary wheat yield gap would contribute to higher availability of food. This indicator is particularly relevant to the Arab region as wheat is a staple food, which makes it highly dependent on global markets. Additionally, production policies are currently aimed at boosting yields and local production. Therefore, monitoring this indictor is crucial.
Strategies: Arab Regional Strategy for Sustainable Consumption and Production (En) (ASCP), the Arab Strategy for Agricultural Development (En) (ASAD), the Arab Strategy for Water Security in the Arab Region (En) (ASWS) and the Arab Food Emergency Programme(Ar) (AFEP).

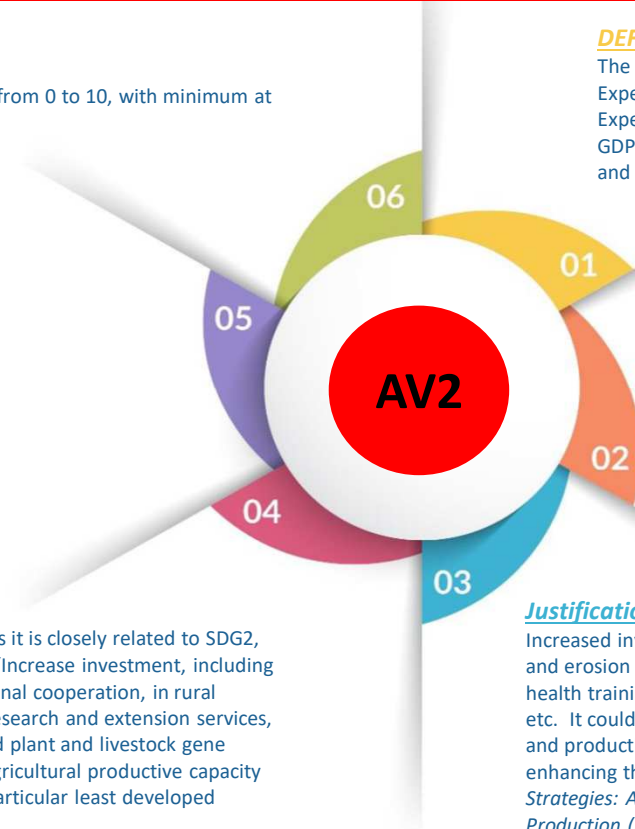# AV2 – The agriculture orientation index for government expenditures (AOI)

DEFINITION:
The Agriculture Orientation Index (AOI) for Government Expenditures is defined as the Agriculture share of Government Expenditure, divided by the Agriculture value added share of GDP, where Agriculture refers to the agriculture, forestry, fishing and hunting sector).
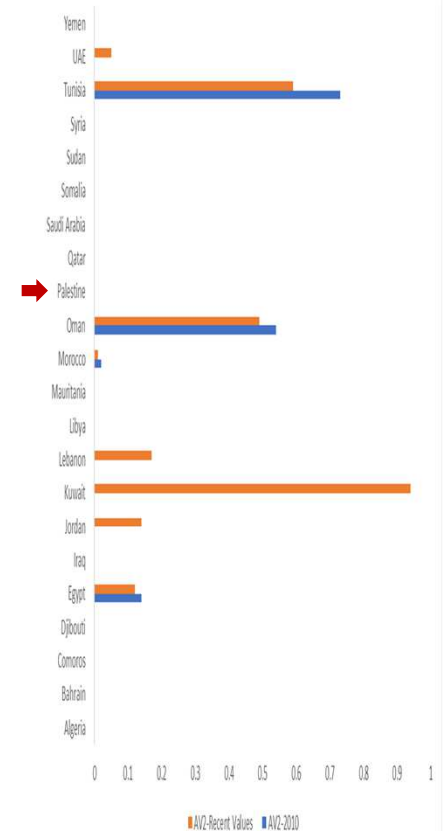
METHOD OF MEASUREMENT:
The measure is a currency-free index, calculated as the ratio of these two shares. An AOI greater than 1 reflects a higher orientation towards the agriculture sector, which receives a higher share of government spending relative to its contribution to economic value-added. An AOI less than 1 reflects a lower orientation to agriculture, while an AOI equal to 1 reflects neutrality in a government's orientation to the agriculture sector.

LINK TO SDGs:
This indicator was selected as it is closely related to SDG2, more specifically Target 2.a "Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries.

Justification, Arab relevance, link to regional strategies:
Increased investments in the agriculture sector include soil improvement and erosion control, better water use practices, animal and livestock health training and management, implementation of forestry projects, etc. It could boost food availability through increased sector efficiency and productivity while supporting local farmers and income growth, thus enhancing their food access capacity and overall wellbeing.
Strategies: Arab Regional Strategy for Sustainable Consumption and Production (En) (ASCP), the Arab Strategy for Water Security in the Arab Region (En) (ASWS), the Arab Food Emergency Programme(Ar) (AFEP), the Arab Fisheries Strategy (Ar) (AFS) the Arab Strategy for Agricultural Development (En) (ASAD), and the Pan Arab RE Strategy (En) (ARES).

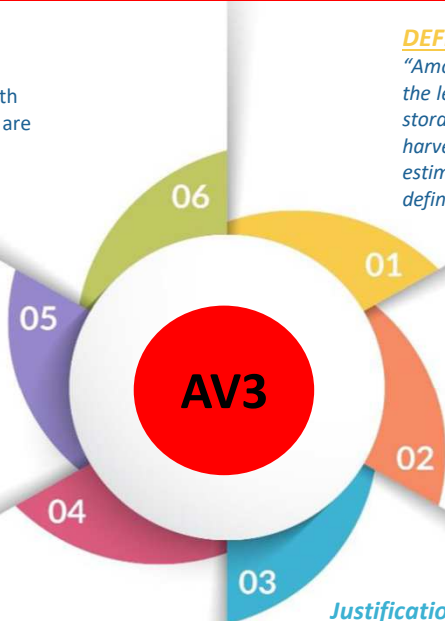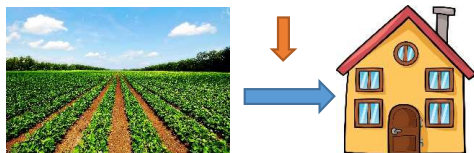# AV3 – Food loss (% of total food available)

NORMALIZATION:
Food Loss is normalized on a scale from 0 to 10, with minimum at 0% and maximum at 33.33% as losses are usually estimated at about a third of the total food produced.
Food loss is a Reversed indicator.

DATA SOURCE:
FAOSTAT Food Balance Sheets

LINK TO SDGs:
This indicator is listed in the SDGs in Goal 12, more precisely in Target 12.3: "By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses".
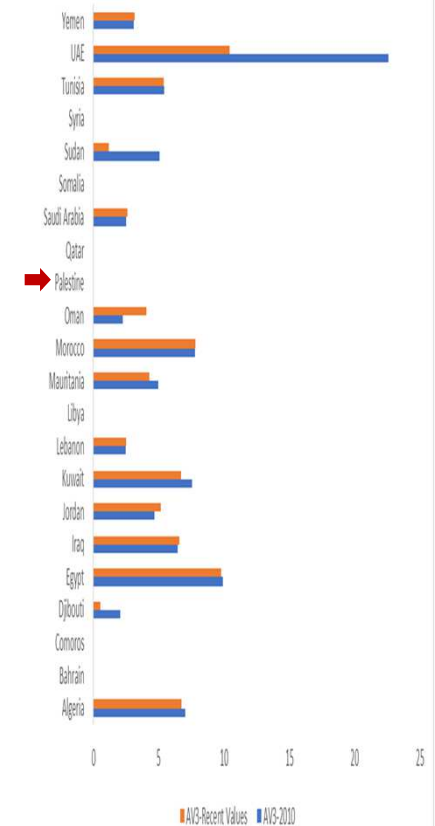
DEFINITION:
"Amount of the commodity in question lost at all stages between the level at which production is recorded and the household, i.e. storage and transportation. Losses occurring before and during harvest and waste within households are excluded. Food loss is estimated as a fixed percentage of availability, the latter being defined as production plus imports plus stock withdrawals".

METHOD OF MEASUREMENT:
The total food available is first estimated based on data from FAOSTAT's food balance sheets based on the following formula:
$Available food = Imports + Production - Exports$
The losses are then converted to percentages of available food quantities using the following formula:
$X = 100 * losses / Available food$,
where losses and available food are in tons.

Justification, Arab relevance, link to regional strategies:
Food losses impact food availability, access, and utilization, and it is of particular concern in the Arab region. Deficient practices and infrastructure in production and imports are responsible for the region's high rates of losses (Arab Horizon, 2017). Also, high food losses lead to an increased waste and usage of already scarce natural resources.
Strategies: Arab Strategy for Agricultural Development (En) (ASAD), the Arab RegStrategy for Sustainable Consumption and Production (En) (ASCP), the Arab Food Emergency Programme(Ar) (AFEP), the Arab Strategy for Water Security in the Arab Region (En) (ASWS), the UNCCD 2018-2030 Strategic Framework (En) (UNCCD) and the Arab Fisheries Strategy (Ar) (AFS).

AV3-Recent Values   AV3-2010

AV4 – Average Dietary Energy Supply Adequacy (%)

NORMALIZATION:
ADESA is normalized to scale from 0 to 10, based on half the median (50th percentile) of a probability distribution resulting in the subtraction or addition of 12.5% on either side of the value (100%). The minimum is 87.5% while the maximum is 112.5%.

DATA SOURCE:
FAOSTAT Food Balance Sheets

LINK TO SDGs:
This indicator is implicitly linked to SDG2 and has a direct effect on food security as it reflects if the supplied food satisfies the population's caloric needs. .

DEFINITION:
The Average Dietary Energy Supply Adequacy (ADESA) indicator expresses the Dietary Energy Supply (DES) as a percentage of the Average Dietary Energy Requirement (ADER).
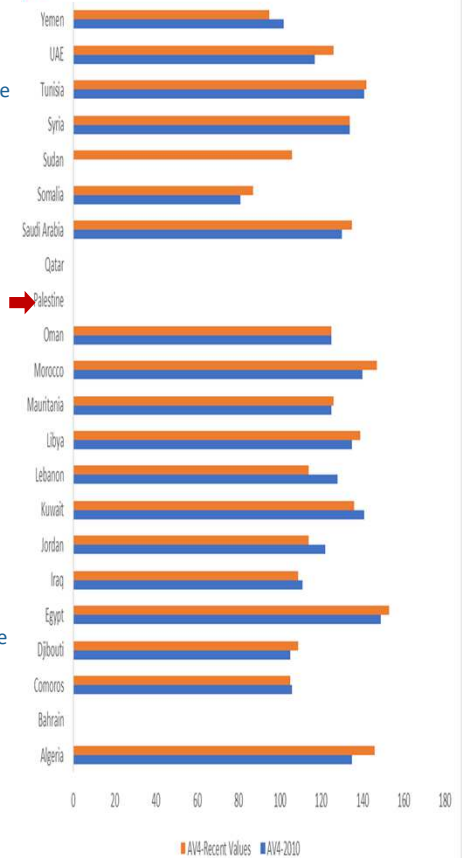
METHOD OF MEASUREMENT:
Each country's or region's average supply of calories for food consumption is normalized by the average dietary energy requirement estimated for its population to provide an index of adequacy of the food supply in terms of calories.

Justification, Arab relevance, link to regional strategies:
This indicator reflects the adequacy of the supplied dietary energy at the national level and therefore, food availability in terms of quantity. The quantity of food provided should fulfill the energy needs of the population to allow a healthy development.
Strategies : Arab Regional Strategy for Sustainable Consumption and Production (En) (ASCP), and the Arab Strategy for Agricultural Development (En) (ASAD

AV5 – Wheat import dependency ration (%)

NORMALIZATION:
Wheat import dependency is normalized on a scale from 0 to 10, with minimum at 0% and maximum at 100%.
It is a Reversed indicator.

DEFINITION:
The wheat imports dependency ratio tells how much of the available domestic food supply of cereals has been imported and how much comes from the country's own production

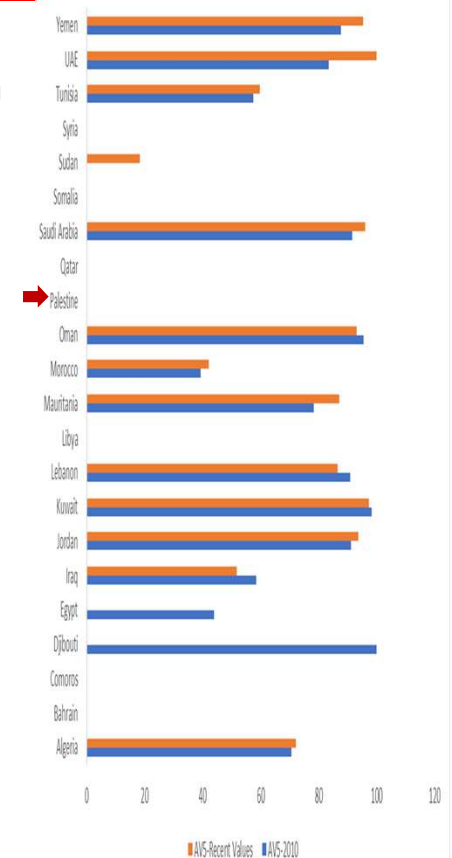## DATA SOURCE:
FAOSTAT

METHOD OF MEASUREMENT:
The indicator is calculated in three-year averages, to reduce the impact of outliers in production or trade, high bumps in production or trade. It is computed as:

$$\frac{(Import - Exports)}{(Imports + Production + Exports)} \times 100$$

Given this formula the indicator assumes only values lower or equal to 100. Negative values indicate that the country is a net exporter of cereals.

LINK TO SDGs:
This indicator is directly related to SDG 2, as increased cereal availability through imports can contribute to ending hunger when local production can't cope with local demand.

Justification, Arab relevance, link to regional strategies:
As mentioned in AV1, cereals are the main source of energy globally and specifically in the Arab region, and they constitute the bulk of the food imports. This indicator provides a measure of the dependence of a country or region from cereal imports. The greater the indicator, the higher the dependence hence higher vulnerability to global price shocks. The Arab region relies heavily on cereal imports to cater for its needs; which increases food availability as the region's yields are relatively low. This renders the region very vulnerable to international price shocks and to conflicts.

AV6 – Share of water resources used in agriculture out of total renewable water resources (%)

NORMALIZATION:
Water use is normalized on a scale from 0 to 10, with minimum at 0% and maximum at 100%.
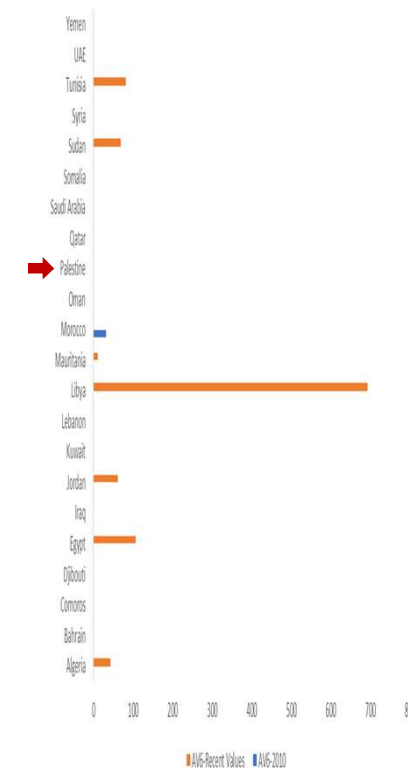It is a Reversed indicator.

DEFINITION:
This indicator represents the ratio of water withdrawn for agriculture to the total renewable water resources. Therefore, it provides information about the sustainable use of water in food production.
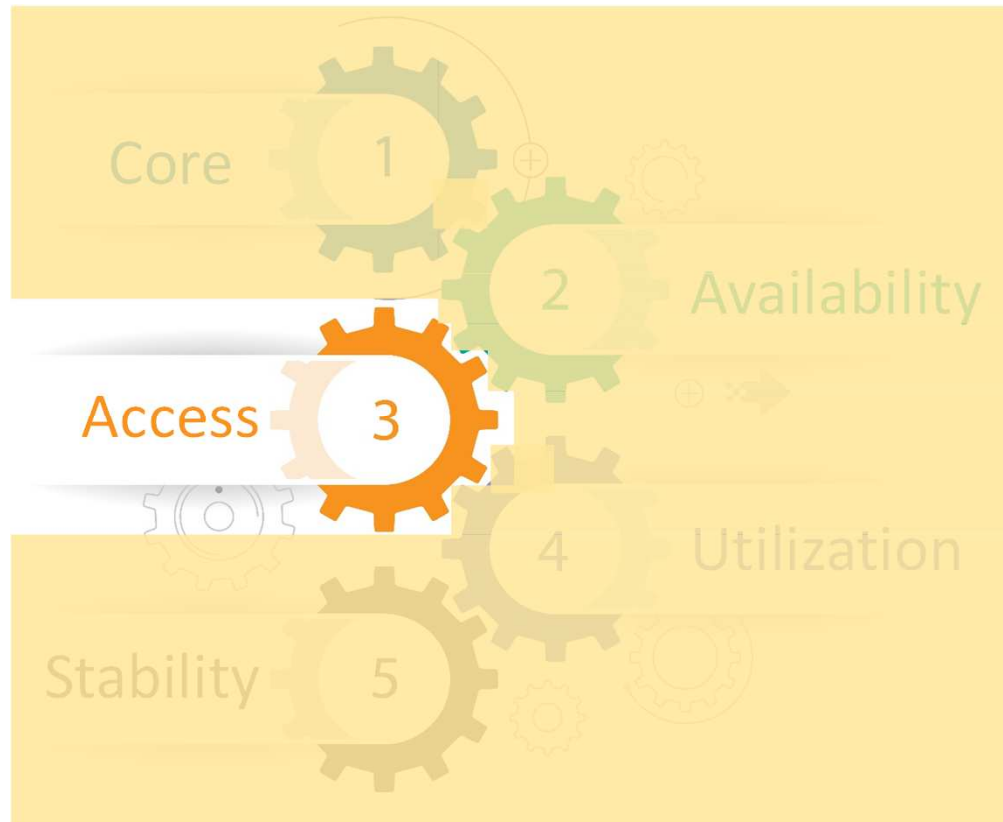
METHOD OF MEASUREMENT:
The indicator is obtained already computed.

DATA SOURCE:
AQUASTAT

LINK TO SDGs:
This indicator was selected due to its direct or indirect relation to SDG 2, SDG 6, SDG 12 and SDG 15, as water usage is connected to agricultural practices, natural resource use, sustainable production and ecosystem health and desertification.

Justification, Arab relevance, link to regional strategies:
Water is crucial for crop production and food availability. The region suffers from renewable water resources scarcity, and unsustainable agricultural practices with increased demand on food leading to an overexploitation of freshwater resources. Renewable water resources availability is increasingly critical for food security, as decreased capacity to produce affects availability and access, and increases reliance on food imports.

- **AV1 :** https://static-content.springer.com/esm/art%3A10.1038%2Fnature11420/MediaObjects/41586_2012_BFnature11420_MOESM38_ESM.xls

  http://www.fao.org/faostat/en/?#data/QC

- **AV2:** http://www.fao.org/faostat/en/#data/IG

- **AV3 :** http://www.fao.org/faostat/en/#data/FBS

- **AV4-5:** http://www.fao.org/faostat/en/#data/FS

- **AV6** http://www.fao.org/nr/water/aquastat/data/query/

Core 1

Availability 2

Access 3

Utilization 4

Stability 5

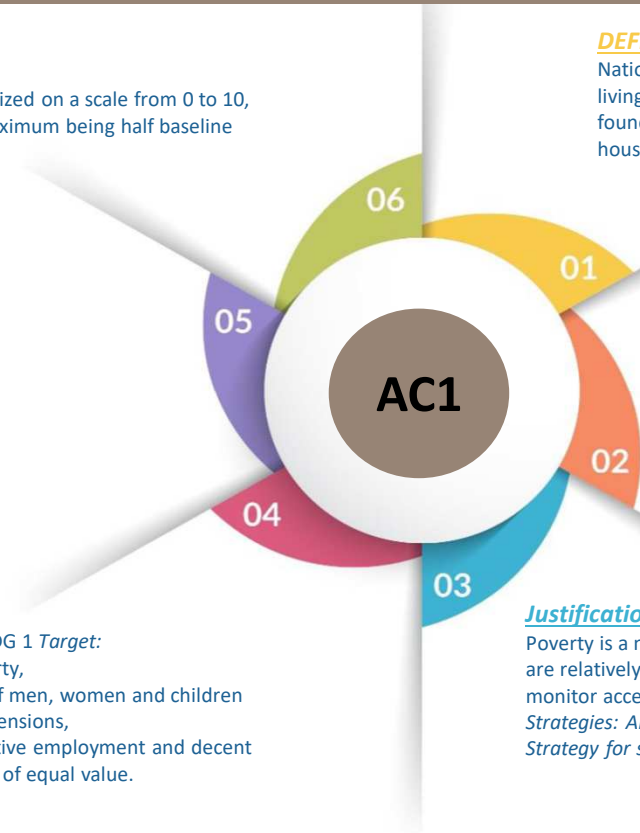# AC1 – Poverty headcount (% of population)

NORMALIZATION:
Poverty headcount is normalized on a scale from 0 to 10, with minimum at 0% and maximum being half baseline poverty rate.
It is a Reversed indicator.
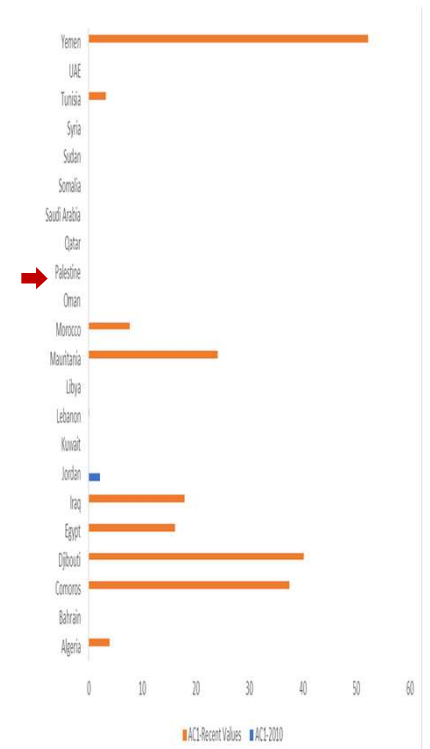
DEFINITION:
National poverty headcount ratio is the percentage of population living under the national poverty lines. National estimates are founded on population-weighted subgroup assessments from household surveys.

06
01
05
AC1
02
04
03

METHOD OF MEASUREMENT:
The World Bank tries to apply a common standard in measuring poverty. As cost-of-living changes across the world, international poverty lines are re-adjusted to reflect new PPP prices. The $3.20 poverty line is the poverty line for countries classified as Lower Middle Income, which is used in the monitoring framework, as the data is more relevant to a majority of Arab countries than $1.9 a day.

DATA SOURCE:
World Bank

LINK TO SDGs:
This indicator is related to SDG 1 *Target:*
1.1: eradicate extreme poverty,
1.2: reduce the proportion of men, women and children living in poverty in all its dimensions,
8.5: achievie full and productive employment and decent work and equal pay for work of equal value.

Justification, Arab relevance, link to regional strategies:
Poverty is a main determinant of economic access to food. Poverty rates are relatively high in Arab countries and as such this indicator will help monitor accessibility to food and thus food security.
Strategies: Arab Strategy for Agriculture Development and Arab Regional Strategy for sustainable Cons and Prod .

AC2 – Share of food consumption expenditure in total consumption expenditure (%)
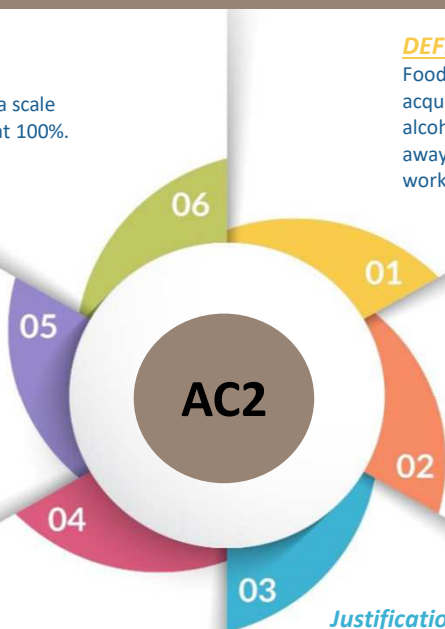
NORMALIZATION:

The Food Consumption indicator is normalized on a scale from 0 to 10, with minimum at 0% and maximum at 100%. It is a Reversed indicator.

DATA SOURCE:

FAO

LINK TO SDGs:

This indicators is related to target:

1.5 build the resilience of the poor and vulnerable and reducing their exposure and vulnerability

2.c adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves to limit extreme food price volatility.

DEFINITION:

Food consumption expenditure refers to the monetary value of acquired food, purchased and non-purchased, including non-alcoholic and alcoholic beverages as well as food expenses on away from home consumption in bars, restaurants, food courts, work canteens, street vendors, etc.
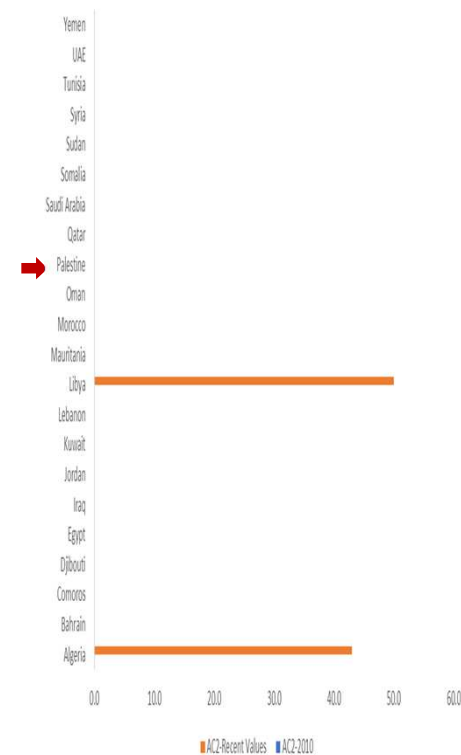
METHOD OF MEASUREMENT:

It is derived from data from Household Consumption and Expenditure Surveys (HCES). The portion of household spending on food is equal to:

$$\frac{\text{Expenditure on food}}{\text{Total Expenditure}} \times 100$$

The monetary value of non-purchased items, comprising consumption from own production and in-kind payments and transfers, must be calculated from available price information.

Justification, Arab relevance, link to regional strategies:

Share of food consumption expenditure in total household consumption expenditure helps to assess how is being spent on food. Spending money on food is a fundamental requirement for survival, hence the share of money spent on food implies its affordability. The more vulnerable a household is, the larger is the share of household income spent on food, however, when income rises, expenditure on food increases and expenditure on other things increases even more, reducing the share of total income spent on food, indicating easier food accessibility.

Strategies: Arab DRR strategy and Arab strategy for Agriculture Development.

Chart — countries listed: Yemen, UAE, Tunisia, Syria, Sudan, Somalia, Saudi Arabia, Qatar, Palestine, Oman, Morocco, Mauritania, Libya, Lebanon, Kuwait, Jordan, Iraq, Egypt, Djibouti, Comoros, Bahrain, Algeria. X-axis: 0.0 to 60.0. Legend: AC2-Recent Values, AC2-2010
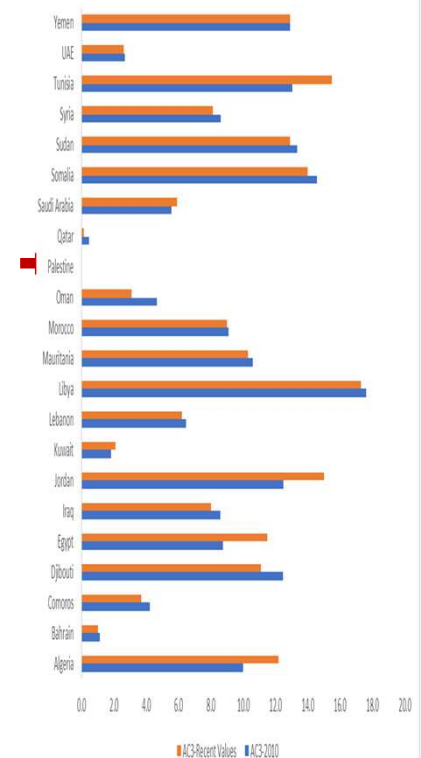
AC3 – Unemployment rate (%)

DEFINITION:
Unemployment rate is the percentage of unemployed people in the labor force based on age and sex. Data on unemployment rate can also be segregated into males and females, this segregation will further allow us to monitor unemployment and food security not just on the individual level but also on gender basis.

METHOD OF MEASUREMENT:
Unemployment rate is calculated by dividing the number of unemployed people by the total number of people in the labor force. Labor force implying the total number of employed and unemployed persons within a defined age category, for this framework the age group selected was 25 years and above. .

LINK TO SDGs:
This indicator is related to targets:
1.1 eradicate extreme poverty
1.2 reduce the proportion of men, women and children of all ages living in poverty
1.5 build the resilience of the poor and those in vulnerable situations
2.1 end hunger and ensure access to safe, nutritious and sufficient food all year round
8.10 encourage and expand access to banking, insurance and financial services for all.

Justification, Arab relevance, link to regional strategies:
According to ILO unemployment rate is rising with young people being disproportionately affected by working poverty. The Arab States have the highest unemployment rate in the world, with huge gender gaps and elevated working poverty rates. Unemployment rate by sex and age is a critical indicator that allows us to monitor source of income within the Arab population, in order to monitor food access and thus food security. *Strategies: Arab Strategy for Agriculture Development (ASAD), Arab DRR Strategy (ADRR), Arab Regional Strategy for Sustainable Cons and Prod (ASCP), Arab strategy for Water Security in the Arab Region (ASWS), Arab food Emergency Program (AFEP).*
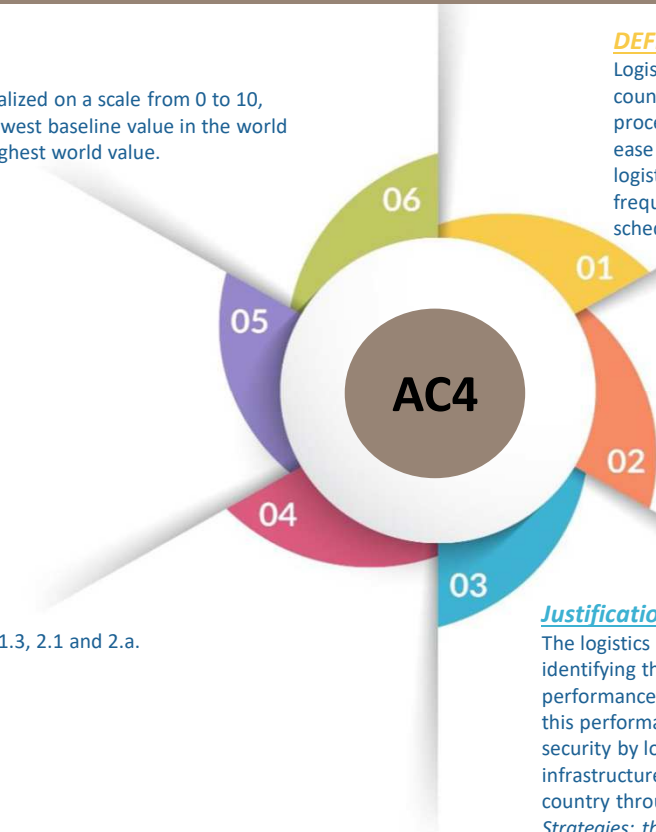
AC4 – Logistics performance index

DEFINITION:

Logistics Performance Index overall score echoes insights of a country's logistics founded on efficiency of customs clearance process, quality of trade-and transport-related infrastructure, ease of arranging competitively priced shipments, quality of logistics services, ability to track and trace shipments, and frequency with which deliveries reach the consignee within the scheduled time.

DATA SOURCE:

World Bank

METHOD OF MEASUREMENT:

Related surveys are conducted by the World Bank in partnership with multiple stakeholders. Respondents appraise the performance on 6 areas of importance for a country on a scale from 1 (worst) to 5 (best) on issues such as export and import markets. Scores for the six areas are averaged across all respondents and aggregated to a single score using principal components analysis.

LINK TO SDGs:

This indicator reflects SDG 1.3, 2.1 and 2.a.

Justification, Arab relevance, link to regional strategies:

The logistics performance index is a tool created to assist countries in identifying the challenges and opportunities they face in their performance on trade logistics and where to adopt strategies to improve this performance. This indicator facilitates the monitoring of food security by looking at the quality of trade and transport related infrastructure, which directly relates to the access of food within a country through safe roads and strong infrastructure.

Strategies: the Arab DRR Strategy (Ar) (ADRR), UNCCD 2018-2030 Strategic Framework (En) (UNCCD), Arab Strategy for Agricultural Development (En) (ASAD) and Arab RegStrategy for Sustainable Cons and Prod (En) (ASCP).

AC5 – Inflation, Consumer prices (%)
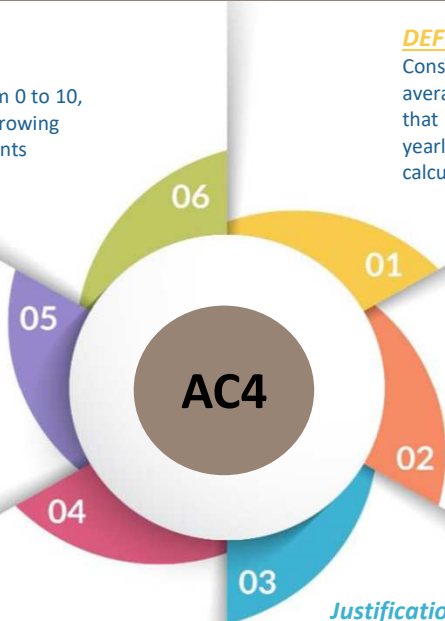
NORMALIZATION:
The Inflation indicator is normalized on a scale from 0 to 10, with minimum being 2% (necessary for a healthy growing economy) and maximum being 20% (which is 3 points higher than the higher global inflation rate).
It is a Reversed indicator.

DATA SOURCE:
World Bank

LINK TO SDGs:
This indicator reflects SDGs 1.4, 2.1, 2.c.

DEFINITION:
Consumer price index reflects variations in the cost to the average consumer of acquiring a basket of goods and services that might be fixed or changed at specific time intervals, such as yearly basis. The Laspeyres formula is commonly used to calculate this indicator.
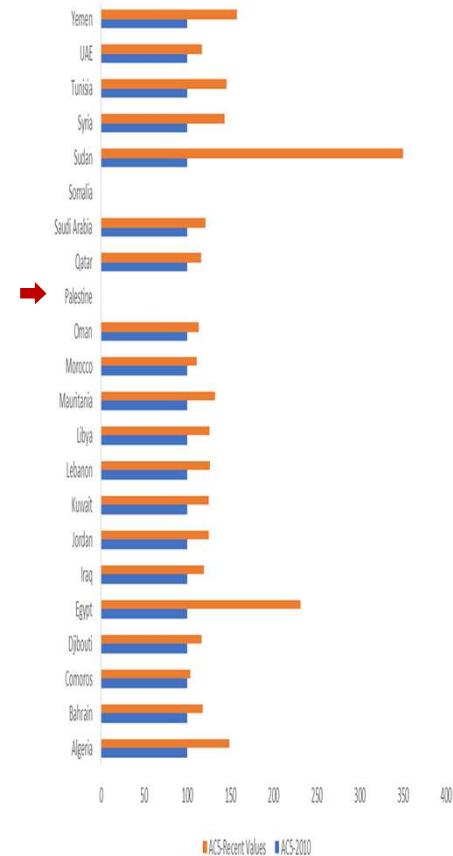
METHOD OF MEASUREMENT:
Consumer price indexes are created explicitly, using surveys of the cost of a defined basket of consumer goods and services.
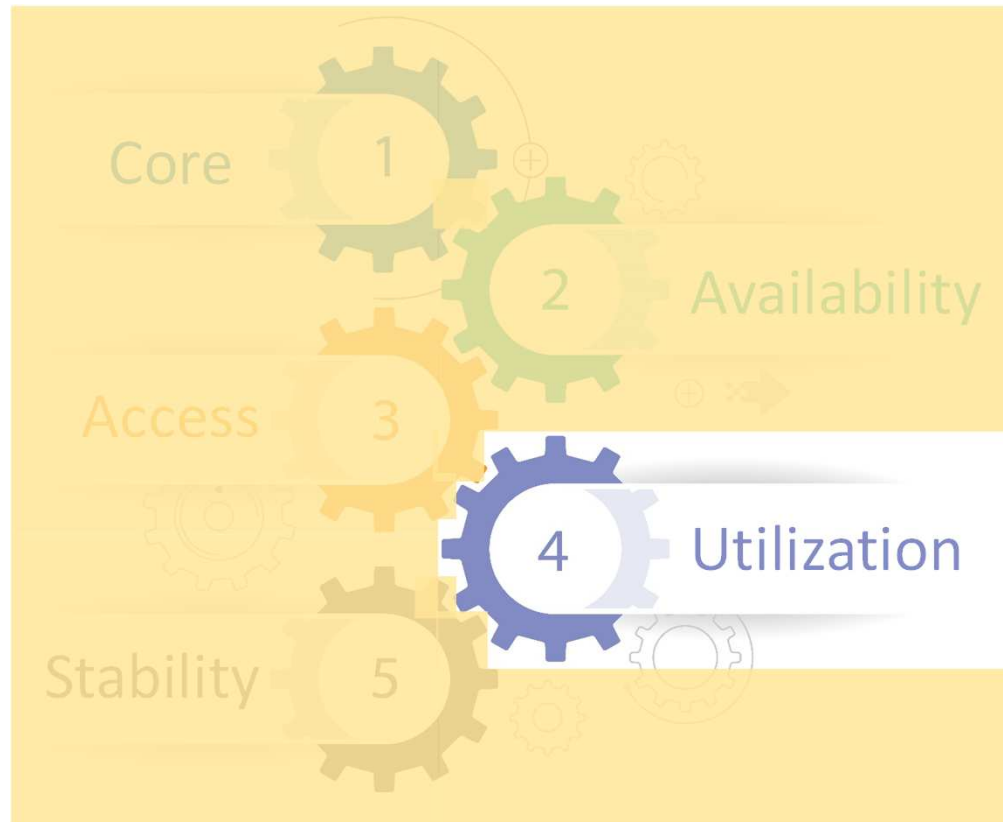
Justification, Arab relevance, link to regional strategies:
The increase in the average prices of goods and services in the economy should be distinguished from a change in the relative prices of individual goods and services. A commonly used measure of inflation is the consumer price index, which measures the prices of a representative basket of goods and services purchased by a typical household. The consumer price index is usually estimated through periodic surveys of consumer prices. Other price indices are derived implicitly from indexes of current and constant price series.
Strategies: Arab DRR Strategy (Ar) (ADRR), Arab Strategy for Agricultural Development (En) (ASAD), Arab RegStrategy for Sustainable Cons and Prod (En) (ASCP)

AC4

- **AC1** https://datastudio.google.com/reporting/aec6672c-cf6c-458a-8849-490310cb3ada/page/wVroB

- **AC2** https://knoema.com/atlas/topics/Food-Security/Expenditures-Spent-on-Food/Expenditures-spent-on-food

- **AC3** https://data.worldbank.org/indicator/sl.uem.totl.zs

- **AC4** https://data.worldbank.org/indicator/LP.LPI.CUST.XQ?end=2018&name_desc=false&start=2010

- **AC5** https://data.worldbank.org/indicator/FP.CPI.TOTL.ZG?end=2021&start=2010

Core 1

2 Availability

Access 3

4 Utilization

Stability 5

UT1 – Proportion of population using at least basic drinking water services (%)
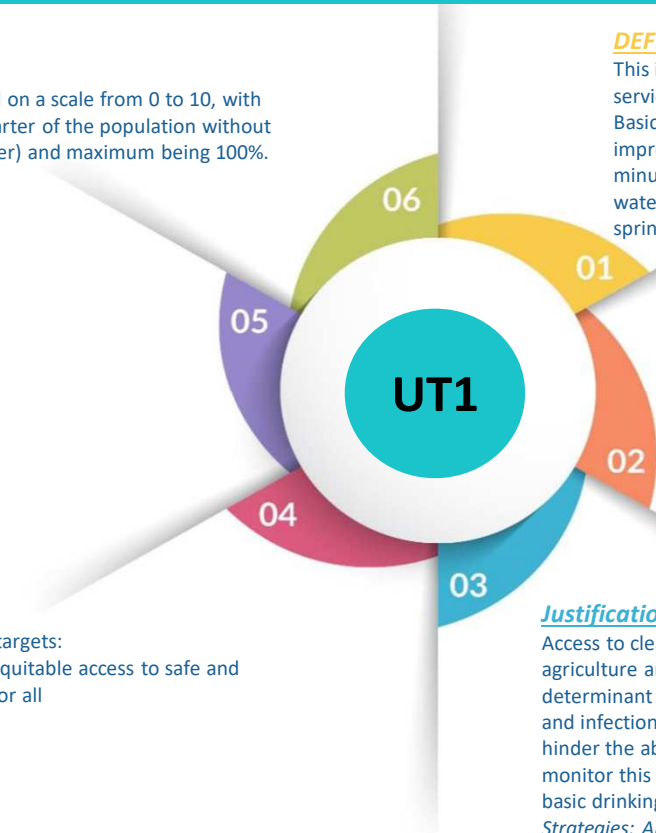
NORMALIZATION:
This indicator is normalized on a scale from 0 to 10, with minimum being 75% (a quarter of the population without access to safe drinking water) and maximum being 100%.

DATA SOURCE:
World Bank

LINK TO SDGs:
This indicator is related to targets:
6.1 achieve universal and equitable access to safe and affordable drinking water for all
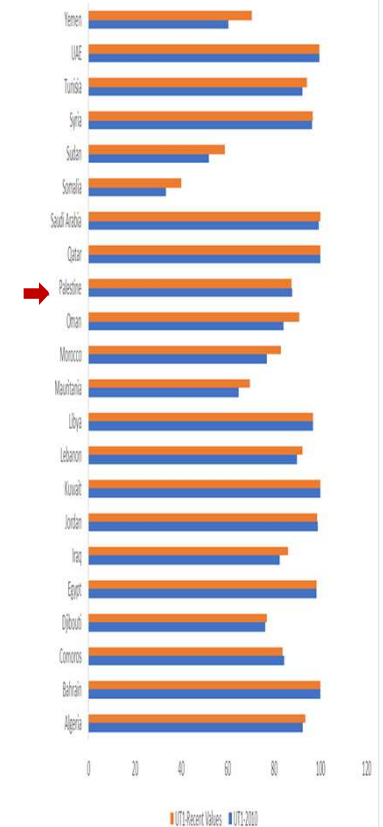6.3 improve water quality.

DEFINITION:
This indicator encompasses both people using basic water services as well as those using safely managed water services. Basic drinking water services is defined as drinking water from an improved source, provided collection time is not more than 30 minutes for a round trip. Improved water sources include piped water, boreholes or tube wells, protected dug wells, protected springs, and packaged or delivered water.

METHOD OF MEASUREMENT:
The aggregates are computed using a weighted population average, and only if at least 65% of the data are available.

Justification, Arab relevance, link to regional strategies:
Access to clean and safely managed water is a determinant factor of safe agriculture and consumption practices. Access to safe water is also a key determinant of food security as clean water prevents nutritional diseases and infections, and therefore reduces the incidence of illnesses that can hinder the absorption of nutrients and debilitate people. It is crucial to monitor this indicator in the Arab region, as 51 million people lacked a basic drinking water service in 2015, 73% of whom live in rural areas.
Strategies: Arab Strategy for Agricultural Development (En) (ASAD), the Arab Health and Environment Strategy (Ar) (AHES), the Arab Regional Strategy for Sustainable Consumption and Production (En) (ASCP) and the Arab Strategy for Water Security in the Arab Region (En)(ASWS).

UT2 – Proportion of population using at least basic sanitation services (%)

NORMALIZATION:
This indicator is normalized on a scale from 0 to 10, with minimum being 50% (half the population without access to basic sanitation services) and maximum being 100%.

DATA SOURCE:
World Bank

LINK TO SDGs:
This indicator is related to target 6.2 achieve access to adequate and equitable sanitation and hygiene for all.
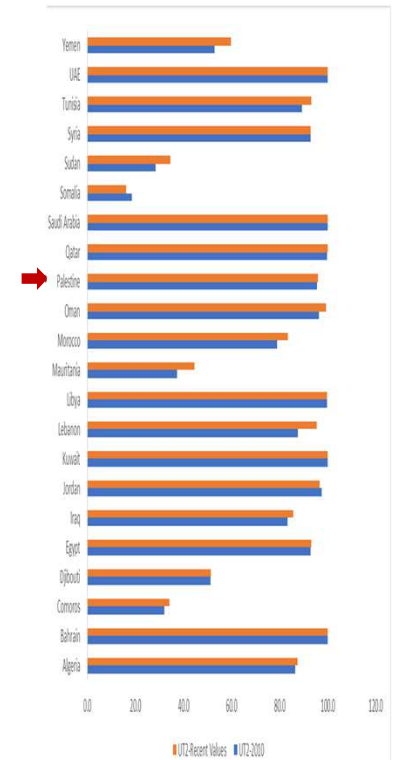
DEFINITION:
This indicator highlights the percentage of people using at least basic sanitation services, that is, improved sanitation facilities that are not shared with other households. It accounts both people using basic sanitation services as well as those using safely managed sanitation services. Improved sanitation facilities include flush/pour flush to piped sewer systems, septic tanks or pit latrines; ventilated improved pit latrines, compositing toilets or pit latrines with slabs.

METHOD OF MEASUREMENT:
The aggregates are computed using a weighted population average, and only if at least 65% of the data are available.

Justification, Arab relevance, link to regional strategies:
Access to sanitation facilities prevents the spread of microbiological diseases and the contamination of surrounding water resources. It is a determinant factor of food security as it prevents the spread of nutritional diseases and infections, allowing for healthy human as well as economic development. It is relevant to the Arab region, as of March 2018 74 million people lacked a basic sanitation service in 2015, 25 million of whom practice open defecation
Strategies: Arab Strategy for Agricultural Development (En) (ASAD), the Arab Health and Environment Strategy (Ar) (AHES), the Arab Regional Strategy for Sustainable Consumption and Production (En) (ASCP) and the Arab Strategy for Water Security in the Arab Region (En)(ASWS).

UT3 – Percentage of children under 5 years of age affected by stunting (%)

NORMALIZATION:
This indicator is normalized on a scale from 0 to 10, with minimum being 2.5% (below which it is not measured) and maximum being 12.2% (the 2030 World Health Assembly target).
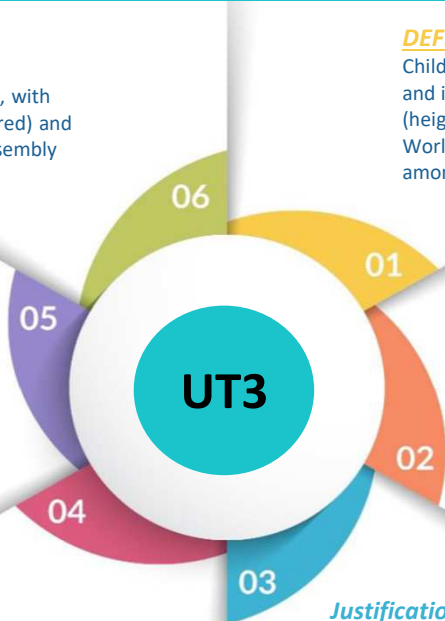It is a Reversed indicator.

DATA SOURCE:
World Bank

LINK TO SDGs:
This indicator is directly related to target 2.2 end all forms of malnutrition, including the internationally agreed targets on stunting and wasting in children under five years of age.

DEFINITION:
Child stunting refers to a child who is too short for his or her age and is the result of chronic or recurrent malnutrition. Stunting is (height-for-age <-2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age.

METHOD OF MEASUREMENT:
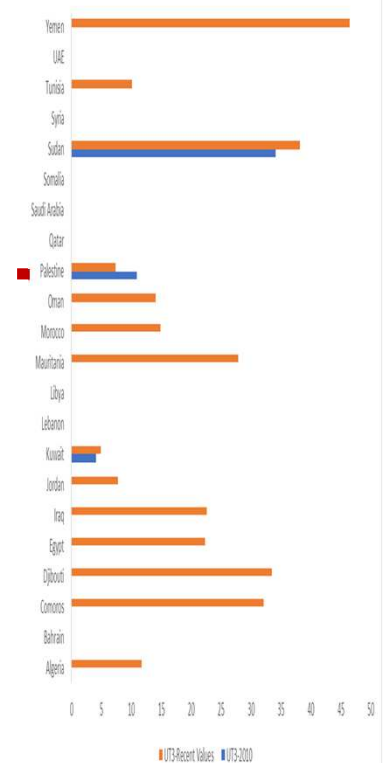Percentage of children aged <5 years stunted for age

$$\frac{\text{Number of Children with height below median by 2 standard deviations}}{\text{Total number of children measured}} \times 100$$

Children's weight and height are measured using standard technology. The data sources include national nutrition surveys, any other nationally-representative population-based surveys with nutrition modules, and national surveillance systems.

Justification, Arab relevance, link to regional strategies:
Child growth is the most widely used indicator of nutritional status in a community and is internationally recognized as an important public-health indicator for monitoring health in populations. In addition, children who suffer from growth retardation as a result of poor diets and/or recurrent infections tend to have a greater risk of suffering illness and death. Stunting is a direct result of inadequate nutrition and poor food security levels. This indicator is relevant to the Arab region especially in conflicts and LDCs in the region.
Arab Regional Strategy for Sustainable Consumption and Production (En) (ASCP) and the Arab Strategy for Agricultural Development (En) (ASAD).

06 05 04 03 02 01

UT3

UT4 – Percentage of children under 5 years of age affected by wasting (%)
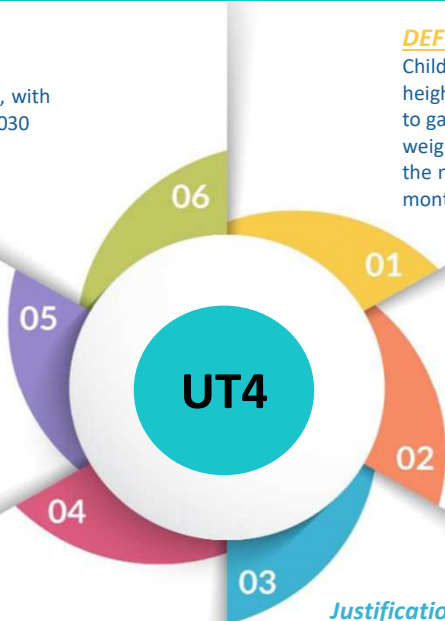
NORMALIZATION:
This indicator is normalized on a scale from 0 to 10, with minimum being 0% and maximum being 3% (the 2030 World Health Assembly target).
It is a Reversed indicator.

DATA SOURCE:
World Bank

LINK TO SDGs:
This indicator is related to target 2.2 end all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children under five years of age.

DEFINITION:
Child wasting refers to a child who is too thin for his or her height and is the result of recent rapid weight loss or the failure to gain weight. It is the proportion of children under five whose weight for height is more than two standard deviations below the median for the international reference population ages 0-59 months .

METHOD OF MEASUREMENT:
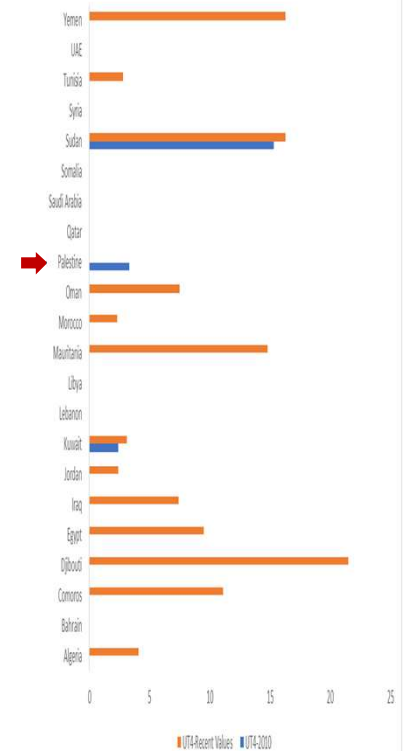The percentage of children aged <5 years suffering from wasting

$$\frac{\text{Number of Children with weight-for-height below median by 2 standard deviations}}{\text{Total number of children measured}} \times 100$$

Children's weight and height are measured using standard techniques. The data sources include national nutrition surveys, any other nationally-representative population-based surveys with nutrition modules, and national surveillance systems.

Justification, Arab relevance, link to regional strategies:
Undernourished children have lower resistance to infection and are more likely to die from common childhood ailments such as diarrheal diseases and respiratory infections. Frequent illness saps the nutritional status of those who survive, locking them into a vicious cycle of recurring sickness and faltering growth (UNICEF, childinfo.org). This indicator is particularly relevant to the Arab region especially in light of current conflicts.
Strategies : Arab RegStrategy for Sustainable Cons and Prod (En) (ASCP) and the Arab Strategy for Agricultural Development (En) (ASAD).

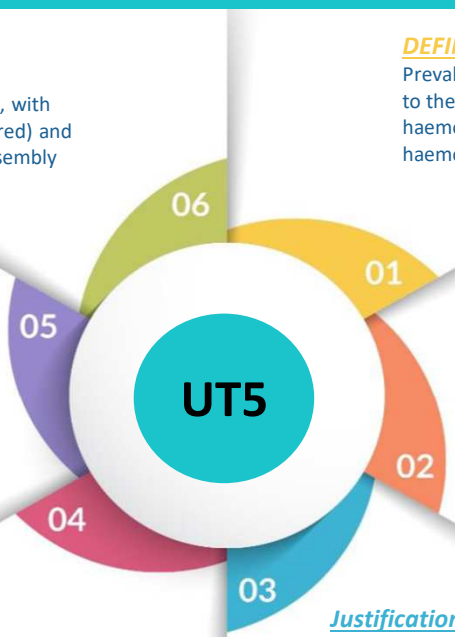# UT5 – Prevalence of anemia among women of reproductive age (15-49 years)(%)
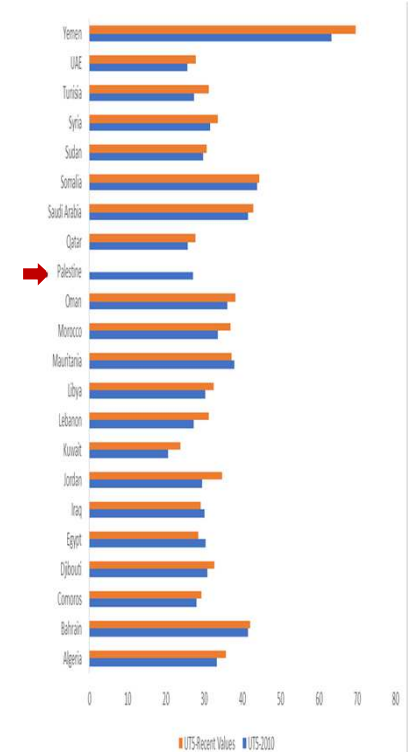
DEFINITION:
Prevalence of anemia among women of reproductive age refers to the combined prevalence of both non-pregnant with haemoglobin levels below 12 g/dL and pregnant women with haemoglobin levels below 11 g/dL.

DATA SOURCE:
World Bank

METHOD OF MEASUREMENT:
It is the weighted average of both non-pregnant with haemoglobin levels below 12 g/dL and pregnant women with haemoglobin levels below 11 g/dL.

06
01
05
02
04
03

UT5

LINK TO SDGs:
This indicator is related to SDG 2 and SDG 3, as micronutrient deficiencies occur from poor food diversity resulting in poor health and pregnancy status.

Justification, Arab relevance, link to regional strategies:
Iron deficiency anemia is a public health problem, given its impact on psychological and physical development, behavior and work performance. It is the most common nutritional disorder in the world as per WHO. This is a gender specific indicator as it reflects women's health and access to nutritious food, as it is crucial to their reproductive capacities. Increased prevalence of anemia among women of reproductive age indicates inadequate intake of micronutrients, hence, anemia is representative of the food security situation.
Strategies: Arab Regional Strategy for Sustainable Consumption and Production (En) (ASCP), and the Arab Strategy for Agricultural Development (En) (ASAD).

- **All the Utilization indicators can be extracted from:**

http://www.fao.org/faostat/en/?#data/FS

Core 1

Availability 2

Access 3

Utilization 4

Stability 5

ST1 – Climate change – Temperature change (°C)

NORMALIZATION:
This indicator is normalized on a scale from 0 to 10, with minimum being the world lowest value in the baseline year and maximum being 1.5°C (as called for in the Paris agreement).
It is a Reversed indicator.

DATA SOURCE:
FAOSTAT

DEFINITION:
It shows the annual mean surface temperature change and anomalies since 1961, compared to the baseline climatic period of 1951 to 1980. The Paris Agreement, which sets a global framework to avoid climate change, calls for limiting global warming, with a goal of maintaining the mean global temperature below 2°C, and preferably 1.5°C above preindustrial levels.
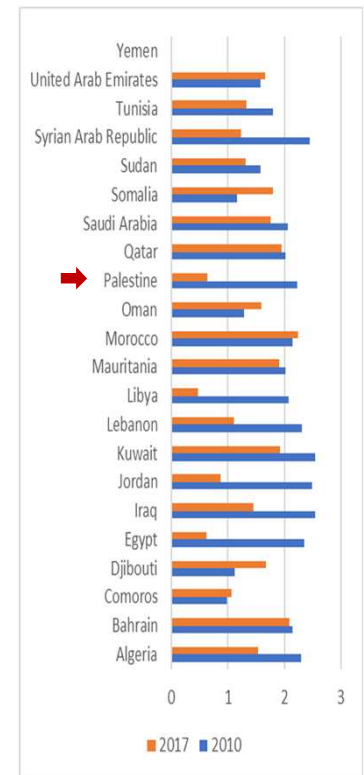
METHOD OF MEASUREMENT:
Available from FAOSTAT already computed since 1961.

LINK TO SDGs:
This indicators is related to targets:
12.2 achieve the sustainable management and efficient use of natural resources
13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
15.3 combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world

Justification, Arab relevance, link to regional strategies:
This indicator was selected to monitor the stability of food security in the Arab region as climate change has a major impact on agriculture production and productivity and therefore on food availability and access. Climate change also carries significant implications on the stability of food supply within and between Arab countries.
Strategies: Arab Health and Environment Strategy (Ar) (AHES), Arab Strategy for Water Security in the Arab Region (En) (ASWS), Arab workplan to deal with climate change issues (Ar) (AWCCI), Arab Strategy for Agricultural Development (En) (ASAD), Arab Food Emergency Programme(Ar) (AFEP).

ST2 – Food price anomalies (index)

NORMALIZATION:
This indicator is normalized on a scale from 0 to 10, with minimum being the world lowest value in the baseline year and maximum being the world highest value in the baseline year.
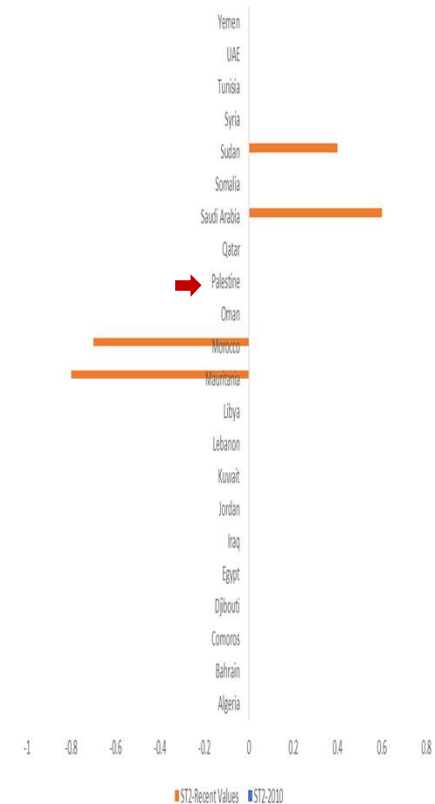It is a Reversed indicator.

DEFINITION:
Indicator for food price anomalies measures the number of "Price Anomalies" that happen on a given food commodity price series over a certain period of time.

DATA SOURCE:
FAOSTAT
UNSTAT

METHOD OF MEASUREMENT:

LINK TO SDGs:
This indicator is target 2.c.1: adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility.

Justification, Arab relevance, link to regional strategies:
Food price anomalies indicator was selected in order to be able to monitor the status of food security in a given country in terms of food commodities and their monetary price. This measure ensures the appropriate functioning of the food commodity markets and their derivatives, as well as facilitates timely access to information on markets, including food reserves, in order to limit extreme food price volatility which in turns leads to a less stable food security.
Strategies: Arab DRR Strategy (Ar) (ADRR) and the Arab Strategy for Agricultural Development (En) (ASAD).

ST3 – Political stability and absence of violence (ranking)

NORMALIZATION:
This indicator is normalized on a scale from 0 to 10, with minimum being 0% and maximum being 100%.

DATA SOURCE:
World Bank

LINK TO SDGs:
This indicator is related to targets:
1.2 reduce poverty in all its dimensions
1.5 build the resilience of the poor and those vulnerable
2.b correct and prevent trade restrictions and distortions in world agricultural markets
2.c Adopt measures to ensure the proper functioning of food commodity markets.
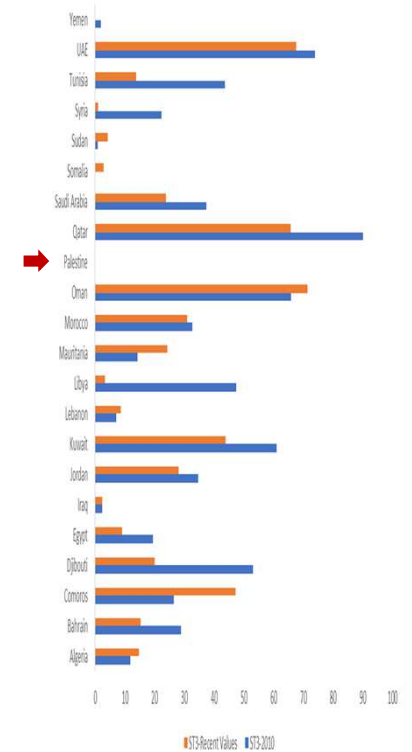
DEFINITION:
Political stability and absence of violence measures insights of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism.

METHOD OF MEASUREMENT:

Justification, Arab relevance, link to regional strategies:
Food security status is usually disturbed by political instability and conflicts, as could be both a cause and a consequence of those crises. In the Arab region, food insecurity seem to be the consequence of conflicts. This indicator was selected for monitoring food security status in the region because famine and severe food insecurity that is prevalent in some Arab countries is mainly due to war and conflicts, thus political stability and absence of violence is a good indicator for monitoring how food insecurity can be affected by this instability.
Strategies: Arab DRR Strategy (Ar) (ADRR), Arab Strategy for Agricultural Development (En) (ASAD), Arab RegStrategy for Sustainable Cons and Prod (En) (ASCP)

ST4 – Per capita food production variability ($1000/capita)

NORMALIZATION:
This indicator is normalized on a scale from 0 to 10, with minimum being the world lowest baseline value and maximum being the world highest baseline value.

DEFINITION:
Per capita food production variability corresponds to the variability of the "food net per capita production value in constant 2004-2006 international $" as circulated in FAOSTAT. This indicator compares the variations of the per capita food production across countries and time.

DATA SOURCE:
FAOSTAT

METHOD OF MEASUREMENT:

LINK TO SDGs:
It is related to targets:
2.1 end hunger and ensure access to safe, nutritious and sufficient food all year round
2.4 ensure sustainable food production systems and implement resilient agricultural practices
2.c adopt measures to ensure the proper functioning of food commodity markets and their derivatives

Justification, Arab relevance, link to regional strategies:
Per capita food production variability helps to monitor food security by tracking the changes in food production of a certain country compared with a constant value from 2004-2006. This indicator will determine how stable and reliable food production in a certain country which in turns plays a critical role in its food security status.
Strategies: Arab Regional Strategy for Sustainable Cons and Prod (En) (ASCP), Arab Strategy for Agricultural Development (En) (ASAD), Arab Strategy for Water Security in the Arab Region (En) (ASWS), Arab Food Emergency Program (Ar) (AFEP), UNCCD 2018-2030 Strategic Framework (En) (UNCCD) and Arab Fisheries Strategy (Ar) (AFS).

ST5 – Per capita food supply variability (kcal/capita/day)

NORMALIZATION:
This indicator is normalized on a scale from 0 to 10, with minimum being the world lowest baseline value and maximum being the world highest baseline value.
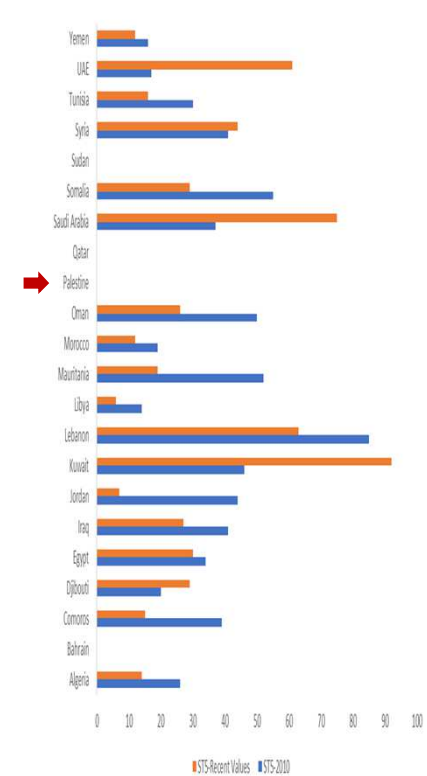
DATA SOURCE:
FAOSTAT

DEFINITION:
Per capita food supply variability corresponds to the variability of the "food supply in kcal/caput/day" as per FAOSTAT. This indicator measures annual fluctuations in the per capita food supply (kcal), represented as the standard deviation over the previous five years. Variability in food supply is a result of instability in supply, trade, consumption, and storage, in addition to changes in government policies such as trade restrictions, taxes and subsidies, stockholding, and public distribution.

METHOD OF MEASUREMENT:

LINK TO SDGs:
This indicator is related to targets:
2.1 end hunger and ensure access by all people
2.4 ensure sustainable food production systems
2.b correct and prevent trade restrictions and distortions in world agricultural markets
2.c adopt measures to ensure the proper functioning of food commodity markets and their derivatives

Justification, Arab relevance, link to regional strategies:
Per capita food supply variability is an important indicator that helps monitoring food security by tracking the changes in food supply of a certain country compared with a constant value from 2004-2006. This indicator will determine how stable and reliable food production in a certain country which in turns plays a critical role in its food security status.
Strategies: Arab Regional Strategy for Sustainable Cons and Prod (En) (ASCP), Arab Strategy for Agricultural Development (En) (ASAD), Arab Strategy for Water Security in the Arab Region (En) (ASWS), Arab Food Emergency Program (Ar) (AFEP), UNCCD 2018-2030 Strategic Framework (En) (UNCCD) and Arab Fisheries Strategy (Ar) (AFS).

- **ST1 http://www.fao.org/faostat/en/#data/ET**

- **ST2 https://www.fao.org/faostat/en/#data/SDGB**

- **ST3
  https://databank.worldbank.org/reports.aspx?source=1181&series=PV.PER.RNK**

- **ST4 – ST5 https://www.fao.org/faostat/en/#data/FS**

Thank you!