Official Statistics for SDGs- Lesson 5

5.1 Lesson5

Notes:

Since official statistics are the main resources for SDG indicators, they are useful for SDGs, or rather are focused on by greater number of people in the world more than ever before. The last lesson outlines SDGs and picks up some examples of official statistics which are used for the compilation of SDG indicators.

5.2 Lesson Outline

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This lesson outlines SDGs and the roles of statistics for SDGs, highlighting indicators in relationships with official statistics. This lesson also includes examples, challenges and practices.

5.3 5-1 SDGs

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5.4 Development Achievement Goals

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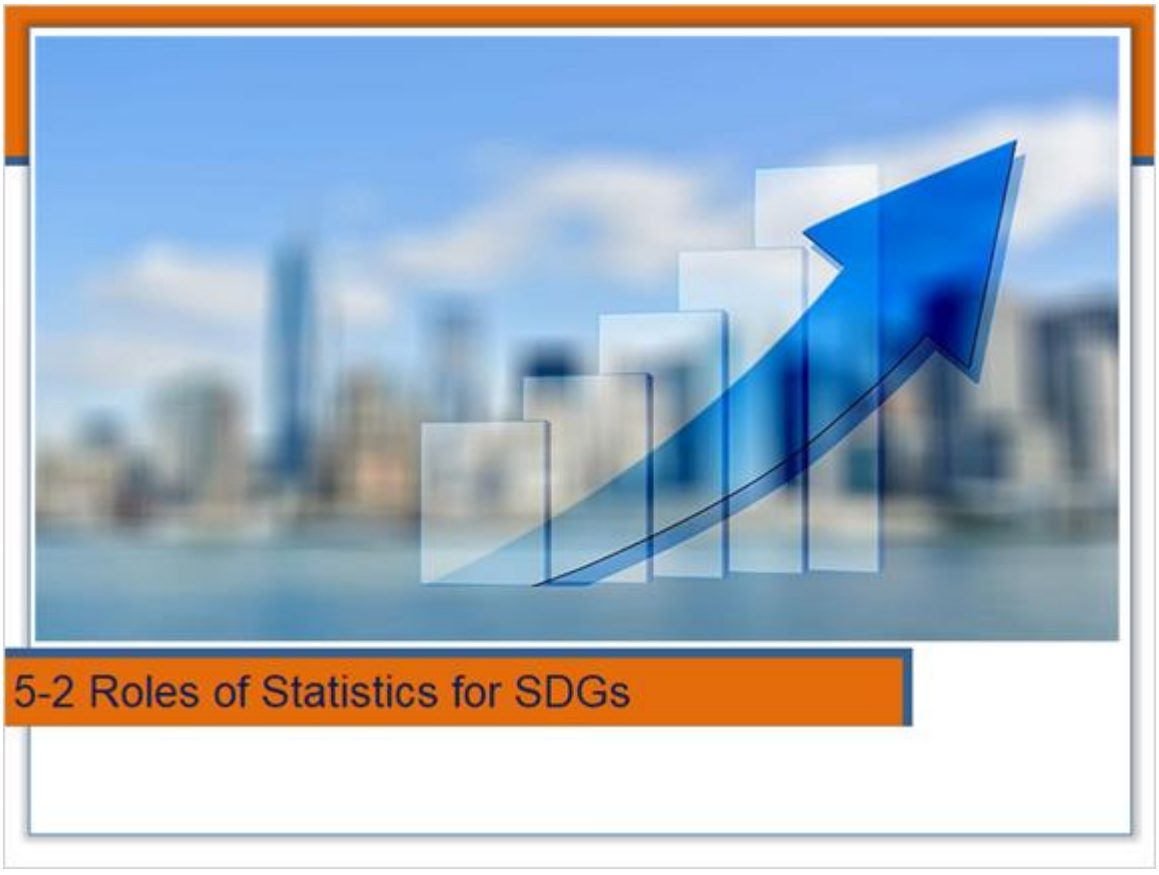
In 2000 the Millennium Development Goals (MDGs) were created. The MDGs provided an important framework for development and significant progress has been made in a number of areas. But the progress has been uneven, particularly in Africa, in the least developed countries, in landlocked developing countries and in small island developing States, and some of the MDGs remain off-track, in particular those related to maternal, newborn and child health and to reproductive health. The new Agenda builds on the MDGs and seeks to complete what they did not achieve, particularly in reaching the most vulnerable.

This new Agenda is a plan of action for people, planet and prosperity. It also seeks to strengthen universal peace in larger freedom. All countries and all stakeholders, acting in collaborative partnership, are implementing this plan. The 17 Sustainable Development Goals and 169 targets demonstrate the scale and ambition of this new universal Agenda. They seek to build on the MDGs and complete what they did not achieve. They seek to realize the human rights of all and to achieve gender equality and the empowerment of all women and girls. They are integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental.

The Goals and targets will stimulate action by 2030 in areas of critical importance for humanity and the planet. According to Agenda 2030, follow-up and review processes are built on existing platforms and processes, avoid duplication and respond to national circumstances, capacity needs and priorities. These processes are evolving over time taking into account emerging issues and methodological development and minimizing reporting burden on national administrations. Some countries have already carried out or are in the process of assessing their readiness to provide data on SDGs for global, regional, subregional and national reporting. Some have also begun identifying data gaps where statistics and indicators will require development to inform the SDGs.

5.5 5-2 Roles of Statistics for SDGs



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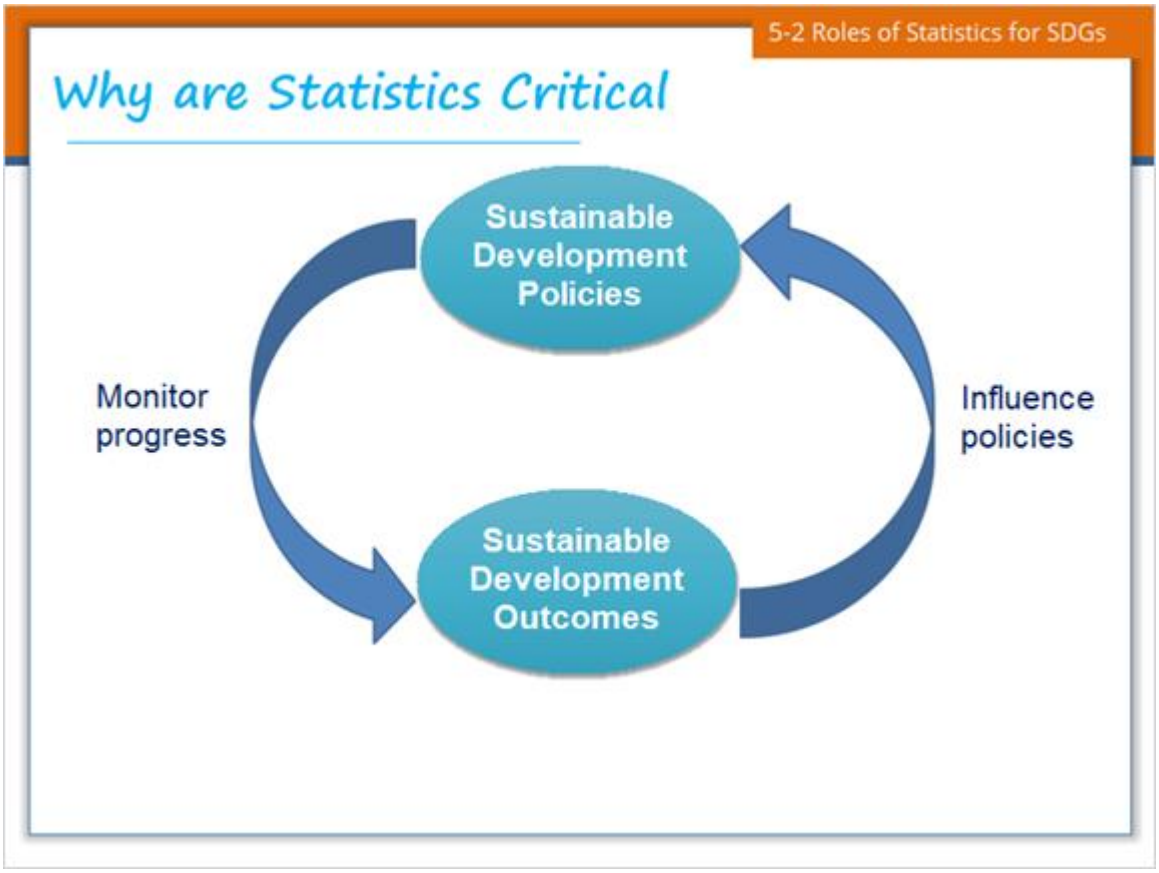
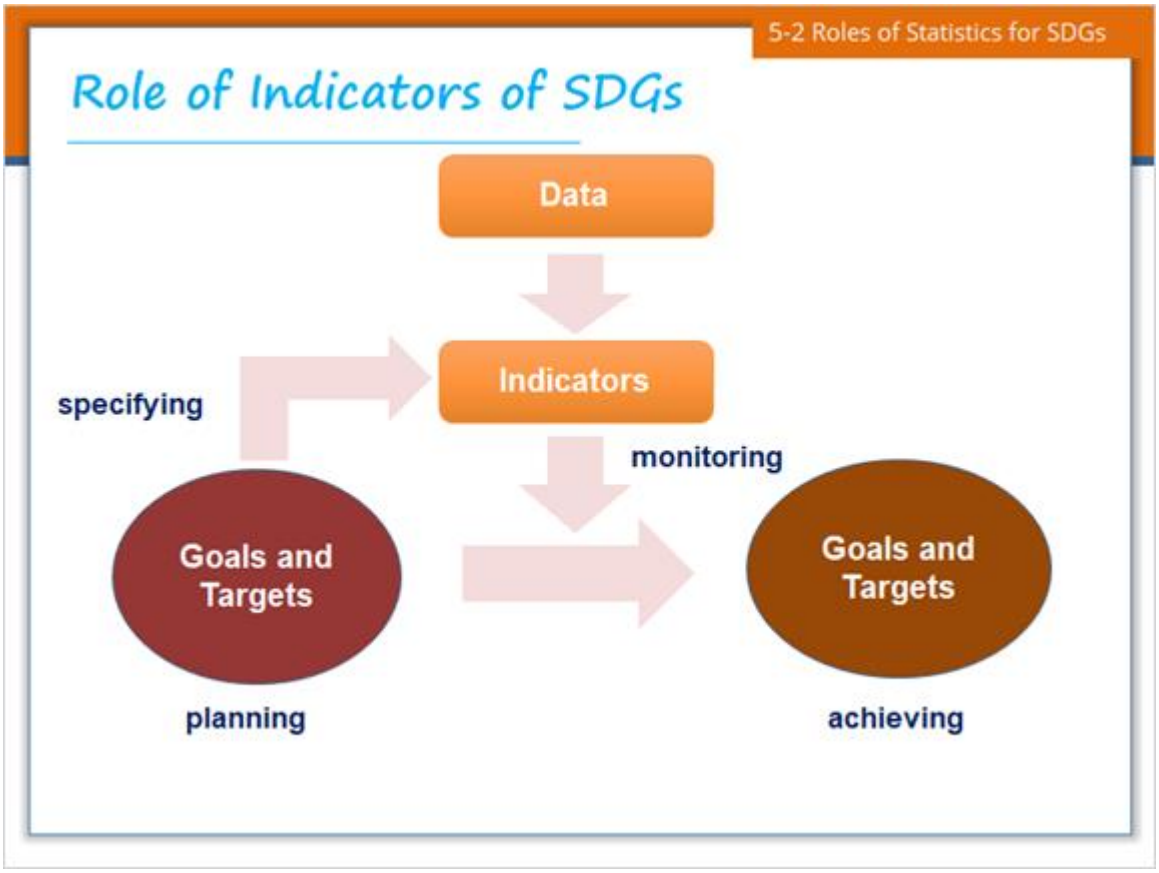
5.6 Why are Statistics Critical



Notes:

Sustainable development policies and sustainable development outcomes are closely related to each other. Sustainable development policies monitor the progress of sustainable development outcomes while sustainable development outcomes influence sustainable development policies. They are developed through mutual feedbacks. Official statistics underpin sustainable development outcomes as evidences.

5.7 Role of Indicators of SDGs

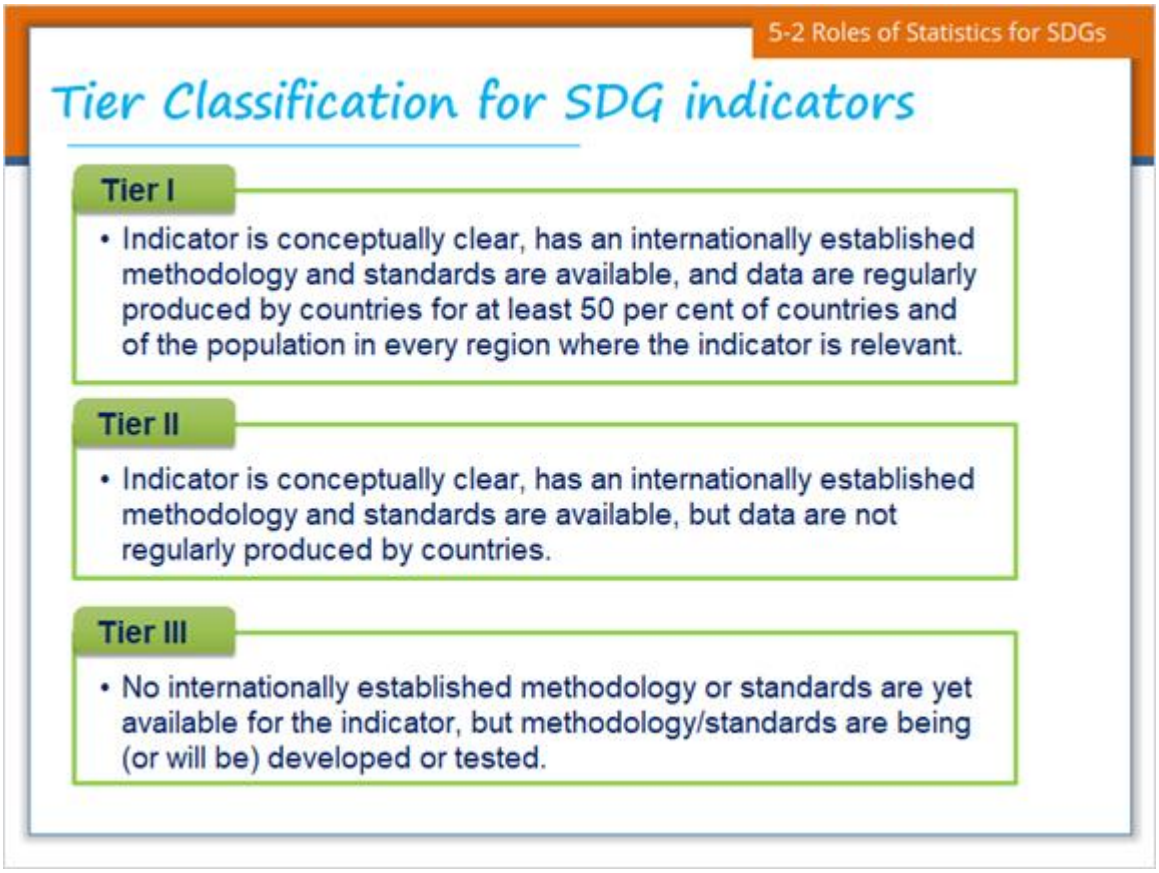


Notes:

Role of indicators is specifying and monitoring the goals and targets of SDGs.

Nevertheless, a comprehensive set of indicators represents a challenge. While a global list of indicators has been agreed upon, many of these indicators either lack an established methodology or are not supported by the regular production of relevant official statistical data.

5.8 Tier Classification for SDG indicators



Notes:

To facilitate the implementation of the global indicator framework, all indicators are classified into three tiers based on their level of methodological development and the availability of data at the global level, as shown on the slide.

All indicators are equally important, and the establishment of the tier system is intended solely to assist in the development of global implementation strategies. For Tier I and II indicators, the availability of data at the national level may not necessarily align with the global tier classification and countries can create their own tier classification for implementation.

Please note that Tier I and II indicators' metadata are available in the metadata repository. Tier III indicators require work plans to be developed. With the methodological development of an indicator, its Tier will be changed.

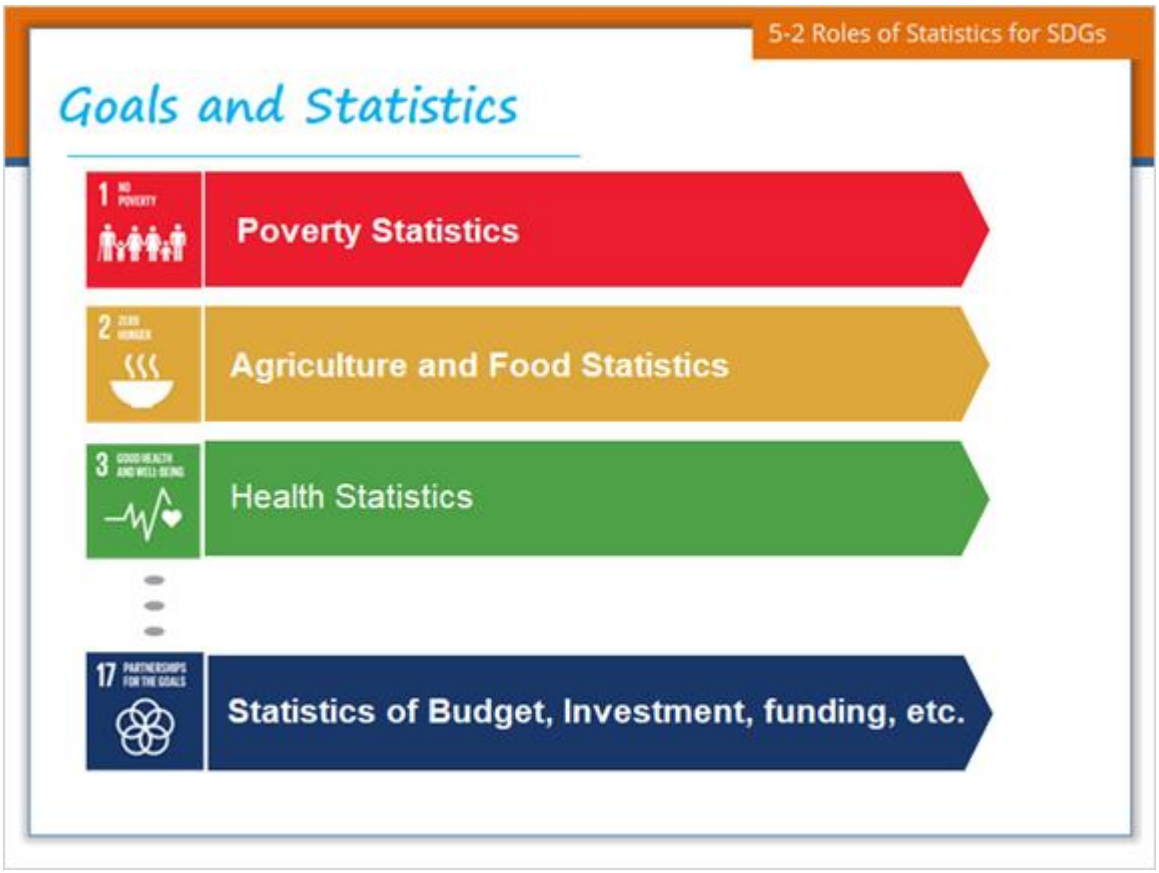
In some cases, data providers for a particular country may have statistics or other forms of information that are similar to, but not exactly the same as, a specific global SDG indicator. These are called “proxy” indicators and countries may wish to report them when reporting the global indicator is not possible.

Proxy indicators should be clearly noted as such when reported. If reporting of both the

proxy and global indicator is possible, the decision to do so will be affected by timing and funding considerations. Other considerations will include the frequency of use of the "proxy" indicator in policy making and breaks in time series, among others. It would be useful to share experiences by using the proxy indicators and to harmonize the definition of proxy indicator as used by different countries.

The UN Statistical Commission has "emphasized that the global indicators . . . are intended for global follow-up and review of the 2030 Agenda for Sustainable Development and are not necessarily applicable to all national contexts, and that indicators for regional, national and subnational levels of monitoring will be developed at the regional and national levels."

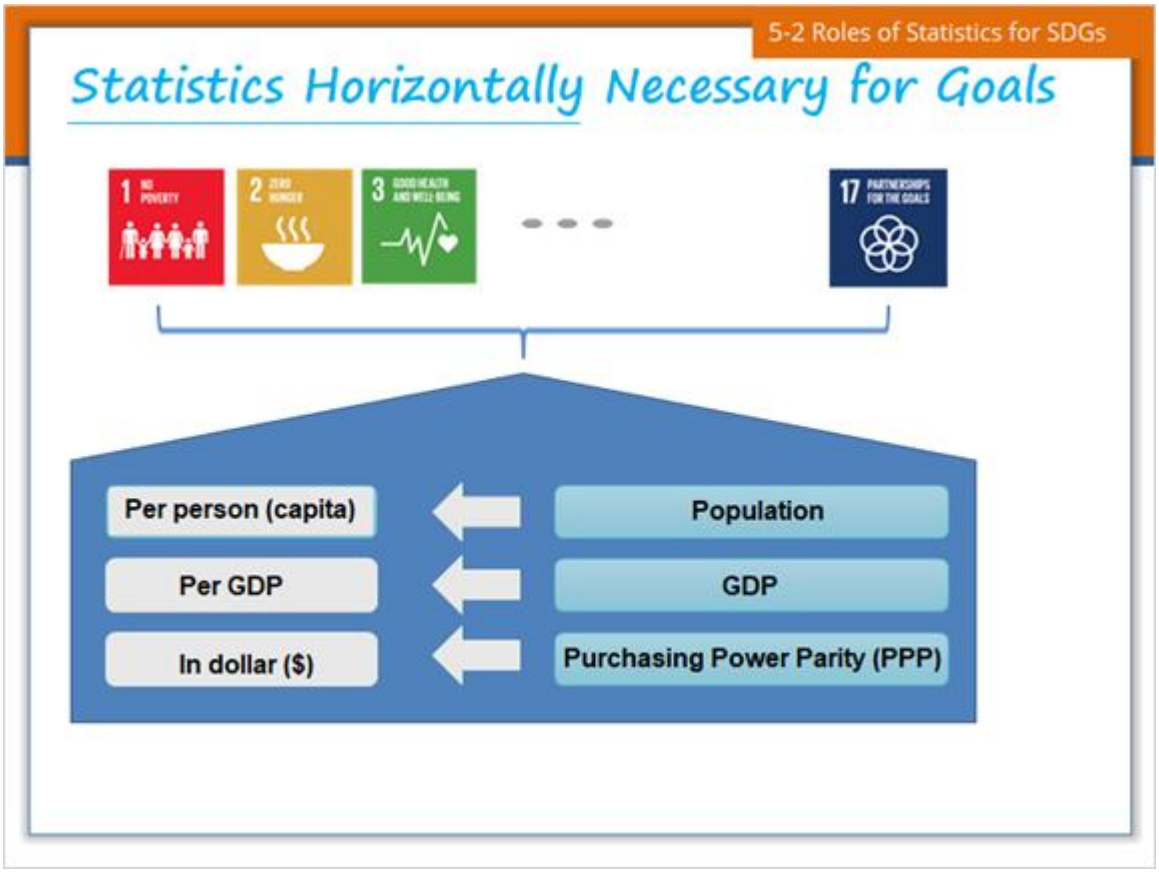
5.9 Goals and Statistics



Notes:

Statistics in some field corresponds to each Goal. For example, poverty statistics contribute to Goal 1: no poverty, agriculture and food statistics to Goal 2: zero hunger.

5.10 Statistics Horizontally Necessary for Goals



Notes:

There are some fundamental statistics which are used across Goals. Some indicators are calculated with adjustment by size such as population, Gross Domestic Product (GDP) , international price levels or land area.

5.11 5-3 Organization for Compiling and Monitoring Indicators

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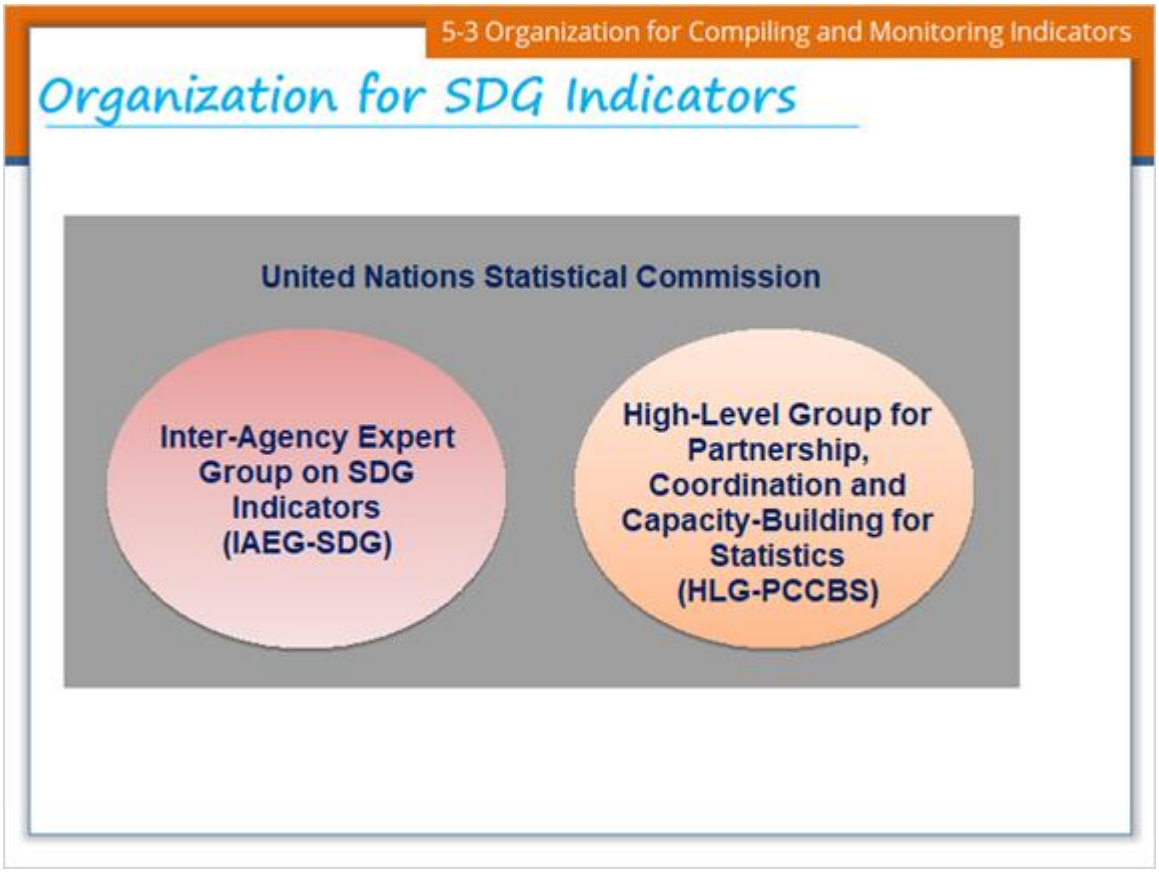
5.12 Organization for SDG Indicators



Notes:

The UN Statistical Commission established the Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs) in March 2015 prior to the adoption of the 2030 Agenda. Its aim is to develop a list of technically robust indicators for the monitoring of the Sustainable Development Goals and targets of 2030 Agenda at the global level, provide technical support for the implementation of the approved indicator and monitoring framework, regularly review methodological developments and issues related to the indicators and their metadata, and report on progress towards the Sustainable Development Goals and targets of 2030 Agenda at the global level. The Group should also regularly review and make recommendations on capacity building activities relevant to SDG monitoring to the UN Statistical Commission, the High-level Group for Partnership, Coordination and Capacity-Building for the 2030 Agenda and the Committee for the Coordination of Statistical Activities, and support work by the Secretariat for the development of a SDG data-user forum, tools for data analysis and an open dashboard on the state of SDGs.

The High-Level Group for Partnership, Coordination and Capacity-Building for Statistics for 2030 Agenda (HLG-PCCB) was also established by the UN Statistical Commission in 2015. Its task is to provide strategic leadership for the SDG implementation process with regard to follow-up and review of the 2030 Agenda. HLG-PCCB is responsible for

establishing and supporting a member state-led reporting process at the global level.

HLG-PCCB collaborates with IAEG-SDGs regarding the development and coordination of global reporting mechanisms. A joint-subgroup of the HLG-PCCB and IAEG-SDGs is tasked with developing a plan to address the immediate priorities including statistical capacity building and financial framework for the statistical reporting of the global SDG indicators.

5.13 Resolutions of the 2030 Agenda of UN General Assembly

Notes:

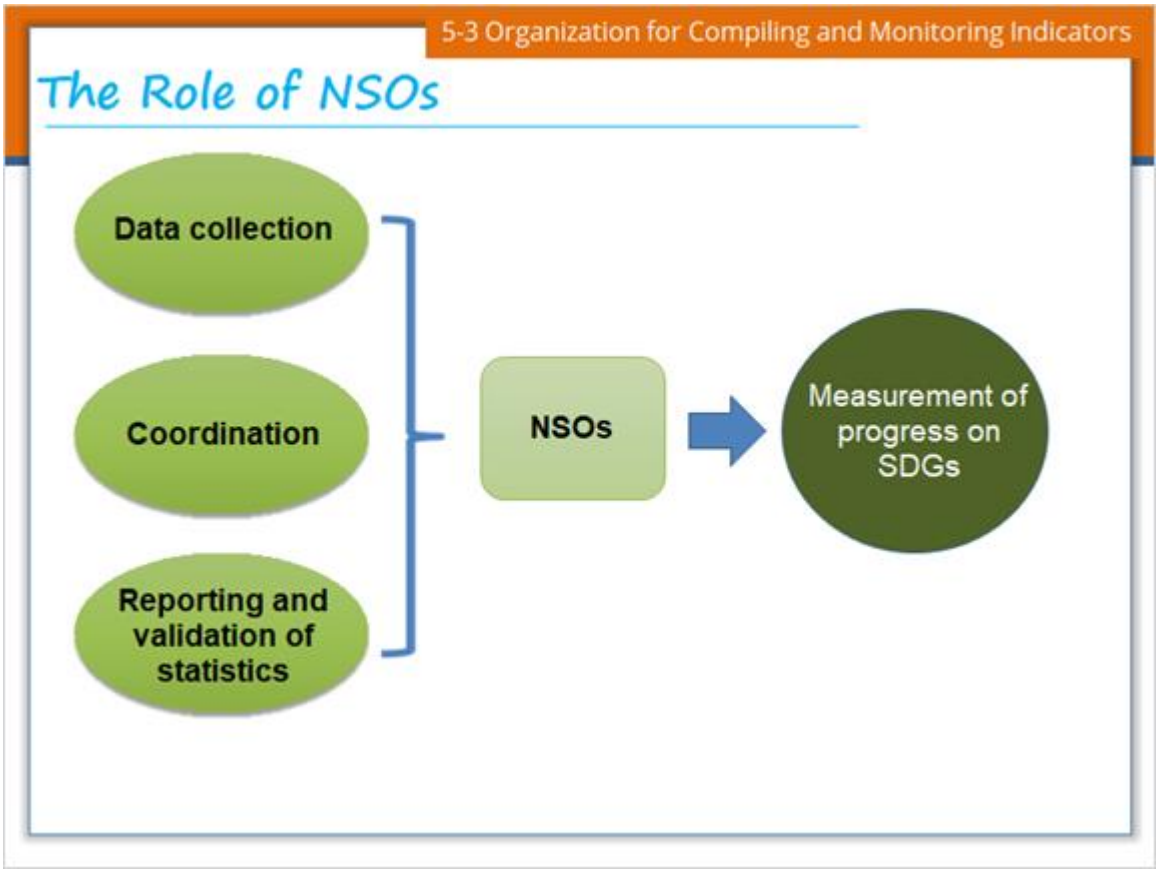
From the view of official statistics, the outlines of the Resolutions of UN General Assembly are the following.

In Resolution 70/1, the General Assembly decided the 17 Sustainable Development Goals and 169 targets, and that the Sustainable Development Goals and targets will be followed up and reviewed using a set of global indicators developed by the IAEG-SDGs. In the same resolution, the General Assembly agreed that the follow-up and review of the 2030 Agenda for Sustainable Development at the High-Level Political Forum (HLPF) on Sustainable Development will be informed by an annual progress report on the SDGs

to be prepared by the Secretary-General in cooperation with the United Nations system, based on the global indicator framework, and that follow-up and review processes will be rigorous and based on evidence, informed by country-led evaluations and data which is high-quality, accessible, timely, reliable and disaggregated by income, sex, age, race, ethnicity, migration status, disability and geographic location and other characteristics relevant in national contexts.

In Resolution 71/313, the General Assembly adopted the global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development, developed by the IAEG-SDGs, as a voluntary and country-led instrument that includes the initial set of indicators to be refined annually and reviewed comprehensively by the Statistical Commission in 2020, in 2025, and will be complemented by indicators at the regional and national levels, which will be developed by Member States. The General Assembly requested the Statistical Commission to coordinate the substantive and technical work to develop international statistical standards, methods and guidelines, where necessary, to fully implement the global indicator framework to follow up and review the Sustainable Development Goals and targets, and through the IAEG-SDGs, to further refine and improve the global indicator framework in order to address coverage, alignment with targets, definition of terms and development of metadata and to facilitate its implementation, including through the periodic review of new methodologies and data as they become available. Furthermore, the General Assembly requested the Secretary-General to continue to maintain the SDGs global indicator database to inform the yearly progress report on the Goals and to ensure transparency on the data, statistics and metadata presented on countries and used for the regional and global aggregates, and continue to facilitate collaboration between NSSs and the relevant international and regional organizations to enhance data reporting channels and ensure the harmonization and consistency of data and statistics for the indicators used to follow up and review the Sustainable Development Goals and targets, within existing resources.

5.14 The Role of NSOs



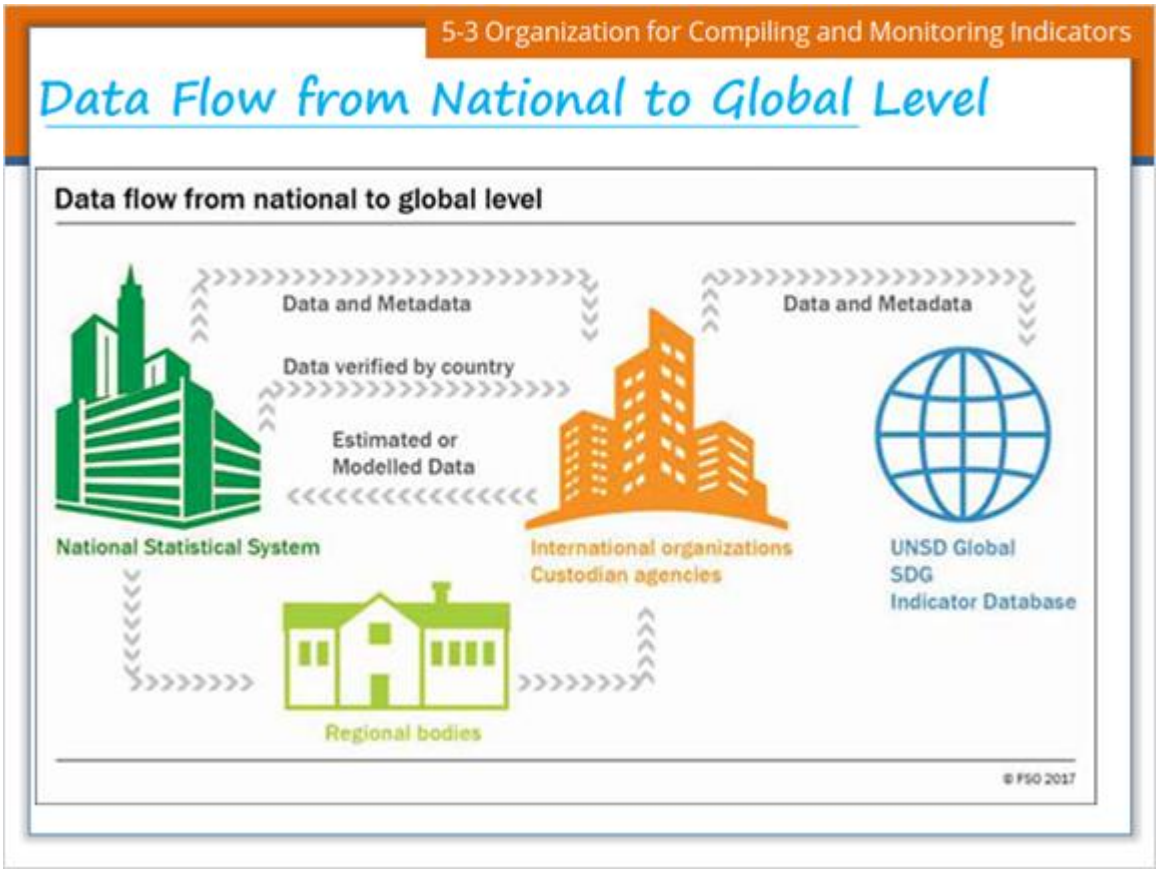
Notes:

High quality data (i.e., reliable, timely, consistent and comparable data) are required in order to measure and monitor progress towards the SDGs. NSOs play a pivotal role in the areas of data collection, coordination, reporting and validation of statistics for the SDGs. It is the responsibility of NSOs to provide statistics to international agencies to support the measurement of progress on SDGs. This includes identifying appropriate data sources and methodologies to produce the SDG indicators.

NSOs will play a key role in measuring the achievement of SDGs. According to the 2030 Agenda the annual progress report on the SDGs prepared by the UN Secretary General in cooperation with the international statistical system will be based on global indicators and data produced by NSSs. The follow-up and review processes at all levels will be "rigorous and based on evidence, informed by country-led evaluations and data which is high-quality, accessible, timely, reliable and disaggregated by income, sex, age, race, ethnicity, migration status, disability and geographic location and other characteristics relevant in national contexts." For the purposes of this document, it is important to differentiate between the terms "reporting" on SDGs and "providing data and statistics for measuring progress" towards Sustainable Development Goals and targets. "Reporting" on SDGs concerns tracking the progress towards SDGs and targets at policy

level. It requires an evaluation of adequate progress given policy priorities. The global reporting by the UN Secretary General to the HLPF on Sustainable Development and the voluntary country reviews at HLPF are two such examples. In many countries, government policy offices (such as a national SDG implementation focal point, Ministry, Prime Minister's office, etc.) coordinate SDG reporting. There can also be national policy offices coordinating specific Goals. Often the development of national SDG indicators is led by national policy offices. In contrast, the provision of statistics for SDGs to support the measurement and achievement of SDGs is the task of statisticians. This pertains to identification of appropriate data sources and methodologies to produce the statistics corresponding to SDG indicators. NSOs, as the SDGs statistics focal point, should closely cooperate with the SDGs national policy focal point. The implementation of the key coordinating role of NSOs in practice depends on the setup of the statistical system, national statistical legislation, and existing frameworks for cooperation between statisticians and policy makers. A good basis for identifying data providers in a country is an assessment of readiness to provide data on SDG indicators and identification of data gaps.

5.15 Data Flow from National to Global Level



Notes:

International organizations designated as custodian agencies have a specific role in compiling data for SDG indicators and making adjustments if necessary, in close communication with the NSOs.

5.16 5-4 Indicator Examples

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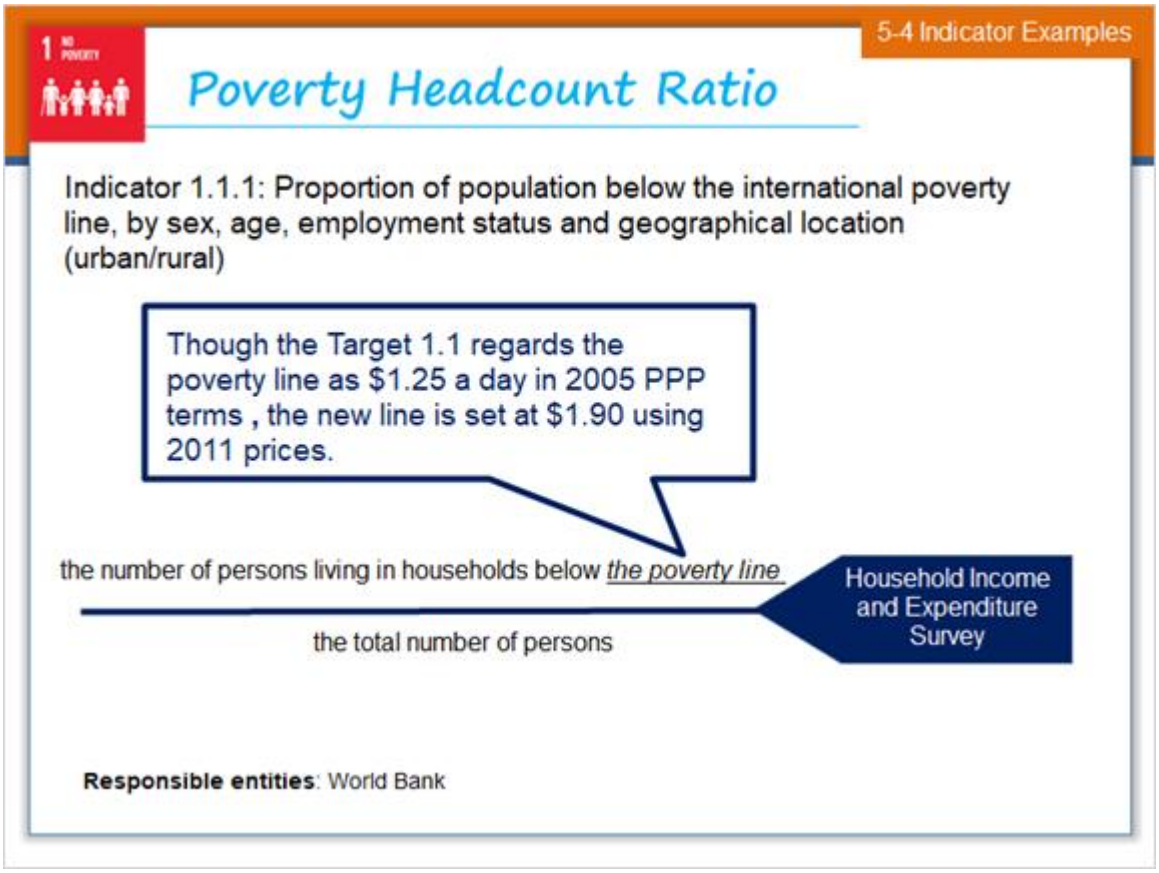
5.17 Poverty Headcount Ratio



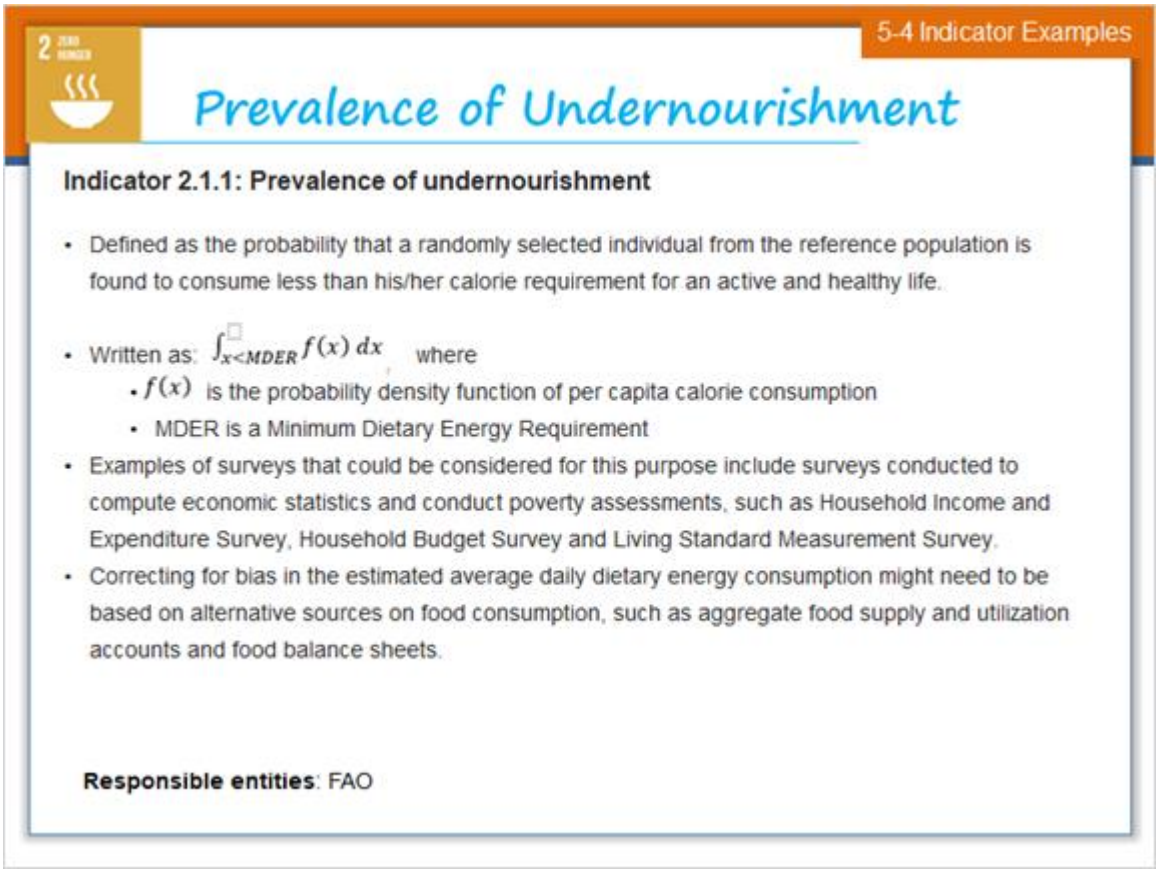
Notes:

On this slide, an indicator, preferably the first indicator, of each Goal is broke down into numerators and denominators.

For Goal 1: no poverty, poverty line is the threshold below which individuals in the reference population are considered poor and above which they are considered non-poor. The threshold is generally defined as the per-capita monetary requirements an individual needs in order to afford the purchase of a basic bundle of goods and services.

Households are defined as poor if their income or consumption expenditure is below the poverty line taking into account the number of household members and the household composition. The Household Income and Expenditure Survey is the typical data source for the indicator.

5.18 Prevalence of Undernourishment



Notes:

Undernourishment is defined as the condition by which a person has access, on a regular basis, to amounts of food that are insufficient to provide the energy required for conducting a normal, healthy and active life, given his or her own dietary energy requirements.

The prevalence of undernourishment (PoU) is 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. It is expressed as a percentage.

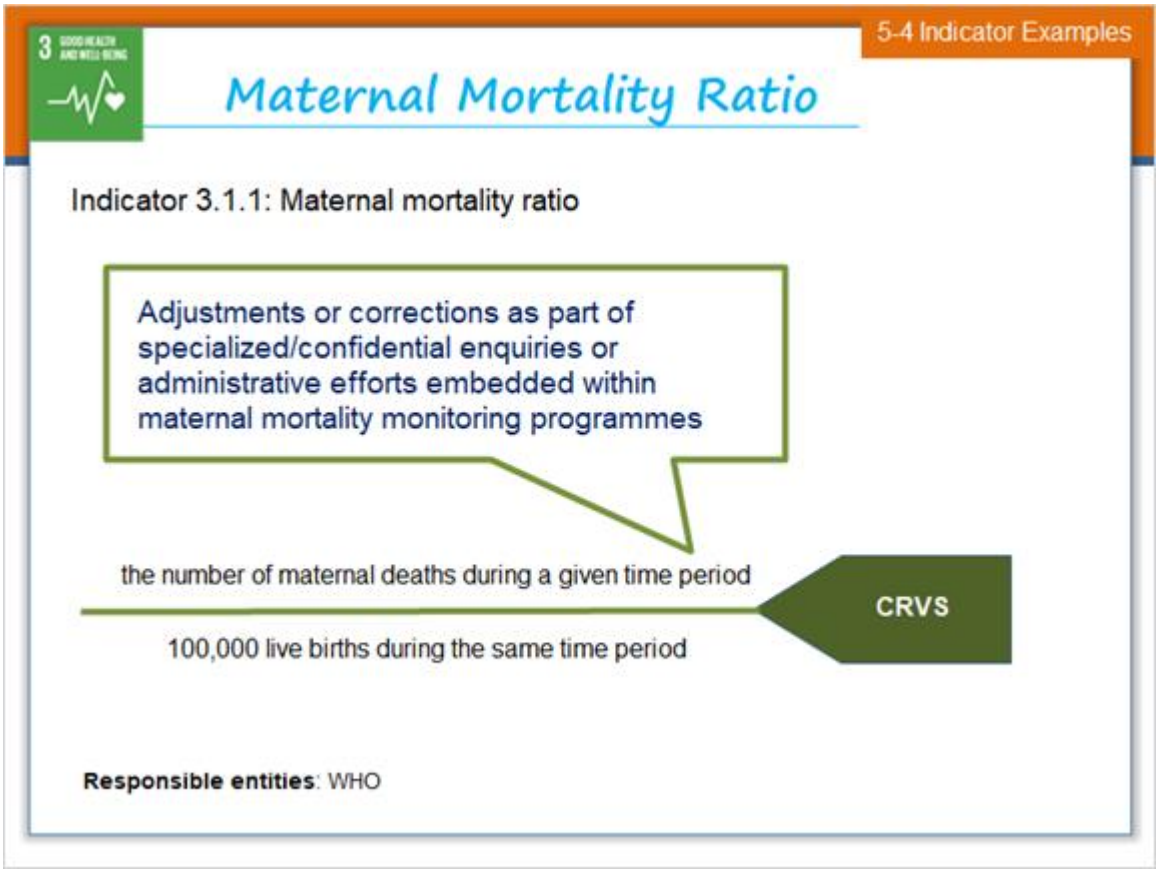
The ideal source of data to estimate the PoU would be a carefully designed and skillfully conducted individual dietary intake survey, in which actual daily food consumption, together with heights and weights for each surveyed individual, are repeatedly measured on a sample that is representative of the target population.

Examples of surveys that could be considered for this purpose include surveys conducted to compute economic statistics and conduct poverty assessments, such as Household Income and Expenditure Surveys, Household Budget Surveys and Living Standard Measurement Surveys.

In practice, however, it is often impossible, and not advisable, to rely only on data collected through a household survey, as the information needed to estimate the parameters of the PoU model is either missing or imprecise.

Correcting for bias in the estimated average daily dietary energy consumption might need to be based on alternative sources on food consumption, such as aggregate food supply and utilization accounts and food balance sheets.

5.19 Maternal Mortality Ratio

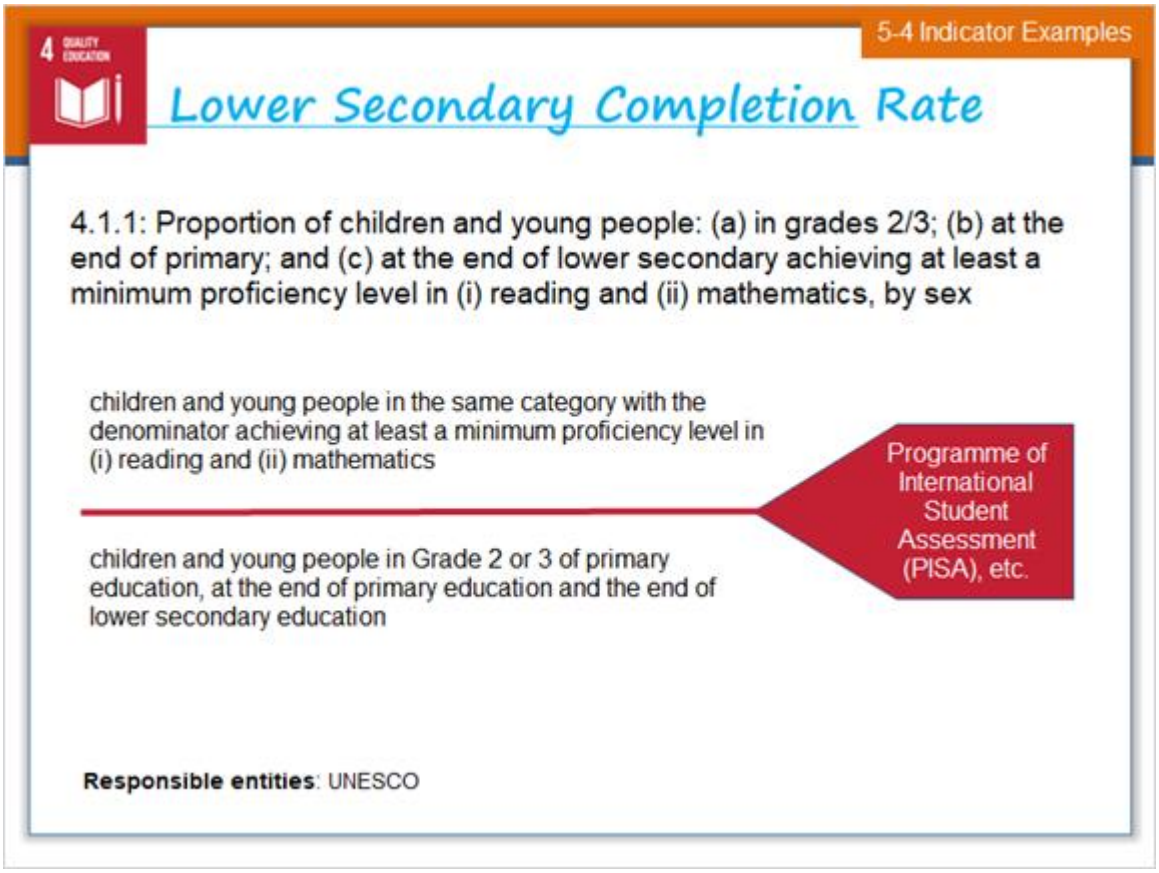


Notes:

Maternal deaths means the annual number of female deaths from any cause related to or aggravated by pregnancy or its management excluding accidental or incidental causes during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, expressed per 100,000 live births, for a specified time period.

The maternal mortality ratio can be calculated directly from data collected through vital registration systems, household surveys or other sources. There are often data quality problems, particularly related to the underreporting and misclassification of maternal deaths. Therefore, data are often adjusted in order to take these data quality issues into account. Some countries undertake these adjustments or corrections as part of specialized/confidential enquiries or administrative efforts embedded within maternal mortality monitoring programmes.

5.20 Lower Secondary Completion Rate



Notes:

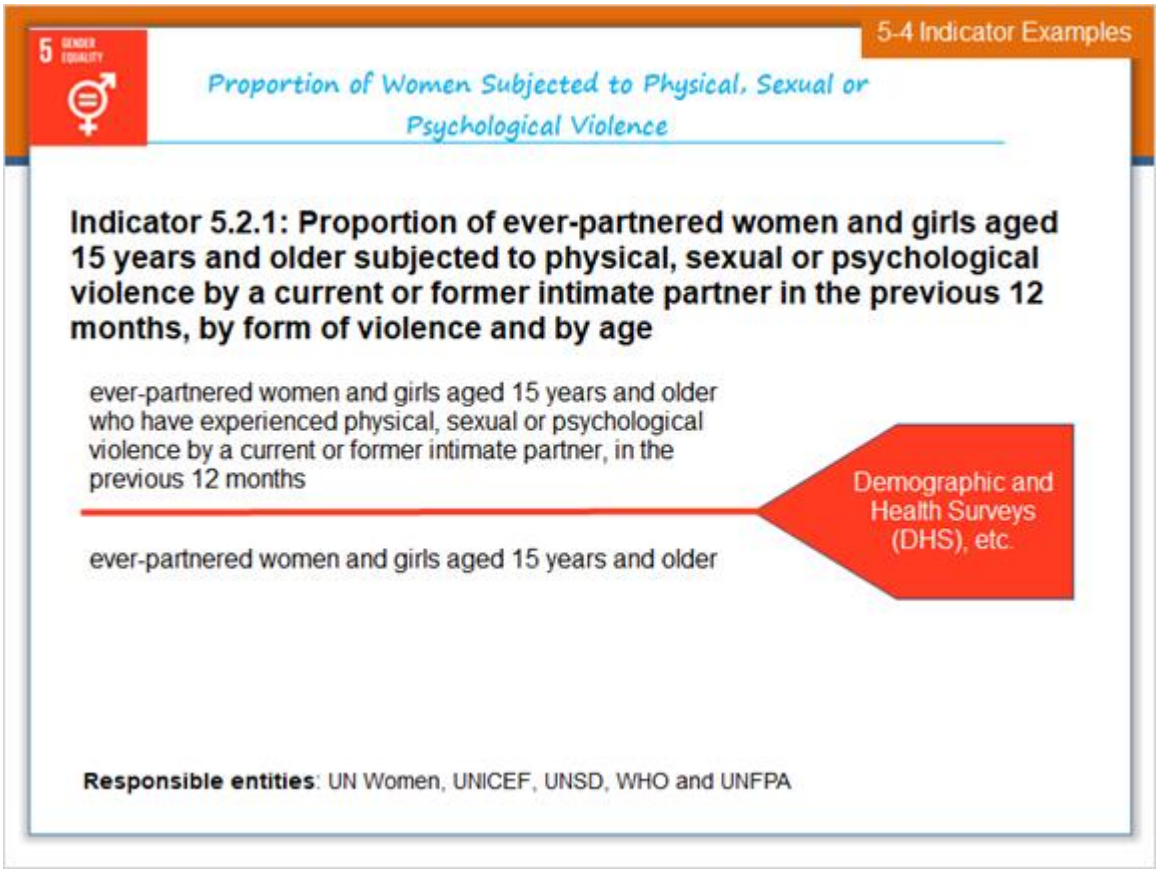
The minimum proficiency level will be measured relative to new common reading and mathematics scales currently in development.

While data from many national assessments are available now, every country sets its own standards so the performance levels might not be comparable. One option is to link existing regional assessments based on a common framework. Furthermore, assessments are typically administered within school systems, the current indicators cover only those in school and the proportion of in-school target populations might vary

from country to country due to varied out-of-school children populations. Assessing competencies of children and young people who are out of school would require household-based surveys. Assessing children in households is under consideration but may be very costly and difficult to administer and unlikely to be available on the scale needed within the next 3-5 years. Finally, the calculation of this indicator requires specific information on the ages of children participating in assessments to create globally-comparable data. The ages of children reported by the head of the household might not be consistent and reliable so the calculation of the indicator may be even more challenging. Due to the complication in assessing out-of-school children and the main focus on improving education system, the UNESCO Institute for Statistics is taking a stepping stone approach. It will concentrate on assessing children in school in the medium term, where much data are available, then develop more coherent implementation plan to assess out-of-school children in the longer term.

Various cross-national learning assessments including Programme d'analyse des systèmes éducatifs de la CONFEMEN (PASEC), Progress in International Reading Literacy Study (PIRLS), Programme for International Student Assessment (PISA), Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ), Tercer Estudio Regional Comparativoy Explicativo (TERCE) and Trends in International Mathematics and Science Study (TIMSS). (a) Short-term strategy: Use national large-scale representative assessment data from cross-national assessments even though the performance levels may not be directly comparable. (b) Medium-term strategy: Use a global reporting scale based on either a new test or the statistical linking of national, regional and cross-national assessments.

5.21 Proportion of Women Subjected to Physical, Sexual or Psychological Violence



Notes:

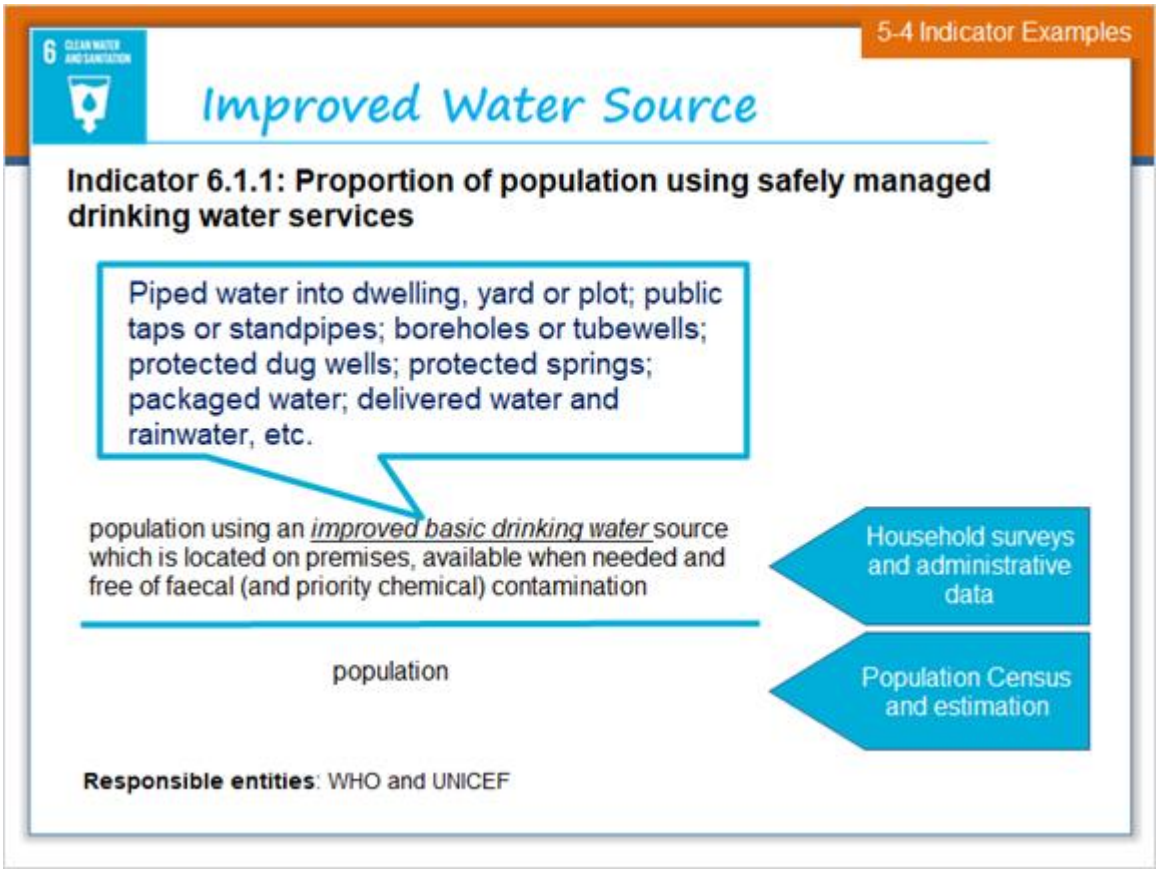
For Goal 5: gender equality, the first indicator measures government efforts to put in place legal frameworks. Since the first indicator was initially in Tier 3, the second indicator is introduced here.

Violence directed at women and girls is the most common form of gender-based violence. In societies that sanction male dominance over women, violence between intimate partners may be perceived as an ordinary component of interpersonal dynamics between the sexes, particularly in the context of marriage or other formal unions. Therefore, it represents one manifestation of gender inequality.

Prevalence data are required to measure the magnitude of the problem; understand the various forms of violence and their consequences; identify groups at high risk; explore the barriers to seeking help; and ensure that the appropriate responses are being provided. These data are the starting point for informing laws, policies, and developing effective responses and programmes, as needed. They also allow countries to monitor change over time and assess the effectiveness of their interventions.

The main sources of intimate partner violence prevalence data are (1) specialized national surveys dedicated to measuring violence against women and (2) international household surveys that include a module on experiences of violence by women, such as the DHS.

5.22 Improved Water Source



Notes:

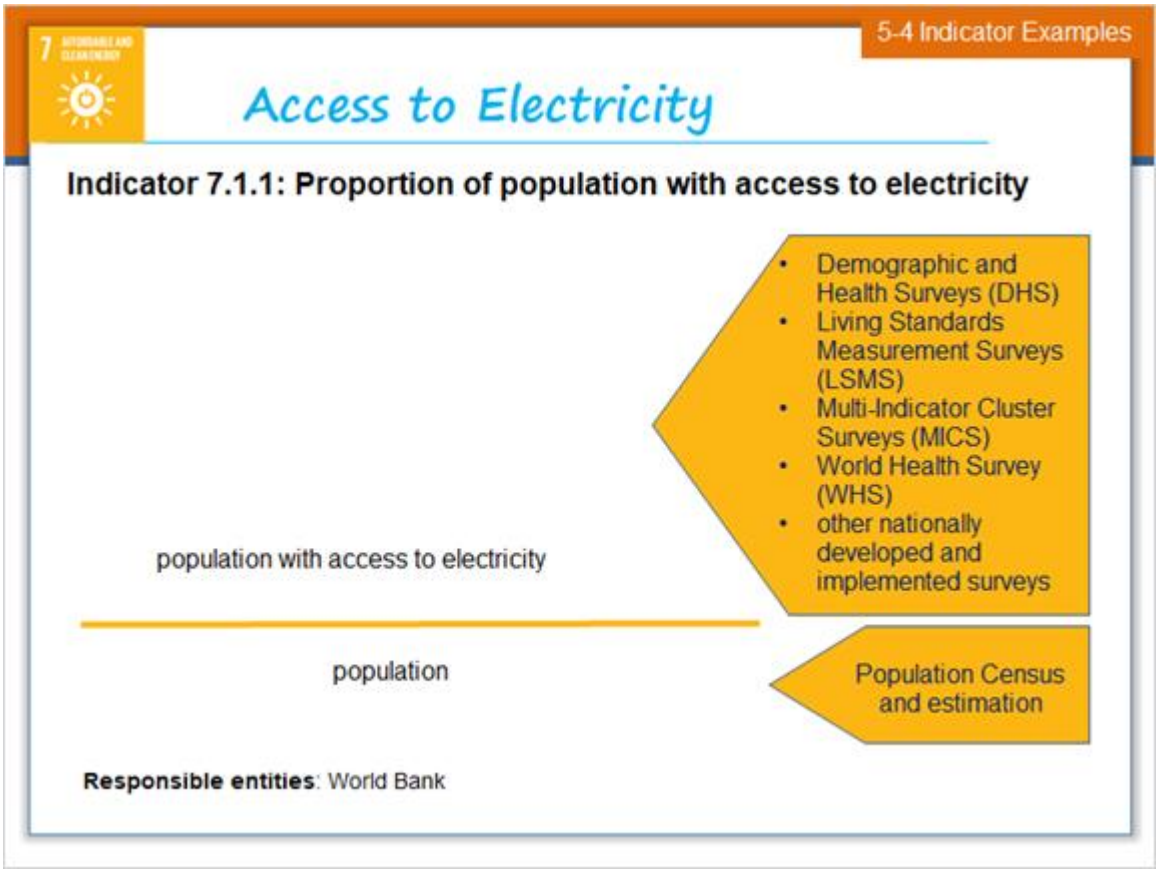
A water source is considered to be 'located on premises' if the point of collection is within the dwelling, yard, or plot.

Access to water and sanitation are considered core socio-economic and health indicators, and key determinants of child survival, maternal, and children's health, family wellbeing, and economic productivity. Drinking water and sanitation facilities are also used in constructing wealth quintiles used by many integrated household surveys to analyze inequalities between rich and poor. Access to drinking water and sanitation is therefore a core indicator for most household surveys. In high-income countries where household surveys or censuses do not always collect information on basic access, data

are drawn from administrative records.

Data on availability and quality of drinking water, and regulation by appropriate authorities will be collected by the WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP) through consultation with the government departments responsible for drinking water supply and regulation. The JMP routinely conducts country consultations with national authorities before publishing country estimates. Data on availability and quality of water supplies are currently available from household surveys or administrative sources including regulators for over 70 high-income countries, and at least 30-40 low- and middle-income countries.

5.23 Access to Electricity



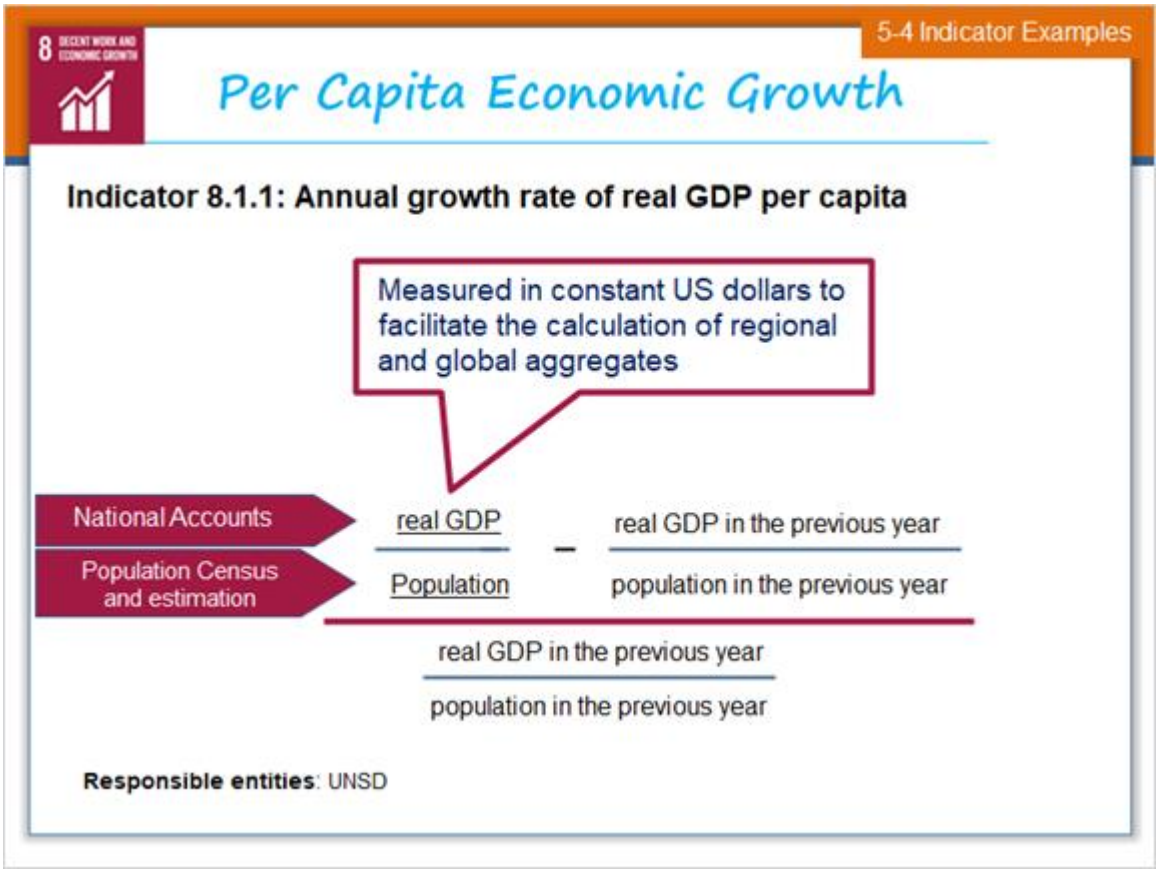
Notes:

Access to electricity addresses major critical issues in all the dimensions of sustainable development. The target has a wide range of social and economic impacts, including facilitating development of household-based income generating activities and lightening the burden of household tasks.

Data for access to electricity are collected entirely from household surveys (and

occasionally censuses), tapping into a wide number of different household survey types including: Demographic and Health Surveys (DHS) and Living Standards Measurement Surveys (LSMS), Multi-Indicator Cluster Surveys (MICS), the World Health Survey (WHS), other nationally developed and implemented surveys, including those by various government agencies (for example, ministries of energy and utilities).

5.24 Per Capita Economic Growth



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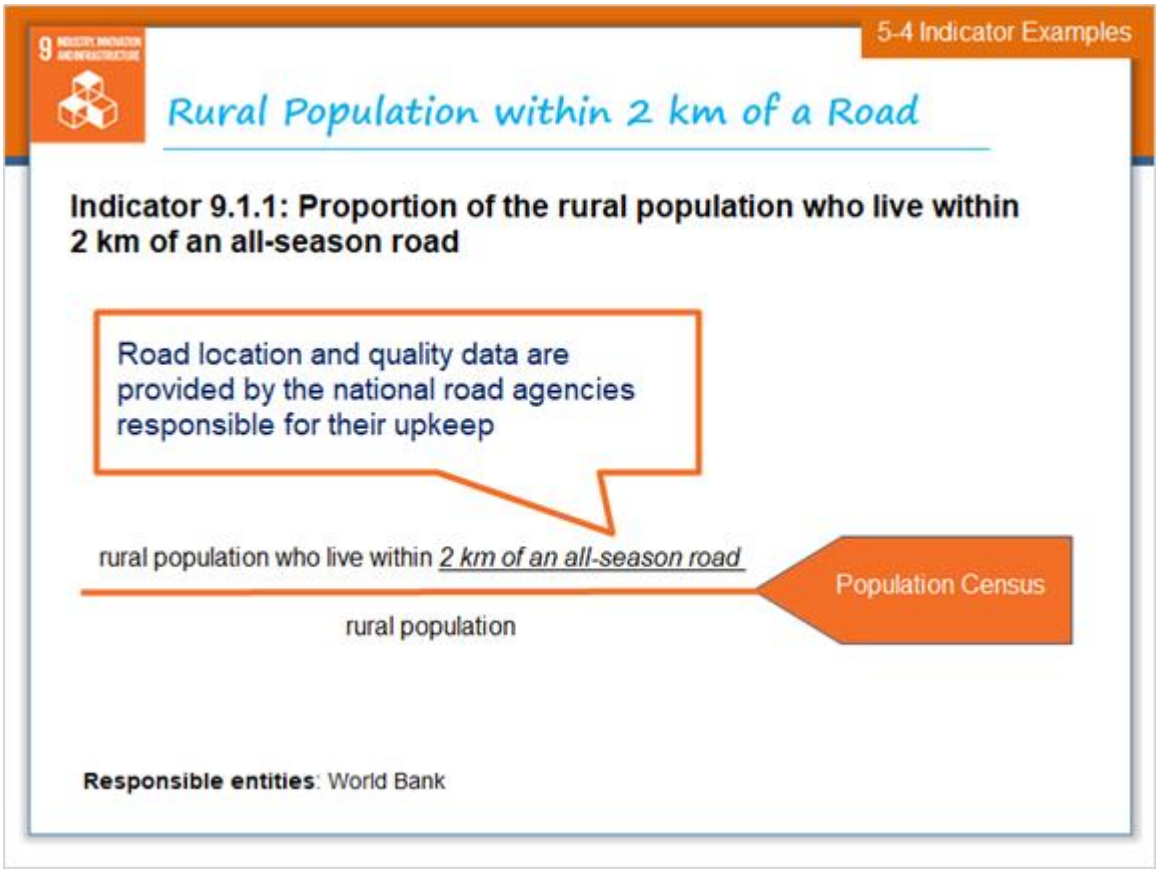
Real Gross Domestic Product (GDP) per capita is a proxy for the average standard of living of residents in a country or area. A positive percentage change in annual real GDP per capita can be interpreted as an increase in the average standard of living of the residents in a country or area.

GDP measures the monetary value of final goods and services produced in an economic territory/country in a given period of time (a quarter or a year). It is calculated without making deductions for depreciation of produced assets or for depletion and degradation of natural resources. GDP can be measured using the

expenditure approach as the sum of expenditure on final consumption plus gross capital formation plus exports less imports, the production approach as the value of output less intermediate consumption plus any taxes less subsidies on products not already included in the value of output, or the income approach as compensation of employees plus gross operating surplus plus gross mixed incomes plus taxes less subsidies on both production and imports.

Please take care the index is not calculating the growth rate of real GDP and then divided by population, but calculating real GDP per capita and then calculating the growth.

5.25 Rural Population within 2 km of a Road



Notes:

Among other factors, transport connectivity is an essential part of the enabling environment for inclusive and sustained growth. In developing countries, the vast majority of agricultural production remains smallholder farming with limited access to local, regional, or global markets. Isolated manufacturing and other local businesses except for those related to mining often lag behind in the global market. Limited

transport connectivity is also a critical constraint to accessing social and administrative services, especially in rural areas where the majority of the poor live.

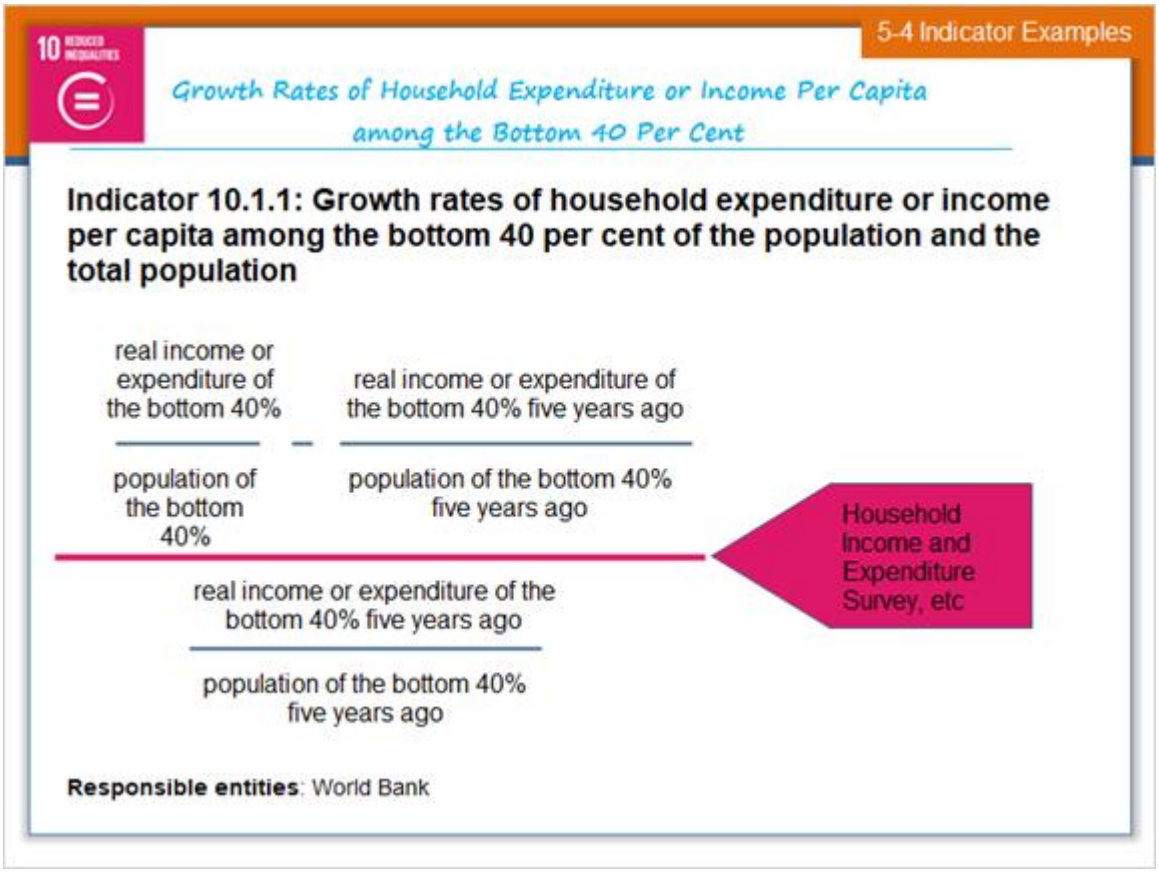
Rural access is key to unleashing untapped economic potential and eradicating poverty in many developing countries. In the short term, transport costs and travel time can be reduced by improved road conditions. Over the longer term, agricultural productivity will be increased, and firms will become more profitable with the creation of more jobs, eventually helping to alleviate poverty.

To make good investments, quality data are required. Since resources are limited, it is essential to understand where the most critical unmet needs exist, and monitor efforts made over time. In the transport sector, there are few global indicators. The quality of roads is often unknown and a matter of concern in developing countries.

The Rural Access Index (RAI), originally developed by the World Bank in 2006, is among the most important global development indicators in the transport sector, providing a strong, clearly understandable and conceptually consistent indicator across countries. It measures the proportion of people living in rural areas who have access to an all-season road within a walking distance of approximately 2 km. Although the underlying methodology has been updated to leverage additional sources of data, the RAI remains the most widely accepted metric for tracking access to transport in rural areas.

The RAI has four primary benefits: sustainability due to its reliance on already existing data, consistency in methodology across countries and time, simplicity in understanding, and operational relevance for the government agencies responsible for generating and aggregating the underlying data.

5.26 Growth Rates of Household Expenditure or Income Per Capita among the Bottom 40 Per Cent



Notes:

The growth rate in the welfare aggregate of bottom 40% is computed as the annualized average growth rate in per capita real consumption or income of the bottom 40% of the income distribution in a country from household surveys over a roughly 5-year period. The national average growth rate in the welfare aggregate is computed as the annualized average growth rate in per capita real consumption or income of the total population in a country from household surveys over a roughly 5-year period.

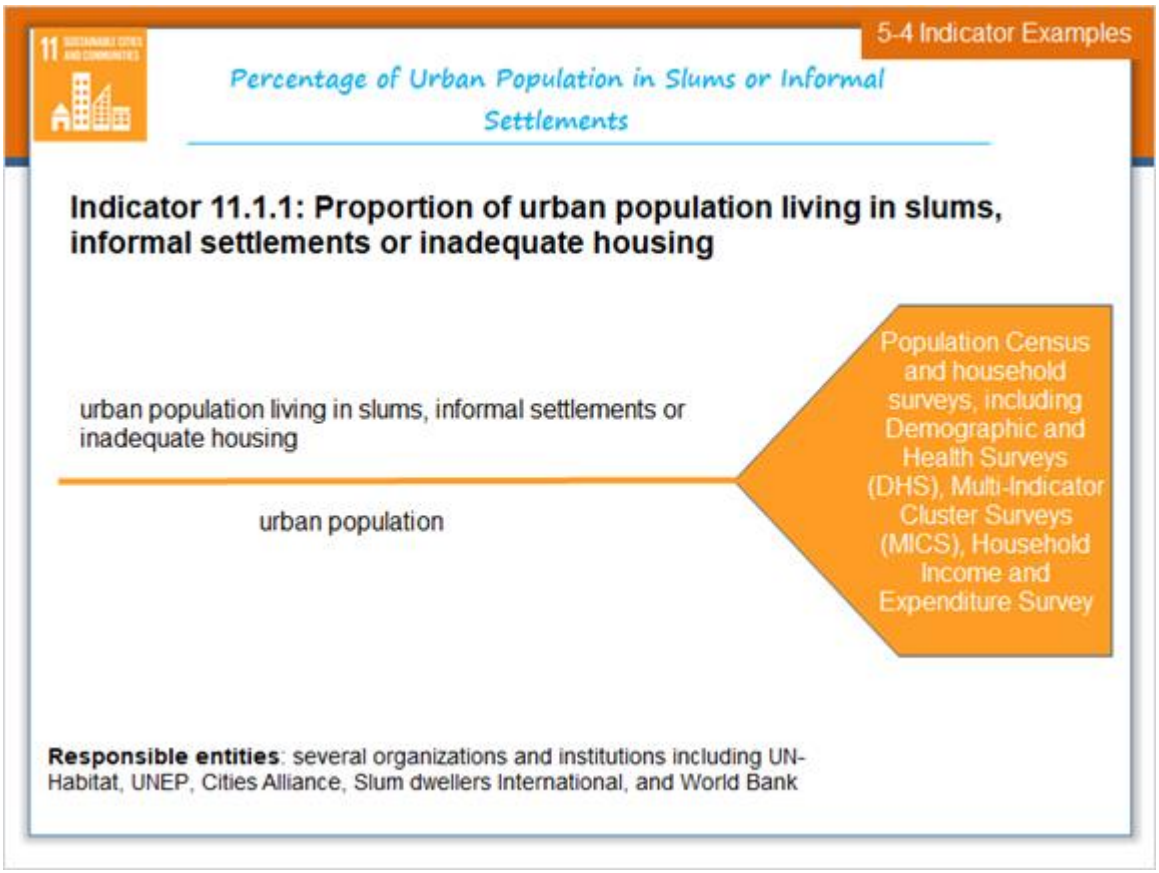
Improvements in shared prosperity require both a growing economy and a consideration of equity. Shared prosperity explicitly recognizes that while growth is necessary for improving economic welfare in a society, progress is measured by how those gains are shared with its poorest members. Moreover, in an inclusive society it is not sufficient to raise everyone above an absolute minimum standard of living; it must ensure that economic growth increases prosperity among the poor over time.

The decision to measure shared prosperity based on income or consumption was not taken to ignore the many other dimensions of welfare. It is motivated by the need for an indicator that is easy to understand, communicate, and measure-though measurement

challenges exist. Indeed, shared prosperity comprises many dimensions of well-being of the less well-off, and when analyzing shared prosperity in the context of a country, it is important to consider a wide range of indicators of welfare.

Promoting shared prosperity is defined as fostering income growth of the bottom 40 percent of the welfare distribution in every country and is measured by calculating the annualized growth of mean per capita real income or consumption of the bottom 40 percent. The choice of the bottom 40 percent as the target population is one of practical compromise. The bottom 40 percent differs across countries depending on the welfare distribution, and it can change over time within a country. Because boosting shared prosperity is a country-specific goal, there is no numerical target defined globally.

5.27 Percentage of Urban Population in Slums or Informal Settlements



Notes:

The nature of the housing sector with its institutions, laws and regulations, is one that touches every single aspect of the economy of a country and has interface with practically every social development sector. People living in adequate homes have better health, higher chances to improve their human capital and seize the

opportunities available in urban contexts. At the same time, a housing sector that performs well acts as a 'development multiplier' benefiting complementary industries, contributing to economic development, employment generation, service provision and overall poverty reduction. Broadly, for every job in the house-building sector, an additional 1.5 to 2 jobs are generally created in the construction materials and other input industries. The contributions of housing to urban prosperity are also evident. The UN-Habitat City Prosperity Initiative reveals indicates that inadequate housing has negative effects on several other dimensions of urban prosperity. Urban contexts with housing conditions below average experience poorer equity and inclusion, reduced urban safety and livelihood opportunities, and have neglected connectivity and provision of public space.

Inadequate housing thus remains very much a global urban sustainability challenge but also development opportunity. At the same time, the thematic area of 'adequate housing' and especially the term 'slums' - are often highly politicized. More nuanced definitions of these terms would enable and support a more robust and measured debate, greater engagement by all key stakeholders and the development of specific recommendations for application within each context and place.

The agreed definition classified a 'slum household' as one in which the inhabitants suffer one or more of the following 'household deprivations':

a.Lack of access to improved water source,

b.Lack of access to improved sanitation facilities,

c.Lack of sufficient living area,

d.Lack of housing durability and,

e.Lack of security of tenure. By extension, the term 'slum dweller' refers to a person living in a household that lacks any of the above attributes.

Informal settlements are usually seen as synonymous of slums, with a particular focus on the formal status of land, structure and services. They are defined by three main criteria. These are:

- Inhabitants have no security of tenure vis-à-vis the land or dwellings they inhabit, with modalities ranging from squatting to informal rental housing,
- The neighborhoods usually lack, or are cut off from, formal basic services and city infrastructure, and
- The housing may not comply with current planning and building regulations, is often situated in geographically and environmentally hazardous areas, and may lack a municipal permit.

Informal settlements can be occupied by all income levels of urban residents, affluent and poor.

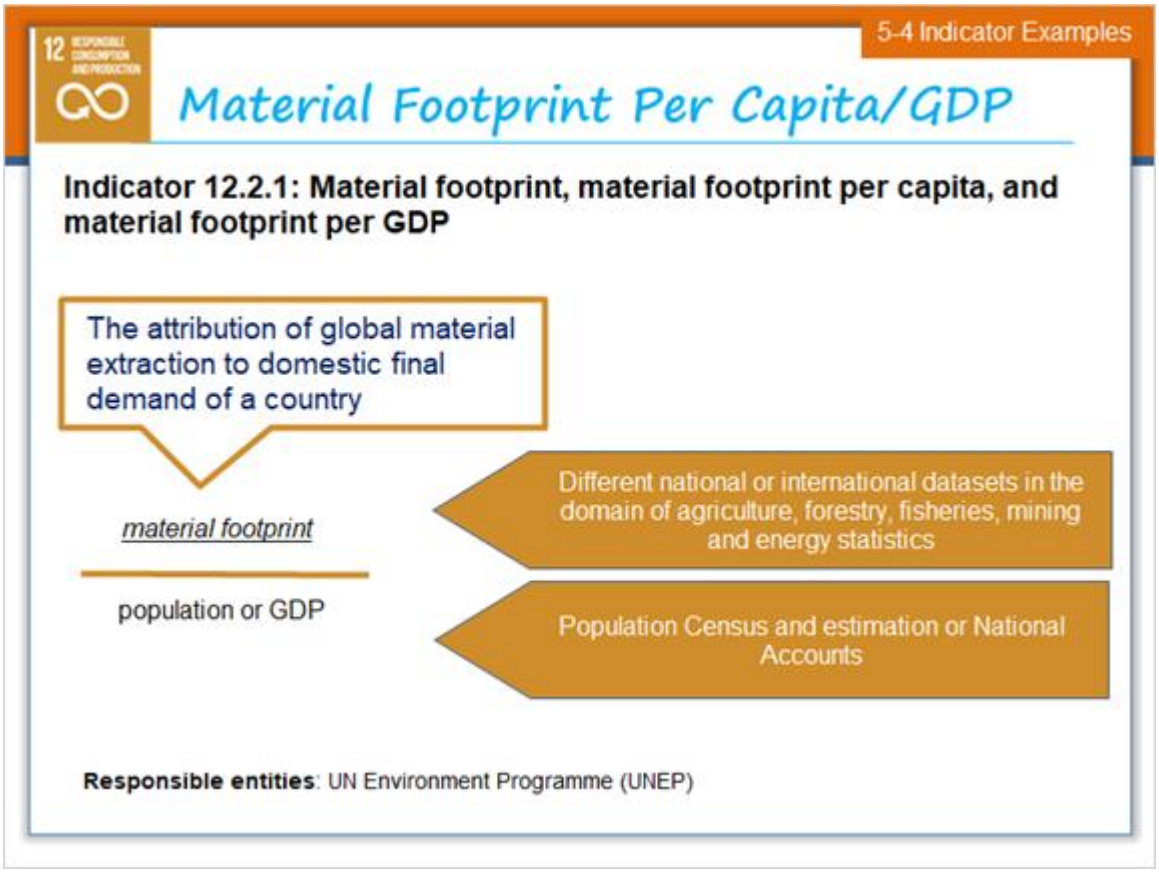
For housing to be adequate, it must provide more than four walls and a roof, and at a minimum, meet the following criteria:

- Legal security of tenure, which guarantees legal protection against forced evictions, harassment and other threats;
- Availability of services, materials, facilities and infrastructure, including safe drinking water, adequate sanitation, energy for cooking, heating, lighting, food storage or refuse disposal;
- Affordability, as housing is not adequate if its cost threatens or compromises the occupants' enjoyment of other human rights;
- Habitability, as housing is not adequate if it does not guarantee physical safety or provide adequate space, as well as protection against the cold, damp, heat, rain, wind, other threats to health and structural hazards;
- Accessibility, as housing is not adequate if the specific needs of disadvantaged and marginalized groups are not taken into account;
- Location, as housing is not adequate if it is cut off from employment opportunities, health-care services, schools, childcare centres and other social facilities, or if located in dangerous or polluted sites or in immediate proximity to pollution sources; and
- Cultural adequacy, as housing is not adequate if it does not respect and take into account the expression of cultural identity and ways of life.

Most of the criteria for defining slums, informal settlements and inadequate housing overlap.

Data for the slum/informal settlements components of the indicator can be computed from census and national household surveys, including Demographic and Health Surveys (DHS), Multi-Indicator Cluster Surveys (MICS). Data for the inadequate housing component can be computed through income and household surveys that capture housing expenditures.

5.28 Material Footprint Per Capita/GDP



Notes:

For Goal 12: responsible consumption and production, the first indicator is the number of countries with sustainable consumption and production (SCP) national action plans or SCP mainstreamed as a priority or a target into national policies, unique in the globe. Thus, the second indicator: material footprint, material footprint per capita, and material footprint per GDP is explained here.

Material Footprint (MF) is the attribution of global material extraction to domestic final demand of a country. The total material footprint is the sum of the material footprint for biomass, fossil fuels, metal ores and non-metal ores.

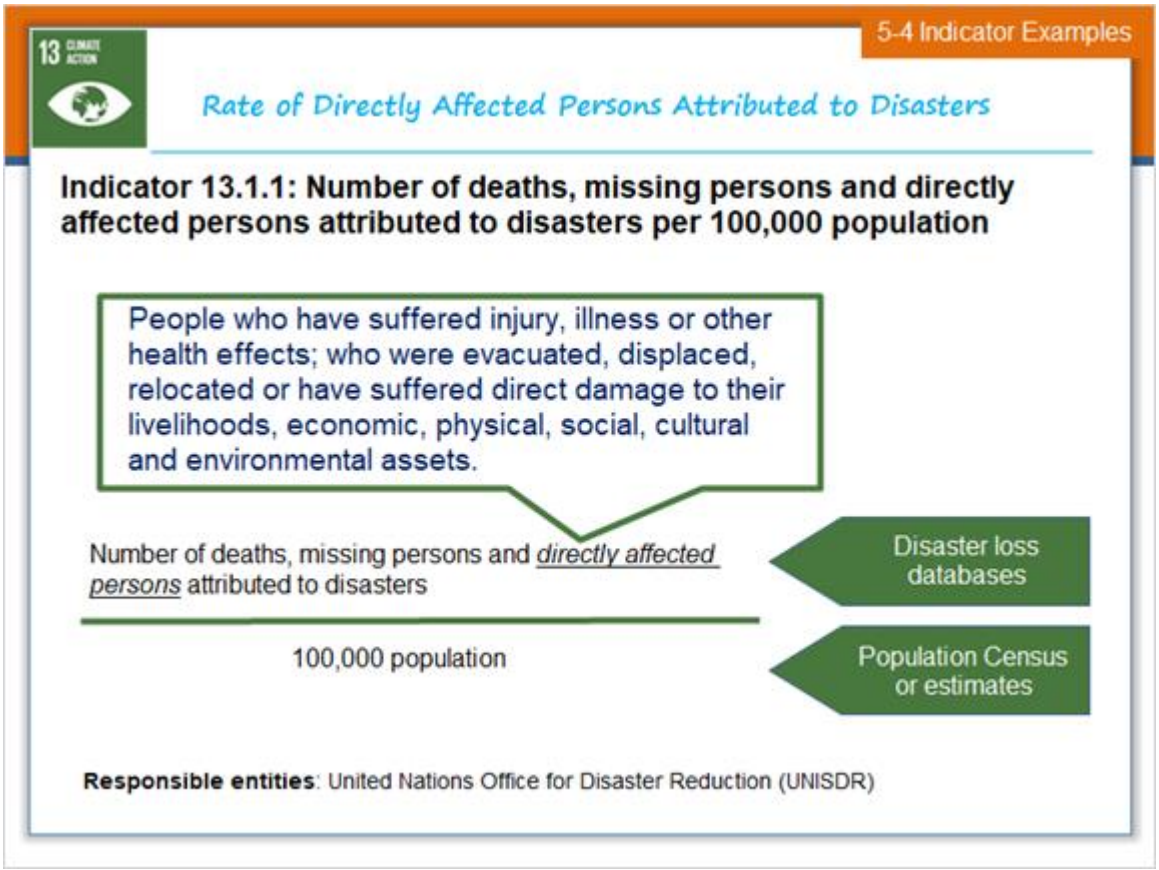
Material footprint of consumption reports the amount of primary materials required to serve final demand of a country and can be interpreted as an indicator for the material standard of living/level of capitalization of an economy. Per-capita MF describes the average material use for final demand.

Domestic Material Consumption (DMC) and MF need to be looked at in combination as they cover the two aspects of the economy, production and consumption. The DMC reports the actual amount of material in an economy, MF the virtual amount required across the whole supply chain to service final demand. A country can, for instance have

a very high DMC because it has a large primary production sector for export or a very low DMC because it has outsourced most of the material intensive industrial process to other countries. The material footprint corrects for both phenomena.

The global material flows database is based on country material flow accounts from the European Union and Japan and estimated data for the rest of the world. Estimated data is produced on the bases of data available from different national or international datasets in the domain of agriculture, forestry, fisheries, mining and energy statistics. International statistical sources for DMC and MF include the IEA, US Geological Survey (USGS), FAO and UN Commodity Trade (UN Comtrade) databases.

5.29 Rate of Directly Affected Persons Attributed to Disasters



Notes:

Number of deaths is the number of people who died during the disaster, or directly after, as a direct result of the hazardous event.

Number of missing persons is the number of people whose whereabouts is unknown since the hazardous event. It includes people who are presumed dead although there is no physical evidence. The data on the number of deaths and number of missing are

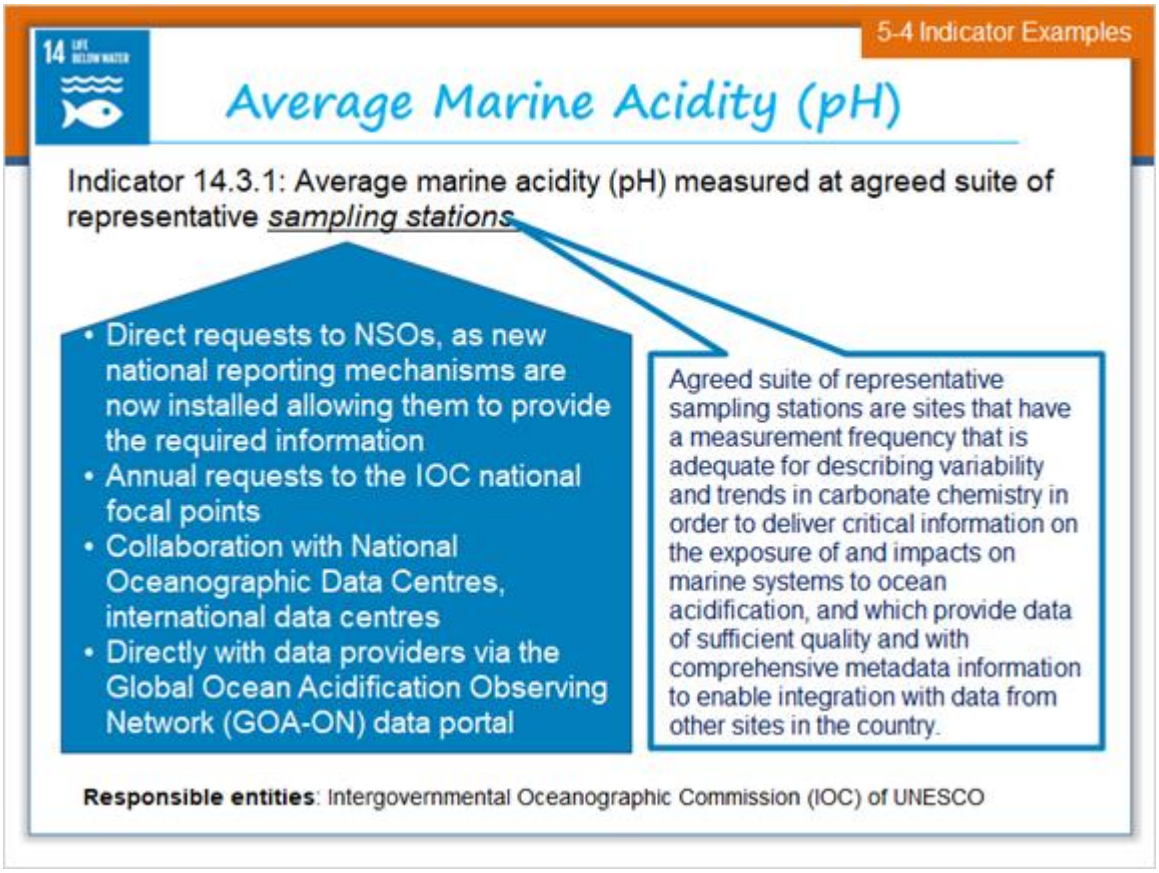
mutually exclusive.

Affected persons are people who are affected, either directly or indirectly, by a hazardous event. Directly affected persons are people who have suffered injury, illness or other health effects; who were evacuated, displaced, relocated or have suffered direct damage to their livelihoods, economic, physical, social, cultural and environmental assets. On the other hand, indirectly affected persons are people who have suffered consequences, other than or in addition to direct effects, over time due to disruption or changes in economy, critical infrastructures, basic services, commerce, work or social, health and psychological consequences.

The disaster loss data on mortality is significantly influenced by large-scale catastrophic events, which represents important outliers in terms of mortality, as they normally imply considerable numbers of people killed. The United Nations Office for Disaster Reduction (UNISDR) recommends countries to report the data by event, so complementary analysis to determine true trends can be done by both including and excluding such catastrophic events that can represent important outliers in terms of mortality.

In most countries national disaster loss databases are established and managed by special purpose agencies including national disaster management agencies, civil protection agencies, and meteorological agencies, and disaster data collected by line ministries. Some exceptions include academic institutions conducting long term research programs, NGOs engaged in disaster risk reduction/management, and insurance databases or data sources when market penetration is very high.

5.30 Average Marine Acidity (pH)



Notes:

For Goal 14: life below water, the first two indicators are included in Tier 3. Thus, the third indicator is introduced here.

Ocean acidification is the reduction in the pH of the ocean over an extended period, typically of decades or longer, which is caused primarily by the uptake of carbon dioxide from the atmosphere. This indicator is based on observations that constrain the ocean carbon system and which are required to describe the variability of ocean acidity. The carbon system in this context mainly refers to the four measurable parameters: pH (the concentration of hydrogen ions on a logarithmic scale), DIC (CT; total dissolved inorganic carbon), pCO2 (carbon dioxide partial pressure), and TA (AT, total alkalinity). Average, as used here, is the equally weighed annual mean.

Agreed suite of representative sampling stations are sites that have a measurement frequency that is adequate for describing variability and trends in carbonate chemistry in order to deliver critical information on the exposure of and impacts on marine systems to ocean acidification, and which provide data of sufficient quality and with comprehensive metadata information to enable integration with data from other sites in the country. The ocean absorbs around 30% of anthropogenic carbon from the

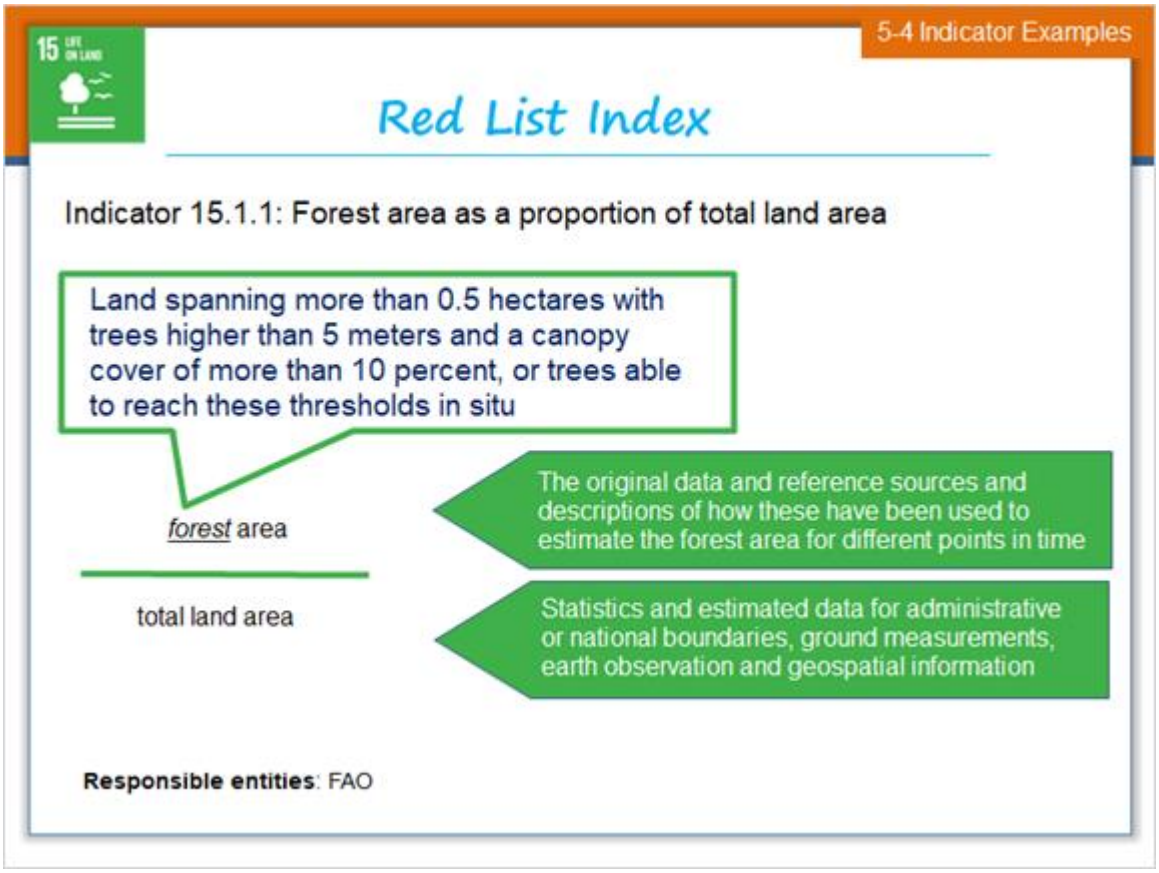
atmosphere annually. This carbon dioxide (CO_2) reacts with the seawater, changing its chemical composition and progressively acidifying the ocean. The observed decrease in seawater pH has been shown to affect a range of organisms and ecosystems, biodiversity and food security. Fisheries and aquaculture can be negatively affected, as can other services provided by the ocean, including tourism, transportation and coastal protection. Observations from the last 20 - 30 years have shown a clear trend of ocean acidification (decreasing pH) in open ocean locations. For coastal areas, however, the pattern is often confounded by natural processes like freshwater input, coastal upwelling, biological activities and temperature changes, among others. These factors complicate the prediction of and possible management responses to ocean acidification in the highly dynamic and productive coastal areas. Guidelines on how to improve monitoring, what to measure and what to report are provided in this methodology. The associated data and metadata files ensure that the data collected is traceable and can be quality controlled, stored and shared in a manner that allows it to be used for better understanding and predictions of ocean acidification observations.

The novelty of assessing ocean acidification at the global level, as in indicator 14.3.1, requires the IOC secretariat to collect the data via different pathways. Future data collections are expected to be a mixture of:

- direct requests to NSOs, as new national reporting mechanisms are now installed allowing them to provide the required information,
- annual requests to the IOC national focal points,
- collaboration with National Oceanographic Data Centres, international data centres and
- directly with data providers via the Global Ocean Acidification Observing Network (GOA-ON) data portal.

The GOA-ON data portal features open access data, in addition to a global monitoring asset inventory. The portal is designed to offer two levels of access: 1) visualization and 2) download capabilities. Combining different open-access data sets may provide incentives to create new observing systems in under-sampled areas and to increase the application of open access data policies worldwide, according to the IOC Criteria and Guidelines for the Transfer of Marine Technology.

5.31 Red List Index



Notes:

Forests fulfil a number of functions that are vital for humanity, including the provision of goods (wood and non-wood forest products) and services such as habitat for biodiversity, carbon sequestration, coastal protection and soil and water conservation.

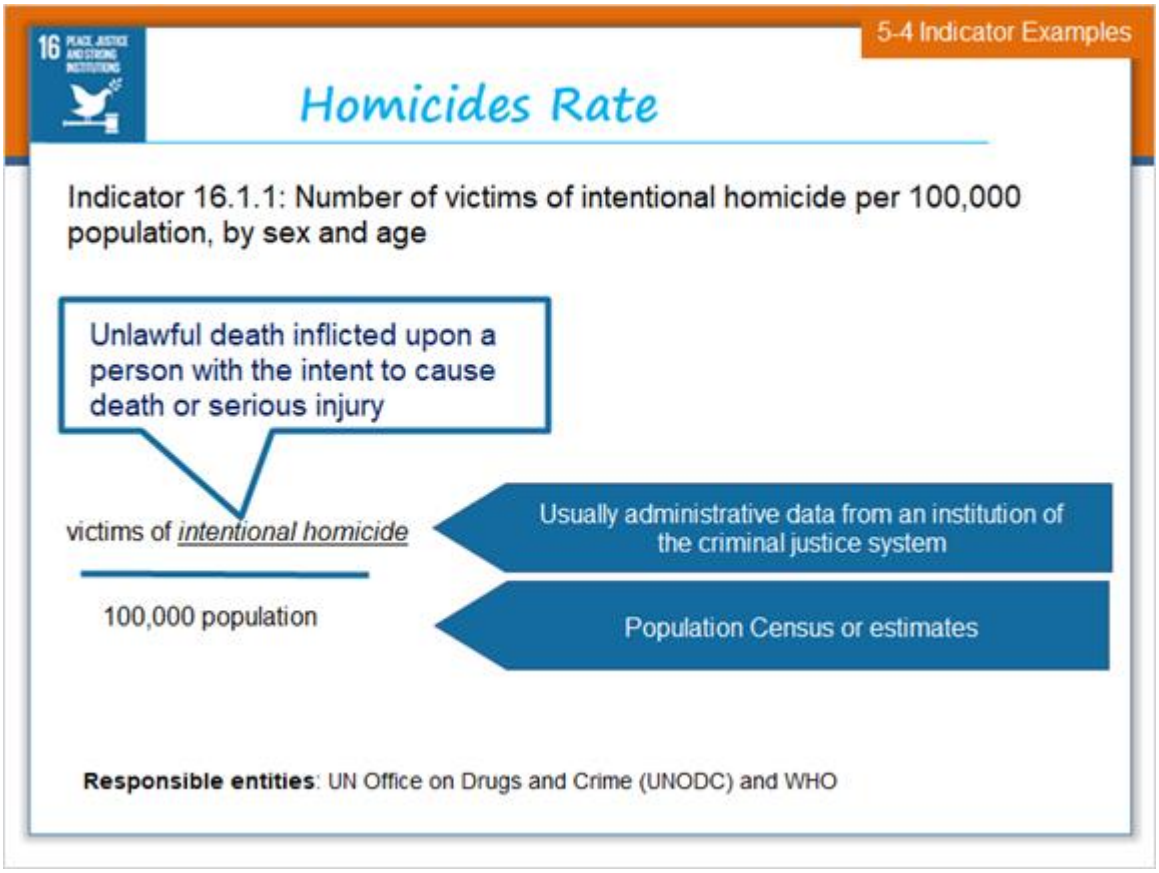
The indicator provides a measure of the relative extent of forest in a country. The availability of accurate data on a country's forest area is a key element for forest policy and planning within the context of sustainable development. According to the FAO definitions, Forest is defined as: “land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use”. Total land area is the total surface area of a country less the area covered by inland waters, like major rivers and lakes.

Changes in forest area reflect the demand for land for other uses and may help identify unsustainable practices in the forestry and agricultural sector.

Forest area as percentage of total land area may be used as a rough proxy for the extent to which the forests in a country are being conserved or restored, but it is only partly a measure for the extent to which they are sustainably managed. Assessment of

forest area is carried out at infrequent intervals in many countries. Access to remote sensing imagery has improved in recent years, but remote sensing techniques have limitations. In particular, there are limitations to assess land use (remote sensing primarily assesses land cover), and some slow changes such as forest regrowth cannot easily be observed with remote sensing techniques and require long time periods in order to detect. In addition, forest area with low canopy cover density (e.g. 10-30%) are difficult to detect with remote sensing techniques.

5.32 Homicides Rate



Notes:

Intentional homicide is defined as the unlawful death inflicted upon a person with the intent to cause death or serious injury. Population refers to total resident population in a given country in a given year.

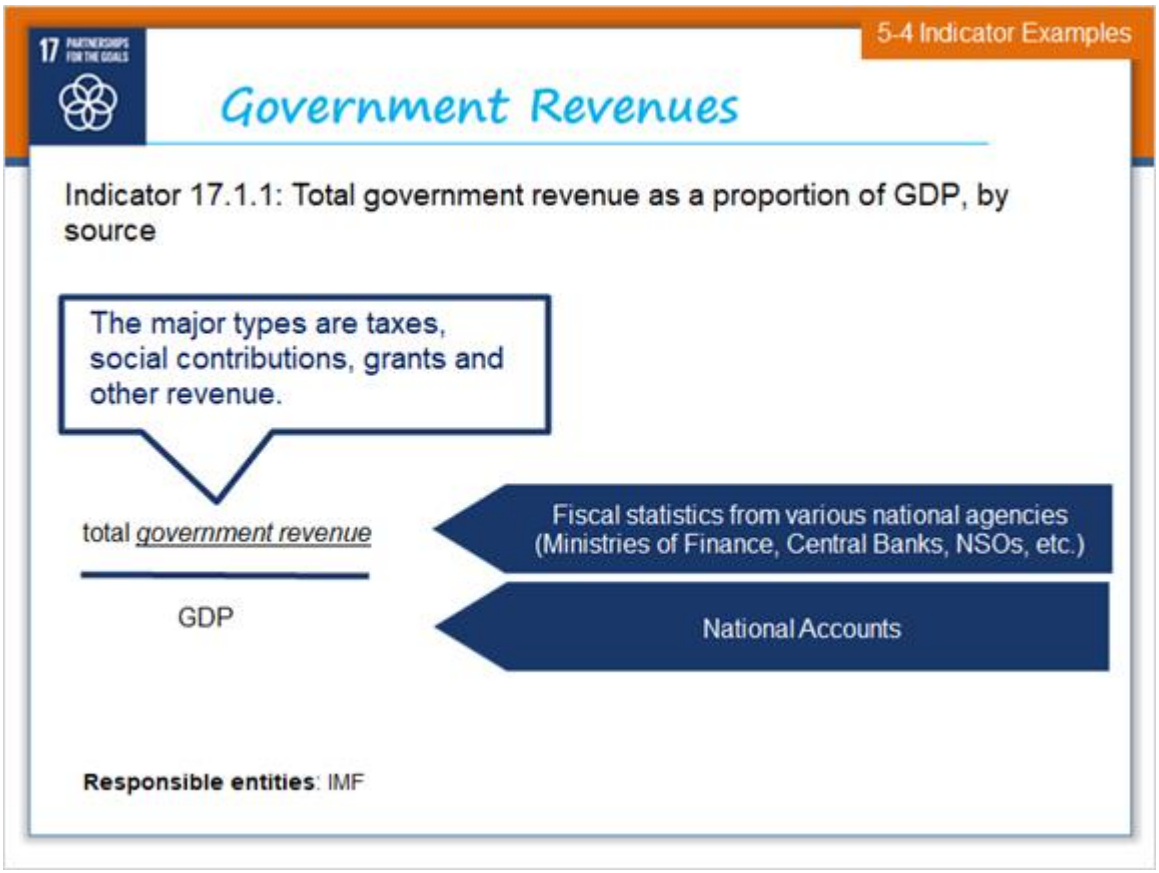
This indicator is widely used at national and international levels to measure the most extreme form of violent crime and it also provides a direct indication of lack of security. Security from violence is a prerequisite for individuals to enjoy a safe and active life and for societies and economies to develop freely. Intentional homicides occur in all

countries of the world and this indicator has a global applicability.

Monitoring intentional homicides is necessary to better assess their causes, drivers and consequences and, in the longer term, to develop effective preventive measures. If data are properly disaggregated, the indicator can identify the different type of violence associated with homicide: inter-personal violence including partner and family-related violence, crime including organized crime and other forms of criminal activities and socio-political violence including terrorism and hate crime.

The primary source on intentional homicide is usually an institution of the criminal justice system (Police, Ministry of Interior, General Prosecutor Office, etc.).

5.33 Government Revenues



Notes:

Fiscal policy is the use of the level and composition of the general government and public sectors' spending and revenue-and the related accumulation of government assets and liabilities-to achieve such goals as the stabilization of the economy, the reallocation of resources, and the redistribution of income. In addition to revenue

mobilization, government units may also finance a portion of their activities in a specific period by borrowing or by acquiring funds from sources other than compulsory transfers-for example, interest revenue, incidental sales of goods and services, or the rent of subsoil assets. This indicator supports understanding countries' domestic revenue mobilization in the form of tax and nontax sources. The indicator will provide analysts with a cross-country comparable dataset that highlights the relationship between the four main types of revenue as well as the relative "tax burden" (revenue in the form of taxes) and "fiscal burden" (revenue in the form of taxes plus social contributions).

The actual and recommended sources of data for deriving this indicator are the fiscal statistics reported to the IMF's Statistics Department. These come from various national agencies (Ministries of Finance, Central Banks, NSOs, etc.) and are compiled according to a standardized method for data collection: the annual Government Finance Statistics (GFS) Questionnaire.

The detailed GFS revenue classification structure in the annual questionnaire that is used by countries to report data allows for compiling this indicator. The four types of revenue: Taxes, Social contributions, Grants and Other revenue are further disaggregated in the annual GFS questionnaire in order to encompass all possible forms of revenue administrations.

Goal 17 includes targets related to statistical capacity-building like the following.

17.18 By 2020, enhance capacity-building support to developing countries, including least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts

17.19 By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement GDP, and support statistical capacity-building in developing countries

In particular, the following indicators in Goal 17 mentions the Fundamental Principles of Official Statistics.

17.18.1 Proportion of sustainable development indicators produced at the national level with full disaggregation when relevant to the target, in accordance with the Fundamental Principles of Official Statistics

17.18.2 Number of countries that have national statistical legislation that complies with the Fundamental Principles of Official Statistics

5.34 5-5 Main Challenges

Notes:

5.35 Cape Town Global Action Plan for Sustainable Development Data

Notes:

Although the world started to tackle compiling and monitoring indicators toward SDGs, a lot of challenges still exist.

The Cape Town Global Action Plan for Sustainable Development Data was informally launched at the first UN World Data Forum in 2017 in Cape Town South Africa, and adopted by the United Nations Statistical Commission at its 48th Session in 2017. The Action Plan is referenced in the Resolution on the work of the Statistical Commission adopted by the General Assembly in 2017 (RES/71/313).

The Plan shall address all aspects of coordination, production and use of data for sustainable development. The plan shall describe necessary steps to modernize and strengthen statistical systems. The plan shall address short, middle and long-term actions, with particular focus on building the infrastructure and the capacity needed to support local, national, regional and global statistical requirements. The plan is to be perceived as a living document, open to potential adjustments at a later stage to account for future development.

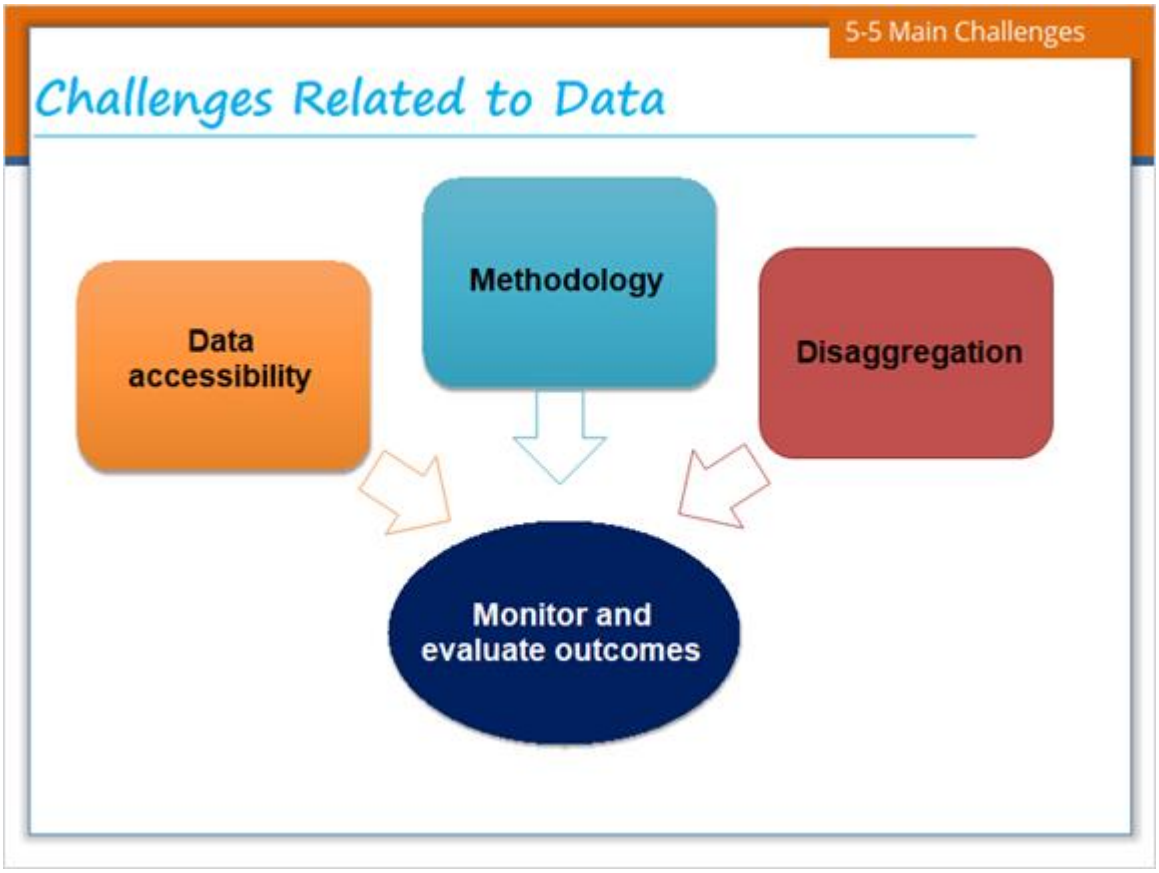
The modern production of statistics requires comprehensive interaction among data providers, producers and users. Therefore, trust among data providers, producers and

users of statistics is key to the effective functioning of the national, regional, and global statistical systems in full adherence with the Fundamental Principles of Official Statistics. Accordingly, the plan identifies NSSs, under the leadership of NSOs as the necessary and appropriate leaders of this effort.

The Plan recognizes the crucial role of cooperation among countries, regional organizations, and other international organizations and stakeholders in supporting countries' plans and efforts in capacity building. The Plan recognizes the expertise and abilities of these key stakeholders as essential resources for progress and modernization. Indeed, they have a crucial role in capacity building exercises and in carrying out statistical capacity building efforts in their areas of work. Nonetheless, the role of international organizations and regional entities to the development of methodologies and data in their respective programmes must be conducted in full consultation and coordination with NSOs. Coordination and streamlining of these activities are necessary to avoid duplication of efforts and channel effort to furthering the Agenda. The Plan describes areas to address key statistical capacity building needs. Key actions are proposed in each area. In this way, the Plan complements the more specific guidance anticipated to be developed by member countries and their regions, each reflecting the unique needs and priorities of their constituencies while also sharing the common vision and goals described here.

The Global Action Plan for Sustainable Development Data proposes six strategic areas in the slide, each associated with several objectives and related implementation actions.

5.36 Challenges Related to Data



Notes:

There are a lot of challenges related to data.

Data accessibility at any level, both national and global, is an important issue. All NSSs collect data at the level of individual persons, households, enterprises, etc. However, it is yet to be a reality that such microdata are disseminated and made accessible for use by policy makers, researchers, civil society and other relevant stakeholders at various levels. In some cases, such data are stored in formats that are not directly usable. Statistical information should be more readily accessible in the public domain and where such information is sparse. Data are useful if they are available and disseminated, and ideally, data with some level of disaggregation should be available for multiple years for each global SDG indicator for all countries. This would allow comprehensive tracking of global, regional and/or national-level progress.

Methodological issues are critical to NSSs for the compilation of indicators. Custodian agencies are organizing experts to develop methodologies in practice for the indicators under their custodianships. Development of science and technology underpin their activities.

In addition, SDG indicators should be disaggregated, where relevant, by income, sex,

age, race, ethnicity, migratory status, disability and geographic location, or other characteristics.

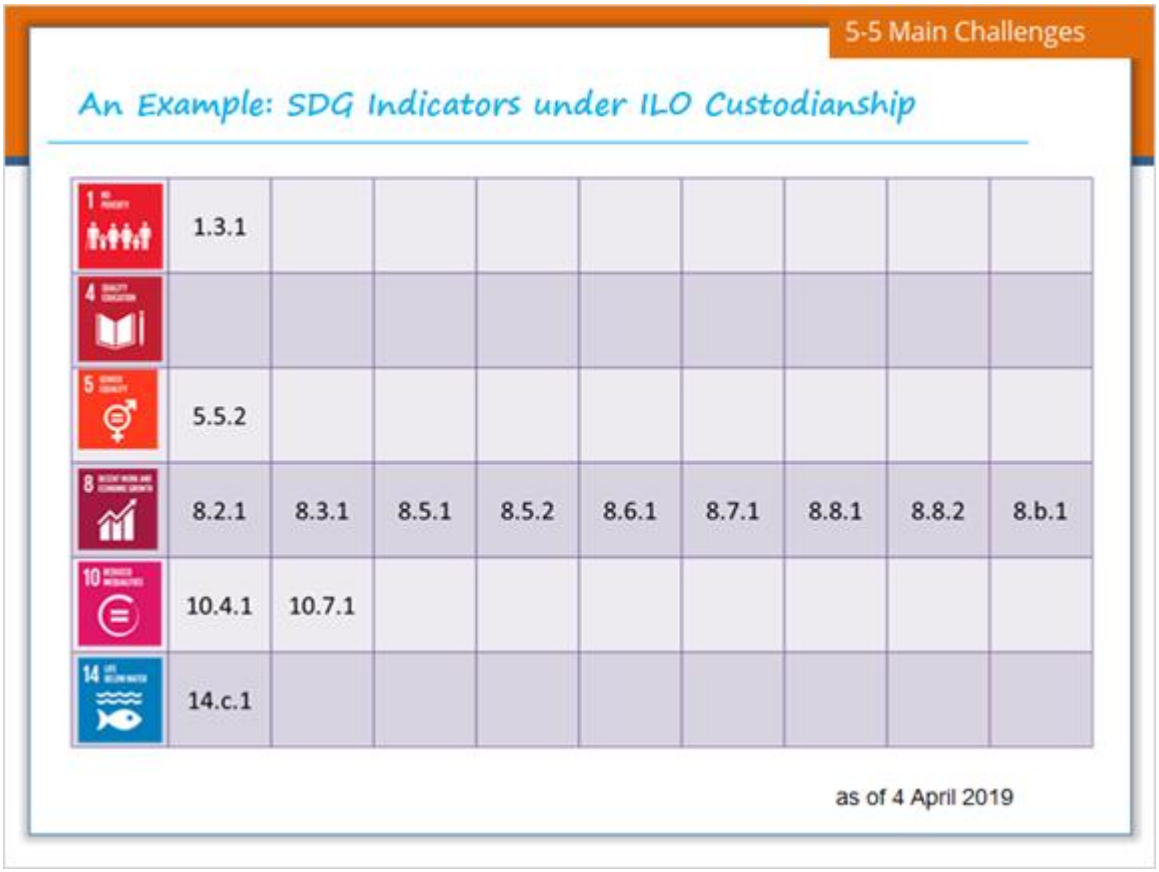
The 2030 Agenda emphasizes the need for disaggregated data to ensure that "no one is left behind." Therefore, the assessment of data availability should consider also availability of the requested disaggregation. According to IAEG-SDGs work stream on data disaggregation, the disaggregation necessary for each SDG indicator should be clarified. In some cases, the required disaggregation is explicitly mentioned in the name of the target or indicator. In other cases, disaggregation would depend on national contexts, such as in some indicators mentioning "vulnerable groups". Statisticians must work with policy makers to identify vulnerable groups.

5.37 An Example: SDG Indicators under FAO Custodianship

Notes:

From the view of custodian agency, FAO acts as the main role related to agriculture and food statistics and covers Goal 2: zero hunger and some indicators in Goal 5: gender equality, Goal 6: clean water and sanitation, Goal 12: responsible consumption and production, Goal 14: life below water and Goal 15: life on land.

5.38 An Example: SDG Indicators under ILO Custodianship



Notes:

ILO covers the wide area of Goal 8: decent work and economic growth, some indicators in Goal 1: no poverty, Goal 5: gender equality and Goal 10: reduced inequalities and Goal 14: life below water .

5.39 Examples Why Disaggregation is Necessary: Unpaid Work

Notes:

The examples introduced on this slide show why disaggregation is necessary.

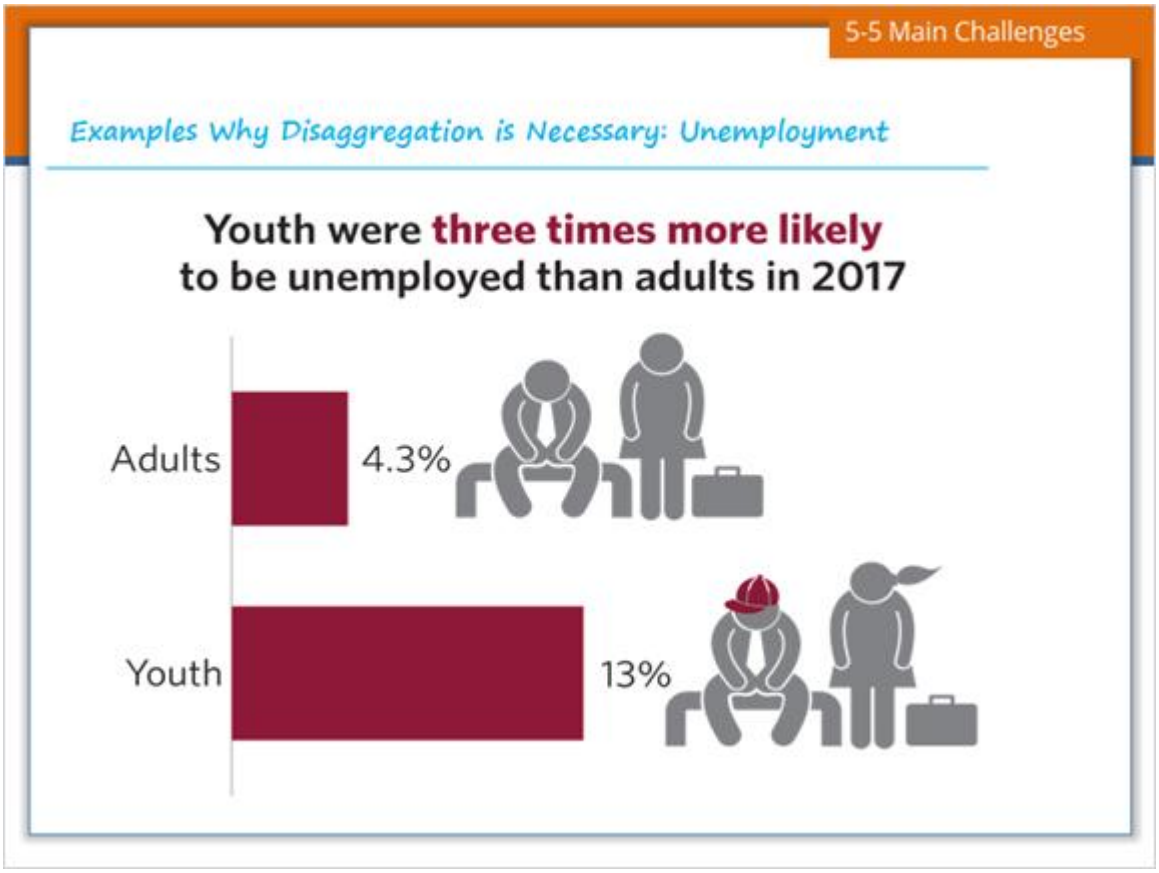
While some forms of discrimination against women and girls are diminishing, gender inequality continues to hold women back and deprives them of basic rights and opportunities. These issues can be realized not only by tracing data of women but by comparing data between women and men.

5.40 Examples Why Disaggregation is Necessary: Earning

Notes:

Data from 45 countries suggest that gender inequality in earnings is still pervasive: in 89 per cent of these countries, the hourly wages of men are, on average, higher than those of women, with a median pay gap of 12.5 percent. Disaggregation between men and women clarified the issue.

5.41 Examples Why Disaggregation is Necessary: Unemployment



Notes:

The global unemployment rate in 2017 was 5.6 per cent, down from 6.4 per cent in 2000. The decline has slowed since 2009, when it hit 5.9 per cent. Youth are three times more likely to be unemployed than adults, with the global youth unemployment rate at 13 per cent in 2017. Disaggregation between adults and youth found the serious issue of unemployment among the youth.

5.42 5-6 Practices of Countries

Notes:

5.43 Case Study: SDG Implementation Process of Russian Federation

Notes:

In 2016 the Federal State Statistics Service (Rosstat) and the Ministry of Foreign Affairs of the Russian Federation carried out assessments among federal executive bodies on the availability of legal frameworks and statistical data concerning the global SDGs indicators. The assessments revealed that data are available for at least 100 indicators, including proxy indicators. At the same time the first challenge in SDGs monitoring has emerged. As the SDGs indicators are distributed among 25 federal executive bodies SDGs monitoring process should be coordinated at the political level.

Due to recommendations of the UN governing bodies to NSOs to take a leading role in coordinating data flows for SDG reporting at national level, the Government of the Russian Federation authorized Rosstat to coordinate the activities of the Russian government bodies on collection and submission of official statistical information on SDG indicators of the Russian Federation to international organizations in accordance with international standards.

SDGs statistics will be compiled in accordance with the Federal Plan of Statistical Works approved by the government. The Federal Plan of Statistical Works lists the topics of official statistical accounting and works performed thereby on compiling official

statistics with a periodicity of each work, aggregation level of official statistics on the Russian Federation, grouping this information according to the classification parameters and timetables for dissemination.

Furthermore, the issues of SDGs indicators implementations are discussed within the Interagency Working Group on climate change issues and sustainable development (IWG) under the Presidential Administration of the Russian Federation. Discussions are organized at the expert level with the participation of representatives from the scientific society. Rosstat is a member of the IWG. Under the auspices of the IWG in 2017 the Road map for the improvement of Russian official statistics aimed to provide guidance on work with statistical data for sustainable development will be prepared.

The data on SDGs indicators of the Russian Federation will be transmitted by SDMX system.

5.44 Case Study: Roles of the Office for National Statistics of the UK

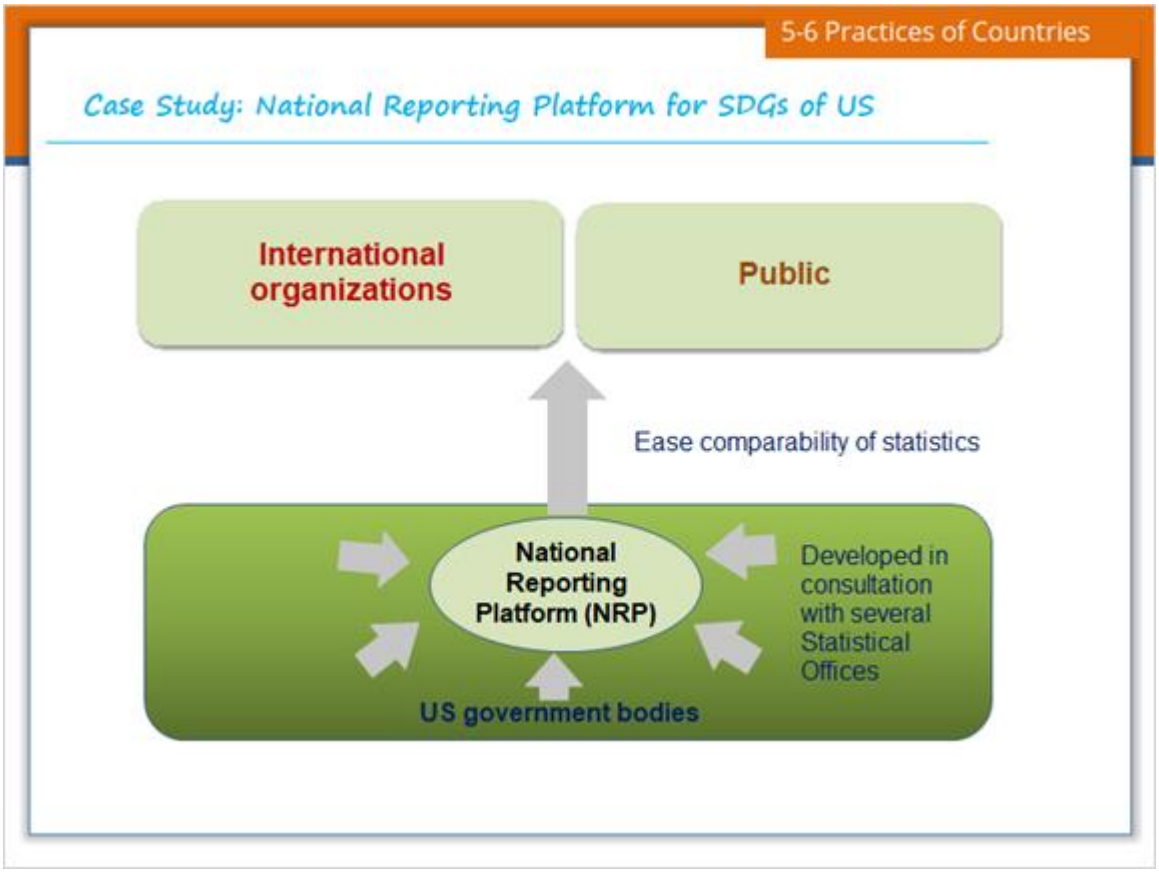
Notes:

In the UK, the Office for National Statistics (ONS) will assume responsibility for reporting on the UK's progress towards the SDGs. This includes:

- Submitting UK data for SDG indicators to the UN to inform the global reporting framework as defined by the UN Statistical Commission and making these data available to the public;
- Working with government and non-government stakeholders to identify nationally relevant SDG targets and proposing a set of supplementary indicators that are relevant to the UK;
- Exploring and developing new data sources and methods to enable ONS to report data at various levels of disaggregation (sex, race, religion, geography, disability, ethnicity, migrant status, age and income); and
- Developing an on-line platform to report these data.

To identify which of the global targets are relevant in the UK, two research exercises were undertaken. The first of these asked government departments to identify the global targets that relate to their existing departmental plans. The second exercise was open to all non-governmental organizations (private and voluntary); again, these organizations were asked to identify which global targets were relevant to their work. In both exercises, where a global target was identified as being relevant, respondents were asked whether the global indicator was the most suitable indicator to measure progress towards the target in the UK. If not, respondents were asked to suggest alternatives.

5.45 Case Study: National Reporting Platform for SDGs of US

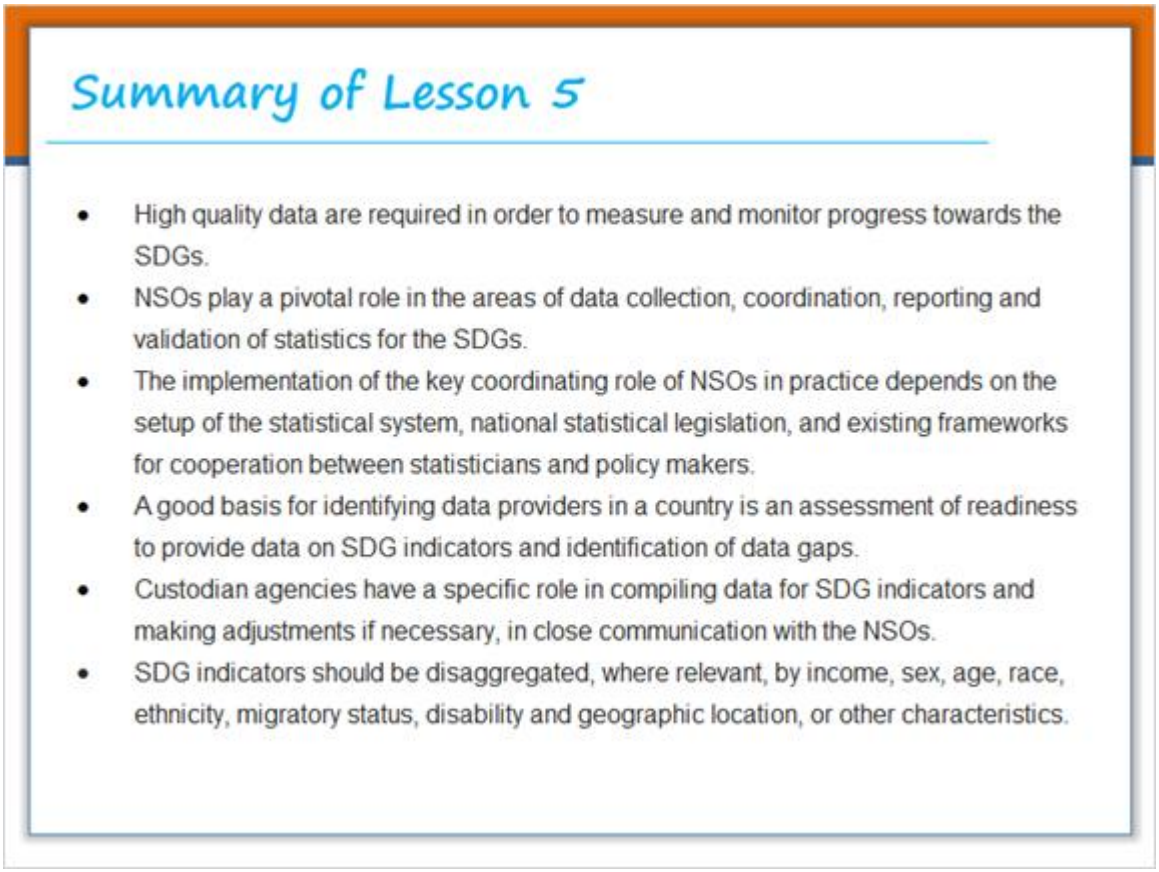


Notes:

The US provides another example of a national reporting platform for SDGs. The US did not participate in the MDGs reporting process. Furthermore, the US routinely collects its own national statistics; it does not rely on statistics produced by international organizations. Additionally, the US has a highly decentralized statistical system, with over 125 federal statistical programs. Given the interest in SDG indicators, the US anticipated many requests from various stakeholders for access. Therefore, the US needed to develop a reporting solution that would allow public access to national statistics and related information for the global SDG indicators. In addition, this solution needed to allow contribution of statistics and metadata to the platform on a continuous basis. Such a solution needed to maximize interoperability with other platforms to ease comparability of statistics for international organizations and the public at large. Last, the solution needed to use open source and free technology so that Statistical Offices could maximally benefit. The result is the US National Reporting Platform, which was developed in consultation with several Statistical Offices.

This is the end of Lesson 5.

5.46 Summary of Lesson 5



Notes:

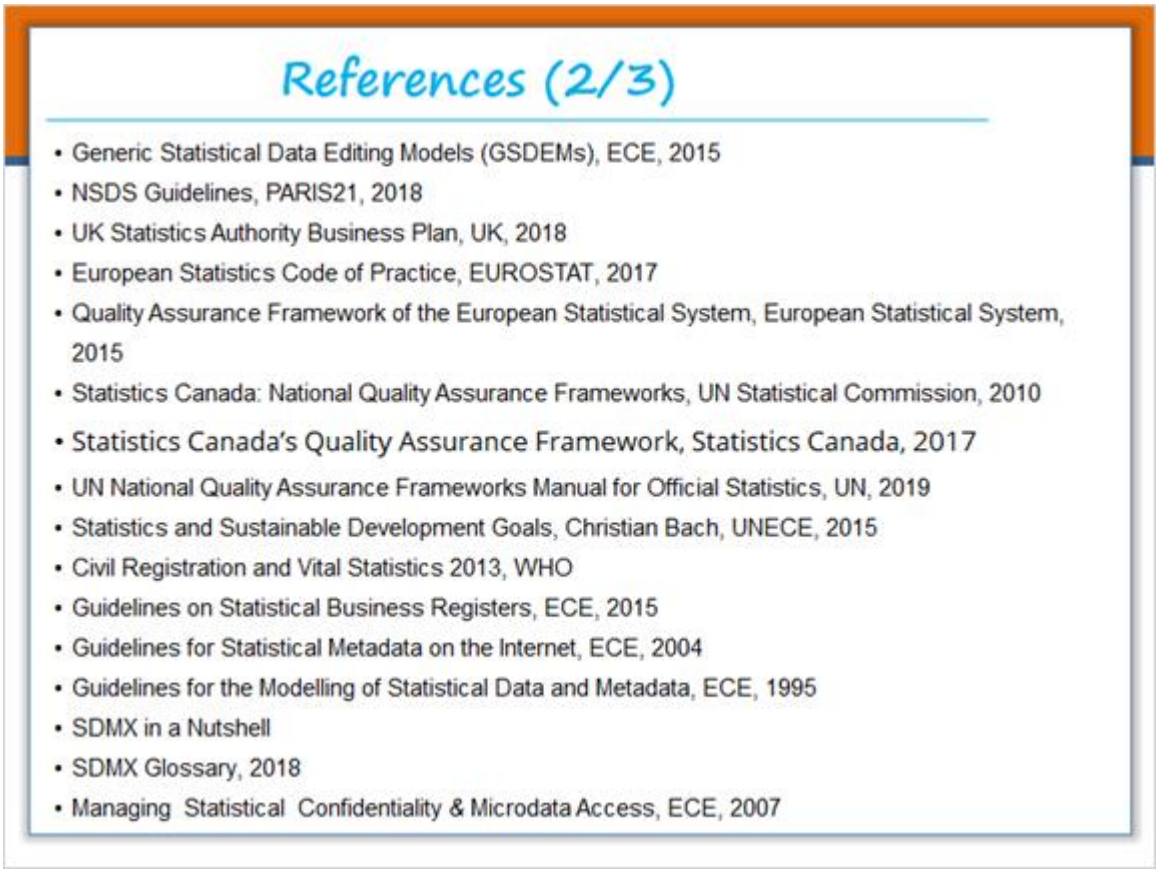
5.47 References (1/3)

Notes:

This course outlined fundamental elements of official statistics for SDGs.

These documents in the reference will help you broaden and deepen your understanding of this course.

5.48 References (2/3)



Notes:

5.49 References (3/3)

Notes:

5.50 End of Lesson

Notes: