SDG indicator metadata

(Harmonized metadata template - format version 1.1)

0. Indicator information (SDG_INDICATOR_INFO)

0.a. Goal (SDG_GOAL)

Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

0.b. Target (SDG_TARGET)

Target 2.2: By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons

0.c. Indicator (SDG_INDICATOR)

Indicator 2.2.4: Prevalence of minimum dietary diversity, by population group (children aged 6 to 23 months and non-pregnant women aged 15 to 49 years)

0.d. Series (SDG_SERIES_DESCR)

SH_MDD_WMN_NPRG - Prevalence of minimum dietary diversity among non-pregnant women aged 15-49 years [2.2.4]

0.e. Metadata update (META_LAST_UPDATE)

2026-03-27

0.f. Related indicators (SDG_RELATED_INDICATORS)

Healthy diets are fundamental for achieving SDG 2 and a prerequisite for reaching many other SDGs including SDG 3 (ensuring healthy lives), playing a role in ending poverty (SDG 1), ensuring quality education (SDG 4), achieving gender equality (SDG 5), promoting economic growth (SDG 8), and reducing inequalities (SDG 10). Unhealthy diets are the leading cause of poor health and non-communicable disease worldwide and so minimum dietary diversity is also strongly linked to SDG target 3.4, which aims to reduce premature mortality from non-communicable diseases by one third by 2030.

0.g. International organisations(s) responsible for global monitoring (SDG_CUSTODIAN_AGENCIES)

Food and Agriculture Organization of the United Nations (FAO)

1. Data reporter (CONTACT)

1.a. Organisation (CONTACT_ORGANISATION)

Food and Agriculture Organization of the United Nations (FAO)

2. Definition, concepts, and classifications (IND_DEF_CON_CLASS)

2.a. Definition and concepts (STAT_CONC_DEF)

Definition:
Percentage of non-pregnant women aged 15-49 years who consumed foods or beverages from at least five out of ten defined food groups during the preceding 24 hours.

Concepts:

- **Dietary diversity:** Minimum Dietary Diversity for Women (MDD-W) is a population-level food group-based indicator that captures dietary diversity, a key characteristic of healthy diets.

- **Food groups:** FAO has defined ten mutually exclusive food groups (1). See section 4.c. for the food group descriptions.

- **Dichotomous indicator:** Achieving MDD-W is defined as the consumption of at least five out of ten food groups.

- **Nutrient adequacy:** MDD-W has been validated as an indicator for a minimally acceptable level of adequacy for 11 micronutrients (2–4). Achievement of MDD-W therefore signals better micronutrient intake.

- **Non-quantitative:** No data is collected on intake quantities during the questionnaire administration; a simple yes/no response is recorded as to whether any foods or beverages from a food group was consumed. However, foods or beverages usually consumed in trivial quantities (under 15 grams) are excluded from the food list in the questionnaire.

2.b. Unit of measure (UNIT_MEASURE)

Proportion

2.c. Classifications (CLASS_SYSTEM)

Not applicable

3. Data source type and data collection method (SRC_TYPE_COLL_METHOD)

3.a. Data sources (SOURCE_TYPE)

Population-based nationally representative household surveys, such as the Demographic and Health Surveys (DHS), Gallup World Poll (GWP), Living Standards Measurement Surveys (LSMS), and Multiple Indicator Cluster Surveys (MICS), and Standardized Monitoring and Assessment of Relief and Transitions (SMART) surveys, are the primary source of country-level MDD-W data. Other data sources include national nutrition and health surveys and nationally representative quantitative dietary intake surveys using 24-hour recalls.

3.b. Data collection method (COLL_METHOD)

Surveys predominantly assess MDD-W by collecting data on the intake of food groups among non-pregnant women aged 15-49 years through a face-to-face or telephone-based interviewer-administered non-quantitative food list-based 24-hour recall of dietary intake as recommended by FAO in "MDD-W: An updated guide to measurement - from collection to action."

Below, an example MDD-W questionnaire from the Tanzania DHS 2022. All country-specific DHS questionnaires can be found on the DHS Program website. All country-specific GWP questionnaires can be found on the Global Diet Quality Project website. Questionnaires from national nutrition and health surveys are usually available in final reports.

For the DHS, as an example, MDD-W data are collected among 10,000 to 40,000 non-pregnant women. The response rate among women aged 15-49 years is 95% or higher for all available DHS. For the GWP, MDD-W data are collected among approximately 200-600 women in each survey round in a country.

Nationally representative data have been collected at various times of the year/seasons between countries. However, to ensure the comparability of MDD-W estimates within countries and to mitigate biased inferences of change over time, FAO recommends that repeated surveys carry out data collection in the same time period as the previous survey (5).

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES			
643	Now I'd like to ask you about foods and drinks that you consumed yesterday during the day or night, whether you ate or drank it at home or somewhere else. Please think about snacks and small meals as well as main meals. I will ask you about different foods and drinks, and I would like to know whether you ate a food even if it was combined with other foods. Please do not answer 'yes' for any food or ingredient only used in a small amount to add flavor to a dish.		YES	NO	DK
	a) Ugali, porridge, rice, pasta, bread, chapati, kitumbua, or maize?	a)	1	2	8
	b) Orange flesh sweet potato or carrots?	b)	1	2	8
	c) Cassava, cassava ugali, makopa, green banana, Irish potato, white-flesh sweet potato?	c)	1	2	8
	d1) Chinese cabbage, cabbage, amaranth leaves, cowpea leaves, or cassava leaves?	d)	1	2	8
	d2) Nightshade leaves, spider flower, jute mallow, sweet potato leaves, or pumpkin leaves?	d)	1	2	8
	e) Any other vegetables such as, cabbage, tomato, African eggplant, eggplant, sweet pepper,	e)	1	2	8
	f) Mango, papaya, or passionfruit?	f)	1	2	8
	g1) Any other fruits such as, bananas, lemons, tangerines, pineapple, avocado, or grapes?	g)	1	2	8
	g2) Pear, apple, watermelon, baobab, guava, or jackfruit?	g)	1	2	8
	h) Liver, kidney, intestine, heart, or gizzard?	h)	1	2	8
	i) Sausages or canned meat?	i)	1	2	8
	j) Any other meat, such as beef, mutton, goat, or	j)	1	2	8

	k) Eggs?	k)	1	2	8
	l) Fresh fish, dried small fish, dried small tilapia, seafood, shrimp, or octopus?	l)	1	2	8
	m) Beans, green peas, green gram, cowpeas, pigeon peas, peanut, groundnuts or makande?	m)	1	2	8
	n) Pumpkin seeds, kashata, cashews, peanuts, or peanut paste?	n)	1	2	8

3.c. Data collection calendar (FREQ_COLL)

The data collection calendar varies according to the source of the data. To illustrate, data collection through the DHS is carried out approximately every five years for over 90 countries, while GWP and other data collection efforts are currently on an ad-hoc basis, also for over 90 countries.

The DHS Program was expected to collect and release nationally representative MDD-W estimates for 17 UN Member States in 2025. The Global Diet Quality Project is expected to collect and release nationally representative MDD-W estimates from the GWP for an additional seven UN Member States in 2025.

Data from the abovementioned sources on MDD-W are continuously collated and compiled from national statistics offices, survey reports, and data collection platforms.

3.d. Data release calendar (REL_CAL_POLICY)

There is currently no fixed date in which new rounds of MDD-W estimates will be released; however, regional estimates are expected to be generated every year, while county-level estimates depend on the cadence of data collection.

3.e. Data providers (DATA_SOURCE)

MDD-W estimates from the DHS are usually jointly published by ICF and ministries of health and/or national statistics offices.

MDD-W estimates from the GWP are published by the Global Diet Quality Project.

MDD-W estimates from the LSMS are published by the World Bank.

MDD-W estimates from the MICS are usually jointly published by UNICEF and ministries of health and/or national statistics offices.

3.f. Data compilers (COMPILING_ORG)

- At country level

DHS Program, Global Diet Quality Project, World Bank, UNICEF, and national statistics offices.

- At regional and global levels

FAO

3.g. Institutional mandate (INST_MANDATE)

FAO's mandate is to improve nutrition, increase agricultural productivity, raise the standard of living in rural populations and contribute to global economic growth. Therefore, FAO's work on the collection, collation, and harmonization of statistical information on food and diet represents a core element of the Organization's mandate. As stated in Article I of the Constitution of FAO, "The Organization shall collect, analyse, interpret and disseminate information relating to nutrition, food and agriculture." Hence, from its inception, FAO has strived to maintain the best possible capacity to collect, process, validate, harmonize, and analyse incoming data and generate accurate and timely information. Improving the quality, transparency, and access to FAO's statistical data is an important priority.

Furthermore, FAO's Strategic Framework 2022-31 seeks to support the 2030 Agenda through the transformation to more efficient, inclusive, resilient and sustainable agrifood systems for better production, better nutrition, a better environment, and a better life, leaving no one behind. Under the pillar of "better nutrition," FAO's mission is to end hunger, achieve food security and improved nutrition in all its forms, including promoting nutritious food and increasing access to healthy diets. In-depth analyses of MDD-W have previously been included in flagship publications, such as *The State of Food Security and Nutrition in the World* (6).

4. Other methodological considerations (OTHER_METHOD)

4.a. Rationale (RATIONALE)

Dietary diversity is a fundamental characteristic of healthy diets. No single food or food group provides the multitude of nutrients and other bioactive compounds necessary for optimal nutrition, growth, and long-term health. Eating a wide variety of foods therefore increases the likelihood that a diet will provide all the nutrients required by an individual. Diets that lack diversity increase the risk of micronutrient deficiencies, particularly for women who have relatively higher nutrient requirements, which can compromise health. Dietary diversity is therefore a long-standing public health principle widely advocated in food-based dietary guidelines (7), the World Health Organization's (WHO) 'Healthy Diet' fact sheet, FAO and WHO's guiding principles for 'Sustainable healthy diets', and UNICEF's 'Conceptual Framework on Maternal and Child Nutrition'.

While quantitative dietary assessment methods provide the best measure of the healthfulness of diets, these are often labour-intense, costly and require significant capacity to carry out. As a result, they are not routinely carried out in most countries. The MDD-W questionnaire was developed in response to a need for a quick, low-cost method that captures some information of the healthfulness of diets. It also responded to the need for as an easy-to-understand indicator for advocacy and decision-making purposes, i.e. the percentage of women meeting a minimally acceptable dietary diversity.

The basic interpretation of MDD-W is: "X% of women achieved minimum dietary diversity, and they are more likely to have higher (more adequate) micronutrient intakes than the 100-X% of women who did not." MDD-W should not be interpreted as an indicator of overall diet quality, or ofindividual-level dietary diversity. There is no universal cut-off that denotes levels of severity or acceptability of MDD-W prevalence. Since 2016, FAO has provided guidance on how to collect, analyse,

present, and interpret MDD-W data. The latest FAO guidance 'Minimum Dietary Diversity for Women: An updated guide to measurement - from collection to action' was published in 2021.

4.b. Comment and limitations (REC_USE_LIM)

As household surveys are the primary source of data on MDD-W, the estimates come with levels of uncertainty due to both sampling and non-sampling error (e.g., potential omission or intrusion of food item examples on food lists, recall biases).

4.c. Method of computation (DATA_COMP)

The MDD-W indicator is calculated in two steps. The first step is to construct a food group diversity score summing the ten defined food groups. The ten defined food groups are:

1) Grains, white roots and tubers, and plantains;
2) Pulses (beans, peas and lentils);
3) Nuts and seeds;
4) Milk and milk products;
5) Meat, poultry, and fish;
6) Eggs;
7) Dark green leafy vegetables;
8) Other vitamin A-rich fruits and vegetables;
9) Other vegetables; and
10) Other fruits.

Each individual begins with a score of 0. For each of the ten food groups, add one point if any of the foods or beverages included as an example under the food group was consumed.

The second step is to calculate the MDD-W prevalence as follows:

$$\frac{\text{Woman age in years} \geq 15 \textbf{ AND } \text{woman age in years} < 50 \textbf{ AND } \text{food group diversity score} \geq 5}{\text{Woman age in years} \geq 15 \textbf{ AND } \text{woman age in years} < 50} \times 100$$

4.d. Validation (DATA_VALIDATION)

FAO reviews newly available data against a set of quality assessment criteria. These criteria include:

- National representativeness: Sufficient documentation should be available to assess sampling at various stages such as methodology to select primary sampling units, develop household listing and selection of households. The documents should allow for determination of household and individual response rate.
- Plausible time trends: Country level data are reviewed for plausible time trends. In case of outliers FAO country offices are contacted to get additional information to explain available data/trends.
- Adherence to standard questions and calculations: Survey questionnaires are reviewed to confirm adherence to global guidance in terms of methods and questions used to assess MDD-W. Only estimates based on non-quantitative 24-hour recall of a standard list of foods and beverages (with no major omissions or intrusions) or non-quantitative and quantitative open 24-hour recalls are allowed.

4.e. Adjustments (ADJUSTMENT)

Not applicable

4.f. Treatment of missing values (i) at country level and (ii) at regional level (IMPUTATION)

- At country level

There is no imputation for countries with no data for MDD-W

- At regional and global levels

There is no imputation for individual countries with missing data. Global and regional aggregates for this indicator are based on countries with available data.

4.g. Regional aggregations (REG_AGG)

Regional aggregates are calculated as population weighted averages of the prevalence of MDD-W in each country over a specific time-period, using the total population size of a country from the United Nations Population Division World Population Prospects as weights.

Regional aggregates are available for the following classifications: UN (M49), SDG, and The World Bank income groups. As a rule, regional aggregates are only displayed if available data represents at least 40percent of the region's countries or total population size.

4.h. Methods and guidance available to countries for the compilation of the data at the national level (DOC_METHOD)

Minimum Dietary Diversity for Women: An updated guide to measurement - from collection to action
Minimum Dietary Diversity for Women: Frequently Asked Questions
Minimum Dietary Diversity for Women: eLearning course

4.i. Quality management (QUALITY_MGMNT)

FAO is responsible for publishing nationally representative, weighted estimates of MDD-W from non-quantitative dietary surveys through the Food and Diet Domain on FAOSTAT. For this purpose, FAO reanalyses microdata on food group intake according to the standard FAO methodology and cross-checks MDD-W statistics against final country reports. FAO collaborates with implementing organizations, such as DHS, to clarify and resolve any potential discrepancies. Furthermore, FAO collaborates with the Global Diet Quality Project to develop and review country-specific food lists to facilitate accurate MDD-W estimates.

4.j Quality assurance (QUALITY_ASSURE)

FAO review key information from primary data sources including methodological survey details (e.g., sampling framework, exclusion areas, MDD-W questionnaire), data quality outputs (e.g., response rates, missing data), and the and the MDD-W prevalence estimates from each primary data source (e.g., household survey) under review. When information is missing or further details are required, the country-level data compilers (i.e., national statistics offices) are contacted.

4.k Quality assessment (QUALITY_ASSMNT)

Data consistency and quality checks described above are conducted for each potential primary data source before inclusion in the database that are used to generate regional and global data on MDD-W. FAO collaborates with its regional and country offices throughout the year to ensure all recent and relevant data are included in the country-level database.

5. Data availability and disaggregation (COVERAGE)

Data availability:
Minimum dietary diversity data for non-pregnant women aged 15-49 years are available for over 30 countries in Africa (001), 15 countries in the Americas (019), over 20 countries in Asia (142), and 6 countries in Europe (151).

Time series:
Country-level data for minimum dietary diversity is available from 2016 onwards and is updated annually to ensure most recent data are reflected in the database.

Disaggregation:
Disaggregated country level data are usually available for the DHS and national nutrition and health surveys by age of woman (15-19, 20-29, 30-39, 40-49 years), area of residence (rural, urban), administrative regions (e.g., zone, province, region), level of woman's education, and wealth quintile. For the GWP, data are often disaggregated by area of residence (rural, urban).

6. Comparability / deviation from international standards (COMPARABILITY)

Not applicable

7. References and Documentation (OTHER_DOC)

1. Food and Agriculture Organization of the United Nations. Minimum Dietary Diversity for Women. An updated guide for measurement: from collection to action. Rome: FAO; 2021. 158 p.
2. Martin-Prevél Y, Arimond M, Allemand P, Wiesmann D, Ballard TJ, Deitchler M, et al. Development of a Dichotomous Indicator for Population-Level Assessment of Dietary Diversity in Women of Reproductive Age. Curr Dev Nutr [Internet]. 2017;1(12):cdn.117.001701. Available from: http://cdn.nutrition.org/lookup/doi/10.3945/cdn.117.001701
3. Verger EO, Eymard-Duvernay S, Bahya-Batinda D, Hanley-Cook GT, Argaw A, Becquey E, et al. Defining a Dichotomous Indicator for Population-Level Assessment of Dietary Diversity Among Pregnant Adolescent Girls and Women: A Secondary Analysis of Quantitative 24-h Recalls from Rural Settings in Bangladesh, Burkina Faso, India, and Nepal. Curr Dev Nutr. 2024;8(1).
4. Hanley-Cook GT, Hoogerwerf S, Parraguez JP, Gie SM, Holmes BA. Minimum dietary diversity for adolescents: Multi-country analysis to define food group thresholds predicting micronutrient adequacy among girls and boys aged 10-19 years. Curr Dev Nutr [Internet]. 2024;8(3):102097. Available from: https://doi.org/10.1016/j.cdnut.2024.102097
5. Hanley-Cook G, Argaw A, de Kok B, Toe LC, Dailey-Chwalibóg T, Ouédraogo M, et al. Seasonality and Day-to-Day Variability of Dietary Diversity: Longitudinal Study of Pregnant Women Enrolled in a Randomized Controlled Efficacy Trial in Rural Burkina Faso. J Nutr. 2022;152(9):2145–54.

6. FAO, IFAD, UNICEF, WFP, WHO. The State of Food Security and Nutrition in the World 2020. Transforming food systems for affordable healthy diets. Rome, Italy; 2020.
7. Herforth A, Arimond M, Álvarez-Sánchez C, Coates J, Christianson K, Muehlhoff E. A Global Review of Food-Based Dietary Guidelines. Adv Nutr. 2019;10(4):590–605.