



Technical Report on Measuring SDG Indicators through Population and Housing Census and Civil Registration Data

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Background

- ❑ The Sustainable Goals (SDGs) were created in the spirit of “leaving no one behind” meaning all goals need to be reached for everyone - PHC and CRVS play a major role in providing information for all individuals living in a country

- ❑ Monitoring SDGs requires reliable, robust, accessible and timely population and demographic data –out of 230 indicators, about 40% of indicators are related to population

- ❑ The UN Principles and Recommendations for Population and Housing Censuses, Revision 3 (P&R) and other UN guidelines emphasized the importance of integrating the 2020 round of censuses with the data gathering requirements for SDGs indicators



Why PHC is important

- ❑ PHC plays a vital role in the production of official statistics on a wide range of topics related to population which can be disaggregated by small geographic areas and small population groups
- ❑ For most countries it is the only source that produces information on population count, its distribution and characteristics
- ❑ The census is frequently the only potentially reliable source of information on minority populations as well as providing data on rare or hard to measure events, such as migration and population living in slum areas
- ❑ For about 40% of the SDGs indicators which are related to population, the census can provide reliable data for denominators, either directly or through the population projections based on census data



Main challenges in the use of PHC

- ❑ The quality of information collected in censuses tends to be lower than what can be achieved in specialized surveys
- ❑ The fact that censuses are typically carried out only once every ten years limits their capacity to produce data that need to be updated on a regular basis
- ❑ The concepts used in the census might be differently defined than what is needed for the computation of the respective SDG indicators



Objectives of the technical report

- ❑ Overall objectives are:
 - to assist countries in structuring census questionnaires and analysing census data for the production of statistics for SDG monitoring
 - to make the best possible use of the information that is already routinely collected in censuses and civil registration systems



Objectives of the technical report

- ❑ Specific objectives are:
 - Identifying which of the SDG indicators lend themselves to measurement or approximation using existing census or CRVS data
 - Identifying the relative advantages and disadvantages of using census and/or CRVS data for these purposes
 - Identifying the challenges posed by the use of census or CRVS data for the measurement of some indicators and suggesting potential analytical strategies to mitigate or overcome them
 - Identifying the advantages of census and CRVS data for the disaggregation of the SDG indicators
 - Providing suggestions for questions that might be added to these instruments that, with a comparatively small investment, would yield an input into computing SDG indicators



Content of the report

- The report is structured as follows:
 - Chapter I –Introduction (background information, objectives, target audiences, etc.)
 - Chapter II - SDG Indicators that can be measured wholly or partly through PHCs and CRVSs
 - Chapter III - Detailed analysis of the selected SDG Indicators
 - Chapter IV - Conclusions and recommendations



Criteria used for selection of SDG indicators

- ❑ This report focuses on Tier 1 and Tier 2 indicators, as methodology or standards of Tier 3 indicators are not yet available
 - ❑ Considering heterogeneity among the indicators in terms of detailed of the data needed for SDGs, SDG indicators are selected based on the following four categories:
 - A. Indicators for which the PHC is the most obvious source
 - B. Indicators for which the CRVS is the most obvious source but which are measured through the PHC and other sources due to problems of data quality
 - C. Indicators for which the PHC or the CRVS provide proxy variables that can help to enhance understanding, particularly regarding the disaggregation to specific population groups and for which a methodology to this effect has been well established
 - D. Indicators for which the PHC or the CRVS provide ancillary information that could be used for analytical purposes, subject to the development of an appropriate methodology
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Components of detailed analysis of SDG indicators

- Detailed discussions for each indicator are provided based on the following items:
 - **Concept and definition:** Operational definition of the indicator according to the SDG meta-data;
 - **Possible data sources and their relative advantages/disadvantages:** Possible data sources that may be used for measuring or approximating the indicator;
 - **Availability in PHC or CRVS:** how widely available the necessary information in national PHCs and CRVSs;
 - **Method of computation:** Standard computation of the indicator according to the SDG meta-data and alternative approaches of the computation or approximation of the indicator based on PHC;
 - **Challenges in measuring in PHC or CRVS:** Challenges that can emerge in estimating the relevant indicator from PHC or CRVS data;
 - **Data disaggregation:** Possible disaggregation of the indicator
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- [ECE Workshop on Population and Housing Censuses, Geneva, 16-17 September 2019](#)



SDG indicators that can be measured wholly or partly through PHCs and CRVSs



PHC can provide data for 12 out of 17 Goals



List of SDG Indicators that can be measured fully or partly (1) –Tier 1.A- PHC is the most obvious source of data

	Indicator	Brief information
1	3.c.1 Health worker density and distribution	Occupation classification (ISCO-2008) is used to generate data for medical doctors, nursing and midwives professionals, dentists, pharmacists and nursing and midwifery associate professionals. 4 digits coding is required. Disaggregation by sex and geographic areas-small area is not recommended as many health professionals serving rural areas may reside in towns.
2	4.2.2 Participation in organised learning (one year before the official primary entry age)	ISCED -2011 revision level 0 'Early childhood education' provides the required data. Official primary age varies by country. Disaggregation by sex, urban/rural and small geographic areas and disability is recommended.
3	5.3.1 Proportion of women aged 20-24 years who were married or in a union before age 15 and before age 18	Information on age at first marriage or entering a union is needed. If this information is not available, it can be estimated from the proportion of women married or in union by single year of age. Disaggregation by a wide range of topics, urban/rural, place of residence, educational level, ethnicity, employment status and migration status are recommended.



List of SDG Indicators that can be measured fully or partly (2) –Tier 1.A- PHC is the most obvious source of data

	Indicator	Brief information
4	5.5.2 Proportion of women in managerial positions	ISCO classification codes 11, 12, 13 and 14 under main group Managers is used to derive the required data. Disaggregation by geographical areas and education level is recommended.
5	7.1.1 Proportion of population with access to electricity	Many censuses provide data on availability of electricity by household level. Disaggregation is suggested by rural/urban, small geographical areas and by small ethnic communities (if relevant) and by people living in slum areas.
6	7.1.2 Proportion of population with primary reliance on clean fuels and technology	Data on type of fuel used for cooking, lighting and heating provides the required information. People living in housing units with the use of gas, electricity, LPG and oil for cooking, heating and lighting are considered as numerator of this indicator. Disaggregation is suggested by rural/urban, small geographical areas and by people living in slum areas.



List of SDG Indicators that can be measured fully or partly (3) –Tier 1.A- PHC is the most obvious source of data

	Indicator	Brief information
7	8.5.2 Unemployment rate, by sex, age and persons with disabilities	Many censuses collect data on unemployment and disability. Disaggregation by sex, five-year age group, rural/urban, small geographical areas and by education level, disabilities and migration status.
8	8.6.1 Proportion of youth (aged 15-24 years) not in education, employment or training	This indicator is known as "the youth NEET rate". Most countries collect data on formal education and employment, but collecting data on training (attending vocational or technical training) is not very common. Disaggregation by sex and youth age range, urban/rural, major geographical areas and migration status is recommended.
9	8.7.1 Proportion and number of children aged 5-17 years engaged in child labour, by sex and age	Lower age limit in censuses is generally in the range of 10-15. However, about 15 countries in 2010 round collected this information for aged 5 or 6 and over. Disaggregation by sex, age group (5-11, 12-14 and 15-17), rural/urban and small geographical areas is recommended.



List of SDG Indicators that can be measured fully or partly (4) –Tier 1.A PHC is the most obvious source of data

	Indicator	Brief information
10	9.2.2 Manufacturing employment as a proportion of total employment	<p>Information on people employed in manufacturing activities is generated from the question on industry in PHC using ISIC revision 4 sector C-Manufacturing.</p> <p>Disaggregation by sex, occupation, major geographical areas and by industrial sectors (such as manufacture of foods products, manufacture of beverages, etc.)</p>
11	11.1.1 Proportion of urban population living in slums, informal settlements or inadequate housing	<p>Composite index can be generated from two topics -informal settlements and inadequate housing- using data on security of tenure, access to improved water, access to improved sanitation, structural quality of housing units, sufficient living area (overcrowding).</p> <p>Disaggregation by location (city and urban), by sex and age, migration status (of reference person or head of household) and disability status.</p>



List of SDG Indicators that can be measured fully or partly (5) – Tier 1.B CRVS is the most obvious source but many countries collect data through censuses or other sources

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	Indicator	Brief information
12	3.1.1 Maternal mortality ratio	CRVS is often affected by coverage errors. PHC can produce estimates of maternal mortality with additional questions in the context of household deaths. MMR estimate can be produced using data from household deaths or can be estimated based on indirect methods. Disaggregation is recommended by major geographic areas, urban/rural and educational level.
13	3.1.2 Proportion of births attended by skilled health personnel	In countries where the coverage of birth statistics is high and where the attendance at birth is systematically recorded, the information can be reliably estimated from CRVS data. Not relevant topic for PHC.
14	3.2.1 Under-five mortality rate	Preferred data source is CRVS, however, due to the lack of death coverage, many countries produce estimates of child mortality rate from PHC. An indirect method is used based on a summary birth history. Disaggregation is suggested by rural/urban, place of residence of mother and education level of mother.



List of SDG Indicators that can be measured fully or partly (6) – Tier 1.B CRVS is the most obvious source but many countries collect data through censuses

	Indicator	Brief information
15	3.2.2 Neonatal mortality rate	<p>Natural source of data is CRVS. PHC can produce estimates based on two questions: the date of birth of the last live-born child and the survival of the last-born child. By looking only at the survival status of children born during the past 28 days, the indicator can be estimated. However, better approach would be asking additional question on the date of death of last child born. The method can be extended to children that were born more than 28 days ago by looking at those that died during the first 28 days as a proportion of the total number born.</p> <p>Disaggregation is recommended by sex, mother`s place of residence and educational level.</p>
16 17 18	Indicators for which PHC is not relevant: 3.4.1 Mortality rate attributed to cardio-vascular disease, cancer, diabetes or chronic respiratory disease 3.4.2 Suicide mortality rate 3.6.1 Death rate due to road traffic injuries	



List of SDG Indicators that can be measured fully or partly (7) – Tier 1.B CRVS is the most obvious source but many countries collect data through censuses

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	Indicator	Brief information
19	3.7.2 Adolescent birth rate (aged 10–14 years; aged 15–19 years) per 1,000 women in that age group	CRVS is the natural source. PHC can provide estimate for this indicator based on the question on the date of birth of last child born. If adolescent fertility occurs at very early age, the question can be asked to all females aged 10 and over. Disaggregation is recommended by geographic location, completed level of education, marital status and labor force status.
20	16.9.1 Proportion of children under 5 years of age whose births have been registered with a civil authority, by age	CRVS systems that are functioning effectively can be used to compare the absolute number of registered births during a given period of time with the estimated total number of births in a country. PHC can also provide data on children who have acquired their right to a legal identity through asking a question to children below age 5 whether they are registered in national registration system. Disaggregation by sex, age, rural/urban, small geographic areas and disability status is recommended.



List of SDG Indicators that can be measured fully or partly (8) – Tier 1.C PHC provides proxy variables that can help to enhance understanding particularly regarding disaggregation

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	Indicator	Brief information
21	1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)	<p>Personal or household income data are collected only in a minority of PHCs due to data quality problems. Estimation of this indicator with census data through broad classifications of the household's poverty level could be attempted using non-monetary approaches, if income data is not available.</p> <p>Non-monetary approaches:</p> <p>(i) Unmet Basic Needs -using data on crowding, quality of construction materials, sanitation, educational attendance, economic dependency, education level of the head of household. For each factor, critical limits are defined;</p> <p>(ii) Multidimensional Poverty Index-UNDP launched this index in 2010 which identifies how people are being left behind across three key dimensions: health, education and standard of living, comprising a total of 10 indicators.</p> <p>(iii) Wealth Quintiles-A similar methodology that has been developed in the context of the DHS, but that is potentially applicable to PHC data as well, is the computation of wealth quintiles based on the characteristics of households.</p> <p>Disaggregation is suggested by sex, age and employment status (of head of household/reference person in case of using non-monetary approach), by rural/urban and geographical areas and by migrant and non-migrant households and households living in slum areas.</p>
22	1.2.1 Proportion of population living below the national poverty line, by sex and age	



List of SDG Indicators that can be measured fully or partly (9) –Tier 1.D PHC provides ancillary information that can be used for analytical purposes subject to methodological development

	Indicator	Brief information
23	9.5.2 Researchers (in full-time equivalent) per million inhabitants	<p>Main data source is administrative data bases on R&D institutions in the country, often maintained by the Ministry of Science and Technology or similar Ministries. PHC can provide auxiliary information related to this indicator. The primary instrument afforded by PHC data to characterize research and development is the ISIC coding of the industry question, where code 72 - Scientific research and development (under Section M-Professional, scientific and technical activities) corresponds to R&D. Additional information may be obtained from the question on occupation (ISCO-08 codes listed under Group 2 Professionals) and the question on highest level of education, specifically the post-graduate level, where this is part of the census contents. Apart from this, the census usually is the appropriate point of departure for the estimation of the relevant denominators.</p> <p>Disaggregation might be done by sex, age group and sector of employment.</p>



List of SDG Indicators that can be measured fully or partly (10) – Tier 1.D PHC provides ancillary information that can be used for analytical purposes subject to methodological development

	Indicator	Brief information
24	17.6.2 Fixed Internet broadband subscriptions per 100 inhabitants, by speed	<p>Main data sources are administrative data collected from internet service providers by the Information and Communication Technology Ministries. PHC can provide data on households/population which have an access to Internet (not subscriptions). The information collected in the census refers to internet access of any kind, usually without indication of the type of connection (broadband, dial-up, through mobile phone and speed). Only very few countries (Australia, for example) break the information down by categories of internet access.</p> <p>Disaggregation of estimates of internet is suggested by rural/urban and geographical areas and different population groups, such as by people living in slum area.</p>



List of SDG Indicators that can be measured fully or partly (10) Tier 2 Indicators

Work in progress for Tier 2 Indicators

Tier 2.A

25	4.c.1 Proportion of teachers in: (a) pre-primary; (b) primary; (c) lower secondary; and (d) upper secondary education who have received at least the minimum training
26	5.b.1 Proportion of individuals who own a mobile telephone, by sex
27	6.1.1 Proportion of population using safely managed drinking water services

Tier 2.C

28	4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex
29	10.2.1 Proportion of people living below 50 per cent of median income, by sex, age and persons with disabilities

Tier 2.D

30	1.2.2 Proportion of men, women and children of all ages living in all its dimensions according to national definitions
31	1.3.1 Proportion of population covered by social protection floors/systems, by sex, distinguishing children, unemployed persons, older persons, persons with disabilities, pregnant women, new-borns, work-injury victims and the poor and the vulnerable
32	1.4.1 Proportion of population living in households with access to basic services
33	1.4.2 Proportion of total adult population with secure tenure rights to land, (a) with legally recognized documentation, and (b) who perceive their rights to land as secure, by sex and type of tenure
34	4.5.1 Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated
35	4.6.1 Proportion of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex
36	4.1.1 Proportion of children/young people (a) in grades 2/3, (b) at the end of primary, (c) at the end of lower secondary-minimum proficiency level in reading/mathematics
37	6.2.1 Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water
38	8.9.2 Proportion of jobs in sustainable tourism industries out of total tourism jobs