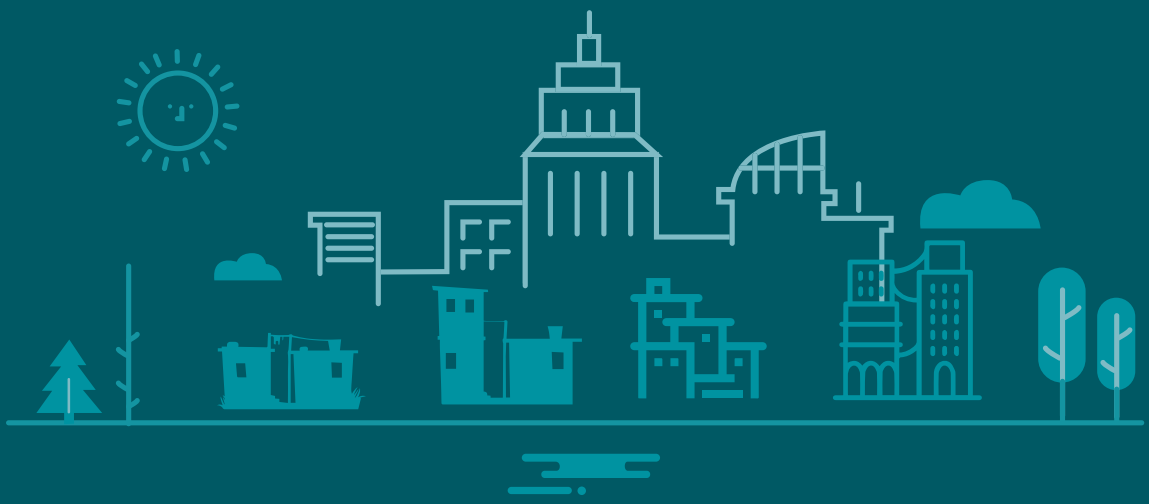
MODULE 1

ADEQUATE HOUSING AND SLUM UPGRADING



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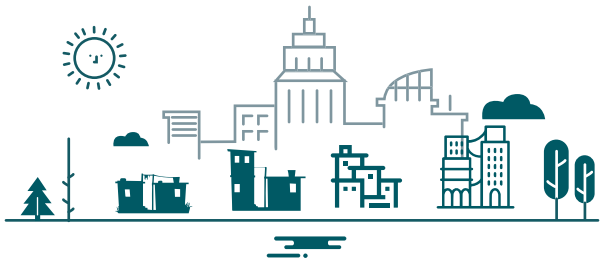

ADEQUATE HOUSING AND SLUM UPGRADING

TARGET 11.1: *By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums*

Indicator 11.1.1: *Proportion of urban population living in slums, informal settlements or inadequate housing*

Suggested Citation:

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SECTION 1:

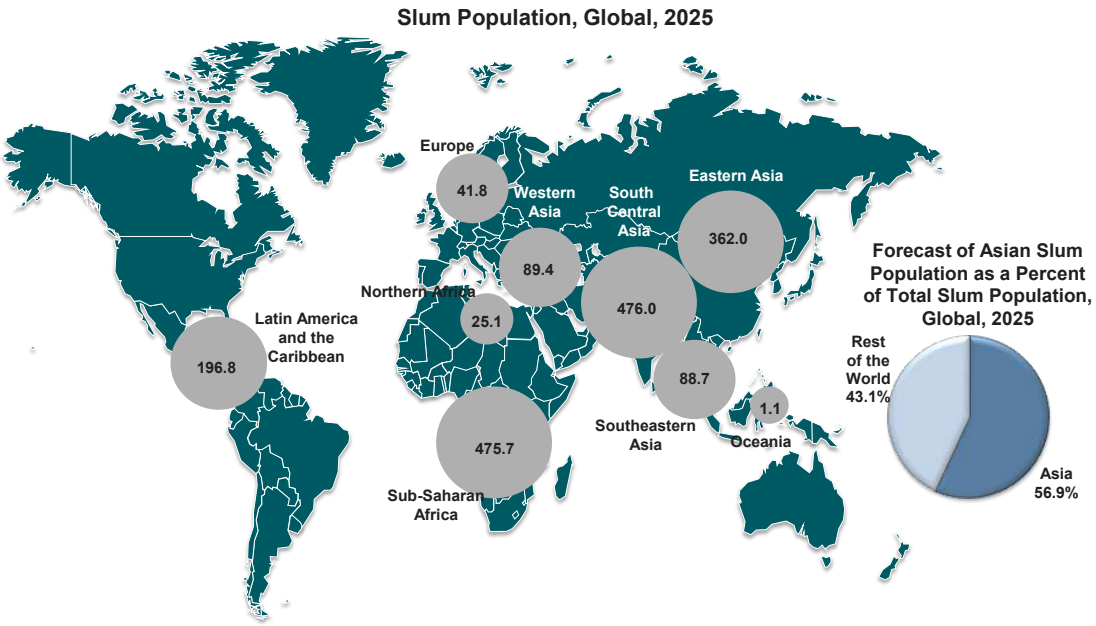
INTRODUCTION

1.1 Background

Sixty per cent of the global population will live in cities by 2030, with 90% of urban growth in coming decades likely to occur in low- and middle-income countries. Current urbanization trends indicate that an additional three billion people will be living in cities by 2050, increasing the urban share of the world's population to two-thirds. In fact, 95% of the growth in urban areas in the next two decades will occur in cities, making them home to more than 4 billion people, and translating to about 80% of future urban population.

The steady trend towards urbanization will influence virtually every facet of human endeavor in the coming years, including health, economic, social, and environmental. In many parts of the world, especially in developing countries, high rates of urbanization have unfolded in context of stagnating economies and poor planning and governance, creating a new face of abject poverty concentrated in slums or informal settlements in major cities. Indeed, the unprecedented proliferation of slums and informal settlements in the world especially in developing countries, and a chronic lack of adequate housing, continue to be among the major challenges of urbanization today. Slums, informal settlements and inadequate housing remain the visible manifestations of poverty and inequality in cities.

At present, it is estimated that one in eight people in the world live in slums or experience slum-like conditions around their housing environments'[1]. Over the next 15 years, it is estimated that more than three billion people will need adequate housing. The housing and slum challenge therefore remains a critical factor in the persistence of poverty in the world, depriving millions of urban residents their right to an adequate standard of living and housing,[2] excluding them from the benefits of sustainable urbanization.



Note: The numbers in the circle are in millions

Source: UN-Habitat and Frost & Sullivan analysis.

1 "In total, 881,080,000 slum dwellers are estimated to be living in developing countries, only, and this figure has been calculated considering just four out of the five-slum household's deprivations included in the MDG's definition, as security of tenure cannot be accurately calculated yet. In some countries with limited information, only one out of the five components has been measured. Thus, the 881 million can indeed be considered a global minimum (United Nations (2015), The Millennium Development Goals Report; UN-Habitat (2016), World Cities Report 2016)".

2 The Universal Declaration of Human Rights (1948), Article 25(1). Committee on Economic, Social and Cultural Rights, General comment No. 4 (1991): The right to adequate housing (art. 11 (1) of the Covenant).

In order to design and implement appropriate policies and programs to respond to the housing challenges worldwide, it is important to identify and quantify the proportion of the population that lives in slums within urban areas, those living in informal settlements or those who have inadequate housing.

This is what SDG Indicator 11.1.1 does by integrating two aspects of poor housing conditions: the aspect of slums and informal settlements that UN-Habitat have been monitoring under the MDGs (Target 7D) mostly in developing countries and the new aspect on inadequate housing that applies largely to the developed countries. Integrating these two aspects makes the indicator universal as it helps capture housing conditions in both developed and developing countries thus addressing the fundamental principle of leaving no one behind..

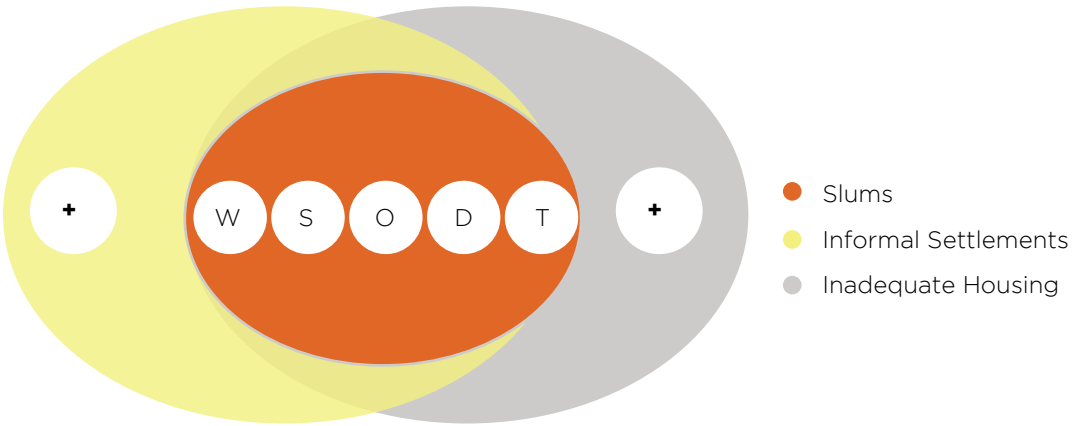


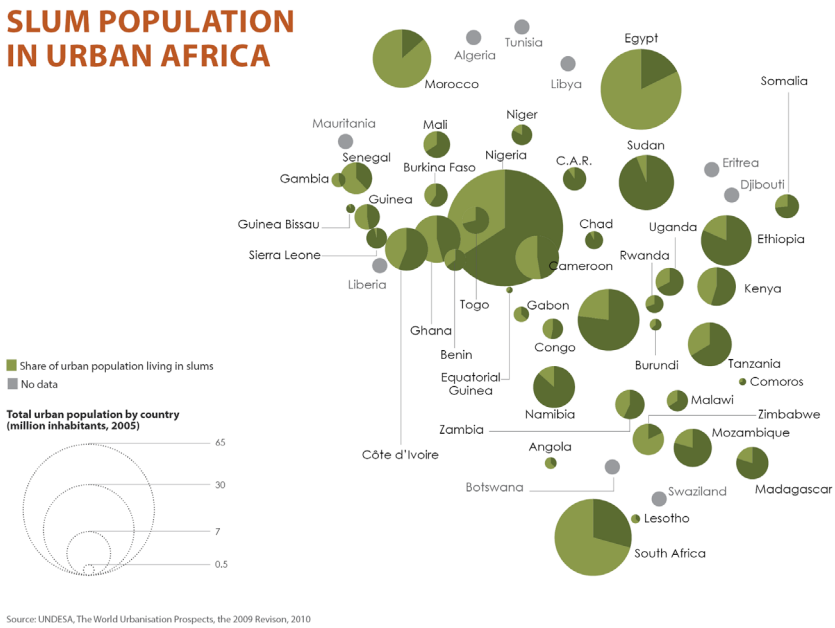
Figure 2: The different aspects of housing inadequacy-complementarity of three indicators

1.2 Rationale for Monitoring

In general, monitoring promotes higher accountability, better performance assessment and strong coordination between central governments and the regional and local governments. It enables cities to collect accurate, timely, disaggregated data and information, adopting a systemic approach to the city, with clear policy implications that are based on evidence. This way, countries and cities are able to make appropriate decision on the best actions to adopt, whilst systematically documenting their performance at the outcome and impact levels.

The purpose of monitoring progress against the SDG 11 Target 11.1 is to provide necessary and timely information to decision makers and stakeholders in order to make informed decision to accelerate progress towards access for all to adequate, safe and affordable housing and basic services and upgrade slums. A range of interrelated factors usually underlines the proliferation of both slums and inadequate housing. These may vary from weaknesses in housing policies, poor planning and land management, urban migration related to urban densification, disasters, conflicts, long-term poverty as well as the lack of affordable housing.

All these factors point to the fact that the measurement of all the aspects of the indicator will provide a broad field for analysis of the urban related issues towards achieving Agenda 2030. As such, monitoring and reporting on Indicator 11.1.1 is extremely relevant as it integrates the elements of MDG 7 Target 7D with the SDGs broader spectrum of housing informality and inadequacy.



Source: UNDESA, The World Urbanisation Prospects, the 2009 Revison, 2010

Monitoring Process

DATA COLLECTION

National Statistical Offices (NSOs) will be responsible for the collection and analysis of data in countries

CAPACITY DEVELOPMENT

Final compilation and reporting at the global level will be led and guided by UN-Habitat and selected partners.

DATA RELEASE

Regular monitoring and reporting will be done in intervals of 3-5 years based on routine data sources such as censuses and household surveys.

1.3 Concepts and Definitions

There are a number of interrelated terms that have to be tackled when considering an indicator for the SDG Target 11.1. They include inadequate housing and housing affordability, informal settlements and slums.

a) Slums

Slum Households are defined as one in which the inhabitants suffer from one or more of the following:

1) Lack of access to improved water source,
2) Lack of access to improved sanitation facilities,
3) Lack of sufficient living area,
4) Lack of housing durability and
5) Lack of security of tenure.

UN-Habitat defines a slum household in operational terms, as lacking one or more of the following indicators: a durable housing structure; access to clean water; access to improved sanitation; sufficient living space; and secure tenure. The first four rely on conventional definitions; the last is the most difficult to assess and is not currently used in slum measurement (UN-Habitat, 2003).

There is some evidence that the elements that make up the slum definition feature among slum dwellers' chief concerns.

Example; in a study of Nairobi slums (World Bank, 2006) respondents identified access to basic infrastructure, such as toilets, water supply, among others, as their priority. A survey conducted in the 1990s by Thailand's National Housing Authority showed that tenure insecurity featured among the top concerns for slum dwellers (National Housing Authority, 1992). Of course, residents of slum settlements require improvements in a number of areas that go beyond those included in the slum definition (e.g. access to jobs and income-generating opportunities, schools and hospitals and access to other basic infrastructure, such as streets, roads, street lighting).

UN-Habitat puts the global estimate of slum populations at 881 million as of 2014 and just under a third of all urban-dwellers in the developing world (UN-Habitat, 2014).

Sub-Saharan Africa is the region with the highest proportion of the urban population living in slums – over 50% compared to figures ranging between 20% and 31% for other regions of the world.

Source: *Authors' elaboration based on UN-Habitat (2003), Gilbert (2007), World Bank (2006), and National Housing Authority (1992).*

Author: *Paula Lucci, Tanvi Bhatkal, Amina Khan and Tom Berliner; Paper: What works in improving the living conditions of slum dwellers: A review of the evidence across four programmes*

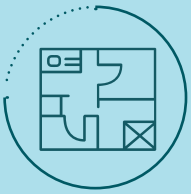
Figure 1.1: Slum Basic Attributes

1 Access to improved water

A household is considered to have access to an improved drinking water source if the household members use a facility that is protected from outside contamination, in particular from faecal matters' contamination. Improved drinking water sources include piped water into dwelling, plot or yard; public tap/stand pipe; protected spring; rainwater collection; bottled water (if secondary source is also improved); bore hole/tube well; and, protected dug well.

2 Access to improved sanitation

A household is considered to have access to improved sanitation if household members have access to a facility with an excreta disposal system that hygienically separates human waste from human contact. Improved sanitation facilities include : flush/pour-flush toilets or latrines connected to a sewer, septic tank or pit; ventilated improved pit latrine; pit latrine with a slab or platform which covers the pit entirely; and, composting toilets/latrines.



3 Sufficient living area

Household dwelling unit provides sufficient living area for the household members if not more than three people share the same habitable room.

Slum households are typically squeezed, having more than three individuals sharing the same habitable room.

4 Structural quality/durability of dwellings

A house is considered as 'durable' if it is built on a non-hazardous location and has a permanent and adequate structure able to protect its inhabitants from the extremes of climatic conditions such as rain, heat, cold, and humidity. In order to determine the household durability, consider the following elements:

1. Permanency of structure (permanent building material for the walls, roof and floor; compliance with building codes; the dwelling is not in a dilapidated state; the dwelling is not in need of major repair); and
2. Location of house (The house is not located on or near toxic waste, in a flood plain, not located on a steep slope, not located in a dangerous right of way of rail, highway, airport, and power lines).

Houses in slums are mostly made of transitory corrugated iron sheets, sacks, wood and are located on or near toxic waste, steep slope, or dangerously in the way of transport lines.

5 Security of tenure

A housing structure should be accompanied by security of tenure. This means that the members of the household should have a legal status against arbitrary unlawful eviction, harassment as well as any other threats. The housing structure should have statutory or customary law or informal or hybrid arrangements that safeguard the house members against forced evictions.

Most slum residents lack security of tenure for their housing units.

b) Informal Settlements:

Informal settlements are residential areas where:

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

Informal settlements can be a form of real estate speculation for all income levels of urban residents, affluent and poor. Among them, slums are the poorest and most dilapidated form of informal settlements.

Thus, informality should not be understood as an income-based denomination that stigmatises the poor. Rather, informal settlements' estimates should be based on a technical compliance relevant to all income levels related to the above criteria.

For example, a valid municipal permit could be a reliable indication of formality.

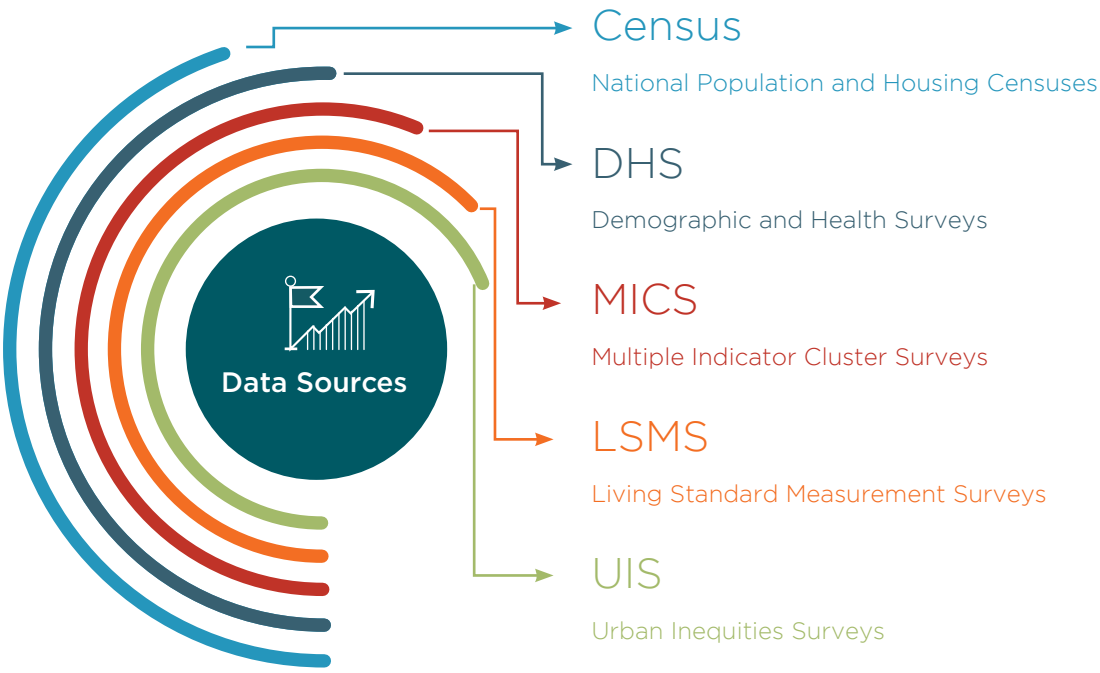
c) Inadequate Housing:

A housing unit is considered adequate if at a minimum it meets the following criteria:

1. Legal security of tenure, which guarantees legal protection against forced evictions, harassment and other threats;
2. Availability of services, materials, facilities and infrastructure, including safe drinking water, adequate sanitation, energy for cooking, heating, lighting, food storage or refuse disposal;
3. Affordability, as housing is not adequate if its cost threatens or compromises the occupants' enjoyment of other human rights;
4. 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;
5. Accessibility, as housing is not adequate if the specific needs of disadvantaged and marginalized groups are not taken into account (such as the poor, people facing discrimination; persons with disabilities, victims of natural disasters);
6. 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
7. 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.

2. HOW TO MEASURE THE INDICATOR

A number of data sources will be used to monitor and report on this indicator from subnational to national and global levels. NSOs will need to collect and validate data from various sources such as:



Others:

- European Union survey on Income and Living Standards.
- Household Expenditure and Income Survey

Software:

For the actual computation, the following softwares are recommended among others:

Statistical Packages:

- SPSS
- Stata
- R+

To compute this indicator, teams at the NSOs will need to work out two main components:

a. Slum Households/Informal settlements households
b. Inadequate housing households

Table 1: Definition and measurement criteria for slums, informal settlements and inadequate housing

Slums / Informal Settlements	**DEFINITION:** As adopted in the MDG, household where the inhabitants suffer one or more of the following 'household deprivations': 1. Lack of access to improved water source, 2. Lack of access to improved sanitation facilities, 3. Lack of sufficient living area, 4. Lack of housing durability and, 5. Lack of security of tenure).	**MEASUREMENT :** Security of Tenure: • Proportion of households with formal title deeds to both land and residence. • Proportion of households with formal title deeds to either one of land or residence. • Proportion of households with agreements or any document as a proof of a tenure arrangement. Access to improved water: A household is considered to have access to an improved drinking water source if the household members use a facility that is protected from outside contamination, in particular from faecal matters' contamination. Improved drinking water sources include piped water into dwelling, plot or yard; public tap/stand pipe; protected spring; rainwater collection; bottled water (if secondary source is also improved); bore hole/tube well; and, protected dug well. Structural quality of Housing and location: Proportion of households residing on or near a hazardous site. The following locations should be considered: • Housing in geologically hazardous zones (landslide/ earthquake and flood areas); • Housing on or under garbage mountains; • Housing around high-industrial pollution areas; • Housing around other unprotected high-risk zones (e.g. railroads, airports, energy transmission lines).
		Structural quality of the housing and permanency of the structure: Proportion of households living in temporary and/ or dilapidated structures. The following factors should be considered when placing a housing unit in these categories: • Quality of construction (e.g. materials used for wall, floor and roof); • Compliance with local building codes, standards and bylaws. Sufficient living area: • Proportion of households in which not more than three people share the same habitable room.

Inadequate housing	**DEFINITION:** Proposed to complement the slums/ informal settlements component measuring affordability of housing at the global level. A housing is considered inadequate if it is not affordable to the household, i.e. the net monthly expenditure on its cost exceeds 30% of the total monthly income of the household.	**MEASUREMENT:** Inadequate housing: • Proportion of households with net monthly expenditure on housing exceeding 30% of the total monthly income of the household.

Unit One: Computation of Slum / Informal Households

Step one: Collect all primary data sources for the country. Household survey data are preferred whenever they are available and on condition that they have the relevant variables for computing this component.

The Demographic and Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS) or other national household-based surveys or census are preferred.

Name	Date modified	Type	Size
ecuador_01_census_13022013	2/12/2013 11:38 PM	SPSS Statistics Data Document	398,642 KB
ecuador_01_census_households	2/12/2013 1:23 AM	SPSS Statistics Data Document	96,300 KB

EXAMPLE:

We use the 2001 census data from Ecuador for this example.

Step Two: Review and assess the complete sets of available data at the national level with all relevant variables. This could vary over years, which would allow you to compute trends in your analysis. Examine each dataset for existence of all relevant variables for computing this indicator such access to sanitation, water, security of tenure, housing durability, etc.

Step Three: Examine and select the correct household population that you need to analyse. This can be broken down by regions, urban-rural or even by cities using the respective variable of interest.

Step Four: Apply relevant analysis programmes that would allow you to generate results tables from the data with relevant disaggregation.

Example: Floor material (Highlighted).

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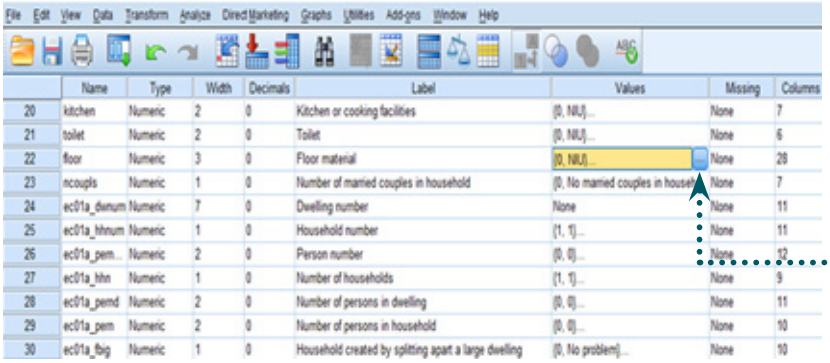
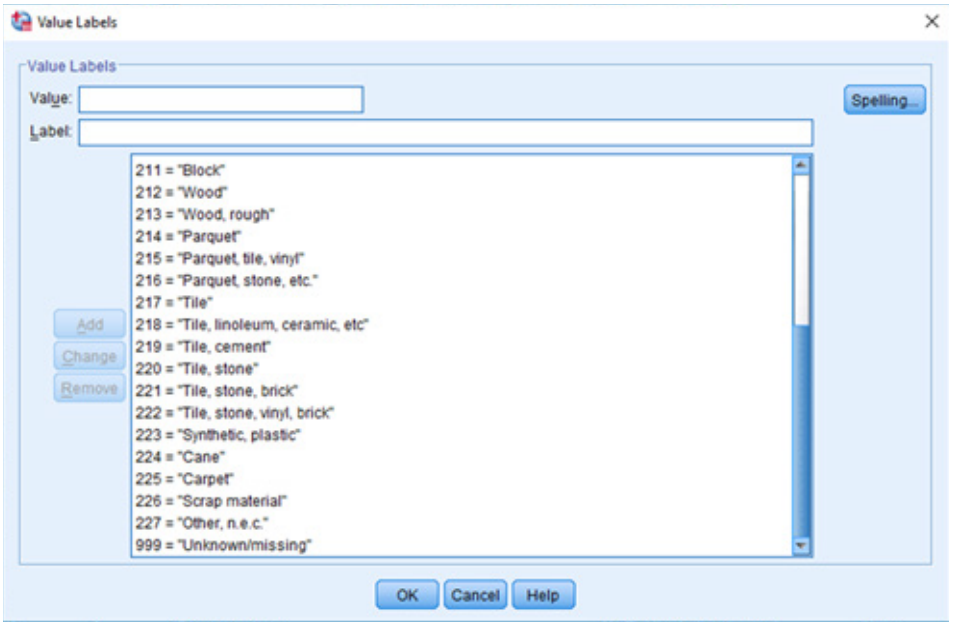
	Name	Type	Width	Decimals	Label
20	kitchen	Numeric	2	0	Kitchen or cooking facilities
21	toilet	Numeric	2	0	Toilet
22	floor	Numeric	3	0	Floor material
23	ncoupls	Numeric	1	0	Number of married couples in household
24	ec01a_dwnum	Numeric	7	0	Dwelling number
25	ec01a_hhnum	Numeric	1	0	Household number
26	ec01a_pern...	Numeric	2	0	Person number
27	ec01a_hhn	Numeric	1	0	Number of households
28	ec01a_pernd	Numeric	2	0	Number of persons in dwelling
29	ec01a_pern	Numeric	2	0	Number of persons in household
30	ec01a_fbig	Numeric	1	0	Household created by splitting apart a large dwelling
31	ec01a_mign	Numeric	1	0	Number of migrant records in the input data file (for entire
32	ec01a_prov	Numeric	2	0	Province
33	ec01a_dwtype	Numeric	2	0	Type of dwelling
34	ec01a_vacc...	Numeric	1	0	Occupation status of the dwelling

Review the response categories for the questions on housing durability.



Where possible the various responses categories are grouped and interpreted according to the definitions for slums (Not all surveys or census data use the same categories to define durable housing using floor material).



To create the new indicator, we have to group the question responses into two categories using the following syntax:

```
**********durable floor**********.
*fre EC10A_FLOOR.

recode EC10A_FLOOR (1,3,4=1)(else=0) into floor1.
var lab floor1 "durable house".
val lab floor1 1"Improved Housing" 0"Unimproved Housing".

*fre floor1.
```

The syntax will also tabulate the frequencies into tables as shown below.

DURABLE HOUSING

Original Indicator

EC10A_FLOOR Predominant materials of the floor

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Fitted-groove wood, parquet, boards, or finished wood	738630	16.1	16.1	16.1
	2 Unfinished boards	356370	7.8	7.8	23.9
	3 Ceramic, tile, vinyl, or marble	1692950	36.9	36.9	60.8
	4 Brick or cement	1596820	34.8	34.8	95.5
	5 Cane	10580	.2	.2	95.8
	6 Dirt	137370	3.0	3.0	98.8
	7 Other materials	40010	.9	.9	99.6
	9 NIU (not in universe)	16460	.4	.4	100.0
	Total	4589190	100.0	100.0	

New Indicator

floor1 durable house

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00 Unimproved Housing	560790	12.2	12.2	12.2
	1.00 Improved Housing	4028400	87.8	87.8	100.0
	Total	4589190	100.0	100.0	

This should be done for the response categories for the questions on access to improved water, improved sanitation, sufficient living area, improved housing and lack of security of tenure for slums

Step Five: Repeat 'Step four' for all the elements of slums and obtain the respective new tables. The new indicators should be coded as follows.

Indicator codes:

New variable	Codes	
Water1 =	1: Improved water	2: Unimproved water
Toilet1 =	1: Improved sanitation	2: Unimproved sanitation
Living1 =	1: Sufficient Living Area	2: Overcrowding
Floor1=	1: Durable Housing	2: Non-Durable Housing
Secure1=	1: Secure Tenure	2: Unsecure Tenure

In this example, the slum computation will only rely on the first four for demonstration purposes

Step Six: Using the new variables with focus only on urban households, identified in 'Step four', we compute the slum household by the respective deprivation (These form part of the quantifiable derivatives for the measurement of target 11.1) as shown below.

Shelter Deprivation measures the number of components a household does not have i.e.:

1. One Shelter Deprivation - household has 3 components and is only missing 1 other component.
2. Two Shelter Deprivation - household has 2 components and is only missing 2 other components.
3. Three Shelter Deprivation - household has 1 component and is only missing 3 other components.
4. Four Shelter Deprivation - household has NONE of the required components

Slum = One Shelter Deprivation + Two Shelter Deprivation + Three Shelter Deprivation + Four Shelter Deprivation

The shelter deprivation is computed using four sub-steps.
First sub-step: First, identify the respective components of deprivation as shown below:

```
**********Improved water**********.
recode hv201 (11,12,13,21,31,41,51,71=1)(else=0) into water1.
var lab water1 "Improved water".
val lab water1 1"Access to improved water source" 0"Unimproved water source".
********** improved sanitation**********.
recode hv205 (11,12,13,21,22,41=1)(else=0) into toilet1.
var lab toilet1 "Improved toilet".
val lab toilet1 1"Improved sanitation" 0"Unimproved sanitation".
**********Sufficient living area**********.
if (hv012=0)  hv012=hv013.
if (hv216=0)  memsleep=hv012.
if (hv216<> 0) memsleep= (hv012/hv216).
if (memsleep>=98) memsleep=98.
compute living1=1.
if (memsleep gt 3) living1=0.
var lab living1 "sufficient living area".
**********durable floor**********.
recode hv213 (11,21,22=0)(else=1) into floor1.
var lab floor1 "durable house".
```

Note: In this example, durable housing is captured only through durable floor as a proxy because of lack of data on other dimensions of durability (wall and roof).

Second sub-step: Second, compute the various combinations of the respective variables as shown below:

This should be done to ensure that all possible combinations are considered and have been computed. This will ensure no combination is forgotten so that all aspects have been combined.

```
**********Computing slum**********.
do if (hv025=1).
compute slumc4=0.
if (water1=0 and toilet1=0 and living1=0 and floor1=0) slumc4=1.
compute slumc3a=0.
if (water1=0 and toilet1=0 and living1=0 and floor1=1) slumc3a=1.
compute slumc3b=0.
if (water1=0 and toilet1=0 and floor1=0 and living1=1) slumc3b=1.
compute slumc3c=0.
if (water1=0 and living1=0 and floor1=0 and toilet1=1) slumc3c=1.
compute slumc3d=0.
if (toilet1=0 and living1=0 and floor1=0 and water1=1) slumc3d=1.
compute slumc3=0.
if (slumc3a=1 or slumc3b=1 or slumc3c=1 or slumc3d=1) slumc3=1.
compute slumc2a=0.
if (water1=0 and toilet1=0 and living1=1 and floor1=1) slumc2a=1.
compute slumc2b=0.
if (water1=0  and living1=0 and toilet1=1 and floor1=1) slumc2b=1.
compute slumc2c=0.
if (water1=0 and floor1=0 and toilet1=1 and living1=1) slumc2c=1.
compute slumc2d=0.
if (toilet1=0 and living1=0 and water1=1 and floor1=1) slumc2d=1.
compute slumc2e=0.
if (toilet1=0 and floor1=0 and water1=1 and living1=1) slumc2e=1.
compute slumc2f=0.
if (living1=0 and floor1=0 and water1=1 and toilet1=1) slumc2f=1.
compute slumc2=0.
if (slumc2a=1 or slumc2b=1 or slumc2c=1 or slumc2d=1 or slumc2e=1 or slumc2f=1)
slumc2=1.
compute slumc1a=0.
if (water1=1 and toilet1=0 and living1=1 and floor1=1) slumc1a=1.
compute slumc1b=0.
if (water1=0  and living1=1 and toilet1=1 and floor1=1) slumc1b=1.
```

```
compute slumc1c=0.
if (water1=1 and floor1=0 and toilet1=1 and living1=1) slumc1c=1.
compute slumc1d=0.
if (toilet1=1 and living1=0 and water1=1 and floor1=1) slumc1d=1.
compute slumtot=0.
if (water1=0 or toilet1=0 or living1=0 or floor1=0) slumtot=1.
compute slumc=0.
if (slumtot=1) slumc=2.
if (slumtot=1 and water1=1 and living1=1 and floor1=1) slumc=1.
if (slumc2=1) slumc=3.
if (slumc3=1) slumc=4.
if (slumc4=1) slumc=5.
var lab slumc “Slum conditions”.
val lab slumc 0”Non-slum” 1”Sanitation only” 2”Other only one condition of slum”
3”Satisfy two conditions of slum” 4”Satisfy three conditions of slum” 5”Satisfy four
conditions of slum”.
```

Third sub-step: Third, compute the different combinations into different classes and then proceed to label the classes for the slums stratification as follows:

```
compute class=0.
if (slumc1a=1) class=1.
if (slumc1b=1) class=2.
if (slumc1c=1) class=3.
if (slumc1d=1) class=4.
if (slumc2a=1) class=5.
if (slumc2b=1) class=6.
if (slumc2c=1) class=7.
if (slumc2d=1) class=8.
if (slumc2e=1) class=9.
if (slumc2f=1) class=10.
if (slumc3a=1) class=11.
if (slumc3b=1) class=12.
if (slumc3c=1) class=13.
if (slumc3d=1) class=14.
if (slumc4=1) class=15.
```

```
var lab class “Slum stratification”.
val lab class  0 “Non-slum household” 1 “Lack sanitation only” 2 “Lack water only” 3 “Lack housing only” 4 “Lack Living area only” 5 “Water and sanitation only” 6 “Water and living area” 7 “water and housing” 8 “sanitation and living area” 9 “sanitation and housing” 10 “living area and housing” 11 “Water and sanitation and living area” 12 “Water and sanitation and housing” 13 “Water and living area and housing” 14 “Sanitation and living area and housing” 15 “Water and sanitation and living area and housing”.
```

Sub-step Four: Fourth, the slum stratifications are then grouped together as follows:

```
recode class (0=0)(1 thru 4=1)(5 thru 10=2)(11 thru 14=3)(15=4) into classgrp.
var lab classgrp “Slum stratification grouped”.
val lab classgrp
 0 “Non-slum household”
1 “ One shelter deprivation”
2 “ Two shelter deprivations”
3 “ Three shelter deprivations”
4 “ Four shelter deprivations”.
recode classgrp (0=0)(1,2,3,4=1) into slumthre.
var lab slumthre “Slum”.
val lab slumthre 0”Non-slum” 1”Slum”.
```

If this is done properly and the results are cross-tabulated for the urban areas, we obtain the data for slums in the various disaggregation's as shown in the compiled table below.

SLUM STRATIFICATION (URBAN POPULATION ONLY)

	Country one	
	Count	%
Slum		
Non-slum	420,110	69.2%
Slum	187,040	30.8%
Total	607,150	100.0%
Slum stratification grouped		
Non-slum household	420,110	69.2%
One shelter deprivation	100,470	16.5%
Two shelter deprivations	46,510	7.7%
Three shelter deprivations	35,120	5.8%
Four shelter deprivations	4,940	.8%
Total	607,150	100.0%
Slum stratification		
Non-slum household	420,110	69.2%
Lack sanitation only	12,370	2.0%
Lack water only	23,740	3.9%
Lack housing only	33,070	5.4%
Lack Living area only	31,290	5.2%
Water and sanitation only	6,280	1.0%
Water and living area	4,500	.7%
water and housing	17,540	2.9%
sanitation and living area	2,460	.4%
sanitation and housing	7,390	1.2%
living area and housing	8,340	1.4%
Water and sanitation and living area	1,700	.3%
Water and sanitation and housing	24,080	4.0%
Water and living area and housing	6,690	1.1%
Sanitation and living area and housing	2,650	.4%
Water and sanitation and living area and housing	4,940	.8%
Total	607,150	100.0%

Based on the table above, it is estimated that Ecuador has 31% of slum households in urban areas.

$$\text{Percentage of SISH Households} = 100 \left[\frac{187{,}040}{607{,}150} \right]$$

$$= 30.81\%$$

These six steps outlined above help determine the proportion of slum/informal settlements households in urban areas or cities in a given country. To determine the proportion of urban population living in slums/informal settlements, additional computation will be done using the total urban/city population and the number of people living in these SISH households.

Percentage of **city/urban population** living in **Slum/Informal Settlements** households (SISH):

$$= 100 \left[\frac{\text{Number of people living in SISH Households}}{\text{Total City/ Urban Population}} \right]$$

Unit Two: Computation of Inadequate Housing

Inadequate housing is proposed to be measured using the housing affordability criteria that may be captured by the "Housing cost overburden rate", i.e. **the percentage of households with net monthly expenditure on housing or total housing costs (net of housing allowances) exceeding 30% of the total monthly income of the household or total disposable household income (net of housing allowances).**

Data Required

In general, the estimation of people living in inadequate housing requires special surveys that collected data on income and living conditions. All private households and their current members (persons living in collective households are excluded from the target population) are considered as reference population.

Secondary data sources

This information is regularly collected by some NSOs or regional bodies such as the European Union Statistical Office and reported periodically under housing statistics. The surveys cover majority of the aspects of living conditions. Below are some examples of secondary sources from which the required information can be obtained. This list will be updated periodically as data becomes available.

1. Database: Income and Living Conditions
   Link: (http://ec.europa.eu/eurostat/web/income-and-living-conditions/data/main-tables)
2. Statistical Books and Publications
   a). http://ec.europa.eu/eurostat/publications/recently-published
   b). http://ec.europa.eu/eurostat/en/web/products-statistical-books/-/KS-DZ-14-001
   c). http://ec.europa.eu/eurostat/en/web/products-pocketbooks/-/KS-FP-13-001
   d). http://ec.europa.eu/eurostat/en/web/products-statistics-in-focus/-/KS-SF-11-004

Example

Methodology for computing the indicator of inadequate housing using the EU Statistics data

The European statistical office permanently collects information on Housing and living Conditions for the entire European Union. This is guided by the European Union ten-year growth plan 'Europe 2020', a strategy for smart, sustainable and inclusive growth focusing on the importance of monitoring income and living conditions. The collected information provides guidance towards meeting the target of lifting at least 20 million people in the EU from the risk of poverty or social exclusion by the year 2020. We present below how housing cost overburden rate is calculated using EU methodology to arrive at the proportion of population with inadequate housing.

Using EU methodology, this indicator is defined as the percentage of population living in a household where total housing costs (net of housing allowances) represent more than 40% of the total disposable household income. Countries within the EU region have data available to compute this indicator.

Housing costs include mortgage interest payments excluding capital repayments for mortgage holders (net of any tax relief) for owners and rent payments, gross of housing benefits. They also include payments for structural insurance, mandatory services and charges (sewage removal, refuse removal, etc.), regular maintenance and repairs, taxes and the cost utilities (water, electricity, gas and heating). Housing allowances include rent benefits and benefits to owner-occupiers.

The main statistical findings for the recent housing statistics can be summarized as follows:

Table 2: Example computed housing of inadequate housing using the EU Statistics data

Housing Statistics	Measurement (EU Statistics)	Definition	Results from EU members Population (2014)
1. Tenure Status	Ownership of dwelling	The financial arrangements under which someone has the right to live in a house, dwelling or apartment	70.1 %- owner-occupied dwellings accommodation
			19.1 % - Tenants with a market price rent
			10.8 % - Tenants in reduced-rent or free
2. Housing Quality	Overcrowding rate	The overcrowding rate is defined as the percentage of the population living in an overcrowded household.	17.1 % population lived in overcrowded dwellings
	At risk of poverty	Share of people with an equivalised disposable income (after social transfer) below the at-risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income after social transfers.	Within the population at risk of poverty, overcrowding rate in the EU-28 was 30.3 % in 2014 within
	Severe housing deprivation rate	Severe housing deprivation rate is defined as the percentage of population living in the dwelling , which is considered as overcrowded, while also exhibiting at least one of the housing deprivation measures. Housing deprivation is a measure of poor amenities and is calculated by referring to those households with a leaking roof, no bath/ shower and no indoor toilet, or a dwelling considered too dark	5.1 % of the population suffered from severe housing deprivation

3. Housing Affordability	Housing cost overburden rate	The housing cost overburden rate is the percentage of the population living in households where the total housing costs ('net' of housing allowances) represent more than 40 % of disposable income ('net' of housing allowances).	11.4 % - population lived in households that spent 40 % or more of their equivalised disposable income on housing.
			Highest for tenants with market price rents (27.1 %) and Lowest for persons in owner-occupied dwellings without a loan or mortgage (6.8 %).

The results capture 95% of the aspects of inadequate housing as defined by the SDGs. (See table below).

Criteria for measuring inadequate housing check list for EU Statistics and SDGs

Table 3:

Conditions for Inadequate Housing	SDGs	EU Housing Statistics
a. Legal security of tenure	x	x
b. Has adequate and available basic services	x	x
c. The housing unit should be affordable.	x	x
d. Guaranteed physical safety	x	x
e. Not disadvantaged to disadvantaged and marginalized groups.	x	-
f. Located in areas of easy access to opportunities.	x	x
g. Take into account the expression of cultural identity and the members ways of life	x	-

The EU statistics methodology incorporates some but not all the seven criteria for determining inadequate housing, an areas that is being addressed.

GENERAL LIMITATIONS

Data Limitations

i. The lack of appropriate tools at national and city levels to measure all the components required to monitor indicator 11.1 highlights challenges for NSOs to reliably include all components that measure slums, informality or inadequate housing conditions. This may result in the underestimation of poor housing conditions. Exploratory work is ongoing on the use of earth observation technologies to enhance the monitoring of spaces that constitute slums, informality or inadequate housing. This data would be complemented with other household surveys data for quality validation and triangulation. Complementarity in data reporting will be key to ensure that both national and global figures achieve consistencies in the final reported data.

ii. Indicator 11.1.1 does not capture homelessness, as it is not included in household surveys. However, in most recent years, important progress has been made to integrate the measurement of this component into major surveys and censuses in several countries and thus more data is expected to be available in the next 5 years.

iii. Many countries still have limited capacities for data management, data collection and monitoring, and continue to grapple with limited data on large or densely populated geographical areas. Several technical workshops and EGMs are scheduled to help build the capacity for reporting in the first 5 years of the 2030 Agenda for Sustainable Development.

iv. Security of tenure is an aspect that has been difficult to measure and monitor due to lack of routine data, given its complicated interrelation with land and property that makes difficult to include in the different related surveys.

v. Slums: MICS, Census and DHS surveys that are part of the primary data sources for the computation of the indicator for access to improved water do not always collect data on whether wells and springs are protected or unprotected. Also, they do not always indicate whether latrines are traditional or improved, covered or uncovered.

vi. Measurement of housing quality not only depends on the quality of the dwelling itself, but also on the wider residential area. The indicator thus relies heavily on the subjective opinions of the respondents.

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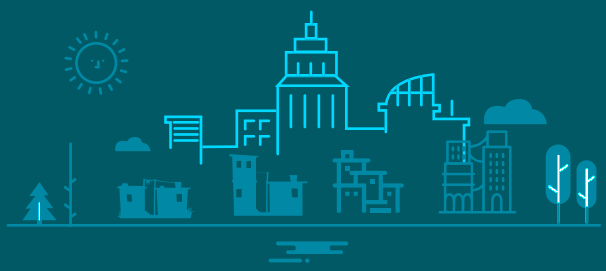

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