



United Nations Population Fund (UNFPA) - Regional Office for Latin America and the Caribbean

ingo

EMPOWERING INCLUSION

Statistical Visibility of Intersectional Vulnerabilities in the Analysis of Population and Housing Census Data.

Credits

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TABLE OF CONTENTS

- 04 Executive Summary
- 05 Purpose
- 05 Alignment with global standards
- 05 Context
- 08 Understanding intersectionality from census data
- **09** Tabulations
- **10** Subpopulations, dimensions of living conditions and suggested tabulations
- **11** Population profile
- **13** Comparison matrix between socio-demographic indicators and SDGs
- 15 Intersectionality of geographical variables and social indicators
- **16** Dimensions of well-being/deprivation
- 17 How to develop cross tabulation
- **19** Exhaustive list of the crossings involved
- **23** Visual and simple presentation
- 24 Final considerations
- 25 References

EXECUTIVE SUMMARY

This practical guide "Empowering Inclusion: Statistical Visibility of Intersectional Vulnerabilities in Census Analysis" has as its main objective to facilitate intersectional analysis of census data to identify and address structural inequalities. The paper underlines the importance of the principle of "Leave No One Behind" (LNOB) and the role of UNFPA in promoting statistical visibility of marginalized populations. It highlights that Latin America and the Caribbean is one of the most unequal regions in the world, and intersectional analysis of census data is crucial to understand and address this complexity.

The use of census data is suggested because of its universal coverage and capacity for disaggregation, crucial factors for including all population groups in official statistics. The importance of a human rights-based approach to reducing inequalities is emphasized, using data that go beyond numbers and bring decision-makers closer to the realities of lives that are hidden in national averages.

This guide is a solid basis for designing more targeted, inclusive and effective public policies by applying the intersectional approach to the analysis of census data, contributing to the monitoring of the SDGs and advancing towards the reduction of structural inequalities in the region.

Keywords: sex, age, culture, religion, language, ethnicity and race, disability, location, migration/ asylum/displacement, LGBTQIA+, HIV, and socioeconomic status.

PURPOSE

This guide is intended as a practical tool for analyzing census data using an intersectional approach. Designed to support evidence-based public research, it seeks to demonstrate how the intersection between the concept of intersectionality and the principle of "Leave No One Behind" (LNOB) allows for uncovering and addressing structural inequalities in living conditions.

ALIGNMENT WITH GLOBAL STANDARDS

The proposal aligns with the United Nations 2030 Agenda for Sustainable Development, which stresses the importance of detailed and disaggregated indicators and supports the integration of intersectionality in many individual measures. In addition, this approach is based on the principles of the Universal Declaration of Human Rights (United Nations, 1948), in particular the principle of equality and non-discrimination; the Durban Declaration and Program of Action (United Nations, 2001), which serves as a global framework for combating racism, racial discrimination, xenophobia and related intolerance; the United Nations Declaration on the Rights of Indigenous Peoples (United Nations, 2007); and the Convention on the Rights of Persons with Disabilities (United Nations, 2006). It also aligns with the United Nations Population Fund's advocacy for statistical visibility of marginalized populations, supporting the goals of the First (2015-2024) and Second International Decade for People of African Descent (2025-2034), which focus on recognition, justice and development for people of African descent.

CONTEXT

UNFPA is committed to addressing structural inequalities and discrimination through its advocacy of the principles of "Leaving No One Behind" (LNOB) and "Reaching the Farthest Behind" (RFB). This commitment involves highlighting the statistical visibility of socially vulnerable populations based on their socio-demographic and/or territorial characteristics.

The application of intersectional analysis to population data plays a key role in this process, recognizing that multiple determinants of inequality interact between individuals and within groups, compounding their effects.

The LNOB principle is central to UNFPA's policies and practices, as it guides efforts to achieve the ICPD Programme of Action, the Montevideo Consensus, and the Sustainable Development Goals (SDGs) during the 2010s. Action. UNFPA's Strategic Plan emphasizes that addressing LNOB factors is essential to achieving UNFPA's Three Transformative Results: an end to unmet needs for family planning; an end preventable maternal deaths; and an end to gender-based violence and harmful practices. This approach integrates human rights-based principles and gender-transformative strategies to address intersecting social, cultural, and economic barriers, ensuring equitable access to services and empowering marginalized populations.

Latin America and the Caribbean is one of the most unequal regions in the world; its average Gini index of almost 0.5 reflects deep gaps in income distribution. However, inequality in the region goes beyond economic inequality: it appears in dimensions such as geography, gender, ethnicity and unequal access to basic services such as education and health. Intersectional analysis is

a key tool in understanding and addressing the complex determinants and effects of different dimensions of inequality. By disaggregating data according to geographic, socioeconomic and demographic characteristics, it can reveal how different forms of exclusion overlap, making it possible to identify particularly vulnerable groups. This provides concrete evidence to design more precise and context-specific public policies, capable of attacking the structural causes of inequality and effectively reducing gaps.

Improving data quality is vital to addressing inequality. Data in Latin America is often incomplete or unreliable due to gaps in collection, limitations in accessibility, and lack of standardized methodologies, limiting the ability to accurately measure inequality or analyze its causes. Improved data collection methods - such as comprehensive household surveys and administrative records - and an intersectional approach can provide a clearer picture of inequality trends and inform evidence-based policies aimed at fostering inclusive growth.

Improving data quality is a vital step towards producing and assessing evidence on the interconnected nature of inequalities in realities that are often hidden in general indices. In turn, this evidence supports decision making and prioritization exercises in public policies, and to guide effective policy responses.

Population and housing censuses are the most complete data source for generating a wide range of indicators with the minimum disaggregations established in target 17.18 of the Sustainable Development Goals (SDGs). They are particularly essential for obtaining data disaggregated by migratory status, membership of indigenous peoples, Afro-descent and disability, and classified by sex and age. This level of detail makes it possible to identify overlapping vulnerabilities and conduct more accurate and inclusive analyses, which are essential for monitoring the progress of national and international development agendas, as well as for key processes such as the Common Country Assessment (CCA) and the Voluntary National Reviews (VNR).

Fundamentally, population and housing censuses collect detailed information on each dwelling, household and individual at all territorial levels of a country, allowing the production of highly disaggregated data by geographic area and key socio-demographic characteristics. Their universal coverage and periodicity make them a powerful tool for understanding the living conditions of various population groups, including those defined by migration status, disability, ethno-racial identity and other interrelated factors. Censuses also provide essential baselines and updated sampling frames for household surveys, playing a central role in monitoring the 2030 Agenda (ECLAC/UNFPA, 2017). This rich data set - covering variables such as age, sex, education, employment, household structure, among others - is essential for conducting intersectional analyses and identifying the most vulnerable populations, in line with the principle of leaving no one behind.

In this framework, this guide proposes the use of census data because of their universal coverage, accuracy and disaggregation capacity, essential elements for making all population groups visible in official statistics and monitoring progress on the SDGs. The intersectional analysis of census data, guided by the LNOB principle, makes it possible to identify hidden gaps in national averages and to design more targeted and inclusive interventions. This strategy aligns with a human rights-based approach and supports countries in meeting their international obligations, while strengthening capacity to respond to structural inequalities effectively.

The document emphasizes the importance of a human rights-based approach to addressing structural inequalities, understood as those that originate and are perpetuated by institutions, social norms, laws, policies and historical practices that systematically exclude certain groups. These inequalities may be linked to gender, ethnicity, race, disability, socioeconomic status, sexual orientation or place of residence. The lack of statistical visibility of marginalized populations contributes to maintaining this cycle of exclusion. Therefore, producing data disaggregated by vulnerability factors is fundamental to building fairer and more inclusive societies. This effort implies applying intersectional strategies that recognize and reflect the multiple dimensions of discrimination, as well as ensuring that data are produced in an ethical, participatory manner and aligned with international human rights standards. It also requires strengthening accountability mechanisms and the participation of social movements in monitoring and evaluation processes.

This approach is key to defining a comprehensive strategy to respond to structural inequalities and ensure inclusion in official statistics, thus helping to ensure that no one is left behind. Achieving this requires making all populations visible through sources such as population and housing censuses, which make it possible to identify gaps by disaggregating data by multiple dimensions. The intersectional analysis proposed in this guide prioritizes factors such as age, culture, religion, language, ethnic-racial identity, disability, location, migratory or displacement status, gender identity and orientation, HIV status and socioeconomic status. We recognize that priorities vary according to context, and that each country must identify the factors most relevant to its reality. In Latin America and the Caribbean, for example, the legacies of slavery and colonization, together with patriarchal systems, make race-ethnicity, gender and social class key determinants of the inequalities observed in social indicators.

In summary, this guide seeks to show how to apply the intersectional approach to the analysis of census data to reveal inequalities that are often hidden in national averages. Identifying how different dimensions of vulnerability overlap and differentially affect different groups strengthens the design of more targeted, inclusive and effective public policies. This contributes to the monitoring of the Sustainable Development Goals, improves the capacity of statistical systems to produce useful evidence and advances towards the reduction of structural inequalities in the region.

UNDERSTANDING INTERSECTIONALITY FROM CENSUS DATA

Traditionally, the construction of social indicators has focused on generating core measures that reflect broad social phenomena within a population. Even when disaggregation is applied, it often involves only one or two variables; for example, the presentation of data by sex and age for a given year. While these general indicators are useful, they provide only a partial view. Disaggregating data using intersectional characteristics, such as age, ethnicity and disability, provides a more nuanced and complete picture of society. This deeper understanding allows policymakers to set more realistic and inclusive goals, and to better address the complex and overlapping dimensions of social inequalities.

The intersectionality approach to statistical analysis recognizes that people's identities and experiences are shaped by multiple simultaneous and dynamic factors, such as age, sex/ gender, culture, ethnicity, race, disability, geographic location, migration status, sexual orientation and socioeconomic status. These dimensions, when interacting, can deepen inequalities by affecting access to resources, opportunities and rights. Intersectionality, therefore, offers a comprehensive framework for understanding how structural discriminations and inequalities are configured and perpetuated.

This guide aims to improve the use of data from population and housing censuses by incorporating this intersectional approach. Its purpose is to facilitate the application of this perspective in the analysis of data by public policy makers and relevant actors, in order to make persistent inequalities visible, understand the multiple forms of exclusion, and support more targeted and inclusive decisions aimed at eradicating poverty and reducing structural gaps.

A fundamental method for applying intersectionality lies in the disaggregation of data and the crossing of variables, which promotes statistical visibility for all groups, with special emphasis on the most vulnerable populations. This involves disaggregating statistics to analyze all categories to understand the intersectional behavior of variables for each phenomenon observed, trying to express the multiplicity of inequalities that affect the living conditions of a population.

The concept of intersectionality has a long historical trajectory. Its development was provided by several scholars of African descent such as Kimberle Crenshaw (1989), Bell Hooks (1990), Patricia Hill Collins (1990, 2002), and Mara Viveros (2016), who have contributed significantly to this development and application. The concept of intersectionality, introduced by Kimberlé Crenshaw in 1989, emerged as a fundamental framework for addressing the invisibility of Black women's experiences in justice systems and broader social discourses. Crenshaw highlighted that feminist theories often focused on the needs of white women, neglecting the compounding problems faced by Black women, such as racial discrimination combined with gender inequality. For example, she demonstrated that while white women's struggles in the labor market revolved primarily around gender barriers, black women faced additional obstacles due to systemic racism. Similarly, anti-racist movements often fail to address specific violence and discrimination against Black women, overlooking the intersection of race and gender and related vulnerabilities such as age. Intersectionality underscores how overlapping attributes - such as being both a woman and Afro-descendant - intensify vulnerabilities and discrimination. This dynamic is evident in the experiences of Afro-descendant and indigenous women, who often encounter multiple barriers to accessing education or formal labor markets, especially when living in rural or marginalized areas. The absence of data disaggregated by race, ethnicity, gender, age and class further masks these intersecting inequalities, hindering efforts to address their unique challenges in a comprehensive manner.

The guide will show examples of how intersectionality can be applied to generate disaggregated statistics on social indicators extracted from census information. This approach aims to support policy makers and stakeholders in general in the production of disaggregated social indicators that identify the factors that leave groups and populations behind in the guarantee of rights, and to apply the concept of intersectionality to inform public policies in a more inclusive, targeted and effective way.

TABULATIONS

First and foremost, promoting inclusion and filling data gaps requires a critical preliminary step: ensuring that data collection instruments include variables that capture key dimensions of vulnerability in human experiences. This involves advocating within national statistical systems for the incorporation of variables such as race, ethnicity, and disability in official questionnaires. It also involves efforts to improve the quality and response rates of these variables, while ensuring compliance with international standards of accuracy and promoting social participation in the design and validation of these indicators. Only by taking these foundational steps can data systems begin to reflect the true diversity of populations and support evidence-based policies that leave no one behind.

Moreover, intersectional statistics is an evolving field whose theoretical framework recognizes that human experiences are shaped by the interaction of multiple social positions, such as gender, race, ethnicity, disability, and socioeconomic status. These dimensions cannot be fully understood in isolation. Intersectional statistical analysis attempts to capture this complexity by applying a variety of methodological approaches, such as cross-tabulations that stratify measures of central tendency by intersectional groups, correlation analysis, interaction terms in regression models, decomposition techniques, and other advanced methods. These tools aim to reveal the overlapping and compounding effects of inequality, contributing to more accurate and inclusive analyses.

One of the main types of statistical approach used in quantitative intersectional studies has been the so-called intercategorical approach, which tentatively adopts existing analytical categories and uses them strategically to explore relations of inequality between social groups. That is, it focuses on how different social categories relate to each other and contemplates a process of synthesizing inequality relations between defined within-group groups (Bauer et al., 2021; McCall, 2005).

Descriptive statistics are an essential step in exploring data. Cross tabulations that stratify statistical measures, such as percentages or averages, are particularly useful for exploring these inequality relationships using census data. Defined by the crossing of two or more analytical

categories, these tabulations can be presented in the format of tables where the different dimensions of analysis of a variable of interest are laid out on different axes of the table.

Intersectional analysis allows us to understand how the combination of multiple sociodemographic characteristics can generate and enhance structural inequalities that affect access to rights, opportunities and resources. Subpopulations with intersections of vulnerability may face differentiated and cumulative barriers that limit access to their well-being. Identifying them is key to designing more inclusive and effective public policies.

In order to advance in the identification of the most underprivileged subpopulations through intersection analysis, population censuses are a fundamental source of information, making it possible to reveal inequalities in several dimensions simultaneously.

The intersectional approach makes it possible to reveal and measure inequalities that are not visible in unidimensional analyses. The combination of sociodemographic variables in census processing helps to detect more disadvantaged groups, facilitating the design of more targeted and effective policies.

For example, instead of simply analyzing the educational level of the population, an intersectional approach would make it possible to study:

- Women over 60 years of age, indigenous, with disabilities, residing in a marginalized rural area, compared to men of the same age, without disabilities, non-indigenous, residing in the country's capital.
- Afro-descendant youth in urban poverty, in contrast to non-Afro-descendant youth in metropolitan areas with access to greater educational and employment opportunities.
- Indigenous girls and adolescents in rural communities, analyzing their access to education and child marriage rates compared to their non-indigenous urban peers.

SUBPOPULATIONS, DIMENSIONS OF LIVING CONDITIONS AND SUGGESTED TABULATIONS

When embarking on an intersectional analysis, it is important to consider a wide range of factors that intersect to create unique situations and vulnerabilities. Observing these factors contributes to a more nuanced understanding of the diverse experiences and challenges faced by different groups within a population, opening up the opportunity for a deeper understanding of the complexity of the impact of social inequalities and discrimination on living conditions and well-being

In an intersectional approach, social indicators should be presented comparatively between population groups to identify gaps and inequalities in living conditions and well-being in different groups and to locate opportunities for high-impact interventions. Disaggregations are therefore

one of the main axes for measuring the progress of indicators and evaluating social protection and sustainable and inclusive development programs, responding to the central promise of the 2030 Agenda for Sustainable Development to "leave no one behind".

Disaggregation from an intersectional perspective (e.g., understanding vulnerabilities affecting rural adolescent girls in access to education and job opportunities by race/ethnicity) involves going beyond individual social categories to simultaneously consider different aspects of social identity as well as contextual variables. For example, gender can serve as a starting point for understanding inequalities, as it remains one of the most pervasive forms of discrimination, it is important to understand how gender intersects with other vulnerability factors to create different experiences of discrimination and inequality (TDR/WHO, 2020).

The development of an intersectional analysis matrix (see Table 1) is a practical tool for identifying which social categories are most relevant for a given analysis. This makes it possible to integrate an intersectional perspective and create indicators that reflect multiple dimensions of inequality. For example, SDG indicator 6.1.1 - "Proportion of population with access to safely managed drinking water services" - could be adapted to include an analysis of categories composed of gender and ethnicity to create baselines and milestones to target tailored drinking water access interventions from an intersectional and inclusive perspective. Another possibility would be to maintain the core indicator with additional indicators for specific population groups and show variations.

Below is a list of factors that intersect to create unique situations and vulnerabilities that should be taken into account:

Population profile

Total population

Establishing the total population size is a fundamental starting point for any demographic analysis. This information makes it possible to measure the magnitude of social and economic phenomena, and is essential for disaggregating subpopulations, calculating rates, planning public policies and distributing resources equitably.

Culture, Religion, Language, Ethnicity and Race

To address the historical inequalities affecting Afro-descendant and indigenous communities, it is essential to use census data that include self-identified racial or ethnic information. This approach allows us to understand how factors such as skin color, language, culture, ancestry, religion, nationality and residence affect the living conditions of these populations. Recognizing and making these dimensions visible is key to guaranteeing culturally relevant and effective public policies.

Sex, Gender, Gender Identity and Sexual Orientation

Traditionally, demographic analysis has been based on the sex variable, generally recorded as the sex assigned at birth. However, advances in human rights have driven the progressive incorporation of variables such as gender identity and sexual orientation, allowing for a more accurate representation of LGBTQI (lesbian, gay, bisexual, trans, queer and intersex) people. This contributes to identifying and reducing gaps and barriers faced by these populations in accessing rights.

Age and life cycle

Age is an essential variable in demographic analysis, as it allows for the identification of differences in needs, risks and opportunities throughout the life cycle. The use of data disaggregated by individual years and by five-year groups is recommended. For example, for reproductive health studies, a classification such as: 0-9 years (childhood), 10-14 (adolescence), 15-19 (adolescence of reproductive age), 20-24 (youth), 25-49 (adults of reproductive age), 60+ (older adults) can be used. Although people between 50-64 are not considered "older adults," this group may be crucial for the transition to old age. This segmentation facilitates a generational perspective in the analyses.

Disability

The Washington Group defines people with disabilities as those who face greater difficulty, compared to the general population, in performing certain activities due to limitations in basic functioning (such as mobility, vision, hearing or memory). Collecting data on disability allows designing inclusive interventions and ensuring equal access to rights, considering the interaction between health conditions, environmental barriers and available resources.

Migratory status

Distinguishing between internal and international migration is key to analyzing differentiated barriers to access to rights. Migrants may face exclusion in health services, education, social protection and political participation, especially when their migratory status is irregular or unrecognized.

Territoriality

Geographic disparities within a country can generate profound inequalities. The place of residence-urban or rural, capital or periphery, coastal or mountainous areas-significantly affects access to rights, services and opportunities. Including the territorial dimension in the analysis makes it possible to make visible the structural gaps that affect populations in contexts of greater vulnerability.

The following matrix provides an example of intersectional categorization of the population, combining three key variables: gender, ethnicity and age group. This approach shows how people can be simultaneously classified according to these dimensions, allowing the identification of different social positions and possible situations of vulnerability. By crossing gender (male/ female), ethnicity (indigenous/non-indigenous) and age (10-19, 15-49, 60+), a more detailed and contextualized view of demographic diversity is obtained. This intersectional perspective facilitates the analysis of patterns of inequality and guides the design of more specific and inclusive public policies. For example, when applied to an indicator such as Internet access, it makes it possible to detect gaps that would not be visible with a simpler disaggregation.

Sex * ethnicity * age	10 to 19 years old	15 to 49 years old	60 years and over
Indigenous and	Indigenous woman	Indigenous women of productive age	Older indigenous
women	Adolescent		woman
Indigenous woman and man	Indigenous Male Adolescent	Indigenous man of productive age	Older indigenous man
Non Indigenous	Non-indigenous woman	Non-indigenous women of productive age	Elderly non-indigenous
and women	Adolescent		woman
Non-Indigenous	Non-Indigenous Male	Non-indigenous male of productive age	Older non-indigenous
and male	Adolescent		male

Table 1: Example of intersectionality matrix

Comparison matrix between socio-demographic indicators and SDGs

Table 2 summarizes key socio-demographic indicators that measure phenomena such as fertility, mortality, migration and urbanization, and highlights their relevance to the Sustainable Development Goals (SDGs). When these indicators are disaggregated by key Leave No One Behind (LNOB) factors, such as gender, age, ethnicity, disability status, and migration status, they become powerful tools for revealing patterns of inequality that might otherwise remain hidden in aggregate data. For example, disaggregating maternal mortality by ethnicity or rural location can reveal gaps in access to health services, while disaggregating migration data by age and sex can highlight vulnerabilities of specific groups, such as unaccompanied minors or displaced women. By applying an intersectional perspective to these indicators, countries can design more inclusive public policies and ensure that progress towards the SDGs benefits all segments of the population, especially those who have been historically marginalized.

Indicator	Brief description	ODS
Population growth rate	Average annual change in population, segmented by age group.	SDG 11, SDG 3
Crude birth rate	Number of births per year in relation to the average population during the same period.	SDG 3.7
Total fertility rate (TFR)	Average number of children a woman would have according to current age-specific fertility rates.	ODS 3.7, ODS 5.6
Age-specific fertility rate	Births to women in a specific age group relative to the population of women in that age group.	ODS 3.7, ODS 5.6

Table 2: Comparison matrix between socio-demographic indicators and the SDGs

Life expectancy at birth	Average number of years a newborn is expected to live under current mortality conditions.	ODS 3.2, ODS 3.4
Crude mortality rate	Number of deaths per year per 1,000 population.	ODS 3
Infant mortality rate	Probability that a newborn will die before reaching one year of age.	SDG 3.2
Maternal mortality ratio	Deaths of women related to pregnancy, childbirth or puerperium per 100,000 live births.	SDG 3.1
Urbanization	Proportion and characteristics of the urban population: density, services, economic activity, etc.	ODS 11.1, ODS 6, ODS 9, ODS 17.18
Net migration rate	Annual difference between immigrants and emigrants, in relation to the average population.	ODS 10.7, ODS 17.18
International migrant population	Total number of residents born in another country.	ODS 10.7, ODS 17.18
Country of birth/ Citizenship/ Arrival date	Contextual information on the origin and trajectories of immigrants.	ODS 10, ODS 16, ODS 17.18

Intersectionality of geographic variables and social indicators

Table 3 demonstrates how different geographic variables - such as rural, urban and peri-urban areas, informal settlements, ethnically concentrated territories (e.g., indigenous or quilombola populations), location (such as remote or coastal areas) and administrative boundaries - can be crossed with household characteristics, economic variables and educational indicators to reveal spatial inequalities. For example, it highlights disparities such as access to water in rural areas, unemployment in urban and rural areas, unpaid domestic work in informal settlements, internet access in remote areas and literacy gaps among populations living in inadequate housing. It also makes it possible to analyze poverty and extreme poverty in specific cultural or territorial contexts, such as quilombola or coastal regions, and helps to identify vulnerabilities such as young people who do not study or work in peri-urban areas or accessibility limitations in border cities. This intersectional territorial approach supports the formulation of targeted and evidence-based public policies, with the objective of leaving no one behind.

Geographical breakdowns	Household conditions	Economic characteristics	Features
Rural/ urban/ peri- urban	Access to water in rural areas	Unemployment rate in rural and urban areas	Population between 15 and 24 years of age neither studying nor working in the peri- urban area.

Table 3. Intersectionality of geographic variables and social indicators

Favelas, informal settlements, or inadequate housing	Access to sanitation services in informal settlements	Domestic and unpaid work	Índice de Pobreza en los territorios quilombolas
Territorial ethnicity	Access to garbage service in indigenous territories	Índices de pobreza extrema en las zonas costeras	Nivel de renta en las ciudades fronterizas
Location	Internet access in remote areas	Economically active population	Extreme poverty rates in coastal zones
Administrative divisions	Accessibility in border cities	Dependency ratio	Income level in border cities

The main challenge is to be able to analyze the demographic phenomena recorded in the census through composite categories that can locate nodes of inequalities in order to prioritize public policy actions.

Dimensions of well-being/deprivation

The different **dimensions of well-being/deprivation** that can be derived from population censuses to identify inequalities (and understand how structural factors interact in their generation) include: Housing Conditions; Household Conditions; Economic Characteristics; Educational Characteristics; and Demographic Characteristics (Fertility, Birth Rate, Marriage and Unions, Infant Mortality).

The different subpopulations defined on the basis of their personal characteristics tend to present inequalities in access to the different dimensions of well-being, and the combination (intersection) of the most vulnerable subpopulations significantly enhances them.

List of suggested dimensions of well-being

Unsatisfied Basic Needs (UBN)

For the consideration of the dimensions related to Housing conditions; Household conditions; Economic characteristics and Educational characteristics, a tool that identifies deprivation is the identification of unsatisfied basic needs (UBN), which is usually calculated with census data by many countries in the region.

The UBNs that have been developed for several decades are based on identifying deprivations based on the definition of minimum thresholds in the following dimensions: i) Housing conditions that ensure a minimum standard of habitability for the household. ii) Access to basic services that ensure an adequate level of sanitation. iii) Access to basic education for household members. iv) Economic capacity to reach minimum consumption levels.

The group of basic needs that can be identified with the census allows, due to its capacity

for geographic disaggregation, the elaboration of territorial poverty maps. Their intersectional consideration will also allow for another type of map, that of the most vulnerable subpopulations according to characterizations that go beyond their location in the territory.

Tabulations with NBI can be elaborated on the basis of two criteria

1. Taking all dimensions summarized in the values of the UBN index, for example under the following categorization (1 "People living in households with no UBN"; 2 "People living in households with one UBN"; 3 "People living in households with two or more UBN").

- 2. Considering separately the presence of NBI in each dimension[1]:
- People living in households with UBN housing quality (1 "Yes" 2 "No")
- People living in households with overcrowding (1 "Yes" 2 "No")
- People living in households with NBI water (1 "Yes" 2 "No")
- People living in households with NBI sanitary service (1 "Yes" 2 "No")
- People living in households with NBI Education (1 "Yes" 2 "No")
- People living in households with NBI Economic capacity (1 "Yes" 2 "No")

Other relevant dimensions

- Persons living in households according to availability of electric lighting (1 "Yes" 2 "No")
- Persons over 10 years of age according to illiteracy status (1 "Yes" 2 "No")
- School attendance of school-age persons (1 "Yes" 2 "No")
- Persons over 24 years of age by highest level of education attained (1 "Primary"; 2 "High school/non-university technical"; 3 "University").
- Persons over 10 years old by activity status (1 "Employed" 2 "Unemployed" 3 "Retired/Pensioned" 4 "Student" 5 "Unpaid Worker" 6 "Other Inactive")
- Mean parity in women over 50 years of age
- Total fertility rate (based on children born in the last 12 months)

- Adolescent fertility rate (based on children had in the last 12 months)
- Children under 20 years of age who are still alive
- Infant mortality (estimates by Brass method, using information on live births and surviving children).
- Persons under 18 years of age by marital status

HOW TO DEVELOP CROSS TABULATION

Below is a series of tabulations that seek to disaggregate the dimensions of well-being of the general population with respect to subpopulations defined on the basis of the characteristics mentioned above: Sex and Gender; Age; Ethnicity; Disability; Migratory Status and Territoriality. At a first level of analysis, the aim is to visualize each dimension of well-being for basic subpopulations defined by the selected sociodemographic characteristics.

At a second level, the intersectional view is introduced through tabulations that cross-reference each dimension of well-being with more specific subpopulations that result from combining the base subpopulations.

Operationalization of the base subpopulations according to categories of the selected characteristics

- Sex: 1 "female" ; 2 "male".
- Age: 1 "under 15"; 2 "15 to 64"; 3 "65 and over"; 3 "65 and over".
- Afro-descendant ethnicity: 1 "Yes"; 2 "No"; 1 "Yes"; 2 "No".
- Ethnicity Indigenous people (belonging or self-identification) 1 "Yes"; 2 "No".
- Disability: at least 1 severe limitation 1 "Yes"; 2 "No".
- International immigrant migratory status: 1 "Yes"; 2 "No".
- Internal immigrant immigration status: 1 "Yes"; 2 "No" (optional)
- Territory: 1 "rural"; 2 "urban less than 5 thousand"; 3 "urban 5 thousand and over")

Suggested combinations to identify more vulnerable subpopulations in the selected dimensions of well-being

- Sex x Afrodescendence
- Sex x Afrodescendence x Territory
- Sex x Afro-descent x International migratory status
- Sex x Indigenous people (belonging or self-identification)
- Gender x Indigenous people (belonging or self-identification) x Territory
- Sex x Indigenous people (belonging or self-identification) x International migratory status
- Gender x Disability
- Gender x Disability x Afro-descent
- Gender x Disability x Indigenous people (belonging or selfidentification)
- Gender x Disability x Territory
- Sex x Age x Afrodescent
- Gender x Age x Afro-descent x Territory
- Gender x Age x Afro-descent x International migratory status
- Sex x Age x Indigenous people (belonging or self-identification)
- Gender x Age x Indigenous people (belonging or self-identification) x Territory
- Sex x Age x Indigenous people (belonging or self-identification) x International migratory status
- Sex x Age x Disability
- Gender x Age x Disability x Afro-descendency
- Gender x Age x Disability x Indigenous people (belonging or selfidentification)
- Gender x Age x Disability x Territory

The set of tabulations possible from this pre-selection of subpopulations and dimensions of well-being includes

- In the first instance, the crossing of the UBN (index and/or its dimensions) and the other dimensions of well-being, with each of the 8 base subpopulations; and
- In the second instance, the crossing of the UBN (index and/or its dimensions) and the other dimensions of well-being, with each of the specific subpopulations defined in the suggested combinations section (from the 20 crossings listed).

The final selection of relevant subpopulations and dimensions for this exercise should be based on an exploratory analysis that confirms their relevance.

Exhaustive list of the crossings involved

Table 4. Level 1 tabulations(base sub-populations)

- NBI Index
- Persons living in households with UBN housing quality (1 "Yes" 2 "No")
- Persons living in households with overcrowding (1 "Yes" 2 "No")
- People living in households with NBI water (1 "Yes" 2 "No")
- People living in households with NBI sanitary service (1 "Yes" 2 "No")
- People living in households with NBI Education (1 "Yes" 2 "No")
- People living in households with NBI Economic capacity (1 "Yes" 2 "No")
- Persons living in households according to availability of electric lighting (1 "Yes" 2 "No")
- Persons over 10 years of age according to illiteracy status (1 "Yes" 2 "No")
- School attendance of school-age persons (1 "Yes" 2 "No")
- Persons over 24 years of age by highest level of education attained (1 "Primary"; 2 "High school/non-university technical"; 3 "University").
- People over 10 years old by activity status (1 "Employed" 2 "Unemployed" 3 "Retired/Pensioned" 4 "Student" 5 "Unpaid Worker" 6 "Other Inactive")

- Mean parity in women over 50 years of age
- Total fertility rate (based on children had in the last 12 months)
- Adolescent fertility rate (based on children had in the last 12 months)
- Children under 20 years of age who are still alive
- Infant mortality (estimates by Brass method, using information on live births and surviving children).
- Persons under 18 years of age by marital status

Crossed by

- Sex: 1 "females" ; 2 "males".
- Age: 1 "under 15"; 2 "15 to 64"; 3 "65 and over"; 3 "65 and over".
- Afro-descendant ethnicity: 1 "Yes"; 2 "No"; 1 "Yes"; 2 "No".
- Ethnicity Indigenous people (belonging or self-identification) 1 "Yes"; 2 "No".
- Disability: at least 1 severe limitation 1 "Yes"; 2 "No".
- International immigrant migratory status: 1 "Yes"; 2 "No".
- Internal immigrant immigration status: 1 "Yes"; 2 "No" (optional)
- Territory: 1 "rural"; 2 "urban less than 5 thousand"; 3 "urban 5 thousand and more")

Table 5. Level 2 tabulations(Intersectional)

- NBI Index
- Persons living in households with UBN housing quality (1 "Yes" 2 "No")
- Persons living in households with overcrowding (1 "Yes" 2 "No")
- People living in households with NBI water (1 "Yes" 2 "No")

- People living in households with NBI sanitary service (1 "Yes" 2 "No")
- People living in households with NBI Education (1 "Yes" 2 "No")
- People living in households with NBI Economic capacity (1 "Yes" 2 "No")
- Persons living in households according to availability of electric lighting (1 "Yes" 2 "No")
- Persons over 10 years old according to illiteracy status (1 "Yes" 2 "No")
- School attendance of school-age persons (1 "Yes" 2 "No")
- Persons over 24 years of age by highest level of education attained (1 "Primary"; 2 "High school/non-university technical"; 3 "University").
- Persons over 10 years old by activity status (1 "Employed" 2 "Unemployed" 3 "Retired/Pensioned" 4 "Student" 5 "Unpaid Worker" 6 "Other Inactive")
- Mean parity in women over 50 years of age
- Total fertility rate (based on children had in the last 12 months)
- Adolescent fertility rate (based on children had in the last 12 months)
- Children under 20 years of age who are still alive
- Infant mortality (estimates by Brass method, using information on live births and surviving children).
- Persons under 18 years of age by marital status

Crossed by

- Sex x Afrodescent
- Gender x Afrodescendence x Territory
- Sex x Afro-descent x International migratory status
- Sex x Indigenous people (belonging or self-identification)

- Gender x Indigenous people (belonging or self-identification) x Territory
- Sex x Indigenous people (belonging or self-identification) x International migratory status
- Gender x Disability
- Gender x Disability x Afro-descent
- Gender x Disability x Indigenous people (belonging or selfidentification)
- Gender x Disability x Territory
- Sex x Age x Afrodescent
- Gender x Age x Afro-descent x Territory
- Sex x Age x Afro-descent x International migratory status
- Sex x Age x Indigenous people (belonging or self-identification)
- Gender x Age x Indigenous people (belonging or self-identification) x Territory
- Sex x Age x Indigenous people (belonging or self-identification) x International migratory status
- Sex x Age x Disability
- Gender x Age x Disability x Afro-descendency
- Gender x Age x Disability x Indigenous people (belonging or selfidentification)
- Gender x Age x Disability x Territory

VISUAL AND SIMPLE PRESENTATION

After developing and analyzing the battery of analytical inputs provided by the suggested crosswalks to highlight the overlapping inequalities, it is necessary to effectively communicate these situations. The use of visual aids (graphs, charts, maps and other visual tools) make it possible to illustrate the patterns discovered in the analysis in a visually attractive and easy-to-understand manner.

These forms of presentation allow complex data sets to be transformed into clear and simple visual narratives. Stakeholders, policy makers and the general public will be able to understand the complexities of overlapping vulnerabilities in a simple manner. By visualizing the data, key areas of concern and focus can be visualized, making it easier for decision makers to identify and prioritize areas of intervention (see example figure 1).

Figure 1. Latin America (4 countries, 2015-2018). Afro-descendant and non-Afro-descendant and non-indigenous population pyramids, by five-year age groups and sex.



Source: CEPAL/UNFPA (2020: 101)

FINAL CONSIDERATIONS

An intersectional approach to data analysis enables a deeper understanding of social inequalities by examining how different dimensions of experiences and identities - such as ethnicity, gender, socioeconomic status, age, and disability status - interact to shape unique experiences of privilege or disadvantage. Rather than isolating a single axis of inequality, this perspective highlights the interconnected nature of multiple forms of inequality and encourages critical reflection on how they overlap. The methodology proposed in this guide provides a structured framework for identifying and analyzing these interrelated vulnerabilities in census data. In doing so, it enhances the abilities of practitioners and policymakers to reveal nuanced patterns of exclusion, support evidence-based decision making, and design targeted policies that respond more effectively to the realities of diverse population groups.

Disaggregated data allows for the identification of overlapping vulnerabilities and specific challenges faced by different population groups. This, in turn, contributes to the design of more effective targeted, evidence-based interventions. Intersectional analysis contributes directly to the advancement of the Sustainable Development Goals by making visible those who are most often left behind. It helps to bring to light the compounding effects of deprivation and discrimination, and directs resources, and action, to people and communities who need them most. Ultimately, by integrating an intersectional perspective into data systems and policymaking, we take a fundamental step toward reducing disparities, improving well-being, and promoting inclusive and sustainable development for all.

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