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CELADE experience with 1x1 population and demographic estimates



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Introduction

- CELADE collaborates since the 1960s with UNPD in WPP for 20 Latin American countries.
- Revisions are done every two or three years based on WPP cycle.
- A great part of our work in CELADE is also to provide technical assistance to National Statistical Offices (NSOs).
- NSOs revisions are typically done when there is a new Population Census.



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- In every Revision, estimates are reassessed based on the new data available and are consistent with past Censuses, surveys and CRVS data which implies data **evaluation and analysis** (time consuming).
- In WPP, the estimation period starts in 1950 and the published series are fully reconciled.
- When assisting countries, the estimation period also starts in 1950 but NSOs can be resistant to publish the complete revised time series because of **legal implications** in changing past population estimates.



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1x1 Estimates and Projections

- NSO's demands for 1x1 official estimates
- Denominators for health and education (when coverage is close to 100% they are very sensitive to the denominators)→ (99.6 vs 99.9%)
- First done in Cuba in 2009
- Currently 10 countries have 1x1 projections
- PRODEX software



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- Three main challenges...





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Challenge 1

- Law of small numbers, the more disaggregated the fewer observations.
- Specifically, 1x1 projections can be very sensitive.
- For example, when initially projecting 1x1 we have obtained negative population in some ages.



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Challenge 2

- To identify whether variations observed in the data are real changes or noise.
- In this regard, the more data and country-specific information we have, the better.
- For example, we have used information in school enrollments, vaccination, etc to validate observed fluctuations.



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Challenge 3

- How to deal with Census under-enumeration?
- PESs are the only solution?
- Countries may publish only adjusted Census results (imputation or weights for absents/refusals/cartography problems). Important to try to obtain non-adjusted data.
- Iterative process to verify whether corrections or adjustments make sense with the demographic reconciliation.



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Recommendations

- The real truth is unknown: do the best based on available information and demographic knowledge.
- Need to be consistent and have reproducible results that make sense.
- Important to consider the reproducibility of results in **NSOs** in developing countries. Pressure to understand, validate, reproduce UN results (and explain differences).
- Include fertility <15 and >50 .



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Challenges in doing population estimates and projections in the LAC region

- The work of analyzing and evaluating data quality, demographic reconciliation, estimation and projections is **complex and requires high technical and analytical capacity** in demography.
- In LAC, the challenges in NSOs are related to the **high turnover of technicians**, job insecurity, work overload, and difficulties in retaining trained personnel.



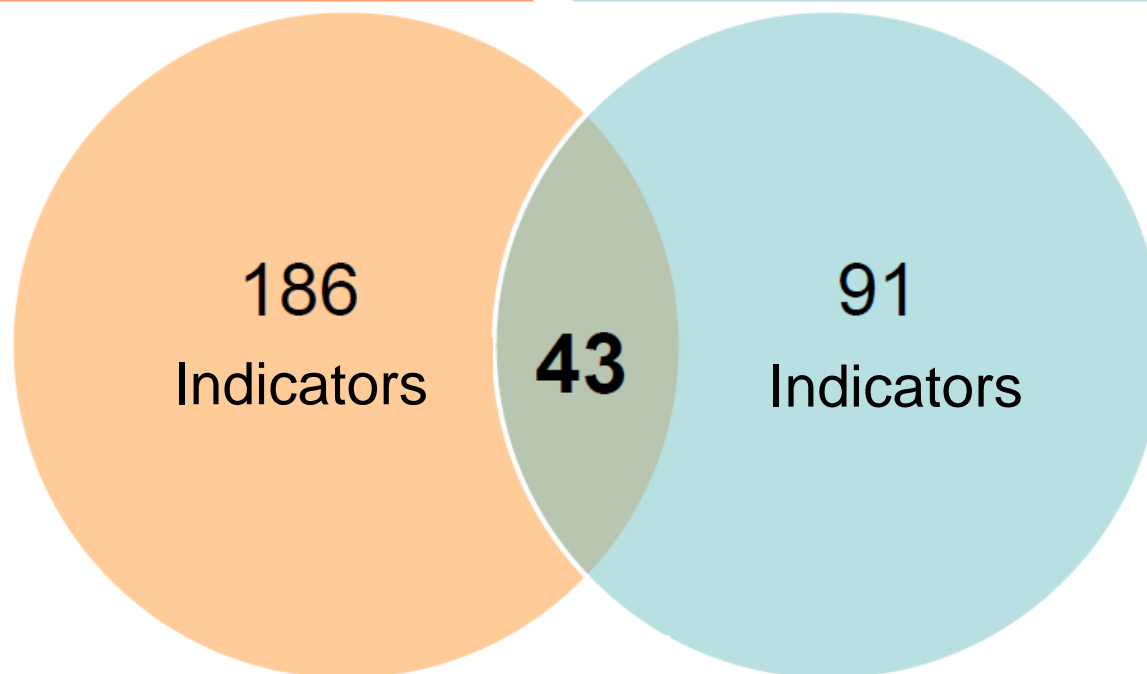
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SDG and MC indicators

232 SDG Indicators

134 MC Indicators





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Goal	Number	Indicator
Goal 3. Ensure healthy lives and promote well-being for all at all ages	3.1.1	Maternal mortality ratio
	3.2.1	Under 5 mortality rate
	3.2.2	Neonatal mortality rate
	3.4.1	Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease
	3.4.2	Suicide mortality rate
	3.6.1	Death rate due to road traffic injuries
	3.9.1	Mortality rate attributed to household and ambient air pollution
	3.9.2	Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)
	3.9.3	Mortality rate attributed to unintentional poisoning
	Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable	11.5.1
Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	16.1.1	Number of victims of intentional homicide per 100,000 population, by sex and age
	16.1.2	Conflict-related deaths per 100,000 population, by sex, age and cause
Specific of the Consensus	A.8	Life expectancy at birth, by sex
	E.14	Rate of femicide or feminicide (gender-related killings of women aged 15 years and older per 100,000 women)

12 SDG indicators
+ 2 Montevideo
Consensus



High demand from
countries to have national
and subnational
estimations



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Main challenge: lack of data and training

- How are statistical offices able to do regular national and subnational **follow up** on these indicators in order to verify their progress in the agreed objectives?
- A few number of NSOs are able to perform demographic analysis with **incomplete data**. And there is some difficulties in retaining trained staff in offices.
- In CELADE, we work directly with NSOs providing assistance and capacity building on Population Censuses, population estimates and projections, among other things.

Thank you!



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