



Summary of responses to the pilot survey regarding the global definitions of cities and settlements developed by the European Commission

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Developing a Global Definition of Cities and Settlements
Side Event to the 49 Session of the Statistical Commission
6 March 2018
New York

Proposed global definitions of cities, urban, rural settlements developed by the European Commission

- The global short definition of an urban center: An urban center is a cluster of contiguous grid cells of 1 km² with a density of at least 1500 inhabitants per km² and a minimum population of 50 000.
- The global short definition of an urban cluster: An urban cluster is a cluster of contiguous grid cells of 1 km² with a density of at least 300 inhabitants per km² and a minimum population of 5 000.
- The global short definition of rural areas: A grid cell outside urban clusters. Urban clusters are contiguous grid cells of 1 km² with a density of at least 300 inhabitants per km² and a minimum population of 5000.

Question: How do the proposed definitions compare with your national definitions of cities, urban and rural areas, currently used in your country?

- The proposed definition uses just two criteria: population density per 1 square km grid cell and population size.
- The national criteria used to define urban and rural: physical continuity of dwellings; layout of access roads; urban planning structures; population size and/or population density; build-up area; engagement in commercial, industrial or other urban activities; the existence of amenities such as electricity, piped water, schools, hospitals; well-developed infrastructure and economy; performance of administrative, economic and political functions; high coverage of built physical structures and artificial landscapes; strong economic, social, cultural ties; planned development within the next 5-8 years; proportion of urban land use;
- The thresholds for population size and population density (when used) vary according to the national realities, and are used in combination with other criteria as listed above. Countries maintain historical data according to their definitions which are used for many purposes.
- Most of urban/rural definitions are stipulated as laws or regulations, and are used for several national decision making and policy purposes. Examples: Ecuador – The national definition refers to the Administrative and Political Division of the country established by law. Indonesia – Urban/Rural established in the Law of Republic of Indonesia No. 26/2007 about Spatial Planning. Japan – The Local Autonomy Law stipulates the requirements to become a new city. China – According to China's administrative divisions approved by Civil Affairs Department. Republic of Korea: Population size requirements for urban/rural classification criteria are stipulated in the Local Autonomy Act and the Enforcement Decree of the Local Autonomy Act, etc.

Question: How do the proposed definitions compare with your national definitions of cities, urban and rural areas, currently used in your country?

- Countries further classify urban or rural areas using thresholds and criteria according to their national circumstances. Examples: Indonesia – Small urban areas, medium urban areas, large urban areas, metropolitan areas, megapolitan areas; Mexico – Inhabited rural areas, uninhabited rural areas (to separate the agriculture and livestock activities), Argentina – Rural dispersed, rural grouped, etc.

Population size and population density as criteria

- Only one responding country appears to use only these two criteria to define “urban”.
- Some responding countries do not use population density as a criterion at all, as it is not considered appropriate for national circumstances.
- When used as criteria, population size and/or population density are used together with other criteria, as listed in the previous slide, in order to define “urban” and “rural”. The thresholds for population size and population density are quite varied among countries, according to national considerations.
- The following questions were included in Thailand’s NSO response: Why are the cut-off points for urban and rural levels set at 1,500 (urban center), 300 (urban cluster) inhabitants per square km; and 50,000 inhabitants (urban center) and 5,000 inhabitants (urban cluster) as minimum population? How were these numbers defined or set up?

Performance of proposed method in capturing cities, urban, rural areas

- Argentina: No city adapts to the proposed methodology.
- Australia: The method captures the main capital cities; however, there are discrepancies in the geographical extent of these capital cities when compared with the current ABS methods. For example, the total extent of Melbourne according to ABS UCLs is considerably larger in size. This method does not capture all cities in Australia. 'Mount Barker' is one of the many examples of cities not captured by the proposed method. Distinguishing a city from its suburbs: For many cities there is a problem; In Australia we do not distinguish between city and suburban areas, and in most cases, these are combined in the extent of urban center. This partly reflects the urban planning structures and lower population densities in Australia, when compared internationally.
- Ecuador: There are 221 cities in Ecuador; among them only 23 exceed 50,000 inhabitants. The proposed methodology misses even cities with population of 50,000 inhabitants and density higher than 1,500 inhabitants per km² (for example Calderon and Conocoto).
- Indonesia: According to the Law of Republic of Indonesia No. 26/2007, the proposed definitions (urban cluster definition) capture our main cities but only in a minimum population aspect since the Law does not include population density in its measurement aspect. However, there are few cities that are still missing according to the proposed definitions. Assuming the proposed methodology equalize 'area' with 'city', the proposed definitions have captured our main cities but still missed several cities. For example Sabang City in Nangroe Aceh Darussalam Province (population in 2015 33,215).

Performance of proposed method in capturing cities, urban, rural areas

- Japan: For question 2, and its following questions, we can't answer because there is no data for the proposed definition.
- Mexico: All cities are captured, but in few cases the method combines separate cities into a single urban center.
- Zambia: It covers the main 5 cities which have a minimum population of 100,000. According to the 2010 census population counts, most of Zambia's newly created towns/districts will be left out using this methodology.
- Mongolia: The proposed methodology does not capture cities, urban and rural areas. Ulanbaatar, the capital city of Mongolia, has 1.3 million population, and density 400 inhabitants per km², therefore does not meet the criteria for an urban center. Other two main cities, Darkhan and Erdenet have more than 50,000 inhabitants but low population density of 300-800 km². Some rural areas that have more than 5000 population and are not captured by the proposed rural areas definition.
- China: Cities-yes; Generally speaking, the population density of most suburbs in our nation is much higher than the proposed EU standard of urban cluster. The proposed method does not correctly capture rural areas. In our nation, the population density of some rural areas in the richer coastal areas is very high, sometimes it is higher than the proposed minimum standard of urban center.

Performance of proposed method in capturing cities, urban, rural areas

- New Zealand: Major cities are captured, however, the proposed international methodology has a higher population threshold (1500 inhabitants per km²) than Stats NZ's density methodology of 400 resident population per km². The threshold for urban areas in NZ are 1000 for population and 400 for density. The international definition will overlook rural settlements which characterize New Zealand's landscape and are of importance to many of our data users.
- Bolivia: As an example, the principal city of Cobija with 44,120 inhabitants is not captured by the proposed methodology; in several cases the method combines separate cities in one urban center; the method does not capture correctly rural areas; there are considerable differences in proportions of urban and rural between the proposed method and the national definitions because the criteria for rural are different (in Bolivia rural: less than 2000 population with dispersed characteristics).
- Republic of Korea: The answers can be given after the application. Sufficient review is required to determine whether the proposed method can be equally applicable to Korea, one of the world's most populated countries before answering the questions.
- Venezuela: Many cities are missing: San Fernando de Apure, Trujillo, Ciudad Bolivar, ciudad San Felipe (52,500 inhabitants as of 2011 census); in several cases the proposed method combines separate cities into a single urban center, including a case of combining Venezuelan cities of San Antonio and Urena with the Colombian city of Cucuta. There are considerable differences between the urban and rural population of the proposed method and the national definitions.

Performance of proposed method in capturing cities, urban, rural areas

- Thailand: Currently, municipalities are urban areas and the rest are rural areas.
- United States: The proposed method captures the main cities. Areas defined as urban by the Census Bureau that are not captured as urban by the proposed methodology are those that have populations of less than 5,000. We do see significant differences in the proposed method's results compared to the Census Bureau's methodology for specific urban areas, particularly in areas in which patterns of urban development are more irregular, perhaps exhibited by alternating patterns of high density and low density. In these instances, we see the Census Bureau-defined urbanized area split between urban centre, urban cluster, and rural under the proposed methodology.

Population density as criterion

- Argentina: The Argentine Republic defines the conformation of localities from the physical continuity of dwellings and the layout of access roads to them. This definition does not use the population density comprised in a predetermined surface.
- Australia: Having a single set of criteria to capture these settlement dynamics across countries is challenging due to the differences in how cities, towns and rural areas are structured. The delineation of Australia is particularly difficult due to differences in population density and distribution when compared to many other countries, particularly in Europe.
- Ecuador: There are differences between the national definition and the proposed definition because there are areas considered urban in our country, which do not comply with the proposed urban criteria for population and density of population; as there are areas that we consider rural which comply with the urban criteria of the proposed definition. There are 221 cities that we consider as principal cities. Out of these, only 23 have a population of 50,000+ inhabitants.
- Indonesia: This method uses density and population number as its measurement variables. For countries with high density such as India, China and Indonesia, this method will over-estimate the number of cities.
- Mexico: The proposed model considers a continuous model of population and density. There should be other complementary information, such as public services, infrastructure, among others, for defining the urban and rural areas.

Population density as criterion

- Zambia: In Zambia the density of most rural areas varies. Setting it at 300 persons per square km would not be practical for most areas. Most of our rural population is below 2,000 inhabitants.
- Mongolia: The proposed method is not suitable for my country that has a low population density. Even the main cities Ulaanbaatar, Darkhan, Erdenet which have a population of 50,000+ do not satisfy the population density requirement of the proposed methodology, because of low population density or density of 300-800 population per km². Urban areas of 12000-45000 population and 5-157 population density cannot be captured as urban clusters.
- China: Urban and rural in China is not divided according to population density and population scale. It is found that the population density is a controversial criterion. It is common to have a density of more than 1500 per km² in rural areas but it is inappropriate to classify them into cities and towns. In our nation, the population density of some rural areas is much higher, sometimes higher than the minimum standard of an urban center. China considers this method unacceptable. Because the population density varies greatly in various countries, the standard provided by the European Commission is inappropriate for international comparisons.
- New Zealand: The definitions does not always fit a population like New Zealand which contain many small rural townships and urban areas without high population densities. This method may not give a true representation of urban and rural diversity between countries.

Population density as criterion

- Bolivia: Urban are built-up areas with population 2000+ whereas rural are dispersed areas with population of less than 2000. The population density is not considered in defining urban and rural areas. There is no comparison between the national definitions and the proposed definition given that different criteria are used. Some cities are not captured, e.g. Cobija with 44,120 inhabitants.
- Republic of Korea: An urbanized area is defined as a cluster of basic unit areas with a population density of 3000 (three thousand – 10 times more than the EC threshold) inhabitants per km² and whose proportion of urban land use is at least 50%. A basic unit area is a minimum spatial unit delimited using geographic features such as road, railroad, ridge, etc.
- Venezuela: Cities or urban clusters have equal meaning for our country. Cities/urban areas are population centers with 2500 or more inhabitants. The complement is considered rural. Population density is not used as a criterion. Using the population range of the proposed methodology that corresponds to more than 5000 inhabitants to define a city, there would be approximately 10% (177) of the parish capitals of the country outside the city category.
- United States: Minimum population threshold of 50,000 to identify urbanized areas and of 2,500 to identify densely settled urban clusters. The respective thresholds of population density are 1,000 persons per square mile and 500 persons per square mile.

Population density as criterion

In summary:

- In many countries, population density is not used to define urban /rural areas, as it is found unsuitable
- When used; it is combined with other criteria besides population size and population density
- When used; the thresholds are vastly different, depending on national consideration and circumstances
- The proposed method, would overestimate “urban” in countries with high population density, and underestimate “urban” in countries with low or very low population density; missing entire cities; many cases of urban areas classified as rural; rural areas classified as urban; i.e. considerable degrees of incompatibility with national considerations and urban/rural classifications

Obstacles to implementing the proposed methodology; international statistical comparisons

- Argentina: The description of the definition becomes ambiguous when using predetermined conventional grids. We believe that this method could be adapted to populations whose conformation and distribution of houses does not include a regular layout or well-defined accesses such as roads that we usually include. There are criteria that consider certain characteristics of the distribution of the population.
- Australia: The ABS UCL classification is an established statistical geography which is used for a range of decision making and policies in Australia. It is unlikely that the ABS would permanently replace this with the proposed method as it would not meet all local requirements. While changing any standard would also require comprehensive engagement and support across government, community and industry in Australia. As such any new method would need to be produced in addition to existing methods. It is not clear why national definitions of cities and urban areas cannot be used to define cities and human settlements. This will allow for consistency with local urban conditions, and measurement and management practices.
- Ecuador: It could confound the national concepts according to which the organization of the state is legally established, as well as the national methodology of the distribution of resources to the municipalities. We should not lose sight of the fact that countries report according to their national considerations, and different results may be obtained according to another methodology.

Obstacles to implementing the proposed methodology; international statistical comparisons

- Indonesia: The main obstacle to implementing the proposed methodology is deciding in which level area the methods will be implemented, since we have several level areas. I don't think this method will be powerful enough for international statistics comparison. This method uses only the population density and population numbers as its measurement variables. For countries with high density, such as India, China, Indonesia, this method will overestimate the number of cities.
- Japan: We can't answer because there is no data for the proposed definition.
- Mexico: The absence of geo-referenced data for putting the data in the correct grid cell; not having enough level of disaggregation of the data for accurate measuring into the grid cells. For other kinds of analysis, beyond statistical comparisons on population, you will have to add some other variables to the analysis for defining urban and rural areas, such as public services, infrastructure among others.
- Zambia: The definitions are not practically related to the Zambian special population definition; and our definition includes the availability of social amenities whereas the proposed definition focuses mostly on population size. This method cannot be useful for international comparisons because most countries have their own definitions.

Obstacles to implementing the proposed methodology; international statistical comparisons

- Mongolia: Considers the results unacceptable. The main obstacle is that the proposed definition does not capture even the three main cities (including the capital) that have more than 50,000 population, because of the low density in the country. International comparisons: the proposed method is not suitable for my country that has low population density. Well-developed infrastructure and economy should be added.
- China: Considers the results unacceptable. Because the population density varies greatly in various countries, the standard provided by European Commission is inappropriate to be used for international comparisons. Considering the inapplicability in some countries of this method, we don't think the proposed method could be useful in the context of measuring the Goal 11 of SDGs.
- New Zealand: If used for international comparisons, it may not give a true representation of urban and rural diversity between countries.
- Bolivia: The data at the level of the proposed methodology would not be comparable with the national historical information that we use. Regarding the international comparisons : The criteria that each country uses as part of their national definitions have to be evaluated.
- Republic of Korea: Limits on policy utilization because it does not correspond to the scope of administrative area.

Obstacles to implementing the proposed methodology; international statistical comparisons

- Venezuela: There are issues and doubts regarding the way the population data are used as part of the proposed methodology. There are unusual and unexpected results when consecutive population data are applied. Reliable population data and a clearly defined methodology for cartographic calculations would have to be used.
- Thailand: We do not have the data of population at 1km² grid cell level; only at sub-district (tambon) municipality and non-municipality level.
- United States: The Census Bureau would be able to produce statistics for these three types of areas, assuming there is approval from within the agency to do so. There are no significant obstacles to implementing the proposed methodology at the Census Bureau. We would need to tabulate data by grid cell, but this is something we need to consider for other purposes as well. Even if we did not specifically tabulate by grid cell, we would overlay grid cells on census block; and estimate the population, housing and other characteristics within each grid cell in order to aggregate to the urban centre, urban cluster, and rural categories in the proposed method.

Main findings of survey responses

- The majority of countries consider using population size and population density as insufficient or inappropriate for defining their urban and rural areas.
- When countries use population size and population density, they employ varying thresholds depending on national considerations.
- The proposed method: under-estimates or misses cities/urban areas in countries with low population density, and overestimates cities/urban areas in countries with high population density, and therefore presents a different urban/rural composition in both cases; fails to capture the 'within urban' or 'within rural' diversity between different countries, which is important to them in many aspects.

Main findings of survey responses

- One strictly defined set of criteria does not fit all: Countries use many additional and varying criteria to define urban and rural settlements, and further national-specific subdivisions of urban or rural settlements, that are pertinent to the physical territory, the man-made infrastructure, legal considerations, historical considerations, administrative, economic and social considerations.
- The local (national) considerations are important to individual countries, because they have a bearing on distribution of resources and on national development policies.



Thank you for your attention!
