An Enquiry into the Lack of Existing Rural-Urban Classification (RUC) and Definitions: A Global Overview

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Abstract: *This paper is an attempt to explore the existing criteria of Census definitions for 'Urban' and 'Rural' realms, discussing a global perspective, highlight the drawbacks and also question upon the issue of non-consideration of 'Peri-Urban' realm to include, define and delineate the transition areas. While 'Urban' is often specifically defined, 'Rural' is treated simply as residual category. The criteria defining 'Urban' also differ from country to country. The paper questions these parameters, defining 'Urban', also raises debate on: can the 'non-urban' necessarily always be classified as 'Rural'? A comparative analysis has done using census definitions for rural-urban of eight different countries, where the paper explains that administrative, demographic criteria are being sharpened, however the physical planning parameters are entirely absent in definition. The paper primarily gives emphasis upon a multi-dimensional and multi-disciplinary approach to be appropriate for RU definitions. Further, it is observed that there is no separate existence of transition areas in existing classification. The paper reflects on this lack and argues that the 'Peri-Urban' has emerged key to the process of urbanization. It concludes with an approach towards restructuring the existing classification to set a common global benchmarking for RUC and recognition of 'Peri-Urban' interface through definition and inclusion in planning and policy level.*

Keywords: Census, Physical planning, Transition areas, Peri-Urban interface, RUC.

1. Introduction: The Rural-Urban Classification (RUC) Debate

An agglomeration of certain nos. of population, their spread in terms of area and population density, the predominance of non-agricultural activities and provision of social amenities have emerged as distinguishing features of settlements across the globe, following the industrialisation of agrarian economies. In seeking to define the "urban" or "rural", however, different countries have applied various criteria – from its size and density of population to percentage of non-agricultural workforce and administrative status. That's how different meaning of 'urban' exists across the world. The simple, but still apparently intractable problem, to which sociologist Kingsley Davis [2] already devoted extensive critical attention in the 1950's, is that each national census bureau uses its own criteria for measuring urban conditions, leading to serious inconsistencies in comparative international data on urbanization [1]. Primarily two issues have come out from this process: first the different parameters for definition among countries and second for each common parameter among few countries, the respective values having a huge range of variation. Rural-Urban Classification (RUC) constitutes an essential and primary framework to formulate the development process, pattern and strategies for different habitable spaces and also act as the determinant for local governance and funding allocation. On contrast, RUC appears as a statistical artefact constructed through a rather crude aggregation of national census data derived from inconsistent definitions of the phenomenon being measured [1].

Even the urbanization patterns evolved with time across the countries are drastically different due to such inconsistencies in numerical figures. A critical debate has raised in physical planning that can the urban 'phenomenon' still be anchored exclusively within and confined to the city only? As pointed out by Brenner

(2016), the developmental pathways of capitalist agglomerations have always been intimately intertwined with large-scale transformations of non-city spaces, located at a considerable distance from the major centres of capital, labour and commerce. Several planning theories describing the city form and pattern have also been developed to rethink the existing rural-urban categorization, which talks about the extended field of the megacity / metacity; peri-urban areas form the basis for multiple hybrid forms of fragmented urbanism in a vast new urban constellation. The definition lacks here to identify such layers or realms of development process.

This paper examines the existing criteria of rural-urban classification used in the census of various countries and its role in creation of underlying settlement typologies to further categorize them. The paper further explores the consideration of 'Peri-Urban Interface' as a viable spatial unit in the mainstream urbanization process and its inclusion in RU Classification to formulate a new categorization system. Section II focuses upon the need of this study and the method adopted for the same. In Section III, the comparative study of existing Census definitions of different countries for Urban and Rural area is presented; while in Section IV, the analytical review of existing parameters / criteria for urban-rural classification in those countries is discussed. Section V identifies specific drawbacks on the above issue. Section VI explains the development process in Peri-Urban areas as emerging urban space and thus the urgent need of its inclusion in Census definition from physical planning, economic policy and urban governance perspective. In the final section, it is concluded that a multi-disciplinary approach through redefining these three realms is required to fulfil the identified drawbacks.

2. Need for Study & Methodology Adopted

2.1. Need for Study

Due to heterogeneous international data set to define 'urban' and 'rural' realms, certain questions come up: Should certain administrative areas automatically be classified as 'Urban'? What population density criterion, if any is appropriate as international benchmark to be 'Urban'? Should levels of non-agricultural employment figure into the definition of urban areas (as done in India, even considered for male workforce only)? Should planning parameters be introduced in definitions, so that physical planning can be linked with governance, funding allocation etc. On the other hand, the most dynamic transition areas in between the Urban and Rural areas are never appear for discussion and seek for its specific identity. A search into these questions necessitates this study and analysis at a global scale. As this paper discusses on diverse data set to understand the criteria of defining urban, rural and peri-urban, it helps to establish that the existing process of categorization is biased towards administrative domain and hence, a multi-disciplinary approach is required to rectify the existing drawbacks of RUC system.

2.2. Methodology

A comparative study of existing definitions for urban and rural of eight different countries across the world including India has been done. The countries have been selected from different continents, so that diverse contexts for urban and rural can be addressed and the study has been conducted on the basis of secondary data sources by obtaining Govt. Census data of the selected countries.

3. Comparative Study of Existing Definition for Urban & Rural

TABLE I: Comparative Study of Definition of 'Urban' of Different Countries

	Name of Country			
	Africa	**Canada**	**US**	**China**
Definition of Urban	Agglomeration of **5000** or more inhabitants where **75** percent of the economic activity is non-agricultural.	Places of **1000** or more inhabitants, having a population density of **400** or more per square kilometer. It is further specified that the core must have a population of at least 50,000 persons in the case of a CMA, or at least 10,000 persons in the case of a CA. The secondary core is a population centre within a CMA that has at least 10,000 persons and was the core of a CA that has been merged with an adjacent CMA.	Agglomerations of **2500** or more inhabitants, generally having population densities of **1000** persons per square mile or more. Two types of urban areas: urbanized areas of 50000 or more inhabitants and urban clusters of at least 2500 and less than 50000 inhabitants.	The city proper refers to the whole administrative area of the district if its population density is **1500** people per square kilometer or higher.
Parameters				
Population (min.)	5000	1000	2500	-
Area	-	-	-	-
Density Profile (min.)	-	400 per sq. k.m.	386 per sq. k.m.	1500 per sq. k.m.
Economic Activity / Occupation	**75% non-agricultural**	-	-	-
Any Other Parameter	-	-	-	-

	Name of Country			
	India	**Japan**	**France**	**UK**
Definition of Urban	Towns (places with municipal corporation, municipal area committee, town committee, notified area committee or cantonment board); also, all places having **5000** or more inhabitants, a density of not less than **1000** persons per square mile or **400** per square kilometer, pronounced urban characteristics and at least **three fourths** of the adult male population employed in pursuits other than agriculture.	City (shi) having **50000** or more inhabitants with **60** per cent or more of the houses located in the main built-up areas and 60 per cent or more of the population (including their dependants) engaged in manufacturing, trade or other urban type of business.	Communes containing an agglomeration of more than **2000** inhabitants living in contiguous houses or with not more than **200** meters between houses, also communes of which the major portion of the population is part of a multicommunal agglomeration of this nature.	The definition is an extent of at least **20** ha and at least **1500** census residents. Separate areas are linked if less than **200** m (220 yd) apart, included transportation features.
Parameters				
Population (min.)	5000	50000	2000	1500
Area	-	-	-	20ha /0.2 sq. k.m.
Density Profile (min.)	400 per sq. k.m.	-	-	-
Economic Activity / Occupation	**3/4th or 75% male working population in non-agriculture**	**60% non-agricultural**	-	-
Any Other Parameter	-	60% or more of the houses located in the main built-up areas.	1. Contiguous houses or with not more than 200 metres between houses. 2. Multicommunal agglomeration.	Separate areas are linked if less than 200 m (220 yd) apart.

Source	*Canada - Statistics Canada, online available at: https://www12.statcan.gc.ca/census-recensement/2011/ref/dict/geo052-eng.cfm* *US - US Census Bureau* *UK - online available at: https://en.wikipedia.org/wiki/Urban_area#United_Kingdom* *For rest of the countries - Demographic Yearbook 2005, table 6, online available at:* *http://unstats.un.org/unsd/demographic/sconcerns/densurb/Defintion_of%20Urban.pdf*

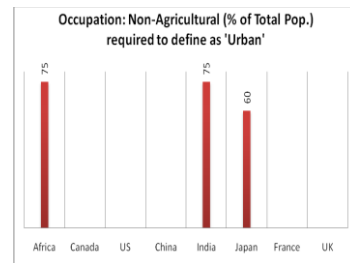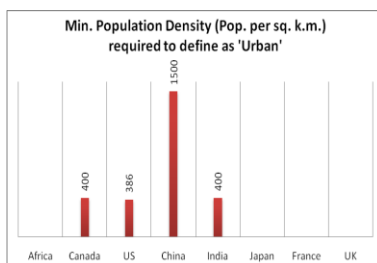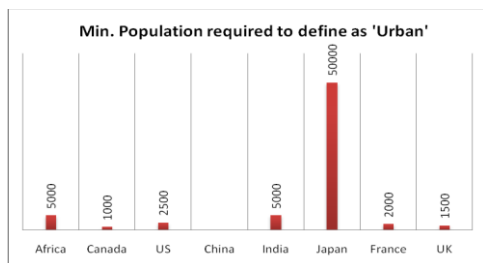TABLE II: Comparative Study of Definition of 'Rural' of Different Countries

	Name of Country			
	Africa	**Canada**	**US**	**China**
Definition of Rural	Agglomeration of less than **5000** inhabitants where **75** percent of the economic activity is agricultural.	"Predominantly Rural Region" is having more than **50%** of the population living in rural communities where a "rural community" has a population density less than **150** people per square kilometer.	Rural areas comprise open country and settlements with fewer than **2500** residents; areas designated as rural can have population densities as high as **999** per square mile or as low as 1 person per square mile.	All population, housing and territory not included within an urban area, is considered as rural.
Parameters				
Population	less than 5000	-	less than 2500	-
Area	-	-	-	-
Density Profile	-	150 per sq. k.m.	less than 386 per sq. k.m.	less than 1500 per sq. k.m.
Economic Activity / Occupation	75% agricultural	-	-	-
Any Other Parameter	-	-	-	-

	Name of Country			
	India	**Japan**	**France**	**UK**
Definition of Rural	An area with a population density of up to **400** per square kilometer, Villages with clear surveyed boundaries but no municipal board, A minimum of **75%** of male working population involved in agriculture and allied activities.	All population, housing and territory not included within an urban area, is considered as rural.	Rural population refers to people living in rural areas as defined by National Statistical Offices. It is calculated as the difference between total population and urban population.	The majority of the population of an Output Area lives within settlements with a population of more than **10,000** people, that Output Area is treated as urban. All other Output Areas are treated as rural.
Parameters				
Population		less than 50000	-	less than 10000
Area		-	-	-
Density Profile	up to 400 per sq. k.m.	-	-	-
Economic Activity / Occupation	75% male working population in agriculture	60% agricultural	-	-
Any Other Parameter	Villages with clear surveyed boundaries but no municipal board	Less than 60% of the houses located in the main built-up areas.	-	-
Source	*UK - Bibby, P. and Brindley, P. (2013): 'Urban and Rural Area Definitions for Policy Purposes in England and Wales: Methodology (v1.0)', Office for National Statistics, August 28. Downloaded from: https://www.gov.uk/government/collections/rural-urban-classification* *For rest of the countries - online available at: https://en.wikipedia.org/wiki/Rural_area*			

4. Analysis of Parameters of Rural-Urban (R-U) Definitions

TABLE III: Comparative Study of Definition of 'Urban' of Different Countries

Analysis Chart I - Definition of Urban Area				
Name of Country				
	Africa	**Canada**	**US**	**China**
No. of Parameters	2	2	2	1
Name of the Parameters	Population, Occupation	Population, Population Density	Population, Population Density	Population Density
Sub-Divisions, If Any	-	Urban Area → Urban Core, Urban Fringe; Urban Core → Census Metropolitan Area (CMA), Census Agglomeration (CA), Secondary Core	Urban Area → Urbanized Areas, Urban Clusters	-
Major Common Parameters	**1. Population**	**2. Population Density**	**3. Occupation**	
Remarks, If Any	Definitions majorly driven by demographic and socio-economic parameters, the physical planning parameters are completely ignored.			

Analysis Chart I - Definition of Urban Area				
Name of Country				
	India	**Japan**	**France**	**UK**
No. of Parameters	4	3	3	2
Name of the Parameters	Administrative / Governing Body, Population, Population Density, Occupation	Population, Occupation, Location of majority houses	Population, Contiguity of houses, Nature of Community	Population, Area
Sub-Divisions, If Any	-	-	-	-
Major Common Parameters	**1. Population**	**2. Population Density**	**3. Occupation**	
Remarks, If Any	Definitions majorly driven by demographic and socio-economic parameters, the physical planning parameters are completely ignored.	Definition talks about a min. population with 60% or more of the houses located in the main built-up areas. It reflects physical planning parameter like compactness of built-up area. The definition itself talks against urban sprawls.	This is the only definition, which gives a socio-cultural perspective through the parameter of **'multicommunal agglomeration'.** It also considers physical planning parameters like Contiguity of houses / Sparcity of built-form through **'contiguous houses or with not more than 200 meters between houses'.**	Definition talks about physical planning parameter like **Area.**

Min. Population required to define as 'Urban' — Africa 5000, Canada 1000, US 2500, China (none), India 5000, Japan 50000, France 2000, UK 1500

Min. Population Density (Pop. per sq. k.m.) required to define as 'Urban' — Africa (none), Canada 400, US 386, China 1500, India 400, Japan (none), France (none), UK (none)

Occupation: Non-Agricultural (% of Total Pop.) required to define as 'Urban' — Africa 75, Canada (none), US (none), China (none), India 75, Japan 60, France (none), UK (none)

5. Drawbacks in R-U Definition

The above study of rural-urban definitions across the countries majorly infers that definition is driven by demographic, administrative and socio-economic parameters; whereas the physical planning parameters are completely ignored. Few exceptional cases have been observed, such as the followings:

- Urban area in Japan is defined by a min. population along with 60% or more of the houses located in the main built-up areas of the settlement. It reflects physical planning parameter like compactness of built-up area. The definition itself talks against urban sprawls.
- The definition of 'Urban' in France is the only one, which gives a socio-cultural perspective through the parameter of 'multi-communal agglomeration'. It also considers physical planning parameters like Contiguity of houses / Sparcity of built-form through 'contiguous houses or with not more than 200 meters between houses'.
- Urban area in UK is defined by physical planning parameter like **Area.**

In few other cases, it is observed that physical planning parameters like Built-Up Area (Sweden & Brazil), Distance between houses (to understand the degree of sparsity of the settlement), the nature of transformation of a settlement etc. have been used to define 'urban', instead of mere administrative or demographic parameters like existence of municipal body, population, density and occupational structure, where the morphology of the settlement / the underlying settlement typology is not reflected through the definition.

6. Way Forward: Peri-Urban areas to Include in RUC

Consideration of re-classification of Urban and Rural realms, creation of further settlement typologies and inclusion of planning parameters / criteria in the proposed definitions and categorization should be a multi-disciplinary process. In the existing scenario, the rural-urban classification is outcome of administrative and demographic parameters, which creates a gap between plan preparation for a place and its actual ground reality. The spatial planning system is not linked with the administrative, governance and fund allocation procedures. Thus, it requires a multi-disciplinary approach to correlate all of them and formulate such definitions and classification, which leads towards a coherent development as a whole.

Further, it is observed that as towns grow, they engulf the adjoining areas, resulting into suburbanisation. Where the city ends and the rural area begin, the boundary has become blurred as the phenomenon of mixed land-use with rural and urban features coexists in areas surrounding cities. A comparative study and analysis can be done further to understand the existence of definitions for 'Peri-Urban' realm as a global overview, if exists. At a glance, in most of cases worldwide, the present definition of rural and urban, however fails to capture such a process as there is no transitional category in the urban definition and whatever is not urban is categorized as rural. This dichotomous and bilateral classification led to an underestimation of the growth of urban populations. However, there is very few well-justified attempt till date to define such emerging areas, identify and delineate them; so that these areas can be included in the mainstream urbanization process in terms of physical planning, governance, fund allocation and development in an organized manner.

The basic infrastructure networks that cover the built-up areas of the city do not reach the outer boundaries of the city all the time, as these areas are not well defined, they are considered as 'Rural', hence funding and development programmes for these areas are not same as happen in urban area, though they are more urban in nature. The unsatisfactory state of the environmental situation and infrastructure in most peri-urban areas is largely due to official neglect and non-recognition of these areas as deserving of urban civic status. As pointed out by Bhagat (2003), there is as yet no data collected on 'transitional areas' by the census [3] [4]. This needs to be done at the earliest, so that these areas can be defined, identified, delineated and planned to achieve a better quality of life.

7. Conclusion

The existing definition of "Urban" in most of the countries worldwide gives a general condition for having the phenomenon of urbanity. However, the nature of urbanity is very different from one place to another place, which is never reflected in the definition. Therefore, there is an urgent need for having a further specific settlement typological classification, which can help to reduce issues in planning and urban governance. Accordingly attempts should be taken to identify the determinants, which can be used to formulate the typology of settlement pattern. A well-defined and viable system of urban-rural classification could be the first step to enhance planning process and to revitalise urban governance as well. An appropriate framework for the reorganisation of rural-urban realms will not only remove several anomalies in present context of urbanization, but also help state governments to distribute their meagre state resources among settlements with a sense of fairness and justice.

8. Acknowledgements

9. References

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