



## Mapping as Tool to Understand Urban Inequalities

By Isa Baud, Javier Martinez, Karin Pfeffer



Mapping social and economic inequalities in cities can be a strategic instrument in understanding spatialized differences between neighborhoods, and helping policymakers to set priorities and targets for intervention programmes. Maps can integrate several types and sources of information and present them in a strong visual manner. In presenting inequalities, they can combine information on sources of inequalities such as housing, infrastructure and basic services, firms providing potential employment, and environmental risks (flooding, landslides, etc.). Maps link such information to particular locations or areas of the city, such as wards, postcode areas, or other areas defined by geographic boundaries.

However, maps can also present a partial or slanted view of urban inequalities, depending on how they are constructed. If certain key characteristics of inequalities are not included, maps may not show felt needs of local residents (e.g. areas of a neighborhood where residents feel unsafe). If the geographic boundaries used are not disaggregated sufficiently, areas of deprivations will tend to disappear in the average situations across larger areas (scale). When maps provide only a partial picture of local situations, the priorities that policymakers and civil society organizations set, may miss serious concerns that need to be addressed. Therefore, it is imperative to know how maps are made and how their characteristics can be assessed.

The three questions that we need to pose in analyzing the quality of maps visualizing urban inequalities are:

- Are the multiple dimensions of inequalities included?
- What sources of data are used for describing inequalities and whose ideas do they reflect?
- Are the boundaries of geographic areas the most relevant ones in showing up inequalities?

A framework to characterize different types of mapping combines the three questions outlined above (see Figure 1).

Four types of maps can be distinguished; 1- maps with predefined datasets and boundaries by the data providers (such as indices of deprivations or human development); 2- maps with existing datasets, but using clustering to define relevant geographic boundaries; 3- datasets provided by residents/lay people/experts for predefined boundaries (e.g. grievance databases); and 4- maps derived from residents/lay people/experts and using clustering to define relevant boundaries (e.g. community mapping, volunteer geographic information).

The first type of map has the advantage of using multi-dimensional indices of inequalities, showing the different sources of deprivation. The potential disadvantage is the standard geographic areas covered which may obscure concentrations of problems within one area, or the spillover across the borders of more than one area (see figure 2). The second type of map has the advantage of showing clearly the spatial scale of existing inequalities by clustering areas of deprivations, giving a more exact picture of the scale of the problem to be tackled. The potential disadvantage is that such areas may not match the geographic focus of intervention programmes on the one hand, or reduce the anonymity of households because of the small areas used for analysis. The third and fourth types of map contain information and knowledge provided directly by citizens. Such citizen-based platforms can be used to contest official knowledge or provide information on areas left out of standard official maps. However, whose information they reflect should always be made explicit to recognize possible influence from specific social groups.

In conclusion, to read maps and assess their value effectively, we need to analyze the completeness of the information provided, the relevance of the geographic scale shown, and the validity of their sources of information. Maps do not reflect 'objective reality', but are a social construction of such reality.

Data & knowledge sources	Target geography	
	Predefined boundaries	Content-defined areas/locations
Pre-defined by data providers	<ul style="list-style-type: none"> <li>Indices of multiple deprivations (or human development)</li> <li>Thematic maps</li> </ul>	<ul style="list-style-type: none"> <li>Data-driven clustering of small-area data; based on single or multiple variables</li> <li>Slum mapping (set of criteria)</li> </ul>
Generated by lay people / community / experts	<ul style="list-style-type: none"> <li>Mapping grievance-redressal data</li> <li>Mapping survey-data</li> <li>Mapping expert knowledge</li> </ul>	<ul style="list-style-type: none"> <li>Community mapping</li> <li>Volunteered geographic information / social media</li> </ul>

Figure 1. Typology of mapping strategies

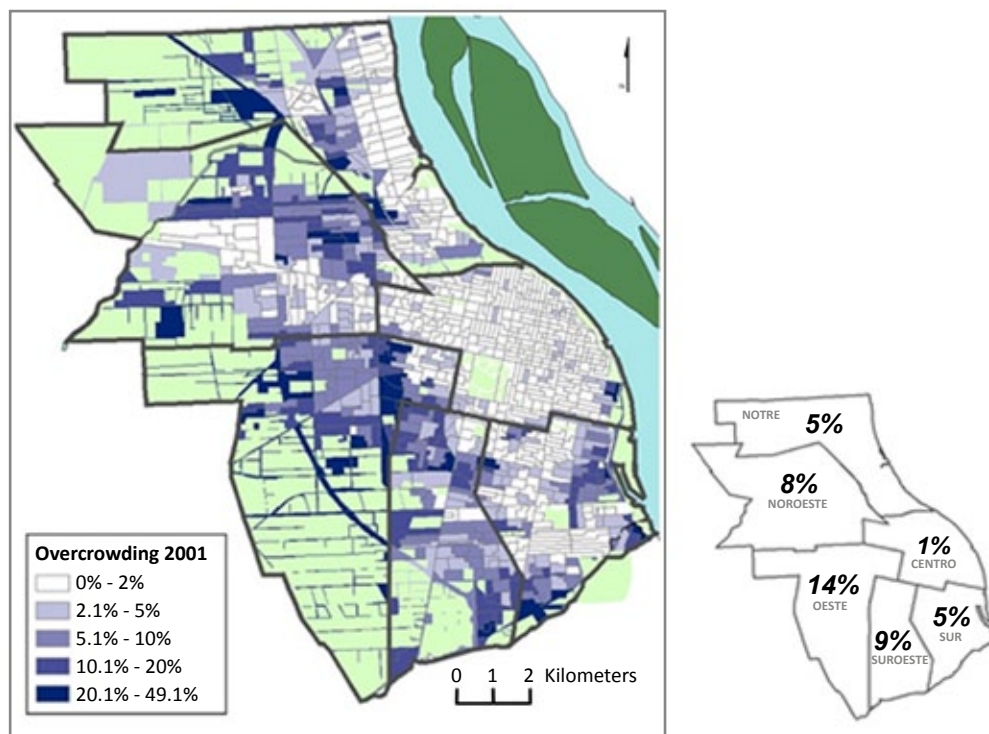


Figure 2. Overcrowding at census block and district level in Rosario, Argentina (2001)  
Source: Martinez, 2009

Note: A longer version of the discussion in this opinion paper has been submitted as article and can in due course be requested from the authors.

EADI  
Kaiser-Friedrich-Strasse 11  
D-53113 Bonn  
Tel.: (+49) 228 . 2 61 81 01  
info@chance2sustain.org  
www.eadi.org  
www.chance2sustain.eu



**Chance2Sustain** examines how governments and citizens in cities with differing patterns of economic growth and socio-spatial inequality make use of participatory (or integrated) spatial knowledge management to direct urban governance towards more sustainable development.

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