Applications of poverty maps in urban planning

The use of census microdata in the case of Liberia, in Costa Rica

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Research Aim

To provide a conceptual framework that enables urban planners to comprehend and visualize the effects of land-based actions on poverty reduction in order to inform decision-makers, using evidence-based poverty maps.
Specific Problem

Poverty maps are seldom used to analyse, simulate or monitor the implementation of social policies at a small geographical scale, or as instruments to allocate resources into targeted small administrative units.
Specific Objective

To analyse potential applications of poverty maps in urban planning, illustrated with the results of piloting a proposed tool in the medium-sized city of Liberia, in Costa Rica.
Urban Planning

Aspects of urban governance that deal with the built environment, land-based affairs and the ways in which land is used, managed and controlled:

- Design of norms and regulations
- Diagnosis and simulation
- Assistance and information in decision-making
- Implementation and monitoring of land-based actions
- Coordination of views and efforts of different actors involved
**Tool for Strategic Territorial Planning**

**TSTP™**

The TSTP™ is an Internet-based information tool that presents urban-related indicators disaggregated at small geographical scale for monitoring land-based actions related to urban planning.
Objectives of the TSTP™

- To support the use of evidence in decision-making processes
- To support the integration of land-based actions
- To promote area-based targeting strategies
- To support a long-term approach to urban planning
- To promote popular participation
- To strengthen accountability & transparency in urban planning
Applications of the TSTP™

1. Diagnosis
2. Simulation
3. Decision-making
4. Monitoring
1. Diagnosis – single indicator
1. Diagnosis – compounded indicators
2. Simulation

Target Area: Tract 1130  
Current: 3.2% households with housing-related needs

Target Area: Tract 1130  
Simulation: 1.98% households with housing-related needs
3. Decision-making
4. Monitoring
Conclusions

- The combination of poverty and inequality maps helps to identify deprived urban areas with clear boundaries and a limited territory.
- The TSTP™ helps propose actions that may lead to prevent failed investments or overcome their current situation, with awareness of the resources, capacities and limits.
- The TSTP™ can be used to promote dialogue between different actors involved in urban planning to reach a feasible pro-poor plan of actions.
- The TSTP™ can be used to pay more attention to the long-term effects of the implementation of social policies by means of urban planning.
Conclusions

There is a need to further develop statistical and cartographical information systems that reach small administrative units in cities of the South and use them to promote the dialogue between actors involved in urban planning, in order to attract popular participation, and enhance accountability and transparency of decision-making processes in a way that proposed land-based actions respond to local needs, including those of the poor.
Thanks!
Functions of the TSTP™

1. Diagnosis
2. Simulation
3. Navigation
Diagnosis: single indicators

Country: Costa Rica
City: Liberia

Better Performance Filter

Indicators
- Education
- Water & Sanitation
- Consumption
- Housing
- Total Poverty (TP)
- Territorial Inequality (TI)
- Targeted Areas (TA)

Results:
Tract: 50101038

<table>
<thead>
<tr>
<th>Indicator</th>
<th>% Poor</th>
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<tbody>
<tr>
<td>Education</td>
<td>1.5926%</td>
<td>1507</td>
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<td>Water &amp; Sanitation</td>
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<tr>
<td>Housing</td>
<td>1.8116%</td>
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Compounded Indicator | Tract Value | City Avg.
TP                   | 1.4407      | 0.00    |
TI                   | 1.8722      | 1.14    |
TA                   | Medium      | Medium  |

Poverty of Education
- Low (0% - 0.53%)
- Medium (0.53% - 1.13%)
- High (1.13% - 2.26%)
Average: 0.64%

This education poverty-map shows the proportion of households per territorial unit in relation to those in the city as a whole. Its variables are: i) low attendance (member aged 7-17 not attending school); and ii) low achievements (households with at least one member aged 7-17 attending school regularly, but behind by at least 2 years).

**Diagnosis:** compounded indicators

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Navigation

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City: Liberia

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- Water & Sanitation
- Consumption
- Housing

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