

## JALISCO: USE OF GEOGRAPHIC INFORMATION IN PUBLIC POLICY SUMMARY

To guide the dialogue between georeferenced statistical information producers and users, the World Bank identified **experiences throughout the world of geographic information uses and Geographic Information System (GIS) applications** in public policy formulation, implementation and evaluation.

**Georeferenced data and map use can facilitate the work and increase the effectiveness of local governments at different stages of the public policy and program management cycle:** (i) design; (ii) management and implementation; and (iii) program evaluation.<sup>1</sup> **An important precondition is the availability of good quality data and the harmonization of elements such as databases and scale factors between different institutions.**

### *(i) Policy or program design and formulation tools*

The use of geographic information for diagnosis enables physical location of the problem and provides the background information necessary to formulate the intervention strategy in appropriate areas to maximize the efficient use of resources. Some spatial analysis methodologies for program design are **Poverty Maps** and **Human Opportunity Index Maps**.<sup>2</sup> Such maps show the heterogeneity that exists within a geographical area and identify where the greatest needs exist in the population and what these needs are; they guide the design, targeting and prioritization of interventions and thus contribute to the effectiveness of public resources; they contribute to understanding factors that can be correlated by crossing variables and discovering the most significant determinants of unequal access; etc.

**Potential Market Accessibility Maps** are useful for decision-making related to connectivity and infrastructure aiming to increase and improve the development of remote and vulnerable communities. For example, in West Bengal, India, maps with potential market accessibility indexes have served as input for the Ministry of Transport and Social Development.

### *(ii) Policy or program management and implementation tool*

The use of geographic information during this stage facilitates follow-up to public policy and program implementation by detecting potential anomalies, complaints or other warning signs that make adjustments necessary.

<i>Case 1: Gender-Based Violence</i>	<i>Case 2: Crime and Violence</i>	<i>Case 3: Labor Markets</i>
Egypt has developed a tool called “HarassMap”, which receives reports of sexual harassment via SMS text messages and downloads them in real-time to a map which shows the places where harassment has occurred in Cairo. Another example is “Safetipin” in New Delhi, India. This map-based mobile application gives the location of areas where harassment has occurred and safe places nearby such as hospitals and police stations. The information reported by users provides a safety rating for the area.	Puerto Rico and the Dominican Republic have begun to locate the level, timing and movement of crime through the use of digital maps. With these efforts to measure and understand crime, the police can adapt the frequency, route and number of officers and patrols in order to provide efficient response. Moreover, the public can use this information for prevention, thus helping to reduce crime.	Georeferenced labor market information may be of key importance for the spatial location of labor, so that areas with excess supply or demand for certain occupations or industries can be identified. This information can be useful not only for public policy but also to inform the society and create labor flows.

<sup>1</sup> Public policy analysis models include a larger number of diverse stages in the public policy formation process, but for this analysis a distinction is made between three stages in order to clearly differentiate uses.


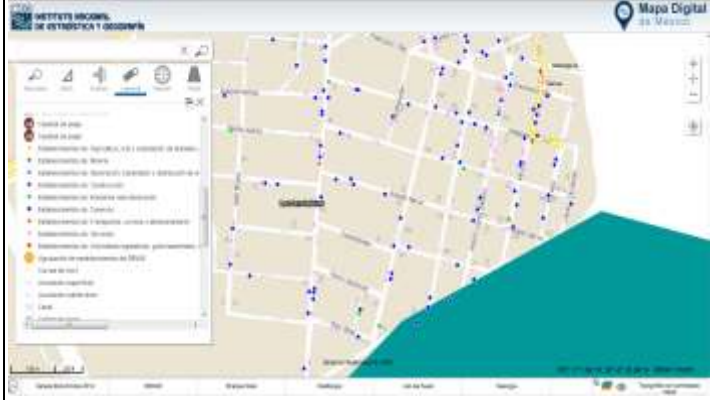
<sup>2</sup> The Human Opportunity Index (HOI) measures the effect of circumstances, such as place of birth, gender or ethnicity, on access of a child to basic opportunities such as education, health, basic infrastructure, etc.

The availability of georeferenced information to facilitate visualization of results and use them to analyze spending is of key importance for **accountability**. Access to this information facilitates project oversight and management and provides transparency to the process since it makes it possible to have a complete overview of spending and results of local public investment.

**(iii) Tools to evaluate public policy and program impact**

To ensure methodological rigor, an impact evaluation should **estimate the counterfactual scenario** (what would have happened if the project had never been implemented). High quality georeferenced data make it possible to identify and compare the control group and the treatment group correctly before and after the program to identify the impact.

**Geographic information platforms** are fundamental elements of the Spatial Data Infrastructure and represent an **opportunity to close the gap between AR supply and the demand for specific indicators**.

<b>Example 1: OntheMap</b>	<b>Example 2: General Map of Jalisco</b>																																	
<p>The United States Census Bureau provides an interactive map of labor force dynamics. This tool can be applied in situations such as: emergency evacuation plans, transport development, real estate, and economic development plans. It can also generate complementary reports on the characteristics of workers and companies, transport patterns, and the flow of workers across segments or other specific characteristics. The platform receives local employment data by using the AR.</p>	<p>The objective of the General Map of Jalisco, developed jointly by IIEG and INEGI, is as a tool for decision-making supported by the GIS through: consultations, the overlaying of different thematic layers, the creation of areas of influence, digitalization of areas, searches for streets and establishments, and distance measurement. It has 245 layers of information visible in four areas of inquiry: geographical-environmental; sociodemographic; economic-financial; and government, security and justice.</p>																																	
 <table border="1" data-bbox="617 1176 812 1344"> <caption>Jobs Counted by County Where Workers Live - Primary Jobs</caption> <thead> <tr> <th>County</th> <th>Count</th> <th>Share</th> </tr> </thead> <tbody> <tr> <td>All Counties</td> <td>3,796,286</td> <td>100.0%</td> </tr> <tr> <td>Los Angeles County, CA</td> <td>2,888,038</td> <td>76.1%</td> </tr> <tr> <td>Orange County, CA</td> <td>384,140</td> <td>10.1%</td> </tr> <tr> <td>San Bernardino County, CA</td> <td>375,233</td> <td>9.9%</td> </tr> <tr> <td>Yuba County, CA</td> <td>189,285</td> <td>5.0%</td> </tr> <tr> <td>Yuba County, CA</td> <td>189,285</td> <td>5.0%</td> </tr> <tr> <td>San Diego County, CA</td> <td>178,688</td> <td>4.7%</td> </tr> <tr> <td>San Diego County, CA</td> <td>178,688</td> <td>4.7%</td> </tr> <tr> <td>San Diego County, CA</td> <td>178,688</td> <td>4.7%</td> </tr> <tr> <td>San Diego County, CA</td> <td>178,688</td> <td>4.7%</td> </tr> </tbody> </table>	County	Count	Share	All Counties	3,796,286	100.0%	Los Angeles County, CA	2,888,038	76.1%	Orange County, CA	384,140	10.1%	San Bernardino County, CA	375,233	9.9%	Yuba County, CA	189,285	5.0%	Yuba County, CA	189,285	5.0%	San Diego County, CA	178,688	4.7%	San Diego County, CA	178,688	4.7%	San Diego County, CA	178,688	4.7%	San Diego County, CA	178,688	4.7%	
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**Opportunities for improvement and recommendations to reinforce the use of geographic information in the State of Jalisco**

The State of Jalisco has an important geographic information platform aligned with international best practice standards. However, there are opportunities for better use of this geographic information. On the supply side, the workshop held in October 2015 enabled the collection of a **preliminary inventory of 151 statistical products and the identification of project profiles appropriate for the use of georeferenced statistics**. On the demand side, the main challenge is to **promote geographic data use and spatial analysis for public policy**. In order to strengthen the use of geographic information in the State of Jalisco the following recommendations are made:

- Development of technical tools to accompany public policy formation, implementation and evaluation;
- Implementation of an AR georeferencing strategy;
- Expansion and dissemination of the use of platforms such as the General Map of Jalisco;
- Reinforcement of knowledge of coordination regulations and policies to guide production patterns of geographic information among agencies; activate specialized demand for geographic information;
- Creation of a section of projects for which geographic information is useful in a global bank of IIEG projects.