IDEAMAPS
FRAMEWORK IMPLEMENTATION PROGRESS IN MEXICO

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INEGI, Mexico
1. Background

2. Designed methodology (intro)

3. Data collect

4. Data Integration

5. Visualization
Background
(focus in Mexico)
Despite the increasing number of people living in urban areas, data collection methods and poverty measures have not been adapted to this reality.

For example, in Mexico, vulnerability is measured mainly through 4 indicators, calculated every 5 years using information from the Population and Housing Census and the Intercensal Survey.

- Municipal Human Development Index in Mexico (PNUD)
- Marginalization Index by federal entity, municipality, locality and urban (CONAPO)
- Social Gap Index (CONEVAL)
- Index of Social Gap at urban area level (CONEVAL)
2 Designed methodology (intro)
Identified information that is relevant for the IDEAMAPS Framework

Linked each one to an indicator group (from the Framework)

Compiled it in a table with details (source, frequency, scale references).

Identified information

Compiled matrix

RELEVANT DATASETS FOR IDEAMAPS

WITH ENGLISH DESCRIPTION & DETAILS
To integrate open data from different sources using the 600m grid and data lake tools, with the goal of having an ecosystem of interoperable information that follows an integrated approach for detecting deprived areas or slums with an interactive user interface that allows different data combination queries.
3 Data Collect
WHAT DID WE FIND (SO FAR)?
IN A NUTSHELL

A

H&P CENSUS data
National cover, up to city-block level and recent (2020)

B

Survey / Programme data
Wide variety of statistical and geospatial national datasets (different representation, aggregation levels, scale and frequency)

C

External data
Generated by other State Units (Ministries) or independent entities with varied data formats and specs.

D

Mexico City-specific data
Plenty of data for Mexico City is available.
## EXAMPLE WITHIN AREA LEVEL

<table>
<thead>
<tr>
<th>Domain</th>
<th>Indicator Group</th>
<th>Example variable</th>
<th>Scale</th>
<th>Source</th>
<th>Dataset type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Hazards &amp; Assets</td>
<td>Mobility</td>
<td>Residence 5 years ago</td>
<td>National, Federal entity, Municipality, Localities, AGEB &amp; Urban block</td>
<td>Population and Housing Census 2020</td>
<td>H&amp;P Census</td>
</tr>
<tr>
<td>Unplanned urbanisation</td>
<td>Coverage or size of green space</td>
<td>Green areas</td>
<td>Municipality, Urban areas, Rural areas, AGEB &amp; Urban blocks</td>
<td>National Geostatistical Framework, 2020</td>
<td>Survey / Programme (Geospatial)</td>
</tr>
<tr>
<td>Physical Hazards &amp; Assets</td>
<td>Natural: slope, flood zone, weather</td>
<td>Hydrometeorologic al Risk</td>
<td>National Vector Continuum</td>
<td>National Center for Disaster Prevention (CENAPRED)</td>
<td>External</td>
</tr>
<tr>
<td>Contamination</td>
<td>Air pollution</td>
<td>Exposure to areas of high air pollution</td>
<td>Municipality</td>
<td>Air quality (SEDEMA)</td>
<td>Mexico City-specific</td>
</tr>
</tbody>
</table>

### Social Hazards & Assets
- Crime, safety, conflict
- Security
- Food security, distribution & nutrition
- Livelihood opportunities
- Mobility
- Social Capital & identity
- Stigma
- Savings & loan initiatives

### Physical Hazards & Assets
- Ecological diversity
- Natural slope, flood zone, weather
- Natural assets
- All others

### Unplanned Urbanisation
- Garbage accumulation
- Industrial pollution
- Air pollution
- Noise or smell pollution
- Water pollution
- All others
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</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure</td>
<td>Drainage</td>
<td>Housing with sewer system or drain connected to the public network</td>
<td>National, Federal entity, Municipality, Localities, AGEB &amp; Urban block</td>
<td>Population and Housing Census 2020</td>
<td>H&amp;P Census</td>
</tr>
<tr>
<td>Governance</td>
<td>Corruption &amp; accountability</td>
<td>Evaluation of public services</td>
<td>Federal entity &amp; Self-represented metropolitan areas</td>
<td>National Quality and Government Impact Survey 2019</td>
<td>Survey / Programme (Statistical)</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Roads/walkways</td>
<td>Type of roads</td>
<td>National Vector Continuum</td>
<td>National Road Network, 2020</td>
<td>Survey / Programme (Geospatial)</td>
</tr>
<tr>
<td>Facilities &amp; Services</td>
<td>Availability/distance to commercial, workshop, health, educational etc.</td>
<td>Access to health services</td>
<td>National, Federal entity &amp; Municipality</td>
<td>Health Resources 2019 (Ministry of Health)</td>
<td>External</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Transportation &amp; traffic</td>
<td>Accessibility to transportation system</td>
<td>Mexico City</td>
<td>Digital Agency for Public Innovation (ADIP)</td>
<td>Mexico City-specific</td>
</tr>
</tbody>
</table>
# Example Household Level

## Domain | Indicator Group | Example variable | Scale | Source | Dataset type
--- | --- | --- | --- | --- | ---
Housing | Structure quality & attributes | Housing flooring material (durable or earth) | National, Federal entity, Municipality, Localities, AGEB & Urban block | Population and Housing Census 2020 | H&P Census
S.E.S. | Sense of freedom | Perception of public safety Institutional performance | Federal entity & Metropolitan Areas selected for the main variables | National Survey of Victimization and Perception of Public Safety (ENVIPE) 2020 | Survey / Programme (Statistical)
S.E.S. | Healthcare | Care services | National Vector Continuum | National Statistical Directory of Economic Units. (DENUE) | Survey / Programme (Geospatial)
S.E.S. | Health | Life expectancy | Federal entity | Life expectancy at birth. National Population Council (CONAPO) | External
S.E.S. | Health | Use of Health Services | National, Regional, Subregional & Metropolitan area of the Valley of Mexico | National Health and Nutrition Survey (ENSANUT) 2018. National Institute of Public Health (INSP) | Mexico City-specific
Data Integration
SOURCE: DATA POINTS
SOURCE: HIGHER RESOLUTION THAN GRID
SOURCE: LOWER RESOLUTION THAN GRID
## DATA LAKE

<table>
<thead>
<tr>
<th>Interoperability</th>
<th>DevSecOps</th>
<th>DevSecOps - Alops</th>
<th>Data Products</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Interoperability Icon" /></td>
<td><img src="image2" alt="GitLab" /></td>
<td><img src="image3" alt="mlflow" /></td>
<td><img src="image4" alt="Data Products Icons" /></td>
</tr>
</tbody>
</table>

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<tr>
<th>Data Storage</th>
<th>Data Integration</th>
<th>Data Virtualization</th>
<th>Data Visualization</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image5" alt="NAS" /></td>
<td><img src="image6" alt="Kedro" /></td>
<td><img src="image7" alt="HIVE" /></td>
<td><img src="image8" alt="Superset" /></td>
</tr>
<tr>
<td><img src="image9" alt="MINIO" /></td>
<td><img src="image10" alt="Python" /></td>
<td><img src="image11" alt="Trino" /></td>
<td><img src="image12" alt="GIS" /></td>
</tr>
</tbody>
</table>
5 Visualization
THANK YOU!

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INEGI Informa

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