Land Resilience Program: Principles, Tools and Impact

**PRINCIPLES**
- Background of land and geospatial information in DRM
- Guiding Global Frameworks

**TOOLS**
- Contextual Analysis Questionnaire
- Pre and Post Disaster Recommendations Based on good practices

**IMPACT**
- Implementation of a Country Action Plan
Land Resilience Program: Principles
With Disaster Events Around the World Increasing in Frequency and Severity, Better Access to Land and Geospatial Information is Critical to Disaster Risk Management Activities.

- National land administration systems and geospatial data infrastructure have a fundamental role to play in DRM.
- They facilitate Tenure, Land Use, Land Valuation and zoning information, for planning, monitoring and implementing responses before, during and after disasters.
Global Development Frameworks

• Several key initiatives aiming to build resilience to disasters have emerged around the world in recent years

• Themes of:
  • data integration
  • making use of existing resources – such as the provision of reliable land data for resilience building activities
  • strengthening of capacity of national data systems
Land and Geospatial in DRM

• When people are forced to leave their homes behind, land records offer **critical protection of their property rights** (and often their main asset).

• Land and geospatial information are key to ensuring that land records are **comprehensive and secure** - informing the what, who, where, how much.

• Without this information, it is **almost impossible** for countries to develop proper disaster response or preparedness plans.
Land and Geospatial in DRM

**TENURE SECURITY**

- Tenure security enables housing reconstruction, food security and recovery of production systems

**LAND USE PLANNING**

- Flexible land use planning standards can facilitate reconstruction aimed at building back better and mitigating the risk of future disasters
• Accurate and up-to-date land valuation supports insurance, compensation, property tax, compulsory purchase and strategic advice to governments in disaster recovery.

• Effective land valuation and property taxation measures can support post-disaster emergency response, recovery and reconstruction activities.
Land Resilience: Building Blocks

1. Mature Land Administration System
2. Comprehensive Geospatial Information and Systems
3. Integrated Disaster Risk Management Activities

Improved Land Resilience
Land Resilience Program: Tools
Improving Land Resilience: the Process

1. **Contextual Analysis Questionnaire**
   An operational tool used to assess the current status of land and geospatial systems within a country.

2. **Pre and Post Disaster Recommendations**
   Identifies key resilience indicators for land and geospatial organizations.

3. **Country Action Plan Template**
   Brings together the outputs of the two tools to delineate the dimensions to focus on for improving and enhancing the overall land resilience of a country.
TOOL 1: Contextual Analysis Questionnaire

• Guiding questions to produce an initial background assessment to understand basic functions and operations of the existing land and geospatial environment.

• Arranged into 6 themes of questions:
  1. General
  2. Governance
  3. Policy and Legislation
  4. Operational
  5. Data and Technology
  6. Financial
• A checklist to aide national level stakeholders involved in disaster management activities.

• Outlines how land administration and geospatial systems can support pre and post disaster needs and actions, and what preconditions are required for that to be realized

<table>
<thead>
<tr>
<th>Precondition</th>
<th>Post-Disaster Action</th>
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<tbody>
<tr>
<td>1</td>
<td>Converting paper cadastral and land records to a digital format</td>
</tr>
<tr>
<td>2</td>
<td>Making regular backups of digital land databases</td>
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<tr>
<td>3</td>
<td>Implementing a National Spatial Data Infrastructure (NSDI)</td>
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<td>4</td>
<td>Use of international standards in creation of digital databases</td>
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<td>5</td>
<td>Legal regulation and culture of publicly sharing data</td>
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<tr>
<td>6</td>
<td>Availability of alternative communication and information sharing channels</td>
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<tr>
<td>7</td>
<td>Establish a geodetic reference compatible with global positioning system</td>
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<tr>
<td>8</td>
<td>Regular and persistent updating of digital land databases</td>
</tr>
<tr>
<td>9</td>
<td>On-demand availability of advanced surveying and data collection tools</td>
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</tbody>
</table>

- To prevent data loss and allow quick recovery of databases
- To enable decision-makers and emergency personnel to identify the source and nature of problems
- To have access to alternative and multiple information sources
- To protect the rights and land tenure of local communities
- To (re-)establish communications between different emergency units
- To help in finding and using other national and international information resources
- To enable the development of new tools and applications
- To create a two-way flow of information between people and emergency personnel
- To update the land databases and related information
- To assist in the collection of the necessary field data
- To conduct rapid damage assessment and inspection report
- To identify suitable lands for immediate shelters and temporary settlements
Achieving Land Resilience

• The tools outlined facilitate an understanding of the current state of land resilience in a specific country context. The output of each tool offers valuable input for improving the overall resilience of land and property to disaster events in a country.

• Improving land resilience is a multi-stakeholder, multi-disciplinary task.

• It requires involvement and input from a wide variety of key people.
Land Resilience Program: Impact
Country Action Plan (CAP)

• Output from each of the two tools of the land resilience process guide development of the Country Action Plan by identifying:
  • Stakeholders involved in the establishment of land resilience
  • Key land and geospatial organizations and stakeholders
  • Data, technology, systems and infrastructures existing within the country
  • Pre-conditions for disaster land resilience that have not yet been achieved by the country
  • Specific land resilience dimensions requiring attention
TOOL 3: CAP Template

• **Provides recommended actions** detailing how land and geospatial information can be utilized to **impact and improve disaster risk management** activities in a specific country context.

• The **CAP Template** guides the development of the elements required to **address the gaps** in existing land and geospatial systems.

• It ensures all the **necessary information on commitments** required by stakeholders and the agreed upon development and implementation process is documented.
Land Resilience Program: Outputs and Next Steps
Outputs: Country Case Studies

• Chile,
• Colombia,
• India,
• Indonesia,
• Nigeria,
• Nicaragua,
• Tunisia,
• Turkey
Outputs: Tools

- Contextual Analysis Questionnaire
- Pre and Post Disaster Recommendations
- Context Report
- Land Resilience Quick Assessment

COUNTRY ACTION PLAN
Outputs: landresilience.org

PROJECT OUTPUTS

Executive Summary
The Executive Summary document is a stand-alone strategic document summarizing the key outcomes of this project. It complements the overarching Flagship Report of this project.

Flagship Report
The Flagship Report brings together the overall findings of the project including the key insights around land resilience and presents the four operational tools developed to improve land resilience. The four tools are utilized by land administration experts at country levels assisting in identifying the current level of land resilience and facilitating actions to improve resilience.

Global land and geospatial systems are important national resources. They contribute to stability and economic growth by ensuring secure and sustainable land-based assets. This includes the integration of existing land and geospatial systems within the institutional, technological, and regulatory frameworks of a country. The Flagship Report presents the findings of the project's research and development work on four key operational tools, which collectively enable the assessment and improvement of land resilience.
Outputs: Reports

1. Flagship Report

   - Highlights of the Flagship Report
   - Combination of short text and infographics

2. Executive Summary Report

3. Associated Report Volumes

   - Rebranded into flagship style/formatting

Final Version
Q4 2019
Outputs: Knowledge Sharing and Consultations

New York
UN-GGIM 8th

Washington
The World Bank Land and Poverty Conference 2018 & 2019

Deqing
World Geospatial Information Congress

Melbourne
The Smart Sustainable Future for All 2018 International Symposium

Durban
The Resilience Planning Workshop
Outputs: Next Steps

• Finish action plans and provide WB finance support as required by the Governments of **Nepal, Solomon Islands and Kerala State (India)**.
• Publication and dissemination of the **Flagship Report**.
• Increasing dissemination and knowledge sharing.
• Adding **new countries** into our Land Resilience Program to support them by **identifying investment plan activities** to increase resilience and resilience impact of national land administration and geospatial information systems.