Integration of Statistical and Geospatial Information in the Americas

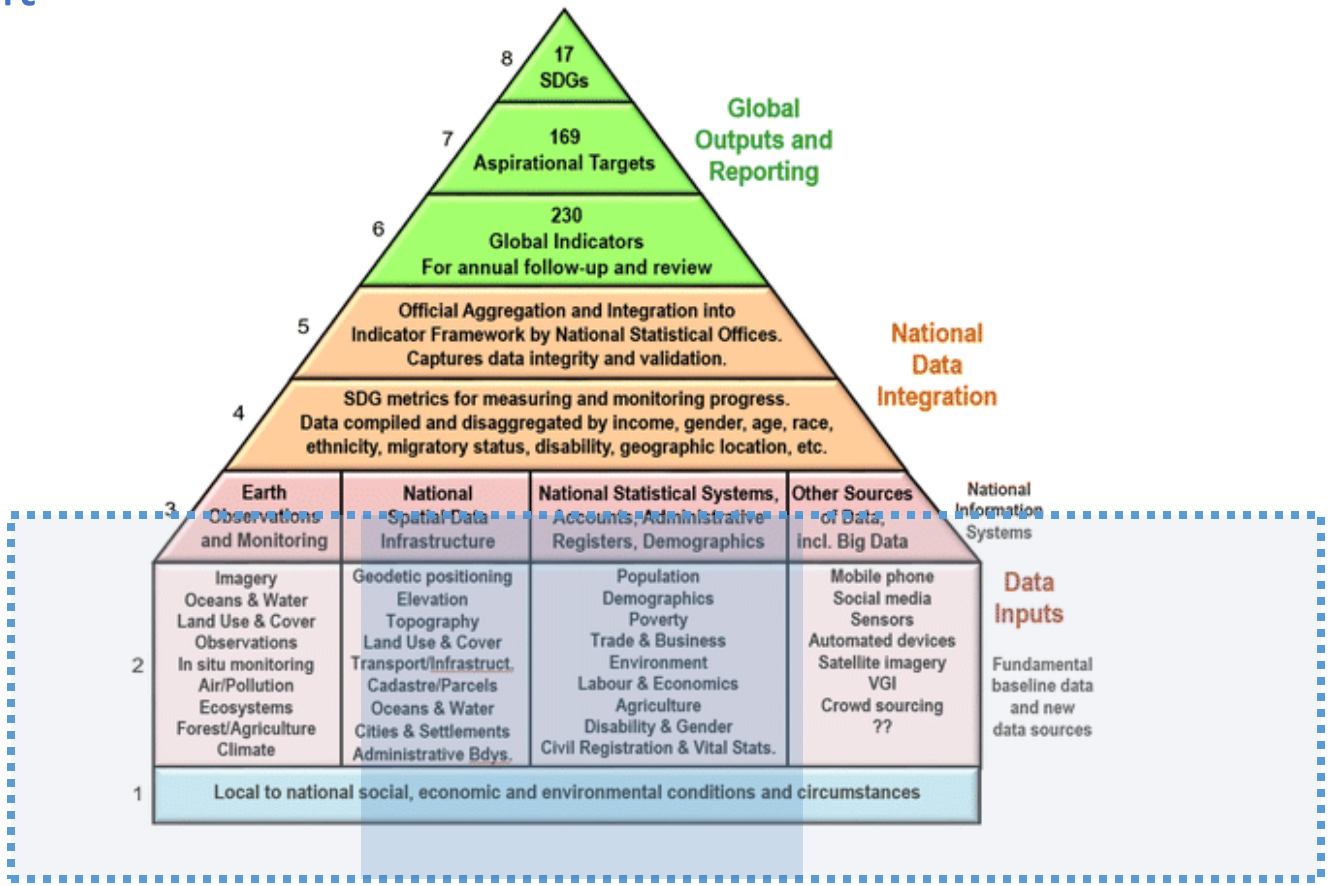
UN-GGIM 8 – Integration of Statistical and Geospatial Information Side Event

New York, 31 July, 2018

Economic Commission for Latin America and the Caribbean, Statistics Division

Integration of statistical and geospatial information is crucial within the Sustainable development data ecosystem

How are we supporting the relevant process in the region?



Scott, G. & Rajabifard, A. (2017): Sustainable development and geospatial information: a strategic framework for integrating a global policy agenda into national geospatial capabilities,

Engaging and joining statistical and geospatial information communities through collaborative and integrated road maps

- ✓ **Resolution 712** adopted at the **Thirty-Sixth session of ECLAC** , on the regional integration of statistical and geospatial information (2016)
- ✓ **Resolution 10 (IX) Statistical Conference of the Americas of ECLAC** at its Ninth Meeting call to develop joint strategies to advance in the integration of statistical information, geospatial and Earth observation data (2017)
- ✓ **Resolutions 2, 3 and 5** of the **Fourth Meeting of UN-GGIM: Americas** regarding the integration of geospatial and statistical information (2017).

Regional Meeting between the Statistics and Geospatial Communities of Latin America and the Caribbean. ECLAC Headquarters, April 2017. In the frame of the sixteenth meeting of the Executive Committee of the Statistical Conference of the Americas

https://cea.cepal.org/9/es/noticias

Source: ECLAC

Engaging and joining statistical and geospatial information communities through collaborative and integrated road maps

Source: ECLAC

UN-GGIM:Américas
COMITÉ REGIONAL DE LAS NACIONES UNIDAS SOBRE LA GESTIÓN GLOBAL DE INFORMACIÓN GEOESPACIAL PARA LAS AMÉRICAS

Fifth Meeting UN-GGIM: Americas
Regional workshop on the integration of geospatial and statistical information

06 - 08 de noviembre 2018
Hotel Sheraton María Isabel, Ciudad de México

NACIONES UNIDAS
CEPAL

Bringing global strategies and frameworks closer to the national statistical and geospatial communities

ANNEX I: UN-GGIM Strategic Framework 2018 – 2022

CONTEXT	VISION	*Positioning geospatial information to effectively address global challenges*				
	MISSION	*Operating within agreed policies and institutional arrangements, and as an interconnected global community of practice, provide leadership to ensure that geospatial information and resources are coordinated, maintained, accessible, and able to be leveraged by Member States and society to find sustainable solutions for social, economic and environmental development*				
	MANDATED STRATEGIC OBJECTIVES	Provide leadership in setting the agenda for the development of global geospatial information and to promote its use to address key global challenges	Provide a forum for coordination and dialogue with and among Member States and relevant international organizations on enhanced cooperation	Provide a platform for the development of effective strategies to build and strengthen national capacity and capability concerning geospatial information, especially in developing countries	Propose work-plans, frameworks and guidelines to promote common principles, policies, methods, standards and mechanisms for the interoperability and use of geospatial data and services	Make joint decisions and set the direction for the production and use of geospatial information within and across national, regional and global policy frameworks

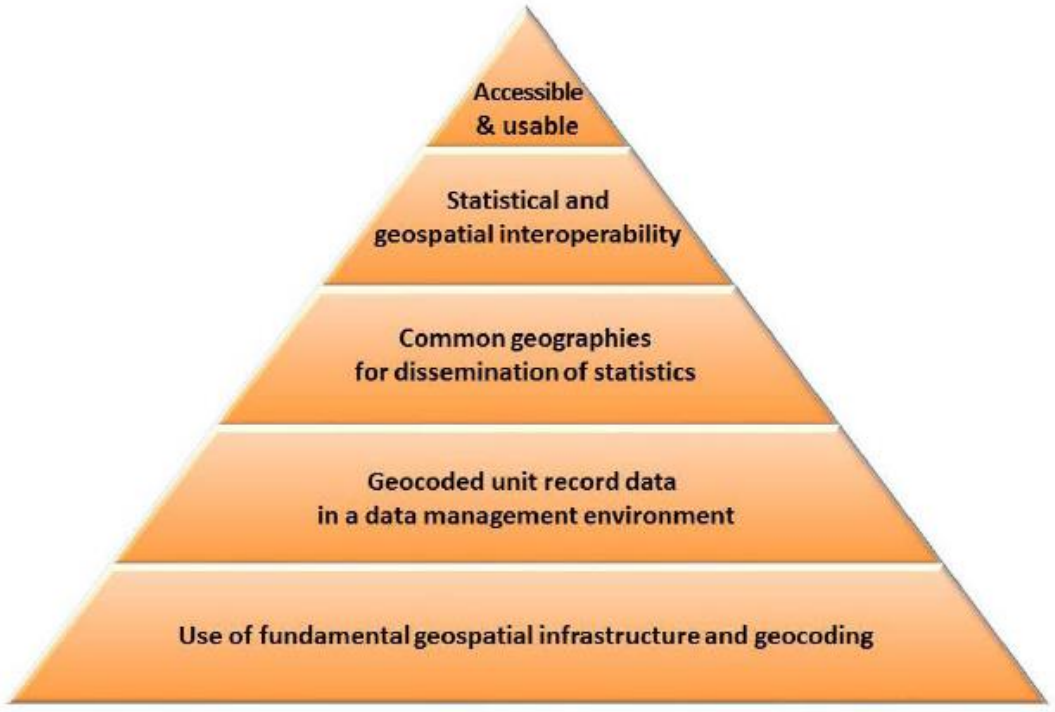
	GLOBAL POLICY FRAMEWORK	Transforming our World: The 2030 Agenda for Sustainable Development				
		Sendai Framework for Disaster Risk Reduction 2015-	SIDS Accelerated Modalities of Action (SAMOA)	Addis Ababa Action Agenda	Paris Agreement on Climate Change	New Urban Agenda	Our Ocean, Our Future: Call for Action

INTEGRATED GEOSPATIAL INFORMATION FRAMEWORK

A STRATEGIC GUIDE TO DEVELOP AND STRENGTHEN NATIONAL GEOSPATIAL INFORMATION MANAGEMENT

Bringing global strategies and frameworks closer to the national statistical and geospatial communities

- ✓ **Technical cooperation** to Member Countries for disseminating the Framework and components
- ✓ Further **assessment on the implementation** of the Framework at national level
- ✓ Upgrades on the development of the Framework components will facilitate national implementation



Global Geospatial Statistical Framework

Source: UN-GGIM Expert Group on Integration of Statistical and Geospatial Information

Developing regional projects to integrate statistical and geospatial information

- ✓ **UN-GGIM AMERICAS Working Group on Integration of Statistical and Geospatial Information**
- ✓ **Joint work at national level, between statistics and geospatial organizations**
- ✓ **Support of ECLAC in the coordination with national statistics offices**

MARCO ESTADÍSTICO Y GEOESPACIAL PARA LAS AMÉRICAS Y EL CARIBE - MEGA

Estandarización de la Información Geoespacial y Socioeconómica

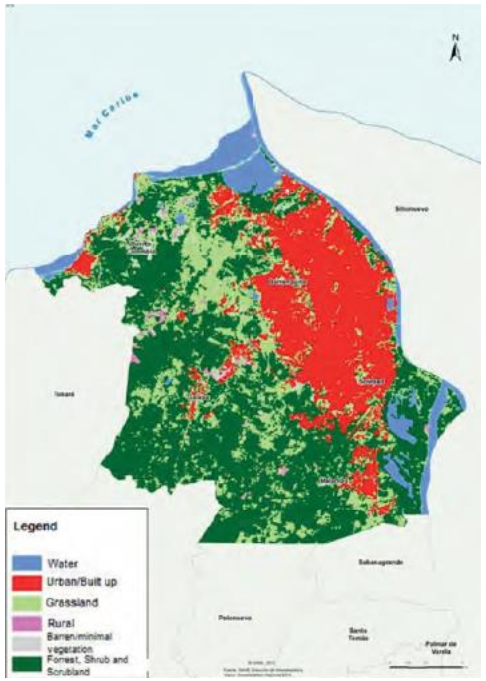
Source: UN-GGIM: Americas Working Group on Integration of Statistical and Geospatial Information

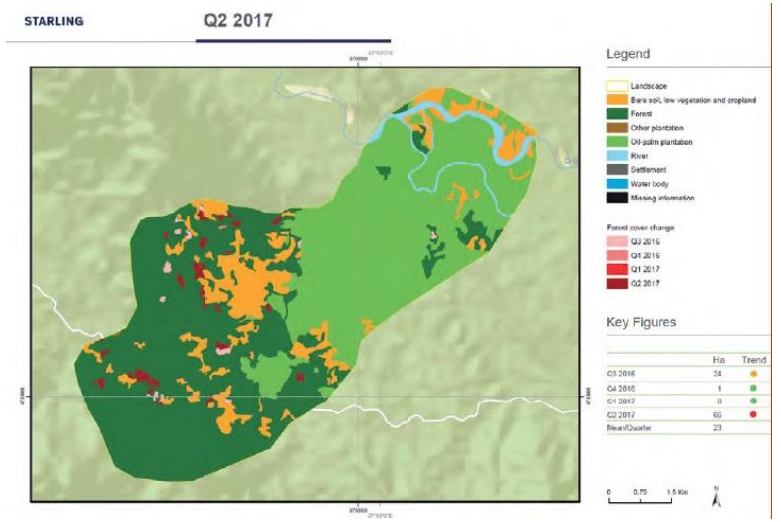
Working closely with the Earth Observation community to generate new statistical and geospatial data

GROUP ON EARTH OBSERVATIONS

EARTH OBSERVATIONS FOR THE SUSTAINABLE DEVELOPMENT GOALS

- ✓ **UN-GGIM AMERICAS Working Group on Regional Cooperation**
- ✓ **Capacity building projects with NASA, EO4SDGs, Global Partnership for Sustainable Development Data**

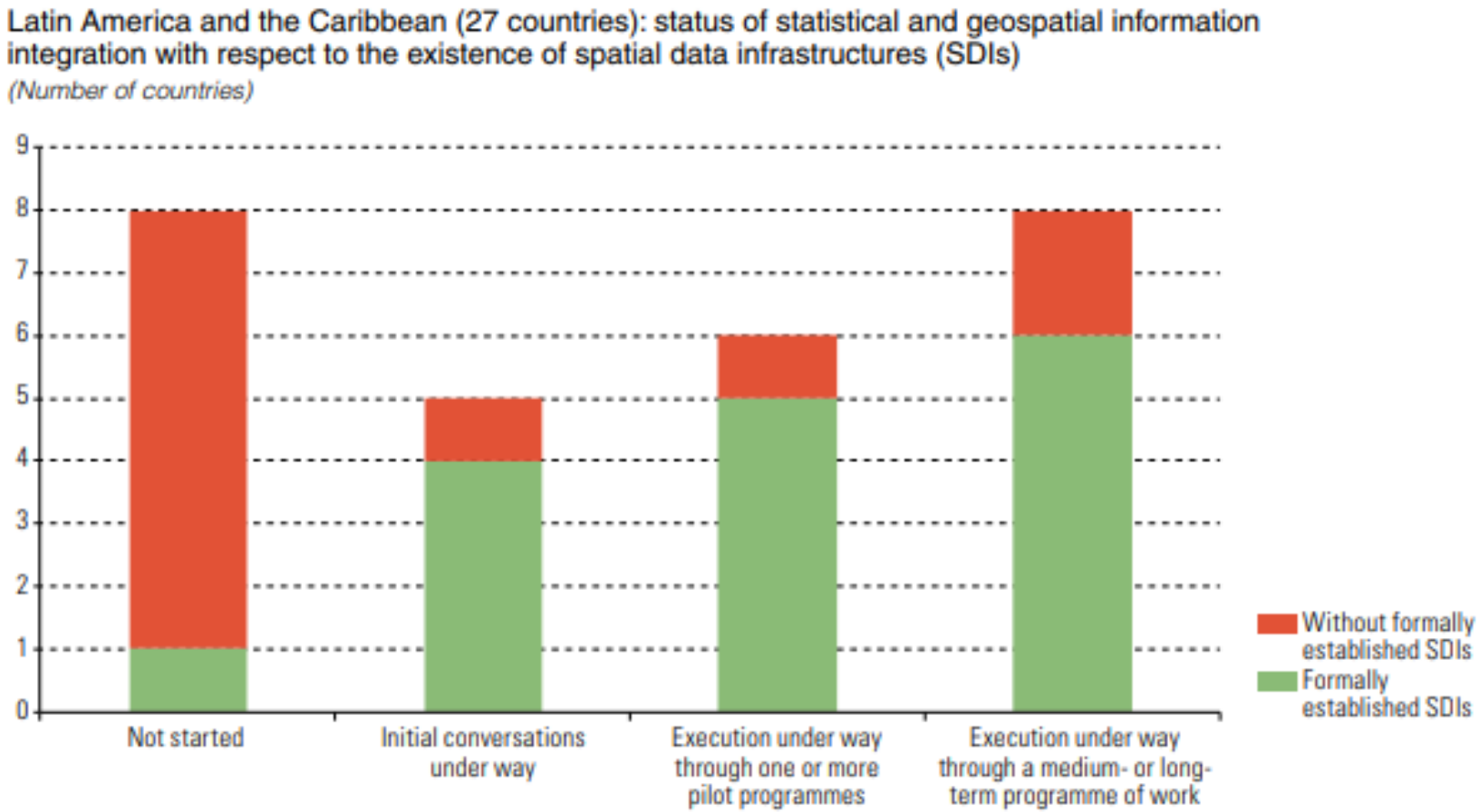




Source: Satellite Earth Observations in support of the Sustainable Development Goals. Special Edition 2018

Assessing the integration of statistical and geospatial information, institutional and technical aspects

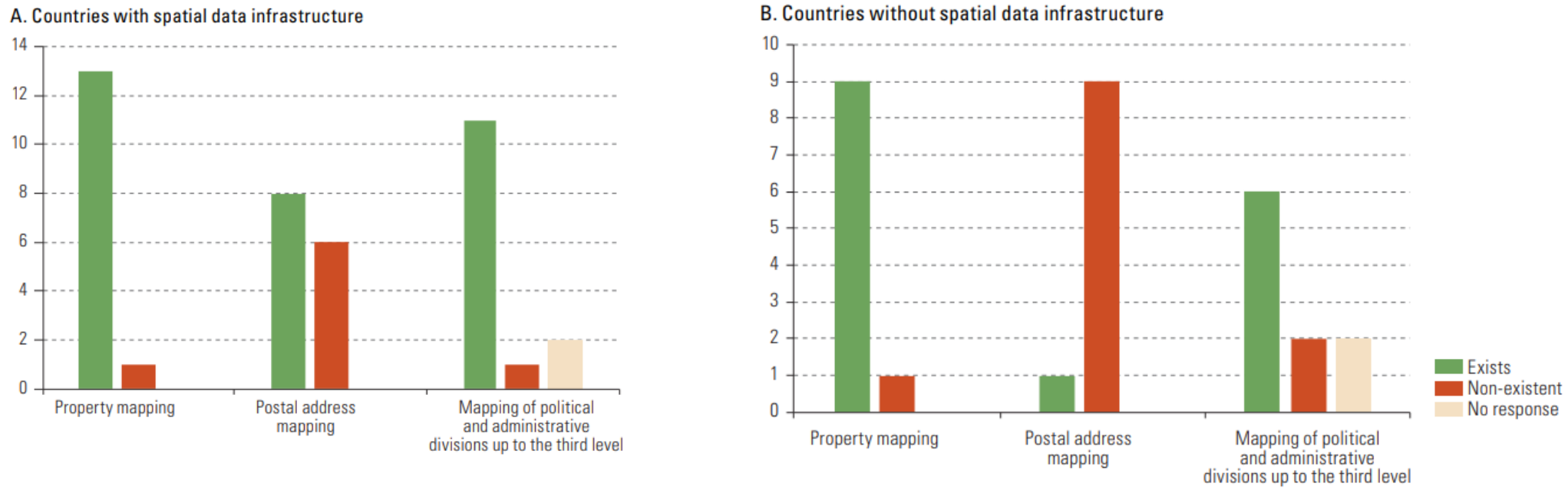
Statistical and Geospatial Information Integration v/s National SDI initiatives



Sorce: Second annual report on regional progress and challenges in relation to the 2030 Agenda for Sustainable Development in Latin America and the Caribbean. ECLAC, 2018

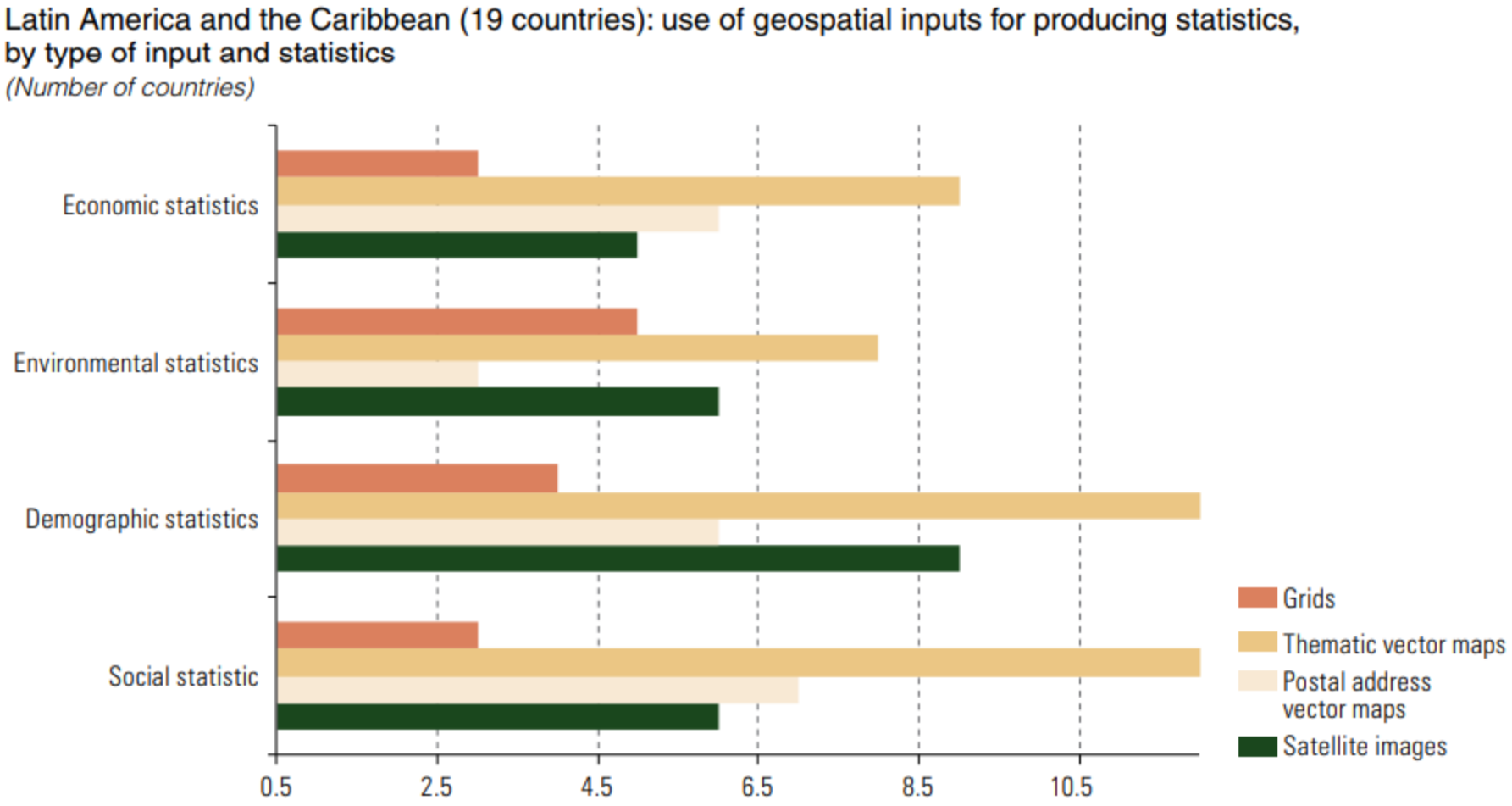
Fundamental data for integration: with and without SDI initiative

Latin America and the Caribbean (24 countries): availability of basic data for statistical and geospatial information integration, with respect to the existence of national spatial data infrastructure
(Number of countries)



Sorce: Second annual report on regional progress and challenges in relation to the 2030 Agenda for Sustainable Development in Latin America and the Caribbean. ECLAC, 2018

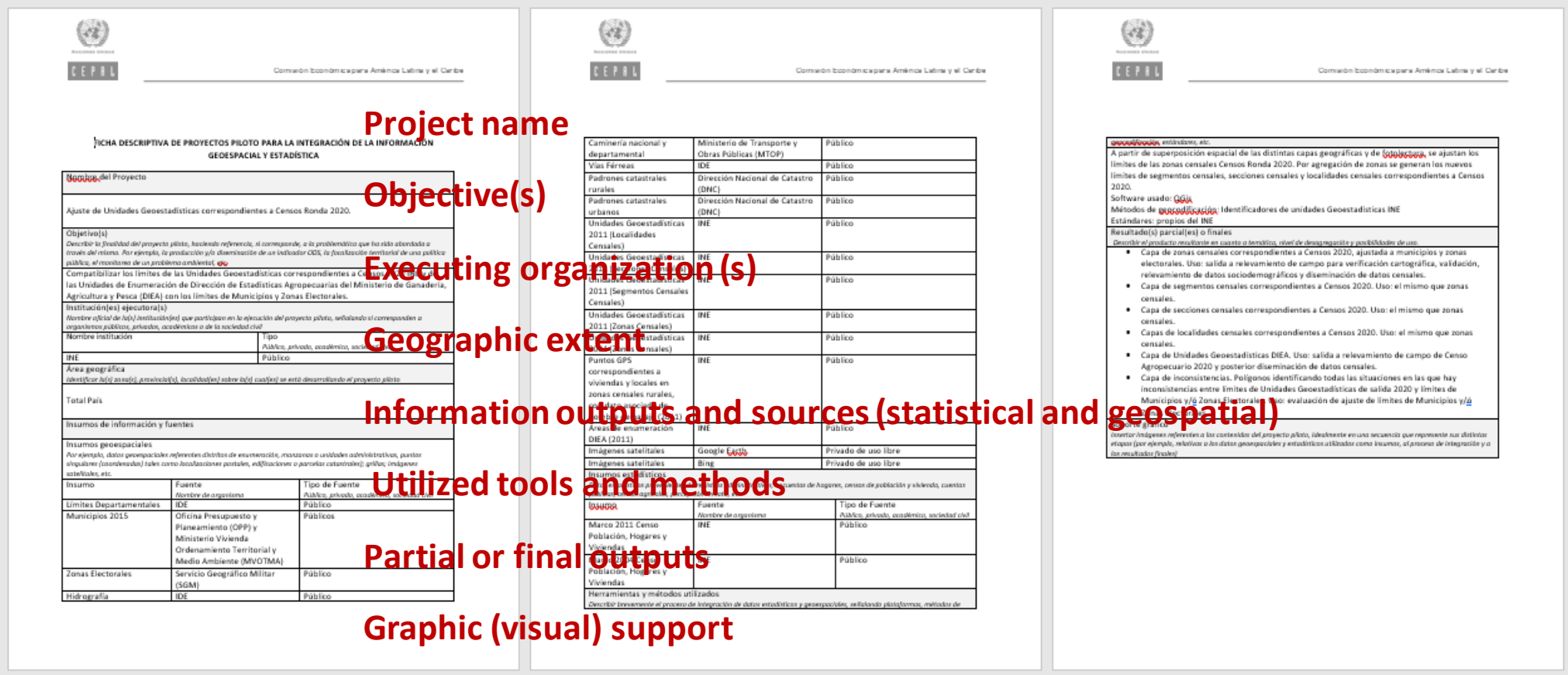
Geospatial inputs for the production of statistics



Sorce: Second annual report on regional progress and challenges in relation to the 2030 Agenda for Sustainable Development in Latin America and the Caribbean. ECLAC, 2018

Documenting and disseminating experiences in the integration of statistical and geospatial information

Template to document projects and national experiences



CEPAL — Comisión Económica para América Latina y el Caribe

FICHA DESCRIPTIVA DE PROYECTOS PILOTO PARA LA INTEGRACIÓN DE LA INFORMACIÓN GEOESPACIAL Y ESTADÍSTICA

Nombre del Proyecto

Ajuste de Unidades Geoestadísticas correspondientes a Censos Ronda 2020.

Objetivo(s)

Describir la finalidad del proyecto piloto, haciendo referencia, si corresponde, a la problemática que ha sido abordada a través del mismo. Por ejemplo, la producción y/o diseminación de un indicador ODS, la focalización territorial de una política pública, el monitoreo de un problema ambiental, etc.

Compatibilizar los límites de las Unidades Geoestadísticas correspondientes a Censos 2020 con las Unidades de Enumeración de Dirección de Estadísticas Agropecuarias del Ministerio de Ganadería, Agricultura y Pesca (DIEA) con los límites de Municipios y Zonas Electorales.

Institución(es) ejecutora(s)

Nombre oficial de la(s) institución(es) que participan en la ejecución del proyecto piloto, señalando si corresponden a organismos públicos, privados, académicos o de la sociedad civil

Nombre institución	Tipo *Público, privado, académico, sociedad civil*
INE	Público

Área geográfica

Identificar la(s) área(s), provincial(s), localidad(es) sobre la(s) cual(es) se está desarrollando el proyecto piloto

Total País

Insumos de información y fuentes

Insumos geoespaciales

Por ejemplo, datos geoespaciales referentes distritos de enumeración, manzanas o unidades administrativas, puntos singulares (georreferenciados) tales como localizaciones puntuales, edificaciones o parcelas catastrales); grillas; imágenes satelitales, etc.

Insumo	Fuente *Nombre de organismo*	Tipo de Fuente *Público, privado, académico, sociedad civil*
Límites Departamentales	IDE	Público
Municipios 2015	Oficina Presupuesto y Planeamiento (OPP) y Ministerio Vivienda Ordenamiento Territorial y Medio Ambiente (MVOTMA)	Públicos
Zonas Electorales	Servicio Geográfico Militar (SGM)	Público
Hidrografía	IDE	Público

Caminería nacional y departamental	Ministerio de Transporte y Obras Públicas (MTOP)	Público
Vías Férreas	IDE	Público
Padrones catastrales rurales	Dirección Nacional de Catastro (DNC)	Público
Padrones catastrales urbanos	Dirección Nacional de Catastro (DNC)	Público
Unidades Geoestadísticas 2011 (Localidades Censales)	INE	Público
Unidades Geoestadísticas 2011 (Segmentos Censales)	INE	Público
Unidades Geoestadísticas 2011 (Zonas Censales)	INE	Público
Puntos GPS correspondientes a viviendas y locales en zonas censales rurales,	INE	Público
Áreas de enumeración DIEA (2011)	INE	Público
Imágenes satelitales	Google Earth	Privado de uso libre
Imágenes satelitales	Bing	Privado de uso libre

Insumos estadísticos

Por ejemplo, datos provenientes de censos, encuestas de hogares, censos de población y vivienda, cuentas nacionales, etc.

Insumo	Fuente *Nombre de organismo*	Tipo de Fuente *Público, privado, académico, sociedad civil*
Marco 2011 Censo Población, Hogares y Viviendas	INE	Público
Población, Hogares y Viviendas		Público

Herramientas y métodos utilizados

Describir brevemente el proceso de integración de datos estadísticos y geoespaciales, señalando plataformas, métodos de

entrevistas, etc.

A partir de superposición espacial de las distintas capas geográficas y de [illegible], se ajustan los límites de las zonas censales Censos Ronda 2020. Por agregación de zonas se generan los nuevos límites de segmentos censales, secciones censales y localidades censales correspondientes a Censos 2020.

Software usado: QGis

Métodos de georreferenciación: Identificadores de unidades Geoestadísticas INE

Estándares: propios del INE

Resultado(s) parcial(es) o finales

Describir el producto resultante en cuanto a temática, nivel de desagregación y posibilidades de uso.

- Capa de zonas censales correspondientes a Censos 2020, ajustada a municipios y zonas electorales. Uso: salida a relevamiento de campo para verificación cartográfica, validación, relevamiento de datos sociodemográficos y diseminación de datos censales.
- Capa de segmentos censales correspondientes a Censos 2020. Uso: el mismo que zonas censales.
- Capa de secciones censales correspondientes a Censos 2020. Uso: el mismo que zonas censales.
- Capas de localidades censales correspondientes a Censos 2020. Uso: el mismo que zonas censales.
- Capa de Unidades Geoestadísticas DIEA. Uso: salida a relevamiento de campo de Censo Agropecuario 2020 y posterior diseminación de datos censales.
- Capa de inconsistencias. Polígonos identificando todas las situaciones en las que hay inconsistencias entre límites de Unidades Geoestadísticas de salida 2020 y límites de Municipios y/o Zonas Electorales. Uso: evaluación de ajuste de límites de Municipios y/o

Soporte gráfico

Insertar imágenes referentes a los contenidos del proyecto piloto, idealmente en una secuencia que represente sus distintas etapas (por ejemplo, relativas a los datos geoespaciales y estadísticos utilizados como insumos, al proceso de integración y a los resultados finales)

Project name

Objective(s)

Executing organization (s)

Geographic extent

Information outputs and sources (statistical and geospatial)

Utilized tools and methods

Partial or final outputs

Graphic (visual) support

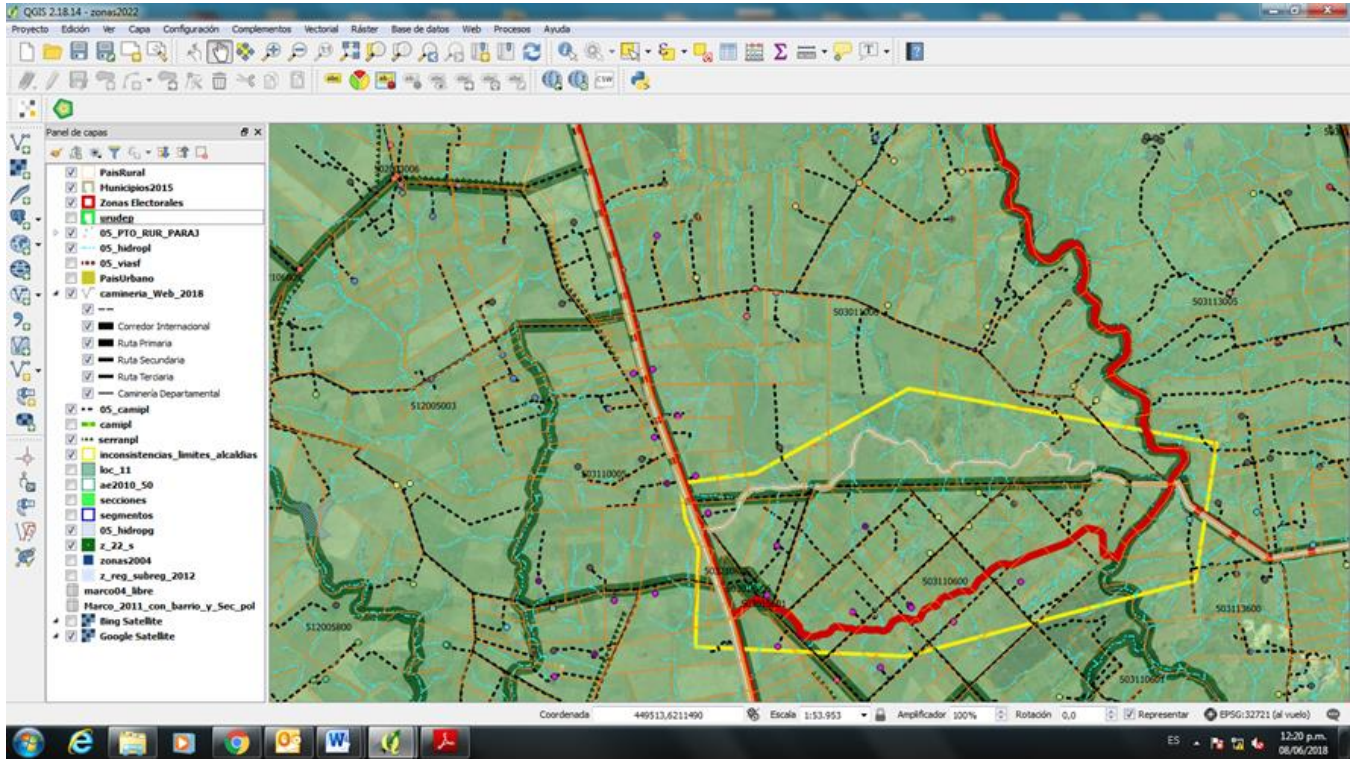
Source: ECLAC

National examples: Uruguay

Adjustment of Geostatistical Units corresponding to Round 2020 Censuses

Make compatible the limits of the Geostatistical Units corresponding to Census 2020 INE and of the Enumeration Units of Agricultural Statistics Directorate of the Ministry of Livestock, Agriculture and Fisheries (DIEA) with the limits of Municipalities and Electoral Zones

Military Geographic Service
National Statistic Institute
Cadaster National Agency
Budget and Planning Office
Housing, Land Planning and Environment



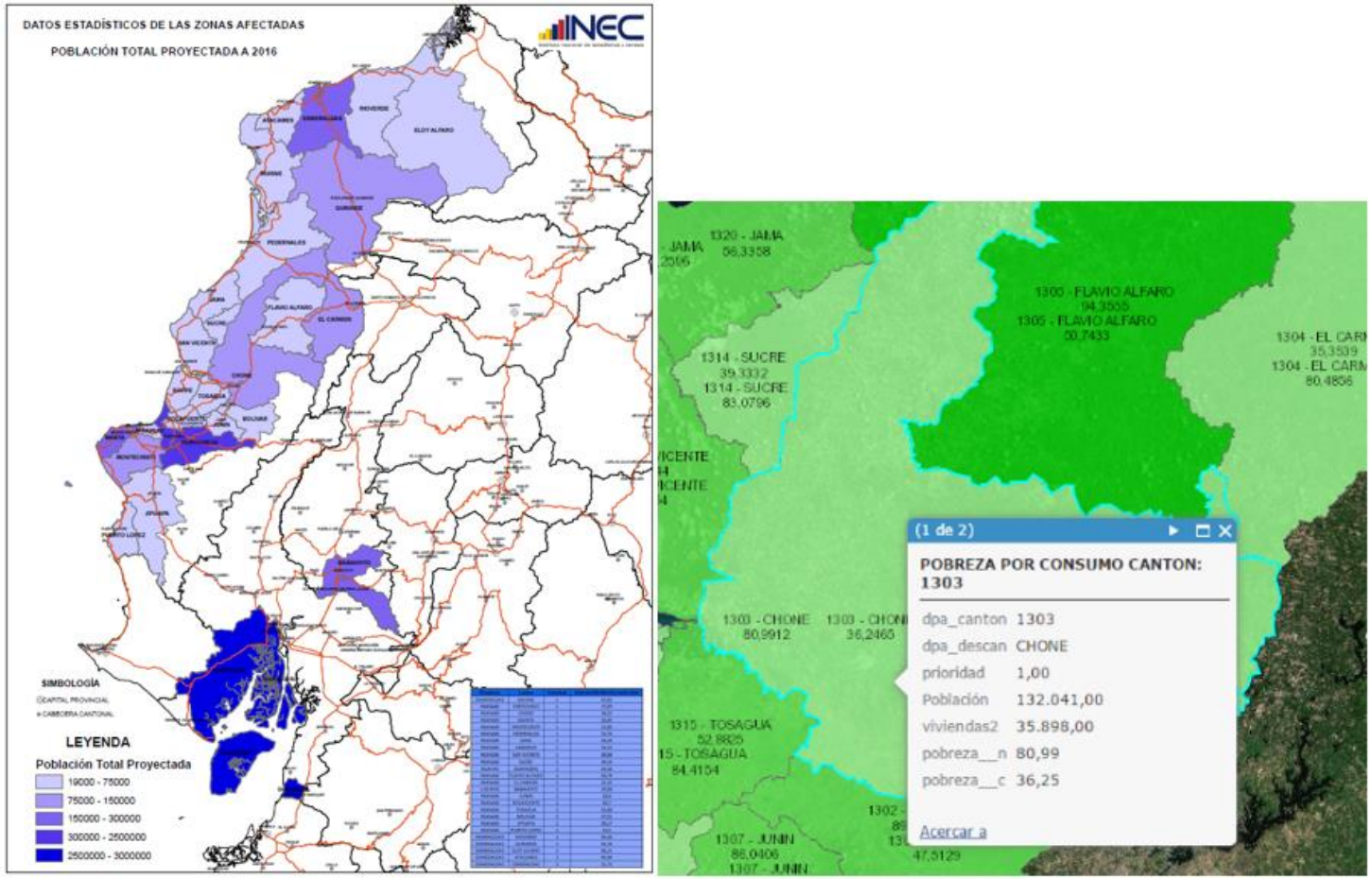
Source: Instituto Nacional de Estadística

National examples: Ecuador

Unique Register of Damaged - to identify those affected by the Manabí earthquake on April 16, 2016

A GIS software platform was used to integrate the statistical information with the geospatial information, through the identification codes (geocodes) that the National Institute of Statistics and Censuses assigns to the vector representation elements of its national geodatabase.

Secretaría Nacional de Planificación y Desarrollo - SENPLADES
Instituto Geográfico Militar – IGM
Instituto Nacional de Estadística y Censos – INEC
Ministerio Coordinador de Seguridad – MCS
Ministerio de Inclusión Económica y Social – MIES
Ministerio de Desarrollo Urbano y Vivienda - MIDUVI
Instituto Geofísico
Instituto Espacial Ecuatoriano



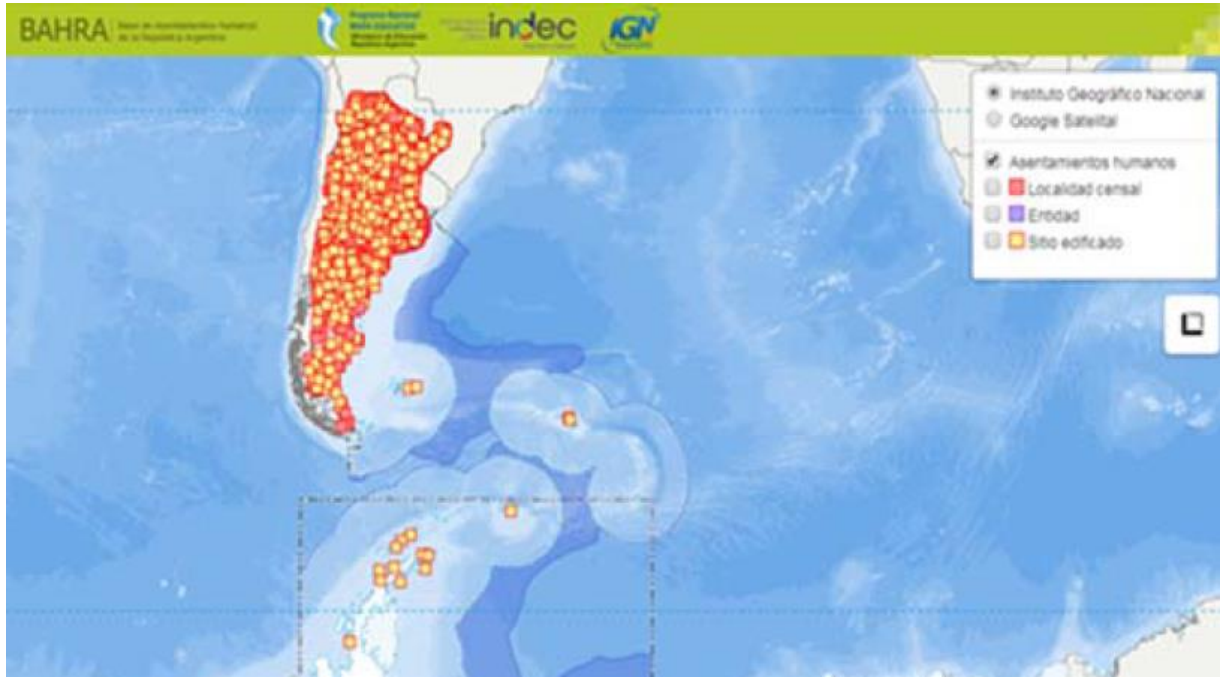
Source: Instituto Nacional de Estadísticas y Censos e Instituto Geográfico Militar

National examples: Argentina

Base of Human Settlements of the Argentine Republic

Conform an official and standardized database of towns and built sites of the Republic Argentina, having a data registry that allows identifying each and every one of the Human Settlements (census sites or places, built sites) with a unique name, a geographic coordinate and a unique code, regardless of the categorization used by the different government agencies.

National Geographic Institute
National Statistics and Census Office
Ministry of Education



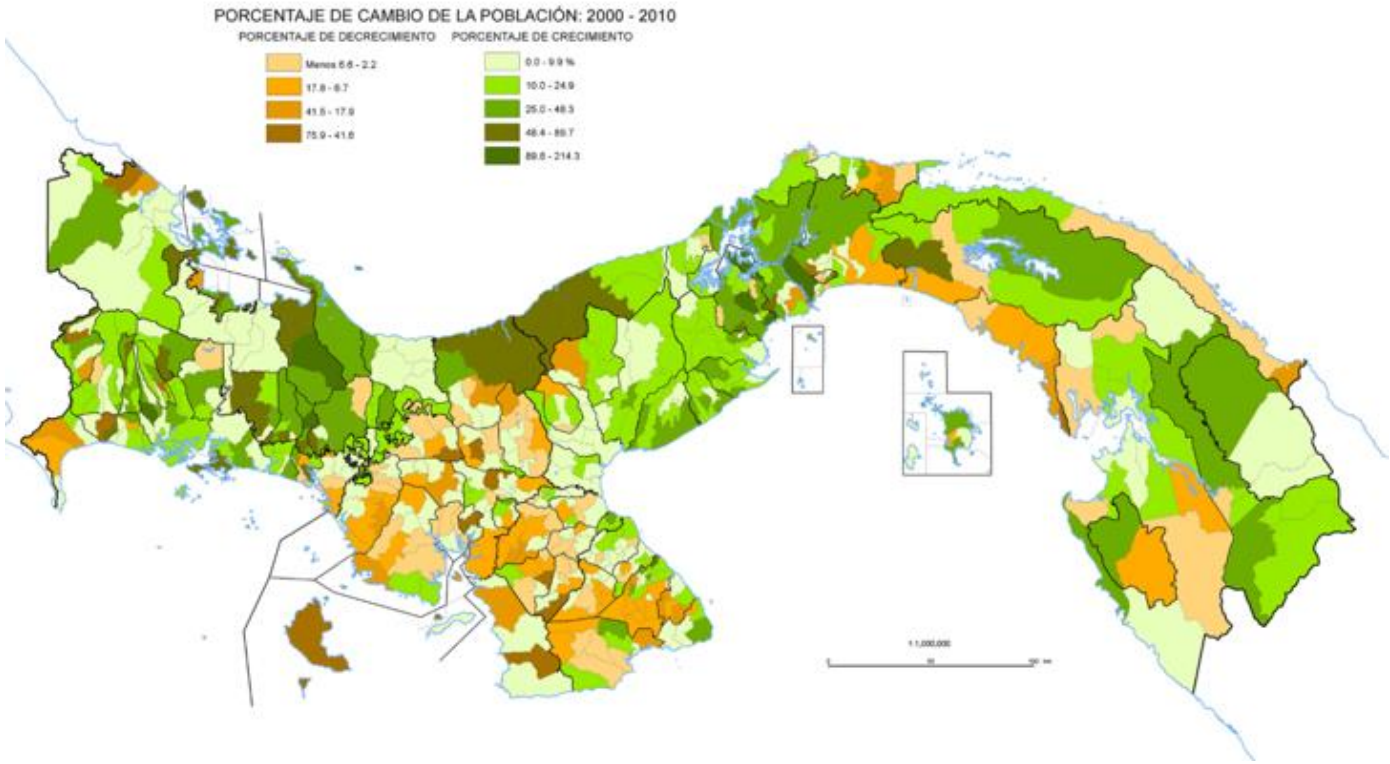
Source: Instituto Geográfico Nacional e Instituto Nacional de Estadísticas y Censos

National examples

National Atlas of the Republic of Panama, 2016

Implemented to satisfy the initial inventory requirements in the planning of socio-economic development programs, as well as to serve as a source for research in education and reference on the national territory. Also to prepare and process geospatial thematic databases that allow different analysis of the management and ordering of resources.

National Statistic and Census Institute
National Geographic Institute Tommy Guardia
Ministry of Health



Source: Instituto Geográfico Nacional Tommy Guardia, Panamá

Closing remarks

- ✓ An **integrated geospatial information framework** is crucial to enrich the national data ecosystem for sustainable development.
- ✓ Regional bodies have a fundamental role to **bridge the global with the national** in matter of integration of statistical and geospatial information.
- ✓ There are **significant advances** (institutional and technical) in promoting the **integration of statistical and geospatial information**: assessments, best practices documentation and MEGA project ongoing.
- ✓ Implementation of the global statistical geospatial framework at the national level is still **a challenge in most of the countries in the region**.
- ✓ We will need global and national references to **guide assessments** on the implementation of the five components of the Framework in the region

Thank you !

Economic Commission for Latin America and the Caribbean, Statistics Division