Smart Spatial Strategy Solutions for Sustainable Development

The IGIF: Strengthening Geospatial Information Arrangements for Africa

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“Everything happens somewhere…”
Nancy Tosta, June 2001

We can locate, view, relate, record, collect, measure, analyze, model and monitor what happens where, when, why, and how. We can do this more today than ever before...which is far less than what we will do tomorrow.
The 2030 Agenda is an Integrated Plan of Action structured in four main parts: (i) Vision and principles for transforming our world as set out in the Declaration; (ii) Results framework of 17 SDGs and 169 targets; (iii) Means of implementation through governments, society and global partnership; and (iv) Follow-up and review framework of global indicators.
Any national SDG implementations will be sub-optimal without strategies and frameworks to integrate statistics, geospatial information, Earth observations, and other new data into the measuring, monitoring and reporting processes.
“It is abundantly clear that a much deeper, faster and more ambitious response is needed to unleash the social and economic transformation needed to achieve our 2030 goals. From our advances, we know what works. This report therefore highlights areas that can drive progress across all 17 SDGs: financing; resilience; sustainable and inclusive economies; more effective institutions; local action; better use of data; and harnessing science, technology and innovation with a greater focus on digital transformation. In everything we do, we must diligently ensure that policy choices leave no one behind, and that national efforts are supported by effective international cooperation, grounded in a commitment to diplomacy and crisis prevention”

António Guterres
Secretary-General, United Nations
The disruptive nature of digital transformation, technology, innovation, and their exponential impacts, means that society’s expectations on how, and at what level of detail, we record what is happening where and when are changing at a rapid pace.
“Within the past generation, hundreds of millions of people have emerged from extreme poverty, and access to education has greatly increased for both boys and girls. Further, the spread of information and communications technology and global inter-connectedness has great potential to accelerate human progress, to bridge the digital divide, to develop knowledge societies, and to advance scientific and technological innovation.”

2030 Agenda for Sustainable Development, para. 14-15

Providing and exploiting the new data needs, information systems, analytics and associated enabling technologies and tools to support the implementation of the SDGs is going to take strategic policy leadership and transformational change - a digital transformation that is able to bridge the ‘geospatial digital divide’ which continues to inhibit development progress for developing countries.

Greg Scott, November 2016
In 2016 fixed-broadband penetration reached 30% in developed countries, but only 8.2% and 0.8% in developing regions and least developed countries (LDCs). In the developed regions, about 80% of the population are online, compared to 40% in developing regions and 15% in LDCs. Although Internet use in LDCs has tripled over the last 5 years, the percentage of users today only reaches the level enjoyed by developed countries in 1998.
Support for implementing the SDGs is gaining momentum, but major challenges remain. A growing share of the global population has access to the Internet, yet the digital divide persists.

The Internet can be a gateway to development, and a means of implementation for many of the SDGs. In 2018, more than half the world’s population (3.9 billion) used the Internet - an important step towards a more inclusive global information society.

Over 80% of people in developed countries were online in 2018 compared to 45% in developing countries, and only 20% in the LDCs.

Access to broadband networks is believed to have a significant impact on global economic output. An increase of 1% in fixed broadband penetration equates with an average rise of 0.08% in global GDP. The impact is higher in developed countries than in developing countries.
Proportion of schools with access to basic school resources globally and in sub-Saharan Africa, upper secondary, 2017 (percentage)
Positioning geospatial information to address global challenges
Positioning geospatial information to address global challenges

- Geospatial Policy Gap
- Geospatial Technology Gap
- Data Ecosystem Gap
- Digital Adoption Gap
- Digital Access Gap
- Digital Value Gap

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Positioning geospatial information to address global challenges

“develop an overarching Geospatial Framework……”

“prepare and implement country level Action Plans…..”

ROADMAP FOR COLLABORATION

BETWEEN

WORLD BANK’S GLOBAL PRACTICE ON SOCIAL, URBAN AND RURAL DEVELOPMENT, AND RESILIENCE

AND

UNITED NATIONS STATISTICS DIVISION

TO ASSIST COUNTRIES TO BRIDGE GEOSPATIAL DIGITAL DIVIDE
The Integrated Geospatial Information Framework provides a basis and guide for developing, integrating and strengthening geospatial information management.


The Overarching Strategic Framework is a mechanism for articulating and demonstrating national leadership, cultivating champions, and developing the capacity to take positive steps.
Part 1: Overarching Strategic Framework - WHY geospatial information management needs to be strengthened.

Part 2: Implementation Guide - WHAT actions can be taken to strengthen geospatial information management.

Part 3: Country-level Action Plans - HOW the actions will be carried out, WHEN and by WHOM.
IGIF: Overarching Strategic Framework

- A forward-looking Framework built on national needs and circumstances.
- Provides the overarching strategic messages and integrated national framework, focusing on policy perspectives and elements of geospatial information.
- Sets the context of ‘why’ geospatial information management is a critical element of national social and economic development.
- Vision and Mission statements communicate the overarching aim of the Integrated Geospatial Information Framework.
- The Framework achieves this via 7 Underpinning Principles, 8 Goals and 9 Strategic Pathways that lead to a national approach that takes account of national circumstances, priorities and perspectives.
- The Overarching Strategic Framework is intended for a wide range of stakeholders - these primarily being high-level policy and decision makers, institutions and organizations within and across government.
The **Vision** recognizes the responsibility for countries to plan for and provide better outcomes for future generations, and our collective aspiration to ‘leave no one behind’.

The **Mission** is designed to stimulate action towards bridging the geospatial digital divide; to find sustainable solutions for social, economic and environmental development; and to influence inclusive and transformative societal change for all citizens according to national priorities and circumstances.

**Vision**

The efficient use of geospatial information by all countries to effectively measure, monitor and achieve sustainable social, economic and environmental development - leaving no one behind.

**Mission**

To promote and support innovation and provide the leadership, coordination and standards necessary to deliver integrated geospatial information that can be leveraged to find sustainable solutions for social economic and environmental development.
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The 8 Goals reflect a future state where countries have the capacity and skills to organize, manage, curate and leverage geospatial information to advance government policy and decision-making capabilities.
Positioning geospatial information to address global challenges

Anchored by 9 Strategic Pathways, the Framework is a mechanism for articulating and demonstrating national leadership in geospatial information, and the capacity to take positive steps.
IGIF: Linkages to the NSDI

- The principal focus of NSDIs is geospatial data. What is needed to establish or maintain an integrated national geospatial program is not sufficiently addressed by the NSDI.

- While an NSDI is a core and valuable component, a national geospatial program is much more than the data. The IGIF defines each of the interconnected 9 Strategic Pathways required for an integrated national geospatial program.

- Building on the existing benefits and practices of NSDIs, the IGIF is more comprehensive than the traditional efforts of NSDIs.

- What is the driver for why we have the IGIF rather than the NSDI? More diverse data types and needs that are now more relevant and dependent on geospatial data than were originally considered. This is a reflection of both technology evolution and the new and emerging data ecosystem that is more dependent on a systems approach to ‘location’ and ‘integration’.
Positioning geospatial information to address global challenges

9 Strategic Pathways

- Governance
- Technology
- People

Knowledge • Decisions • Development

Governance and Institutions
Policy and Legal
Financial

Data
Innovation
Standards

Partnerships
Capacity and Education
Communication and Engagement

Society • Economy • Environment

Users • Citizens • Access

Technology • Applications • Value

- Governance
- Policy
- Financial

- Data
- Innovation
- Standards

- Partnerships
- Capacity and Education
- Communication and Engagement

National Spatial Data Infrastructure

The Framework will augment and build upon existing NSDI arrangements, providing a holistic, integrated national information system-of-systems approach to the data life cycle.
Positioning geospatial information to address global challenges

“The technology, policies, standards, human resources and related activities to acquire, process, distribute, use, maintain and preserve spatial data” (OMB 2002).

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9 Strategic Pathways

Governance
Technology
People

Knowledge • Decisions • Development

Institutions
Policy
Data
Standards
Partnerships

Society • Economy • Environment

Technology • Applications • Value

Users • Citizens • Access

Governance

Technology

People

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IGIF: Linkages to National Priorities

• Typically, efforts at achieving an NSDI have focused on creating an NSDI rather than developing national geospatial capacity to address priority societal, economic and environmental decisions. Efforts have not been integrated into the broader requirements and mandates of government.

• The IGIF, as an integrated framework, allows those countries that have already implemented NSDI capabilities to build upon this existing progress and investment.

• More importantly, the IGIF offers a new paradigm and mechanism to further strengthen nationally integrated geospatial information management and the desired transformational change that is required.

• The approach, and comprehensive guidance for countries, recognizes the importance of capacity and capability development from the outset, beginning with the process to develop and prepare a Country-level Action Plan, a process that is participatory and inclusive for whole-of-government.
The Integrated Geospatial Information Framework is a reference guide for developing and strengthening arrangements in national geospatial information management. It has been designed specifically for low to middle income countries and small island developing States. But, it is also being used to improve and coordinate activities to achieve alignment between and across existing national agency capabilities and NSDIs in developed countries.