

UN-IGIF IMPLEMENTATION IN ASIA & THE PACIFIC

Tandang Yuliadi Dwi Putra

Geospatial Information Agency of Indonesia / Vice Chair of UN-GGIM-AP IGIF WG

First UN-GGIM Interregional Webinar on the UN-IGIF

Wednesday, 11 June 2025



UN-GGIM-AP

Regional Committee of United Nations
Global Geospatial Information Management
for Asia and the Pacific

www.un-ggim-ap.org

UN-GGIM-AP Members



Afghanistan



American Samoa



Armenia



Australia



Azerbaijan



Bangladesh



Bhutan



Brunei
Darussalam



Cambodia



China



Cook Islands
(the)



Democratic
People's Republic
of Korea (the)



Fiji



French Polynesia



Guam



Hong Kong,
China



India



Indonesia



Islamic Republic
of Iran



Japan



Kazakhstan



Kiribati



Kyrgyzstan



Lao People's
Democratic
Republic (the)



Macao, China



Malaysia



Maldives



Marshall Islands
(the)



Micronesia
(Federated
States of)



Mongolia



Myanmar



Nauru



Nepal



New Caledonia



New Zealand



Niue



Northern
Mariana Islands
(the)



Pakistan



Palau



Papua New
Guinea



Philippines
(the)



Republic of
Korea (the)



Russian
Federation (the)



Samoa



Singapore



Solomon Islands



Sri Lanka



Tajikistan



Thailand



Timor-Leste



Tonga



Turkmenistan



Tuvalu



Uzbekistan



Vanuatu



Viet Nam

EXECUTIVE BOARD 2022 - 2025



**Mr. Antonius
Bambang Wijanarto**
President
Indonesia



**Mr. Hitesh Kumar S
Makwana**
Vice-President
India



Mr. Yo IIDA
Vice-President
Japan



Mr. Victor Khoo
Vice-President
Singapore



Ms. Maree Wilson
Australia



Ms. Wenli Feng
China



Ms. Meizyanne Hicks
Fiji



**Mr. Seyed Eskandar
Seydayei**
Islamic Republic of Iran



Mr. Alexey Trifonov
Russian Federation (the)



Sr Hazri bin Hassan
Malaysia



**Mr. Enkhmanlai
Anand**
Mongolia



Mr. Prakash Joshi
Nepal



**Mr. Nam Kyung-
woong**
Republic of Korea (the)

WORKING GROUPS AND CHAIRS

WG 1 GEODETIC REFERENCE FRAME



Mr. Basara Miyahara
Japan
Director, Planning Division, Geodetic Department
Geospatial Information Authority of Japan
✉ gsi-japan-ggim-1@gxb.mlit.go.jp

WG 2 CADASTRE AND LAND MANAGEMENT



Mr. Victor Khoo
Singapore
Director
Singapore Land Authority
✉ victor_khoo@sla.gov.sg

WG 3 INTEGRATING GEOSPATIAL INFORMATION AND STATISTICS



Mr. Seyed Eskandar Seydayei
Islamic Republic of Iran
Director General
National Cartographic Center
✉ seydayeieskandar@gmail.com

WG 4 INTEGRATED GEOSPATIAL INFORMATION FRAMEWORK



Mr. Shri Pankaj Mishra
India
Deputy Surveyor General
Survey of India
✉ pankaj.mishra soi@gov.in



UN-GGIM-AP

Regional Committee of United Nations
Global Geospatial Information Management
for Asia and the Pacific

www.un-ggim-ap.org

OBJECTIVES OF WG 4 – IGIF

- The WG aims to support, coordinate, plan and extend the necessary facilitation for developing the **awareness and capacity** through **collaboration & sharing** in the Asia & Pacific member countries **for implementation of the IGIF**.
- The WG will work in **co-ordination with HLG-IGIF** in achieving the objectives. The HLG-IGIF is making efforts to provide expertise and advice to assist countries in their **implementation of the IGIF at the country level**; and mobilize needed **resources for implementation** and to maintain the momentum and evolving refinement of the IGIF with Member States and other key stakeholders.
- The WG will make efforts to demonstrate **the societal value and impact of the IGIF**, and associated progress towards **enabling the achievement of the SDGs**.



UN-GGIM-AP

Regional Committee of United Nations
Global Geospatial Information Management
for Asia and the Pacific

www.un-ggim-ap.org

UN-GGIM-AP IGIF ACTIVITIES

UN-IGIF Workshop (Bali, 8 November 2023)



Australia



China



Fiji



India



Indonesia



Iran



Japan



Mongolia



Nepal



Philippines



Rep. of Korea



Russian Fed.



Singapore



Thailand



Timor Leste



Tonga



Uzbekistan



Vietnam

18 Member Countries reported UN-IGIF Implementation



UN-GGIM-AP

Regional Committee of United Nations
Global Geospatial Information Management
for Asia and the Pacific

www.un-ggim-ap.org

UN-GGIM-AP IGIF ACTIVITIES

Expert Consultation with UN-GGIM Secretariat (10 November 2023)



Aims to engage geospatial leaders and experts from Member States in Asia and the Pacific, to listen, discuss, and understand key elements of their national efforts towards geospatial information management arrangements, leadership, resources and capacities through their implementation of the UN-IGIF



UN-GGIM-AP

Regional Committee of United Nations
Global Geospatial Information Management
for Asia and the Pacific

www.un-ggim-ap.org

UN-GGIM-AP IGIF ACTIVITIES

UN-IGIF Regional Seminar

New Delhi, 27 November 2024

- ❖ Attended by 20+ member countries, Representatives from Private Sector and Academic Network
- ❖ IGIF Implementation Approach
- ❖ Mobilization of Sustainable Funding
- ❖ Sharing of the Experiences: Republic of Korea, India, Indonesia, Fiji, Singapore, UK, Academia



UN-GGIM-AP

Regional Committee of United Nations
Global Geospatial Information Management
for Asia and the Pacific

www.un-ggim-ap.org

KEY TAKEAWAYS FROM UN-IGIF REGIONAL SEMINAR 2024

1. Policy & Governance	<p>Implement unified frameworks for data sharing and governance (e.g., Indonesia's One Map Policy, China's "One Map Project" and India's Bhu-Aadhaar).</p> <p>Focus on leadership to align geospatial initiatives with national goals (e.g., UN-IGIF pathways).</p>
2. Communication & Engagement	<p>Formulate best practices of UN-IGIF in thematic sectors and disseminate to policy makers.</p> <p>Regular Coordination Meeting to increase geospatial awareness and stakeholder engagement.</p>
3. Technological Integration	<p>Digitization of land records, integration of AI tools, and adoption of 3D cadastral mapping.</p> <p>Develop national digital twins and geospatial databases for real-time decision-making.</p> <p>Secure long-term funding for geospatial programs through multi-stakeholder partnerships.</p>
4. Public-Private Collaboration	<p>Partner with governments for integrated frameworks (e.g., Jakarta's cadastral platform).</p> <p>Contribute scalable, fit-for-purpose technology solutions.</p> <p>Promote common interoperability standards between agencies and effort to update the silo based legacy systems.</p>
5. Innovation	<p>Promote the use of AI, IoT, and drone-based technologies for surveying and mapping.</p> <p>Support emerging tools for real-time monitoring and data analytics.</p> <p>Collaborate for the advancements in AI-driven platforms, digital twins, and 3D mapping for governance.</p>
6. Standards & Compliance	<p>Adopt international and regional geospatial standards for seamless integration across platforms.</p> <p>Provide innovative solutions to reduce the errors in legacy systems and variations in geospatial data accuracy hinder informed decision-making.</p> <p>Concentrate more effort towards reducing the discrepancies between analogue and digital surveys through having a common data platform the delves on an integrated service platform for use of common public, government and co-industry members.</p>
7. Capacity and Capability Building	<p>Offer training programs and industry-academia collaboration for technical expertise.</p> <p>Combatting shortage of skilled technical manpower for modern geospatial initiatives through participatory approach, take guest lectures, sponsor students for exchange programs etc.</p>

UN-GGIM-AP IGIF ACTIVITIES

Working Group Meeting (28 November 2024)



Attended by 11 member countries, Representatives from Private Sector and Academic Network



Discussed the action plan for the working group in 2024-2025



Discussion to establish the **Virtual Technical Advisory Group**, composed of subject matter experts from interested Member States, as an interim measure to provide technical assistance to Small Island Developing States (SIDS)



UN-GGIM-AP

Regional Committee of United Nations
Global Geospatial Information Management
for Asia and the Pacific

www.un-ggim-ap.org

UN-GGIM-AP IGIF ACTIVITIES

Philippines Geospatial Information Management Stakeholders' Consultation on **“Unifying Geospatial Efforts: A Collective Path toward Integrated Information Management”** ,



The National Mapping and Resource Information Authority
(NAMRIA)

23 May 2025, Makati City, Philippines

The primary objectives of the consultation were:

- To solicit support for the proposed Philippine Integrated Geospatial Information Management (PIGIM) policy that calls for the adoption of an integrated approach to geospatial information management, the establishment of an inter-agency committee dedicated to championing GIM initiatives in the Philippines, and the adoption of a modern Philippine Geodetic Reference System.
- To raise awareness among key stakeholders regarding the UN-IGIF and its strategic importance.
- WB resources presented IGIF Implementation cases, Baseline assessment carried out for Philippines, Proposed actions to address identified gaps,



UN-GGIM-AP

Regional Committee of United Nations
Global Geospatial Information Management
for Asia and the Pacific

www.un-ggim-ap.org

UN-GGIM-AP IGIF BEST PRACTICES

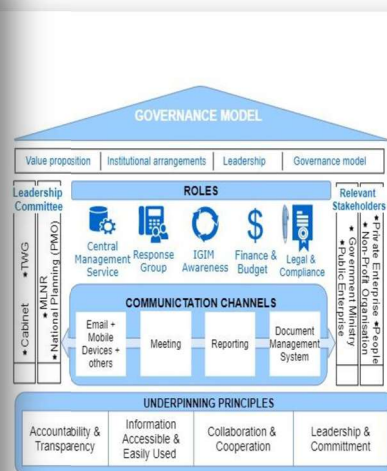
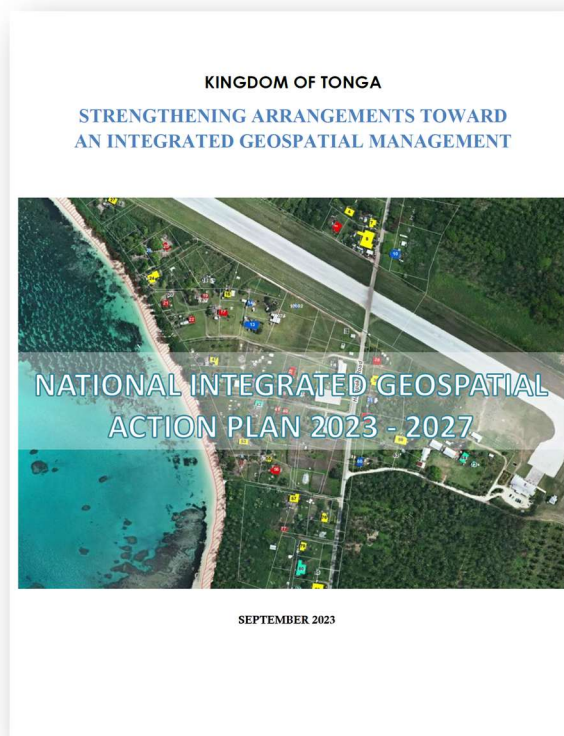


Figure 12: Proposed Approach - Governance Model

35 | Page



Action Plan



1 | Governance and Institutions

- Establish NSDI Committee, Program Office, Working Groups and Advisory Group
- Define the NSDI Governance Model
- Formulate the Geospatial Information Value Proposition
- Develop NSDI Geospatial Strategy
- Implement Monitoring and Evaluation Framework



4 | Data

- Establish Data Framework to organize government data holdings
- Denify the Geodetic Framework
- Complete the Cadastre, and Registration of State Land
- Provide National Access to Satellite Imagery
- Conduct Data Enhancement and Quality Improvements
- Create a single National Street Address Database
- Implement a 3D City Model for High Density City Area of Ulaanbaatar and AIMAG centres
- Integrate Statistical and Geospatial Data
- Update Geographical Names Database
- Ensure secure storage and protection of data and systems
- Identify geospatial datasets for Pandemic Response



7 | Partnerships

- Strengthen and Formalize Partnerships between government agencies and private sector within Mongolia
- Establish twinning arrangements with other countries to share experiences
- Seek International Collaboration

Figure 5 The nine strategic pathways of the IGIF (Available at www.ggim.un.org/IGIF).

22



UN-GGIM-AP

Regional Committee of United Nations
Global Geospatial Information Management
for Asia and the Pacific

www.un-ggim-ap.org

UN-GGIM-AP IGIF BEST PRACTICES

IGIF CASE STUDY: PALM OIL PRODUCTION IN INDONESIA



APPLICATION

- Agriculture
- Industry
- Sustainable Development
- Environment/Forestry

IGIF PATHWAYS UTILIZED

- Governance and Institutions
- Legal and Policy
- Data
- Innovation
- Partnerships
- Communication and Engagement

CHALLENGE

Palm oil is a large and important industry in Indonesia, with significant environmental impacts that need to be closely managed.

SOLUTION

Strong geospatial information management with IGIF allowed for greater stakeholder engagement, data sharing, data integration, informed policy decisions, and sustainable development.

OVERVIEW

Indonesia is the world's largest producer of palm oil. The industry plays a significant role in the Indonesian economy, providing employment to 18.4 million farmers and industrial workers and representing 5.72% of the national GDP. As one of Indonesia's key export commodities, palm oil contributes significantly to the country's national development.

Palm oil is one of the world's most prominent vegetable oils. Much of the world's global trade in food, cosmetics, cleaning products, printer ink, and lubricants depend on palm oil, which has fueled strong global demand.

The global reliance on palm oil has resulted in a dramatic increase in the rate of deforestation in Indonesia, resulting in habitat loss, reduction in biodiversity, and increased carbon emissions.

In 2019, Indonesia passed Presidential Decree Number 6 to create a National Action Plan for Palm Oil Sustainable Plantation 2019-2024. The decree aimed to:

- Improve farmer's capacity and capability.
- Finalize status and legality of lands.
- Make use of palm oil as a source of renewable energy and to enhance diplomacy toward sustainable palm plantations.
- Accelerate implementation of Indonesian sustainable palm oil.

CHALLENGE

Indonesia has the third largest rain forest in the world. Rising deforestation and resulting carbon emissions due to palm oil production caused significant global concerns, with many different stakeholders and purchasers demanding proof of sustainably produced, deforestation-free palm oil.

Indonesia did not have a single, authoritative view of industry data to aid decision making and to help establish and enforce policies to respond to the changing industry demands.

Historically, data in relation to palm oil production was collected by a wide range of different agencies and institutions with no consolidated view of palm oil production. This created a lack of clarity on taxation policy and national income associated with palm oil production, and also hindered the ability to make decisions and establish and enforce policies to reduce deforestation while maintaining existing plantation outputs.

Indonesia had a strong need for improved partnership, communication, and engagement across agencies and institutions to promote data sharing and integration. New and innovative data sources were also needed to monitor palm oil plantations and nearby deforestation. Finally, the development of governance and legal policies were required to establish authoritative industry data to inform decisions, monitor and track progress, and enforce policies.

SOLUTION

Geospatial data is critical for the realization of Presidential Decree Number 6 and for the implementation of the National Action Plan for Palm Oil Sustainable Plantation 2019-2024. Using the IGIF approach as a guide, the Geospatial Information Agency (BIG) established and led a project team aimed at creating a single authoritative view of palm oil production across Indonesia.

The project team applied the **Partnership and Communications and Engagement** Pathways to build new partnerships and facilitate strong communication and engagement with partners and stakeholders from across the industry and across all government agencies and ministries, including the Coordinating Ministry for Maritime and Investment Affairs.

The team utilized the **Data and Innovations** Pathways to create a new method of reconciliation and integration of geospatial data, which eliminated the overlapping data between institutions. New and innovative data sources, including remote sensed data, were also utilized to monitor deforestation, enforce policies, and maximize output of existing plantations.

Finally, the **Governance and Legal and Policy** Pathways were utilized to enable thematic data produced by several data custodians, to be consolidated into one dataset that is now recognized and maintained as the authoritative source on palm oil production across all of government in Indonesia. The new, authoritative data is utilized to monitor palm oil production, guide issuance of palm oil permits, inform decisions, and enforce government policy around palm oil production.

"The IGIF provided us with a proven approach for the national coordination and management of the Palm Oil Industry in Indonesia."

Geospatial information is the champion of all supporting solutions, providing critical policy and decision support, transparency, and accountability."

Muhammad Yusuf Ateh, Ak., M.B.A.,
Indonesia's National Government Internal Auditor

PROJECT BENEFITS

The success of the coordinated approach enabled through the use of the Integrated Geospatial Information Framework (IGIF) resulted in increased collaboration with ministries and agencies toward the one data palm oil initiative, and also encouraged greater cooperation on a broad range of issues. In addition, the one map initiative has strengthened the utilization of authoritative geospatial information to support national strategic development.

The project has achieved many benefits which are essential for the sustainability of the palm oil sector, including:

- Improved inter-ministerial cooperation and coordination, especially between the Geospatial Information Agency (BIG), the Ministry of Finance, the Ministry of Environment and Forestry, and the Ministry of Industry.
- Strong engagement with the public, private sector, and across all of government.
- Centralized, integrated, and authoritative geospatial data to support policy development and decision-making on sustainable palm oil.
- Improved data, data collection processes, and data integration.
- Improved monitoring evaluation, and reporting of progress.
- Reduced deforestation.
- Improved maintenance of forest habitat and biodiversity.
- Reduced carbon emissions.
- Improved productivity on existing palm oil plantations.
- Strengthened ability to enforce policies and establish consequences for non-compliance with palm oil production laws.
- Improved national strategic development of palm oil production in Indonesia.



Technical stakeholder meeting on participatory palm oil mapping



Staff performing verification and validation of authoritative Palm Oil Maps

Enabling a Better Future with Location Data

Twitter: @UN_IGIF

IMPLEMENTATION OF INTEGRATED GEOSPATIAL INFORMATION FRAMEWORK (IGIF) IN INDONESIA: INDONESIA'S FOLU NET SINK 2030 POLICY AS A CLIMATE ACTION STRATEGY TO ACHIEVE NET ZERO EMISSION



Presented by:
Drs. Alue Dohong, M.Sc., Ph.D.
Vice Minister of Environment and Forestry of Indonesia

Fourth Plenary Meeting of the High-level Group of the IGIF
UNHQ, New York, United States of America
August 6th, 2024

02 Implementation of IGIF : Operating Plan of the Indonesia's FOLU Net Sink 2030

STRATEGIC PATHWAY 1: GOVERNANCE AND INSTITUTION

Organization of FOLU Net Sink 2030

Ministry of Environment and Forestry of Indonesia <ul style="list-style-type: none"> Chief Executive Head of Division 1: Sustainable Forest Management Head of Division 2: Enhancement of Forest Carbon Stock Head of Division 3: Conservation Head of Division 4: Peatland Ecosystem Management Head of Division 5: Instruments and Information Team of Geospatial Information Network 	Ministry/Agency <ul style="list-style-type: none"> Geospatial Information Agency Ministry of Agrarian Affairs and Spatial Planning/National Land Agency National Research and Innovation Agency Ministry of Agriculture Peatland and Mangrove Restoration Agency 	Local Governments and Forest Management Unit <ul style="list-style-type: none"> 38 Provincial Governments in Indonesia 532 Protection and Production Forest Management Unit (OPFMU) and FPMU in Indonesia 149 Conservation Forest Management Unit (CFPMU) in Indonesia 	Academics <ul style="list-style-type: none"> FOReTIKA Indonesian Forestry Higher Education Institution Leadership Forum
---	--	--	--



UN-GGIM-AP

Regional Committee of United Nations
Global Geospatial Information Management
for Asia and the Pacific

www.un-ggim-ap.org