UN-GGIM-AP

REGIONAL COMMITTEE OF UNITED NATIONS GLOBAL GEOSPATIAL INFORMATION MANAGEMENT FOR ASIA & THE PACIFIC

سازمان نقشه برداری کشور

13th Plenary meeting of the United Nations Global Geospatial Information Management for Asia and the Pacific

گزارش سیزدهمین مجمع سالانه UN-GGIM-AP در کشور هند

با تمرکز به گروه کاری شماره ۳ GSGF

26th to 29th November,

Bharat Mandapam, New Delhi

سیزدهمین مجمع سالانه UN-GGIM-AP ۶ – ۹ آذر ۱۴۰۳ دهلی نو

تاریخچه

ECOSOC

شورای اقتصادی و اجتماعی – سازمان ملل

اثر مستقیم فناوری‌های مکانی بر GDP جهانی

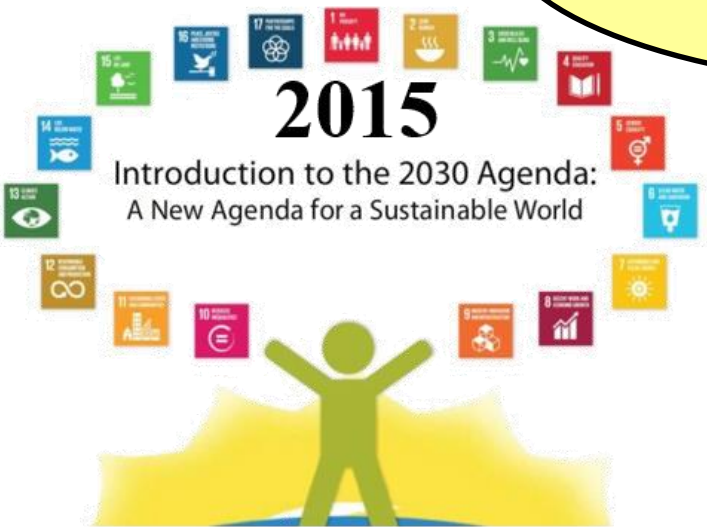
سال ۲۰۲۲ 2.2 trillion$ - 5.4 از 99–> 6%

سال ۲۰۲۵ 5.4 trillion$ - 10.2 از 112 –> 9%

سال ۲۰۳۰ 15.84 trillion$ - 30.24 از 126–> 24%

تاریخچه

ECOSOC



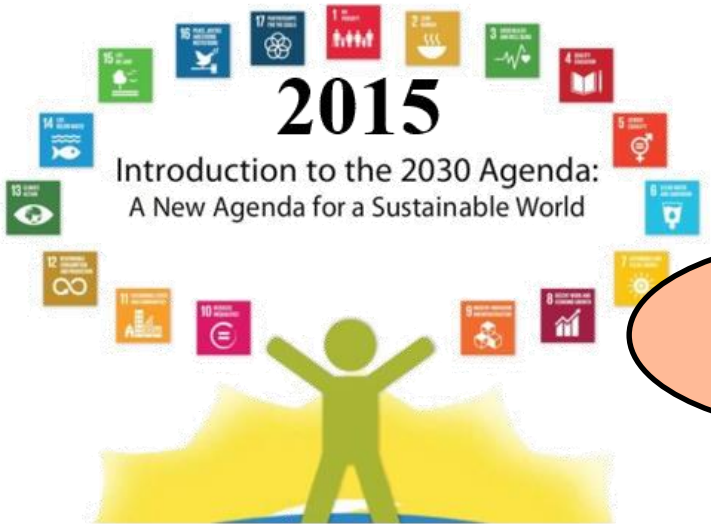
2011

UN-GGIM

UN-GGIM
UNITED NATIONS COMMITTEE OF EXPERTS ON GLOBAL GEOSPATIAL INFORMATION MANAGEMENT

کمیته کارشناسان مدیریت اطلاعات مکانی جهانی

تاریخچه



ECOSOC

2011
UN-GGIM_PA

2018

چارچوب یکپارچه
اطلاعات مکانی

IGIF

The United Nations Statistical Commission
ECONOMY · ENVIRONMENT · POPULATION · SOCIETY · TRADE

1947

Statistical Commission

2020

2019

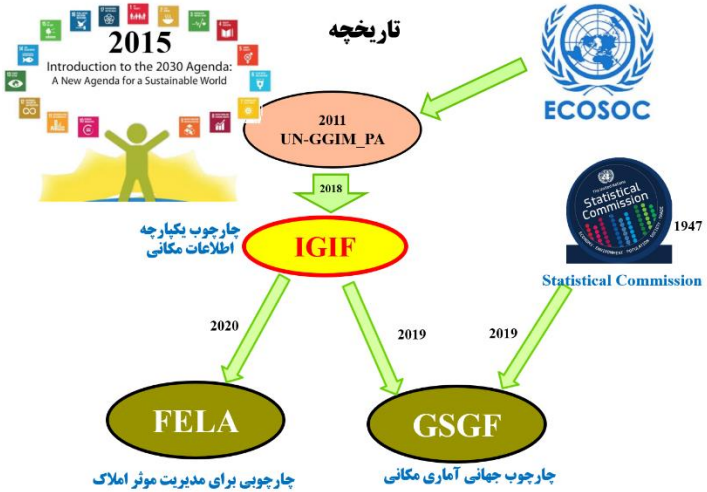
2019

FELA

GSGF

چارچوبی برای مدیریت موثر املاک

چارچوب جهانی آماری مکانی



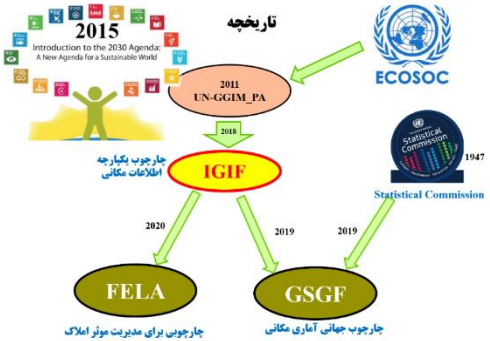
چهار گروه کاری UN-GGIM-AP

1. Geodetic Reference Frame

2. Cadaster and Land Management

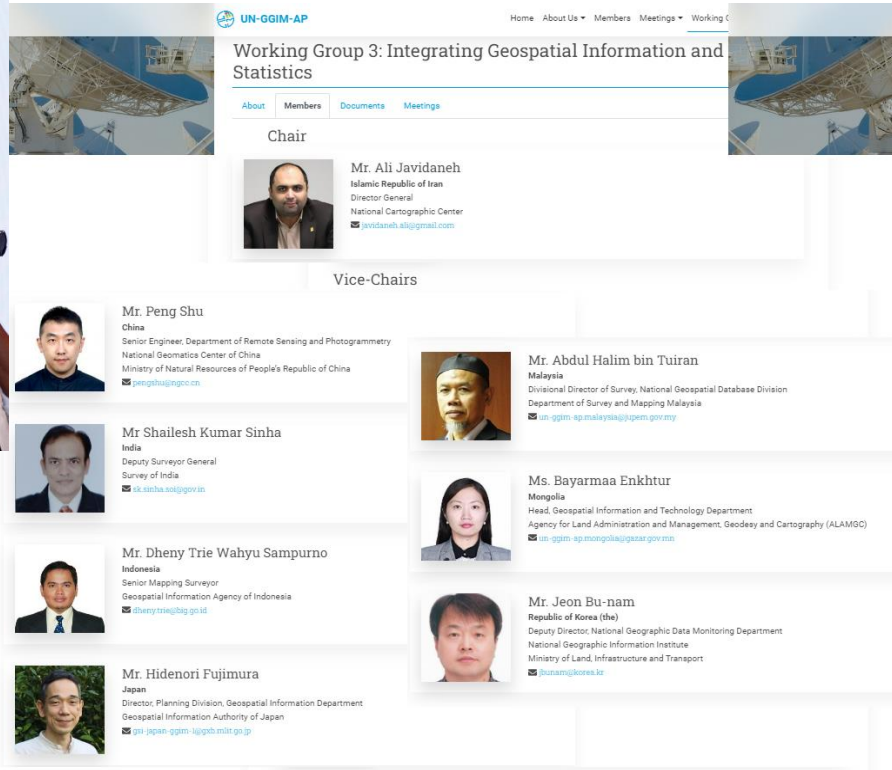
3. Integrating Geospatial Information and Statistics

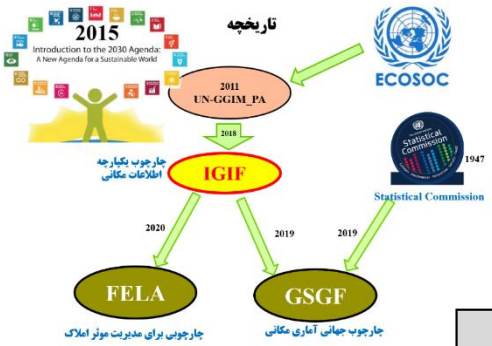
4. Integrating Geospatial Information Framework



GSGF

چارچوب جهانی آماری مکانی





GSGF

WG3 plan in 2019-2021

WG3 Detailed Work Plan				
	1	2	3	4
Objective	Identify common interest and expectation of member country in The Global Statistical Geospatial Framework (GSGF) in the context of UN-GGIM-AP	Promote and assist in the application of Global Statistical Geospatial Framework, working with UN-GGIM Expert Group on Integration of Statistical and Geospatial Information	Conduct pilot projects on Global Statistical Geospatial Framework to enhance the capabilities of National Geospatial Information Agencies	Development of capacity building plan and training at the regional level
2019				
1st Quarter	-	-	-	-
2nd Quarter	Conduct a survey (questionnaire) on common interest and expectation of member country in The Global Statistical Geospatial Framework (GSGF) , with focus on Challenges and Solutions for Creating Geospatial Statistical Outputs and institutional arrangement	Collect Best Practices of the application of Global Statistical Geospatial Framework in Asia and the Pacific region	Drafting a pilot project proposal (work plan) with BPS. Proposed Project: Disaggregation of statistical unit and mapping unit from village level to household level	
3rd Quarter	Draw up a report based on analysis results of the answers	Collect Best Practices of the application of Global Statistical Geospatial Framework in another region	Identify the common data standards, including data specifications and metadata catalogue	Workshop/Training: Introduction to Statistical and Geospatial Standards and Models (in a side event in planery meeting)
2020				
1st Quarter	1st draft report	Compile a guideline to encourage collaboration of NGIAs and National Statistics Agency in the application of Global Statistical Geospatial Framework	Data collection	
2nd Quarter	Final report at Planery Meeting	Invite expert group to share information on global guidelines with member countries at Planery Meeting		Workshop/Training: Exploring the role and application of Discrete Global Grid Systems to integrate statistical and geospatial information (in a side event in planery meeting)
3rd Quarter		Publised a guideline in the application of Global Statistical Geospatial Framework	System development	
2021				
1st Quarter		Provide technical assistance for member country with the support of expert group	Review work by expert group and other organizations	
2nd Quarter			1st draft report	Workshop/Training: Future Work relevant to Statistical and Geospatial Standards for Overcoming technical challenges
3rd Quarter		Final report	Final report	

Main tasks of WG3

2023-2025

1. ***Promoting use of standards and sharing common literatures for integration of geospatial information and statistics***
2. ***Strengthening the collaborative national arrangement between Geospatial and Statistical Agencies in the AP Region***
3. ***Advancing adoption of GSGF principles in AP Region***
4. ***Contribution to SDGs with help of integrating geospatial statistics***
5. ***Sharing case studies of integrating geospatial and statistical information for effective Natural Disaster Management***
6. ***Capacity Development***
7. ***Strengthening ties with the United Nations Expert Group on the Integration of Statistical and Geospatial Information (joint meeting the EG-ISGI and WG3)***
8. ***Studying possible ways of collaboration with the Global Geospatial Knowledge and Innovation Center in Deqing.***

Main task:

AA_Promoting use of standards and sharing common literatures for integration of geospatial information and statistics

Sub task	Priority
AA1-Promoting the use of spatial and statistical standards: By promoting the use of spatial and statistical standards, we facilitate the exchange of information between different organizations and ensure that the data are understandable and usable.	7^{th}–12^{th} month
AA2-Providing necessary training: Individuals working in this field should receive the necessary training. This training can include training in the use of spatial and statistical software and tools, the use of standards, and the data integration process.	10^{th}–15^{th} month
AA3-Developing and sharing common resources: Developing and sharing common resources such as libraries, data collections, software frameworks, etc. for shared use in various projects can accelerate the data integration process.	13^{th}–33^{th} month
AA4-Developing and using automation systems: Automation systems such as GIS (Geographic Information System) can automatically collect, analyze, and display data, improving efficiency and quality in integrating spatial and statistical information.	28^{th}–36^{th} month

Main task:

BB_Strengthening the collaborative national arrangement between Geospatial and Statistical Agencies in the AP Region

Sub task	Prioriy
BB1-Encouraging collaboration between geospatial and statistical agencies: In this regard, joint training programs and campaigns to improve collaboration should be developed. Additionally, improving communication and collaboration systems (such as joint websites) should also be considered.	13th–15th month
BB2-Developing common technologies: Given the importance of geospatial and statistical data in analyzing and predicting climate change, it is necessary for geospatial and statistical agencies in the AP region to develop common technologies such as geographic information system software, common databases, and more.	13th–18th month
BB3- Sharing geospatial and statistical data: To achieve UNGGIM's objective in integrating geospatial information and statistics for climate resilience, geospatial and statistical agencies in the AP region need to plan for sharing geospatial and statistical data with each other. This planning includes identifying common needs, geospatial and statistical data related to climate change, and determining common products like analytical maps and joint reports.	16th–33th month
BB4- Creating coordination structures: To improve collaboration between geospatial and statistical agencies, appropriate coordination structures (such as joint working groups) need to be established to address common needs in the geospatial and statistical data field.	10th–12th month
BB5- Conducting joint research: Given the importance of geospatial and statistical data in analyzing climate change, conducting joint research can help improve integration efforts between geospatial and statistical agencies. Overall, these initiatives can strengthen collaboration in producing and using geospatial and statistical data for climate resilience in the AP region.	16th–24th month
BB1-Encouraging collaboration between geospatial and statistical agencies: In this regard, joint training programs and campaigns to improve collaboration should be developed. Additionally, improving communication and collaboration systems (such as joint websites) should also be considered.	13th–15th month

Main task:

CC_Advancing adoption of GSGF principles in AP Region

CC1-Developing and offering training courses for government and private sector employees who deal with geospatial data and related statistical methods. These programs should include GSGF principles as one of their main topics.	13^{th}–18^{th} month
CC2-Creating a space for exchanging knowledge and experience among geospatial and statistical experts. This space can include discussion groups, conferences, webinars, and other similar activities.	4^{th}–9^{th} month
CC3-Establishing joint teams between government and private sector organizations to implement collaborative projects in the field of geospatial and statistical analysis. These teams should serve as an opportunity for developing networks of cooperation and interaction among various organizations and institutions in the AP region.	13^{th}–27^{th} month
CC4-Encouraging government and private sector organizations to use GSGF principles in their projects. For this purpose, better practical approaches should be provided for presenting and implementing these principles in projects.	25^{th}–33^{th} month
CC5-Encouraging research and development in the field of geospatial and statistical analysis with the aim of improving the efficiency and quality of geospatial data and statistical information related to climate change and its mitigation.	13^{th}–15^{th} month

Main task:

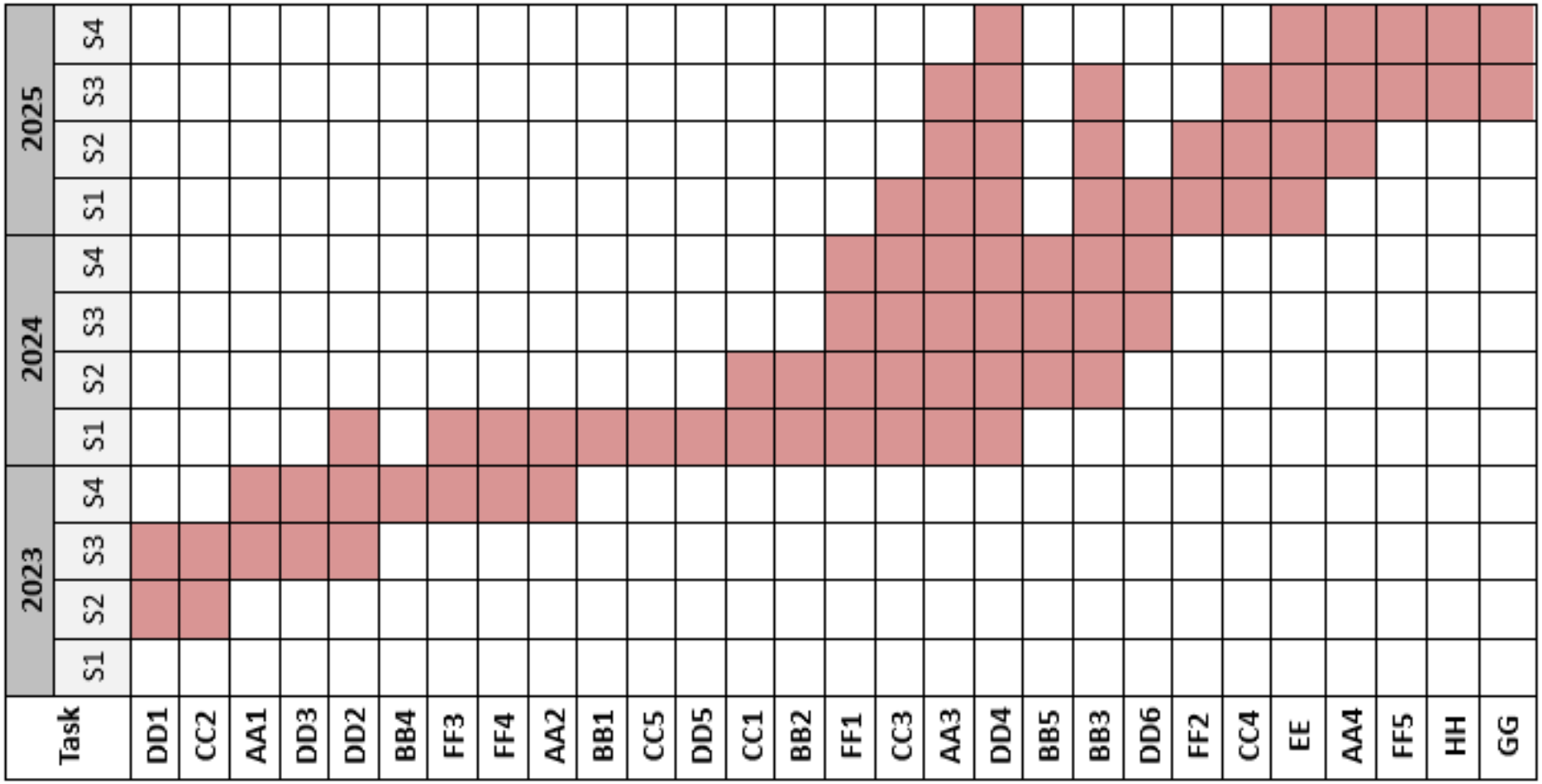
DD_Contribution to SDGs with help of integrating geospatial statistics

Sub task	Priority
DD1-Develop a comprehensive plan for integrating geospatial statistics into all relevant sectors and departments.	4^{th}–9^{th} month
DD2-Invest in the necessary technology and infrastructure to collect, store, and analyze geospatial data.	7^{th}–15^{th} month
DD3-Build the capacity of staff in government agencies and other relevant organizations to use and interpret geospatial data.	7^{th}–12^{th} month
DD4-Collaborate with academic institutions and research organizations to develop new methods and tools for analyzing and visualizing geospatial data.	13^{th}–36^{th} month
DD5- Engage with stakeholders from different sectors to identify priority areas for using geospatial statistics to achieve sustainable development goals.	13^{th}–15^{th} month
DD6-Establish partnerships with other countries and international organizations to share knowledge and resources on geospatial data collection and analysis.	19^{th}–27^{th} month
DD1-Develop a comprehensive plan for integrating geospatial statistics into all relevant sectors and departments.	4^{th}–9^{th} month
DD2-Invest in the necessary technology and infrastructure to collect, store, and analyze geospatial data.	7^{th}–15^{th} month

Main task: FF_Capacity Development

Sub task	Priority
FF1- Develop training programs: It is important to develop training programs for professionals working in the field of geospatial information and statistics. These programs should focus on building technical skills and knowledge related to climate resilience.	13th–24th month
FF2-Encourage collaboration: Collaboration between different organizations and agencies can help to build cross-functional teams that can work together to integrate geospatial information and statistics for climate resilience.	25th–30th month
FF3- Develop guidelines and standards: Developing guidelines and standards for integrating geospatial information and statistics can help to ensure consistency and accuracy in data collection, analysis, and reporting.	10th–15th month
FF4-Invest in technology: Investing in technology such as geographic information systems (GIS) and remote sensing can help to enhance the quality and usefulness of geospatial information for climate resilience.	10th–15th month
FF5-Raise awareness: Raising awareness about the importance of integrating geospatial information and statistics for climate resilience can help to build support and momentum for these efforts at all levels, from local communities to national governments.	31th–36th month
FF1- Develop training programs: It is important to develop training programs for professionals working in the field of geospatial information and statistics. These programs should focus on building technical skills and knowledge related to climate resilience.	13th–24th month

Time table


Task
2023
S1
S2
S3
S4
2024
S1
S2
S3
S4
2025
S1
S2
S3
S4
DD1
CC2
AA1
DD3
DD2
BB4
FF3
FF4
AA2
BB1
CC5
DD5
CC1
BB2
FF1
CC3
AA3
DD4
BB5
BB3
DD6
FF2
CC4
EE
AA4
FF5
HH
GG

The 2023 agenda of working group3

- **AA1**-Promoting the use of spatial and statistical standards: By promoting the use of spatial and statistical standards, we facilitate the exchange of information between different organizations and ensure that the data are understandable and usable

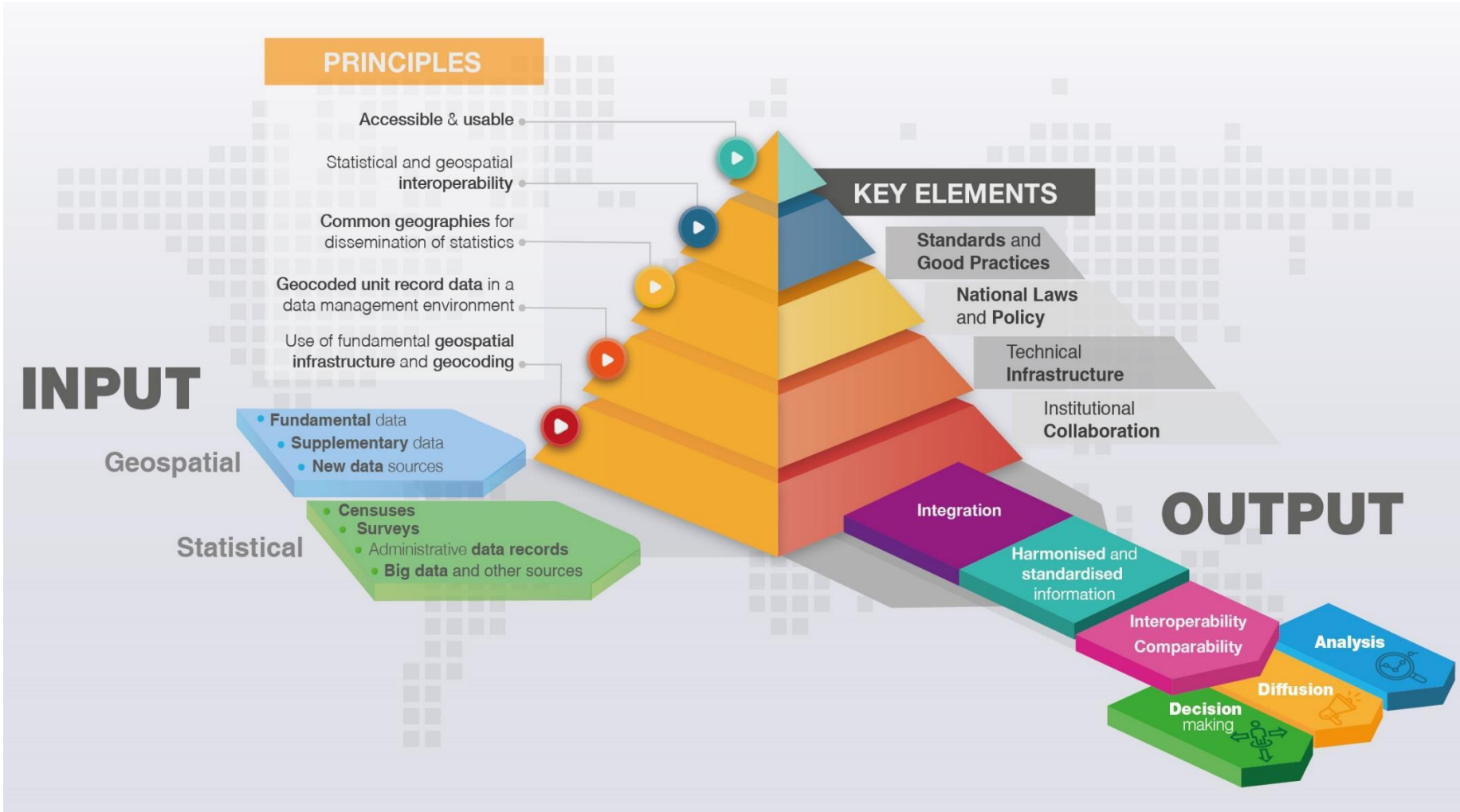
- **BB4**- Creating coordination structures: To improve collaboration between geospatial and statistical agencies, appropriate coordination structures (such as joint working groups) need to be established to address common needs in the geospatial and statistical data field

- **CC2**-Creating a space for exchanging knowledge and experience among geospatial and statistical experts. This space can include discussion groups, conferences, webinars, and other similar activities

- **DD1**-Develop a comprehensive plan for integrating geospatial statistics into all relevant sectors and departments.

- **DD3**-Build the capacity of staff in government agencies and other relevant organizations to use and interpret geospatial data

General Overview of Global Spatial Statistical Framework (GSSF)



13th UN-GGIM-AP Plenary Meeting and Seminars, New Delhi
26th – 29th November 2024

REVISED TENTATIVE PROGRAMME SCHEDULE

Date	09:00 to 10:00	10:00 to 11:00	11:30 to 13:00	13:00 to 14:00	14:00 to 15:30	15:30 to 16:00	16:00 to 17:30	17: 30 .....
26.11.2024	Registration Main Hall	Inaugural session L2 Leader's Lounge	Regional Seminar on Effective Land Administration & Management (Contd..) L2 Leader's Lounge	Lunch Break	Regional Seminar on Effective Land Administration & Management L2 Leader's Lounge	Tea Break	Regional Seminar on Integration of Geo-spatial & Statistical Information L2 Leader's Lounge	
	09:30 to 11:00	**11:00 to 11:30**	**11:30 to 13:00**		**14:00 to 15:30**		**16:00 to 17:30**	**17: 30 .....**
27.11.2024	Workshop on "Sustainable operation of GNSS CORS network" *(Contd..)* L2 Leader's Lounge	Tea Break	Workshop on "Sustainable operation of GNSS CORS network" L2 Leader's Lounge		Regional Seminar on IGIF*(Contd..)* L2 Leader's Lounge		Regional Seminar on IGIF L2 Leader's Lounge	Cultural Programme & Gala Dinner L2 Leader's Lounge
28.11.2024	PSN Session L1 Meeting Room 19		Collaboration with other Regional Committees L1 Meeting Room 19		WG meetings L1 meeting rooms 4 Nos.		Excursion Visit	
29.11.2024	EB Meeting L1 Meeting Room 19		13th Plenary Proceedings *(Contd..)* L1 Meeting Room 19		13th Plenary Proceedings *(Contd..)* L1 Meeting Room 19		13th Plenary Proceedings L1 Meeting Room 19	

سیزدهمین مجمع سالانه UN-GGIM-AP ۶ – ۹ آذر ۱۴۰۳ دهلی نو

سیزدهمین مجمع سالانه UN-GGIM-AP ۶ – ۹ آذر ۱۴۰۳ دهلی نو

روز اول

Regional Seminar on
Effective Land Administration & Management
FELA – WG2

Session1:
Regional development of land administration & cadastre system
11:30 to 1300 - 7 speakers
China • Fiji • India • Nepal • Russia • Singapore • Timor Leste

Dr Shaik Mohamed Zaffar Sadiq
Australia Private Sector- Woolpert

Session2:
Public – Private perspectives:
Driving Innovation and Capacity & Education for effective land administration & management
+ Discussion Panel
14:00 to 15:30

روز اول

Regional Seminar on
Integration of Geo-spatial & Statistical Information
GSGF – WG3

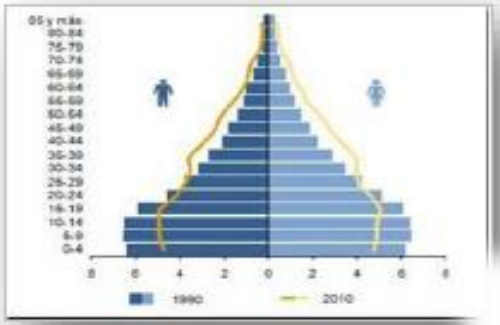
Session1:
Integrating Geospatial and Statistical Data for National Development
16:05 – 16:55 (50 mins) 4 speakers

Session2:
Discussion on Tools, Technologies, and Capacity Building for Data Integration 17:00 – 17:30 (30 mins) –3 speakers

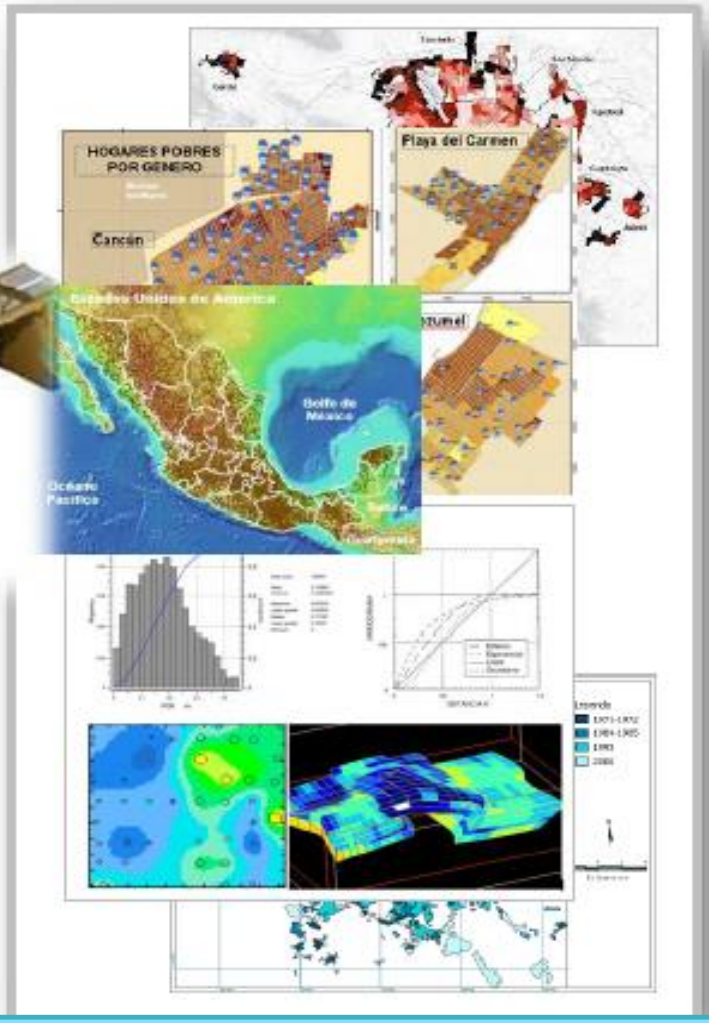
Session3:
Next Steps and Regional Strategy for 2025-2026
17:30 – 18:00 (30 mins) -Panel Discussion

GSGF Introduction

Statistical Information

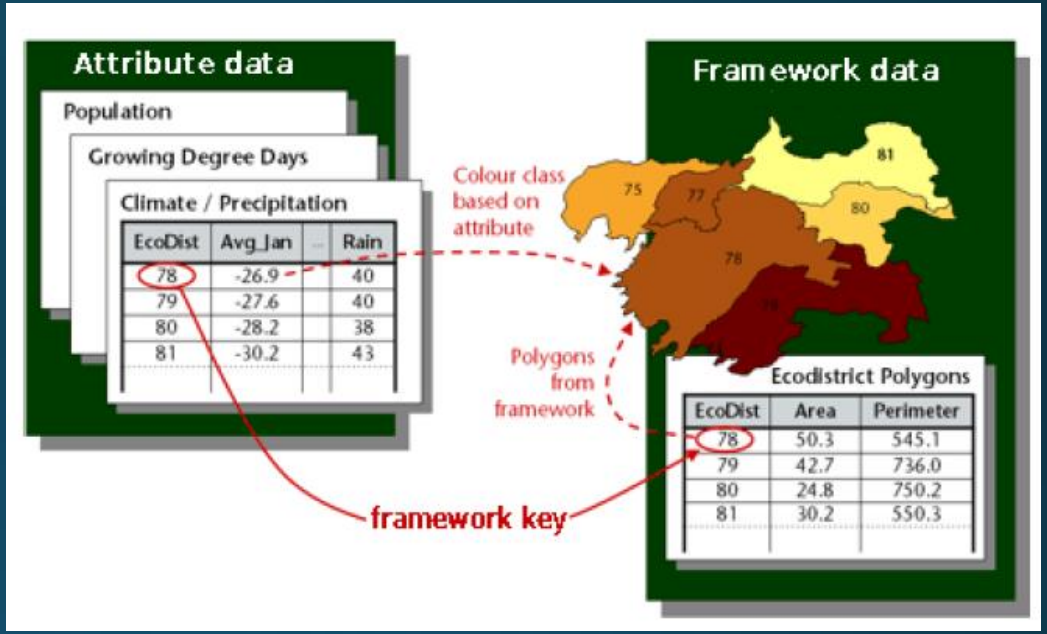


Geographical Information



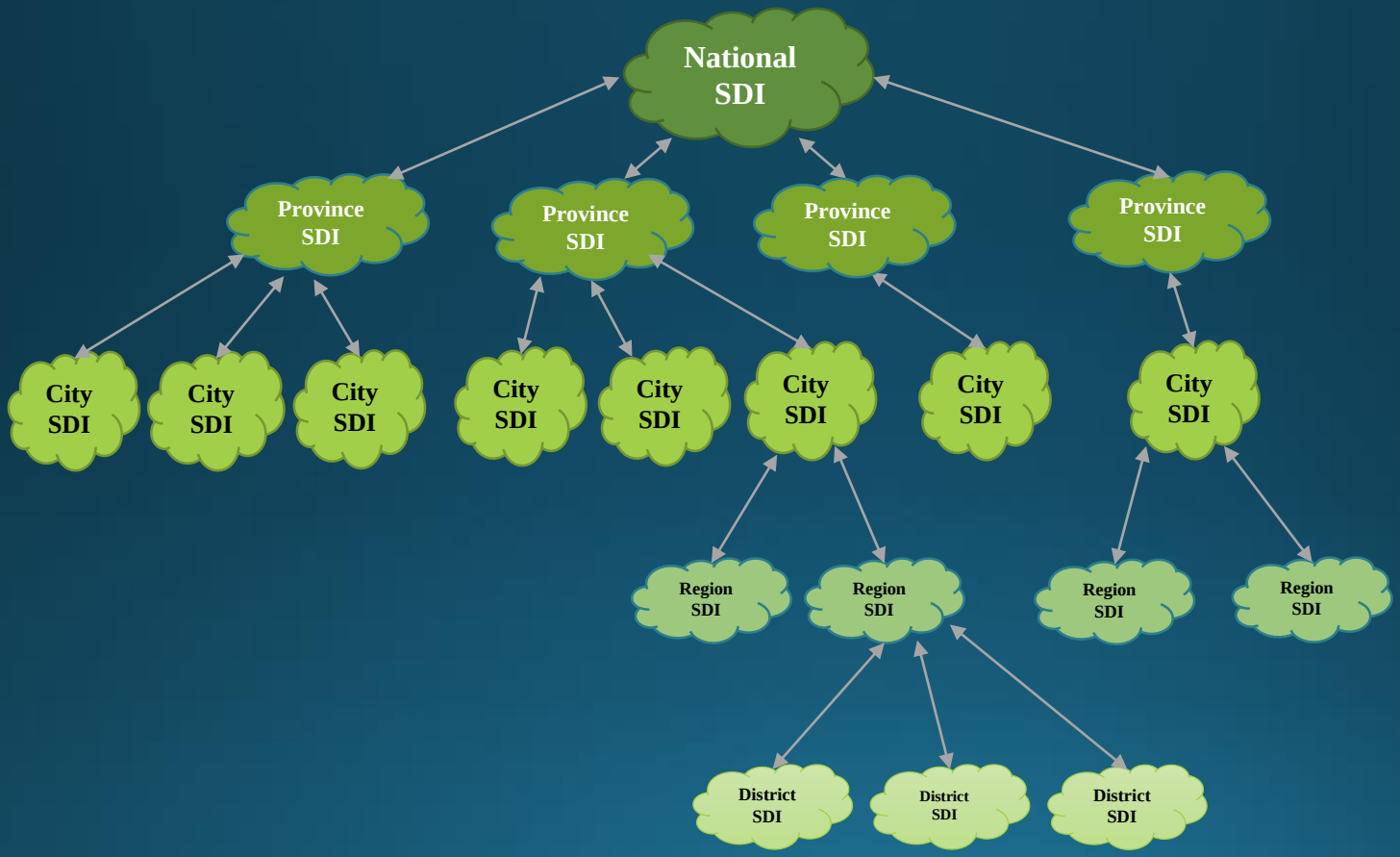
Implementation

- The prerequisite for implementing the TJS service is the existence of a unique field in both statistical and spatial datasets.

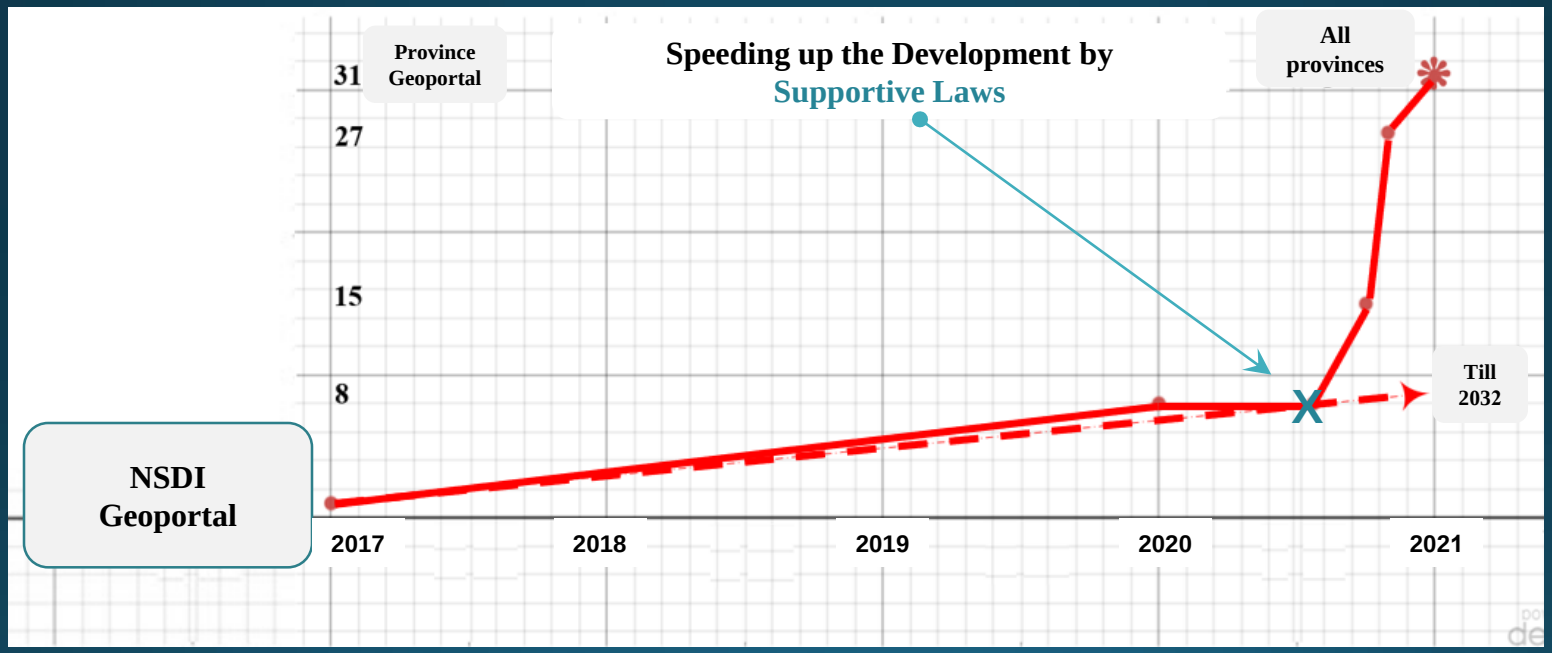


SDI Necessity

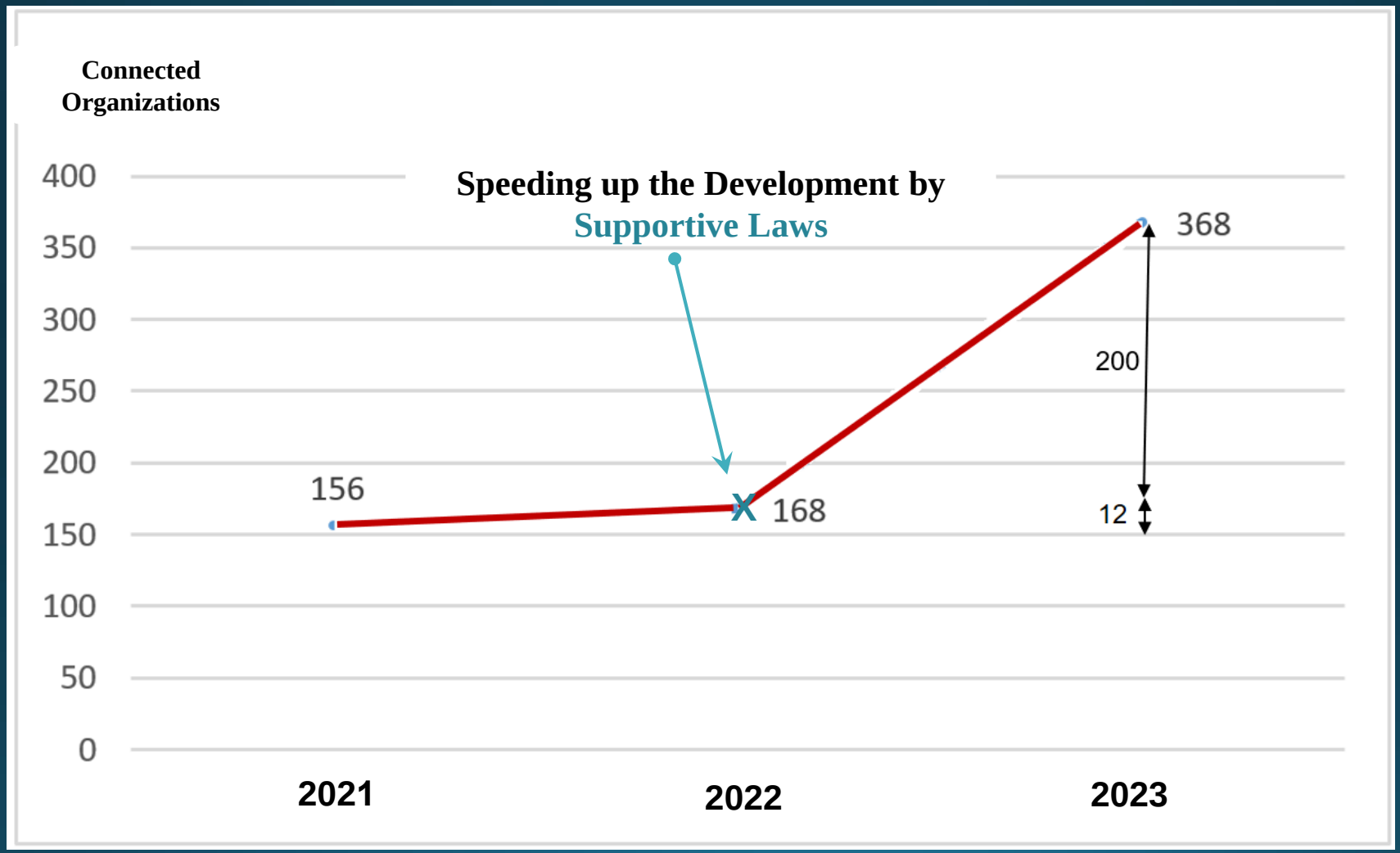
from very local to global levels



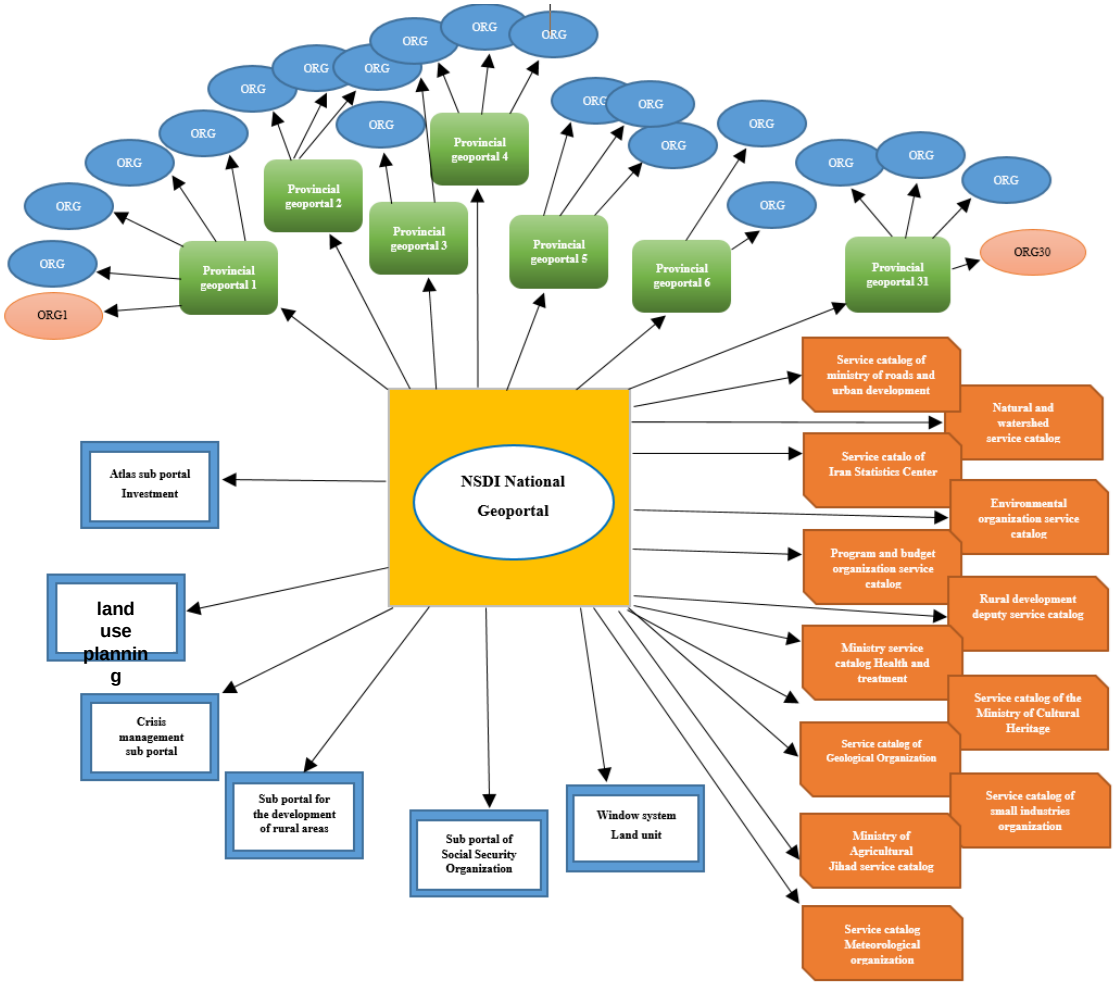
Iran NSDI Progress



Iran NSDI Progress

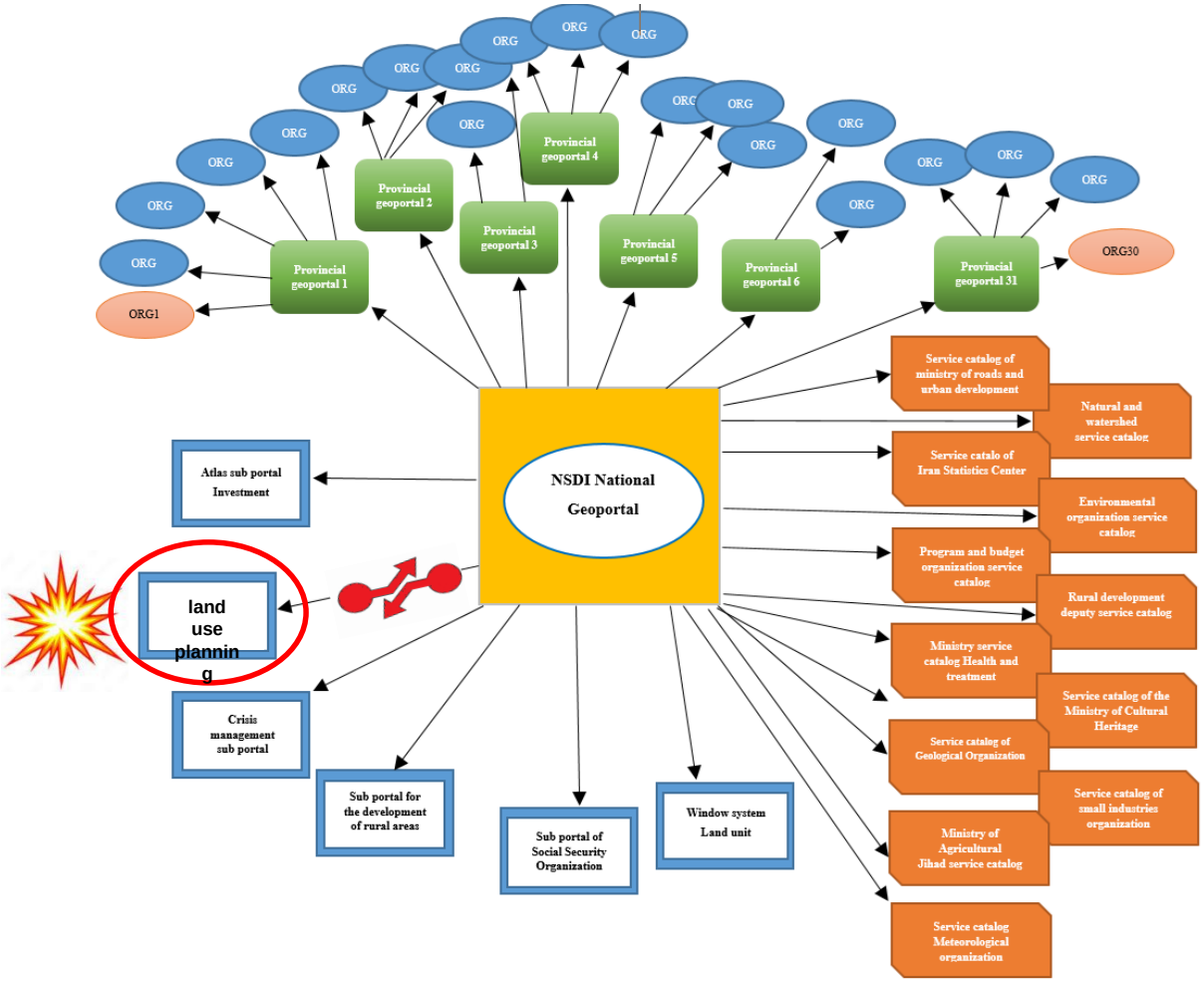


Components, Interoperability, and Participation in Iran's SDI



31	provincial geoportals
540	connected organizations in the National & Provincial SDIs
25000	Spatial services registered in National & Provincial SDIs
15	Connected service catalogs of national organizations
6	sub-portals of NSDI
90	organizations completing the documents on Information Security Management

"Facing a challenging issue"



31	provincial geoportals
540	connected organizations in the National & Provincial SDIs
25000	Spatial services registered in National & Provincial SDIs
15	Connected service catalogs of national organizations
6	sub-portals of NSDI
90	organizations completing the documents on Information Security Management

Utilizing GSGF Standards: A Solution for Effective Data Integration

land use planning

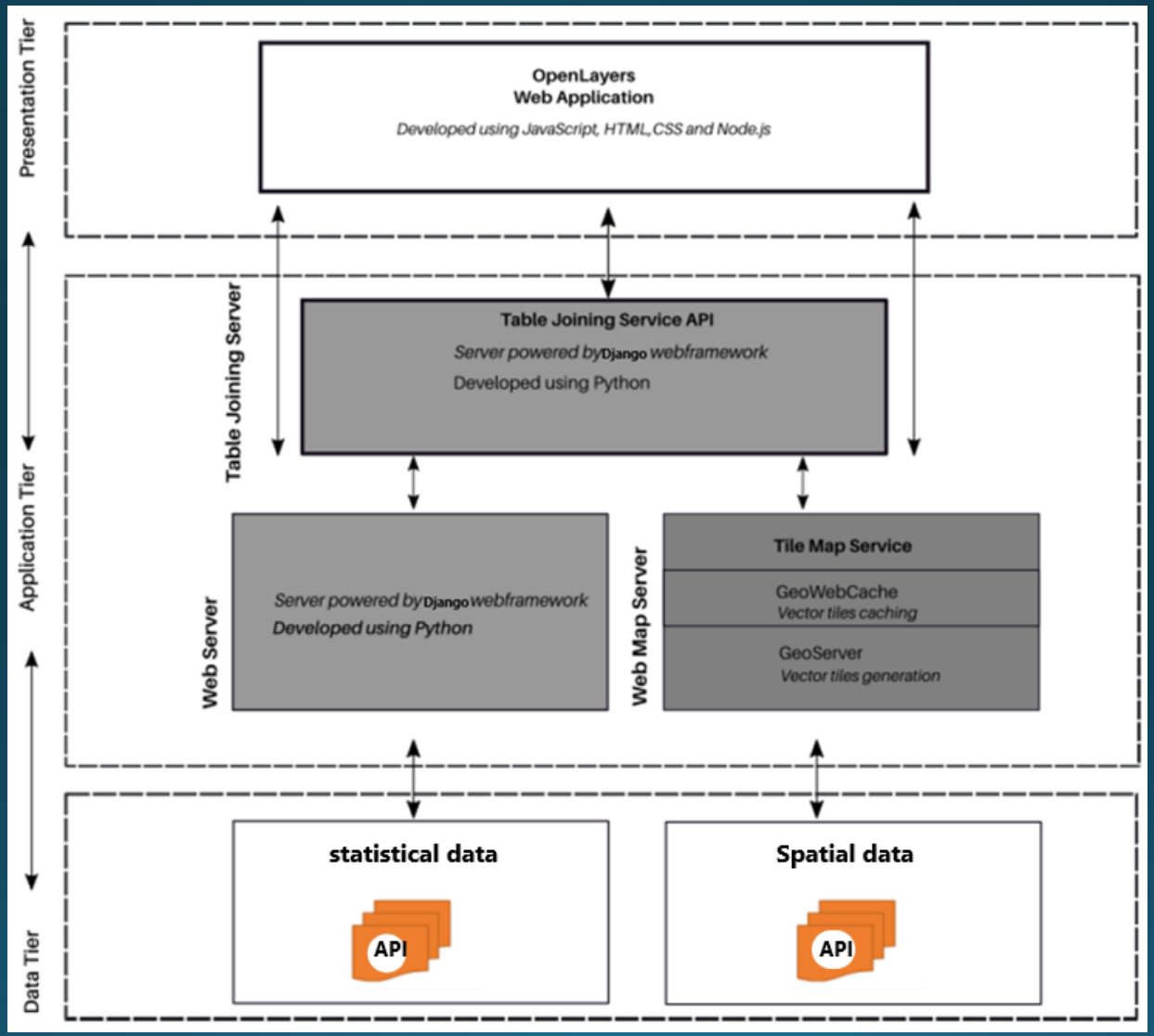
Statistical Center

Ministry of Energy

G
S
G
F

NSDI

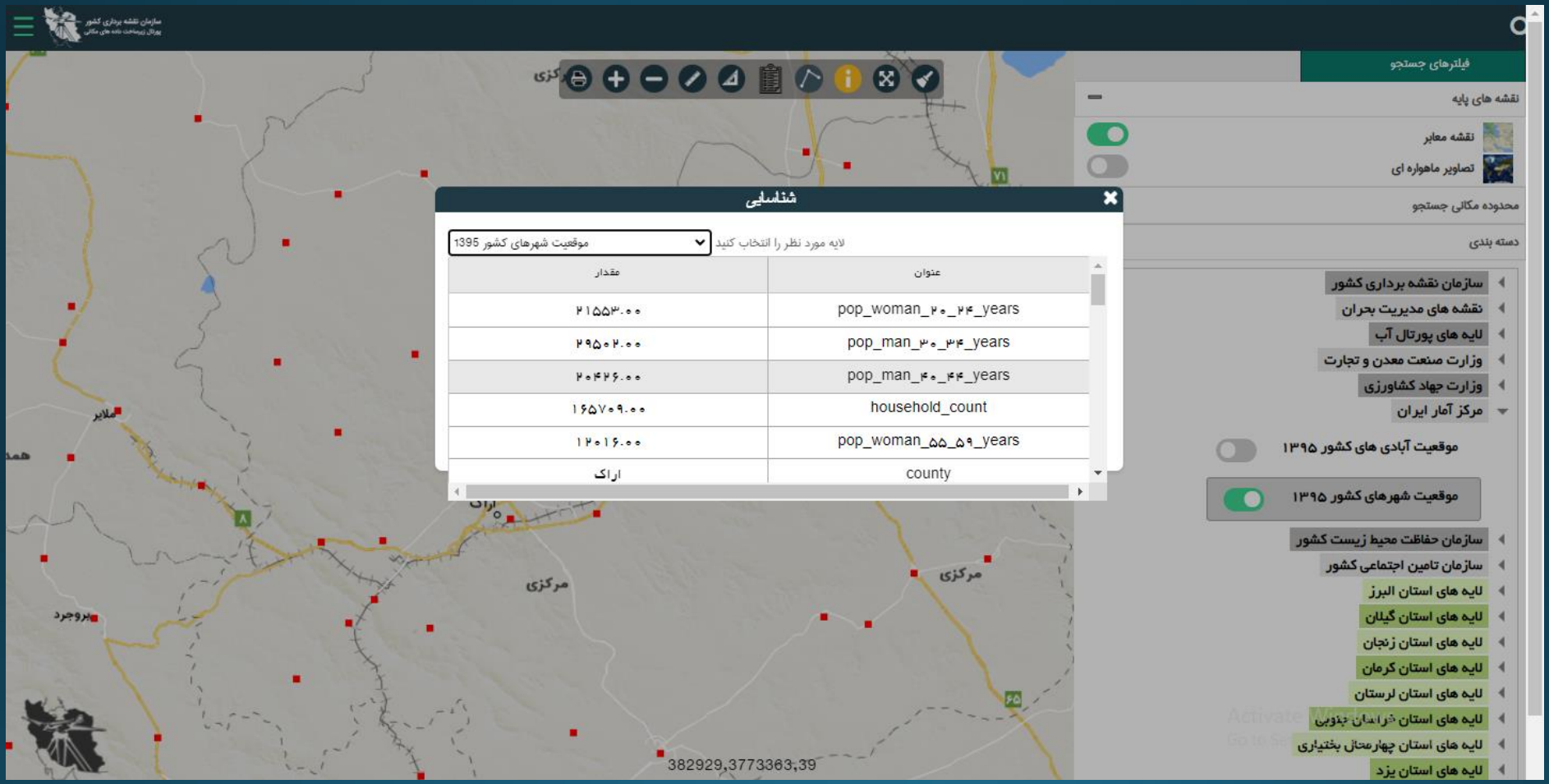
TJ Service Utilizing Architecture



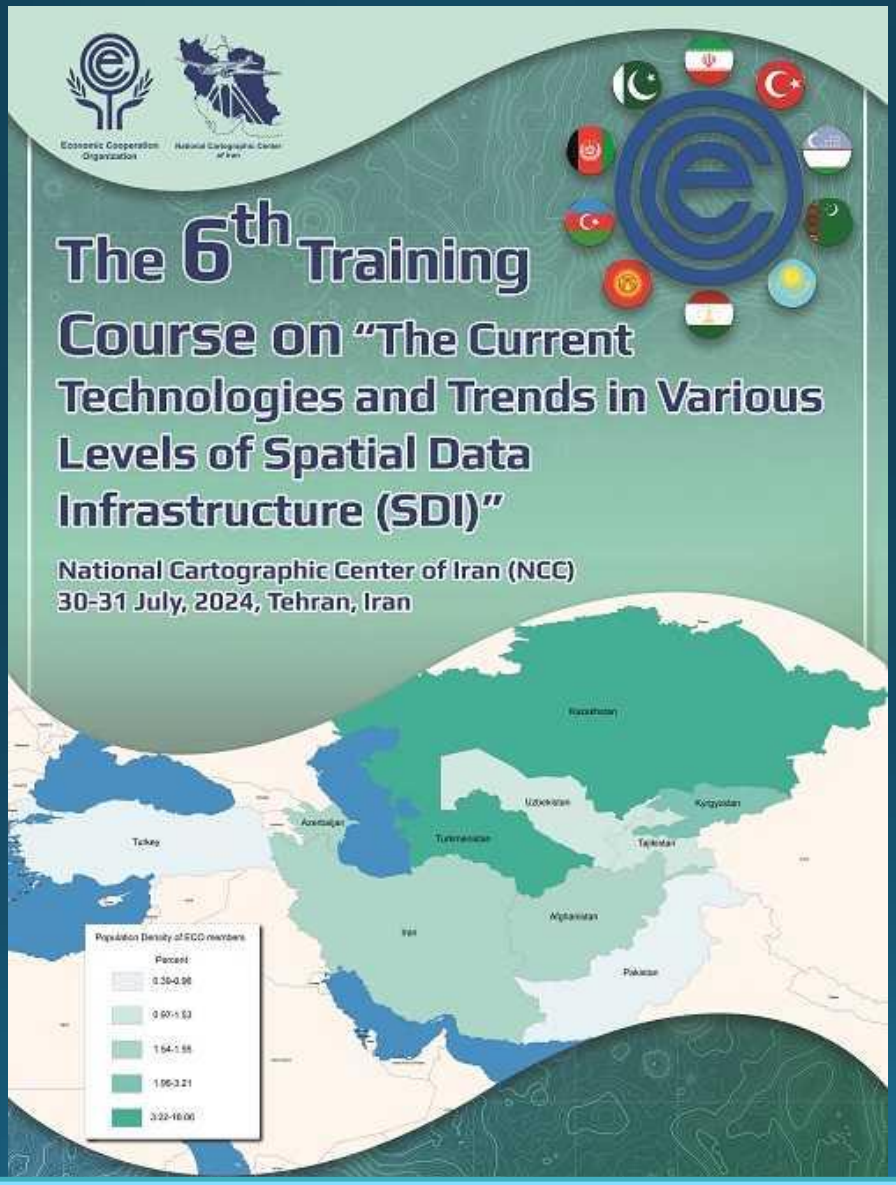
Sharon Chawanji MSc CartographyTechnische Universität München _ Germany

روز اول

Result



Fostering Regional Collaboration by Practical Experiences



Challenges and Lessons Learned

- open-source technology
- Security
- Accuracy and Quality
- Other GSGF Standards in addition to TJS
- Integration of AI capabilities and SDI / GSGF

Conclusion

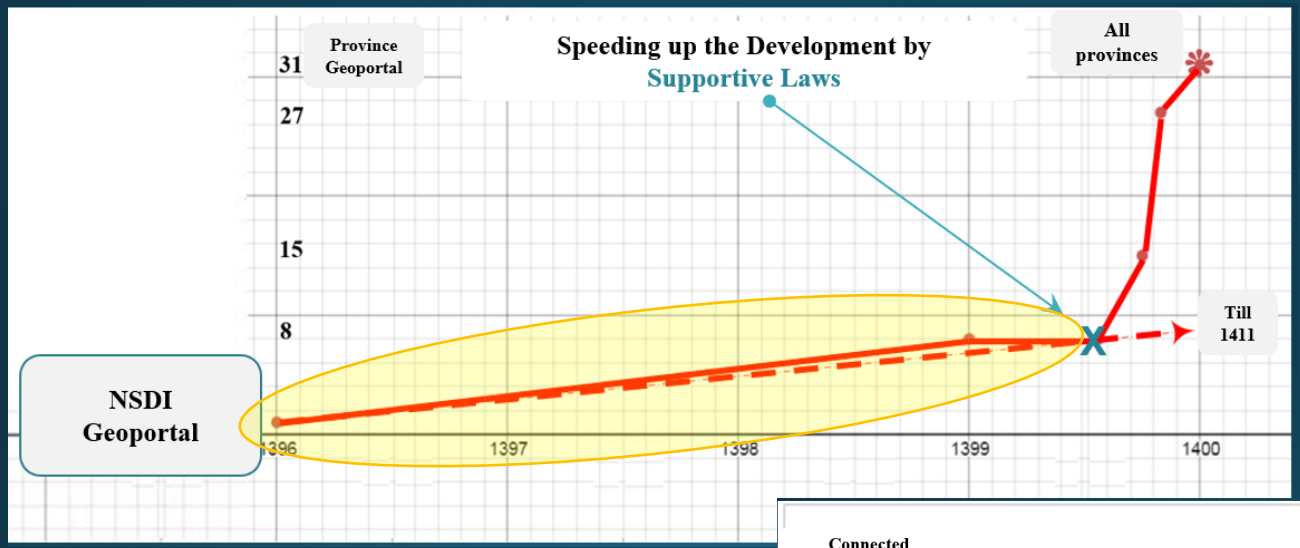
Successful GSGF implementation relies heavily on establishing a robust Spatial Data Infrastructure (SDI).

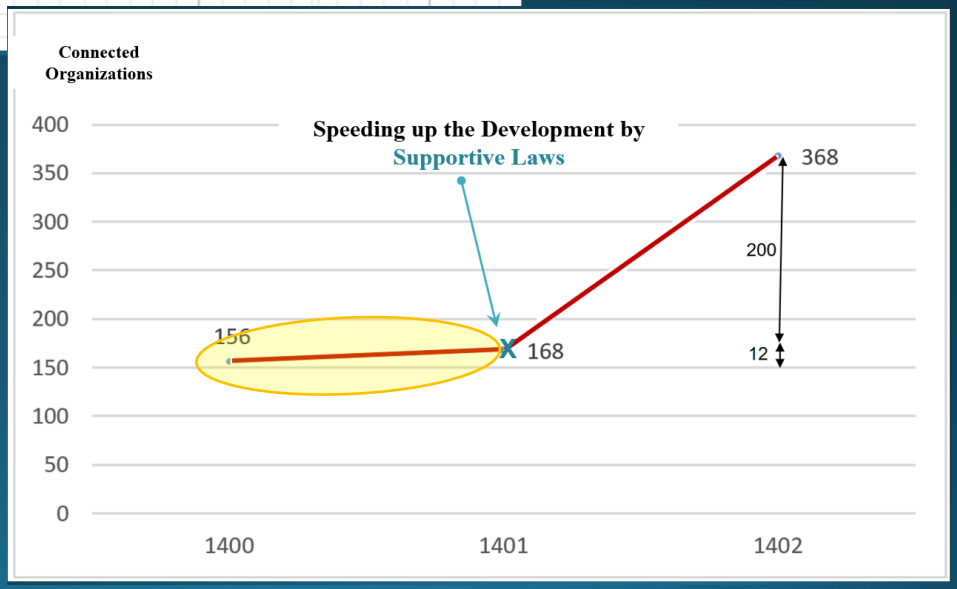
Providing spatial data via standard, TJ services enables real-time, online access to both spatial and statistical information.

This integration of spatial and statistical data allows for comprehensive analysis, supporting informed decision-making across various sectors, including economic and social domains.

The mentioned successes were achieved after we became familiar with GSGF standards and documents during these UN-GGIM-AP meetings.

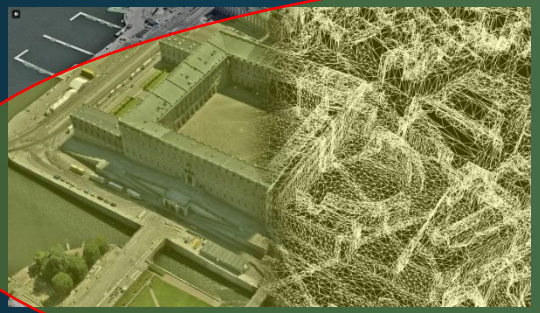
Future actions – National Laws and Policy – Key Element





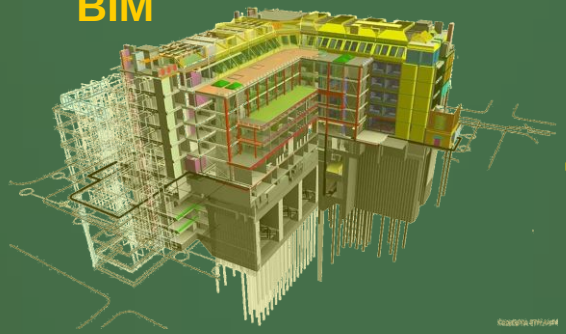
Future actions

3D Mesh



+

BIM



+

IoT

Spatial Digital Twins

Spatial Digital Shadows

روز اول

Session1: Integrating Geospatial and Statistical Data for National Development

Current Status of NSDI and IGIF in Republic of Korea

- IGIF Regional Seminar -

Dr Hyunjin Jang,
National Geographic Information Institute
of Korea

روز اول

Session2:
Discussion On tools, Technologies, and Capacity Building for Data Integration

Main contents of the 1st to 6th Basic Plans for NSDI

The 1st Basic Plan for NSDI

Foundation Establishment('95~'00)

- Digitalization of Topographic and Cadastral Maps
- Development of Thematic Maps such as Land Use and Subsurface Facility Maps
- Development of Mapping Technologies, DB Tools, and GIS Software

The 2nd Basic Plan for NSDI

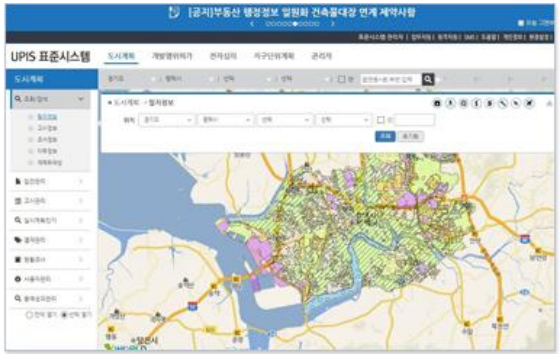
Foundation Expansion('01~'05)

- Establishment of Basic Data such as Roads, Sewage Systems, and Buildings
- Promotion of GIS-based Systems for Land Use, Subsurface, Environment, Cultural Heritage, Marine, Agriculture, and Forestry
- Development of 3D GIS and High-Precision Satellite Image Processing Technologies

The 3rd Basic Plan for NSDI

Utilization and Diffusion('05~'10)

- Establishment of National Base Maps, Marine Base Maps, and Aerial Imagery
- Promotion of Utilization Systems for Integrating 3D National Geospatial Information, UPIS, KOPSS, and Buildings
- Improvement of National Spatial Information Network



روز اول

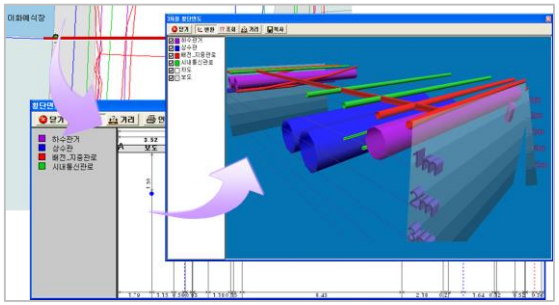
Session2:
Discussion On tools, Technologies, and Capacity Building for Data Integration

Main contents of the 1st to 6th Basic Plans for NSDI

The 4th Basic Plan for NSDI

Integration and Linkage('10~'12)

- Establishment of Maintenance, Management, and Utilization Systems for Geospatial Information
- Development of Digital Cadastral Systems
- Establishment of 3D National Geospatial Information
- Development, Commercialization, and Distribution of Domestic GIS Solutions



The 5th Basic Plan for NSDI

Convergence and Utilization('13~'17)

- Establishment of Basic Spatial Information System
- Expansion of High-Precision 3D and Indoor Geospatial Information development
- Gradual Opening of All Geospatial Information, Except for Special Cases such as National Security
- Improvement of Systems for Sharing Geospatial Information Created by the Private Sector

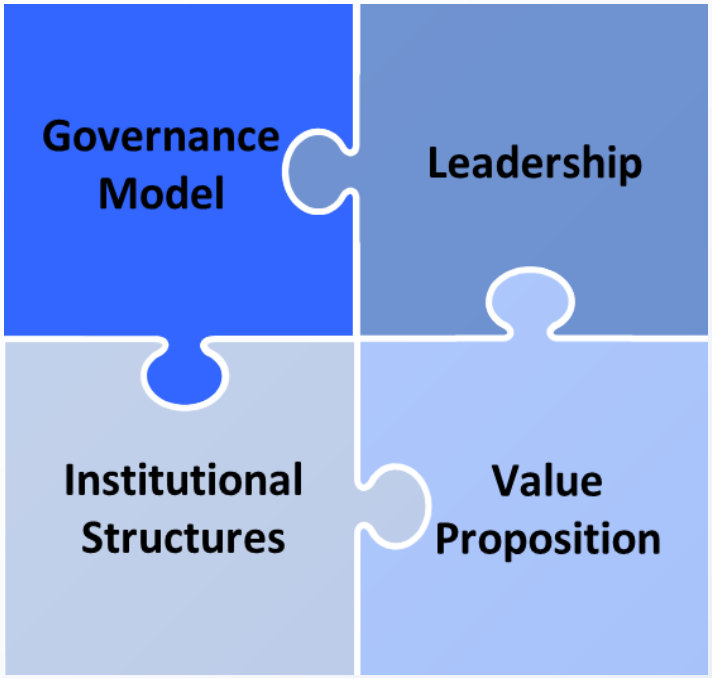
The 6th Basic Plan for NSDI

Value creation('18~'22)

- Production of Geospatial Information that Creates Value
- Promotion of Innovation Sharing through Geospatial Information Platforms
- Fostering the Geospatial Information Industry to Create Jobs
- Creating a Collaborative Policy Environment through Participation

Session2:
Discussion On tools, Technologies, and Capacity Building for Data Integration

Governance



The Basic Plan for NSDI provides a consistent structure and forms a collaborative system with similar institutions through detailed legal and institutional frameworks

Governance Model

- The Ministry of Land, Infrastructure, and Transport is the lead agency responsible for implementing strategies and action plans related to NSDI
- Organizational Structure: Ministry of Land, Infrastructure, and Transport's Director of National Spatial Information Policy, National Geographic Information Institute, etc.

Institutional Structures

- In 1995, with the initial development of the national topographic map, the NSDI Committee was established
- The NSDI Committee and its subcommittees oversee and coordinate the development of the NSDI strategy and Basic Plans
- The Korea Land and Geospatial Informatix Corporation (LX) provides technical consultation and support for the national data framework
- The SpaceN supports the expansion of data and industry through demand-based services

Leadership

- Under the Framework Act on National Spatial Information, the Minister of Land, Infrastructure, and Transport serves as the Chairman of the NSDI Committee

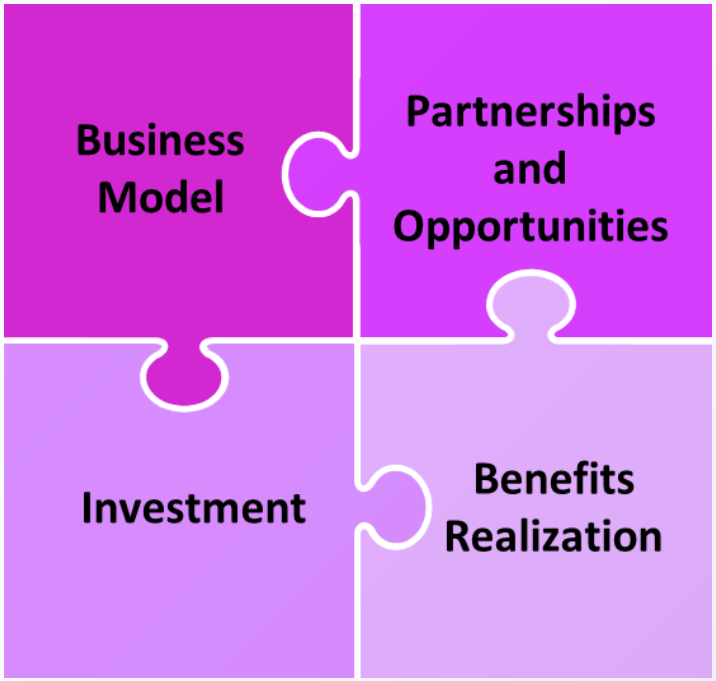
Value Proposition

- Through the 5th Comprehensive National Land Plan, the Ministry of Land, Infrastructure, and Transport is developing policies focused on three main agendas for 2040: regional balanced development, smart regional development, and innovative growth

Session2:
Discussion On tools, Technologies, and Capacity Building for Data Integration

Financial

NSDI in Republic of Korea publicly provides data for free in accordance with the law
Although the government provides financial support, there is a lack of specific business



Business Model

- Currently, the NSDI is based on the budgets of central and local governments
- The budget for national basic spatial information is allocated by the central government
- Other spatial information-related budgets are funded by local governments, depending on policy and financial condition

Partnerships and Opportunities

- The 7th NSDI Basic Plan promotes key strategies, including the establishment and activation of partnerships between government ministries and agencies, universities and R&D centers, as well as central and local governments, and the development of public-private partnerships

Investment

- The government investment costs for the construction, maintenance, and updating of national basic spatial information data were recorded as 388.1 billion KRW in 2022 and 486.9 billion KRW in 2023 and planned budget for 2024 is 562.7 billion KRW, and the plan is currently being implemented

Benefits Realization

- Including technological innovation in SDI development, the creation of jobs related to spatial information data construction, and the expansion of smart city and Industry 4.0 programs are expected to bring about various value-added effects

روز اول

Session3: Panel Discussion
Next Steps and Regional Strategy for 2025-2026

17:30 – 18:00 (30 mins) -Panel Discussion

Panelists: From Registered Member Countries.
Moderator: Mr. Ali Javidaneh (Iran)
Distinguished Guest: Mr Antonius Wijanarto (President UN-GGIM-AP)

Discussion topics:

- **Challenges faced by the Asia-Pacific Region in the implementation of GSGF in the region.**
- **Development of awareness and capacity to implement GSGF in the region.**
- **Roadmap for achieving Sustainable Development Goals through the integration of Geospatial and Statistical Information.**

Wrap up Speaker: Chair of Working Group 3

- **Summary of key outcomes and next steps**

روز دوم

Sustainable operation of GNSS CORS Network
WG1

Session1:
Challenges and Issues on CORS operation and maintenance in the Member countries
9:30 to 11:00

Session2:
International efforts to support CORS Operation
11:30 to 12:15 IAG - FIG

Session3:
Joint Development Plan for Global Geodesy
12:15 to 13:00 - UN-GGCE

Dr Basara Miyahara,
Geospatial Information Authority of Japan

روز دوم

Regional Seminar on
Integrated Geospatial Information Framework
(IGIF) WG4

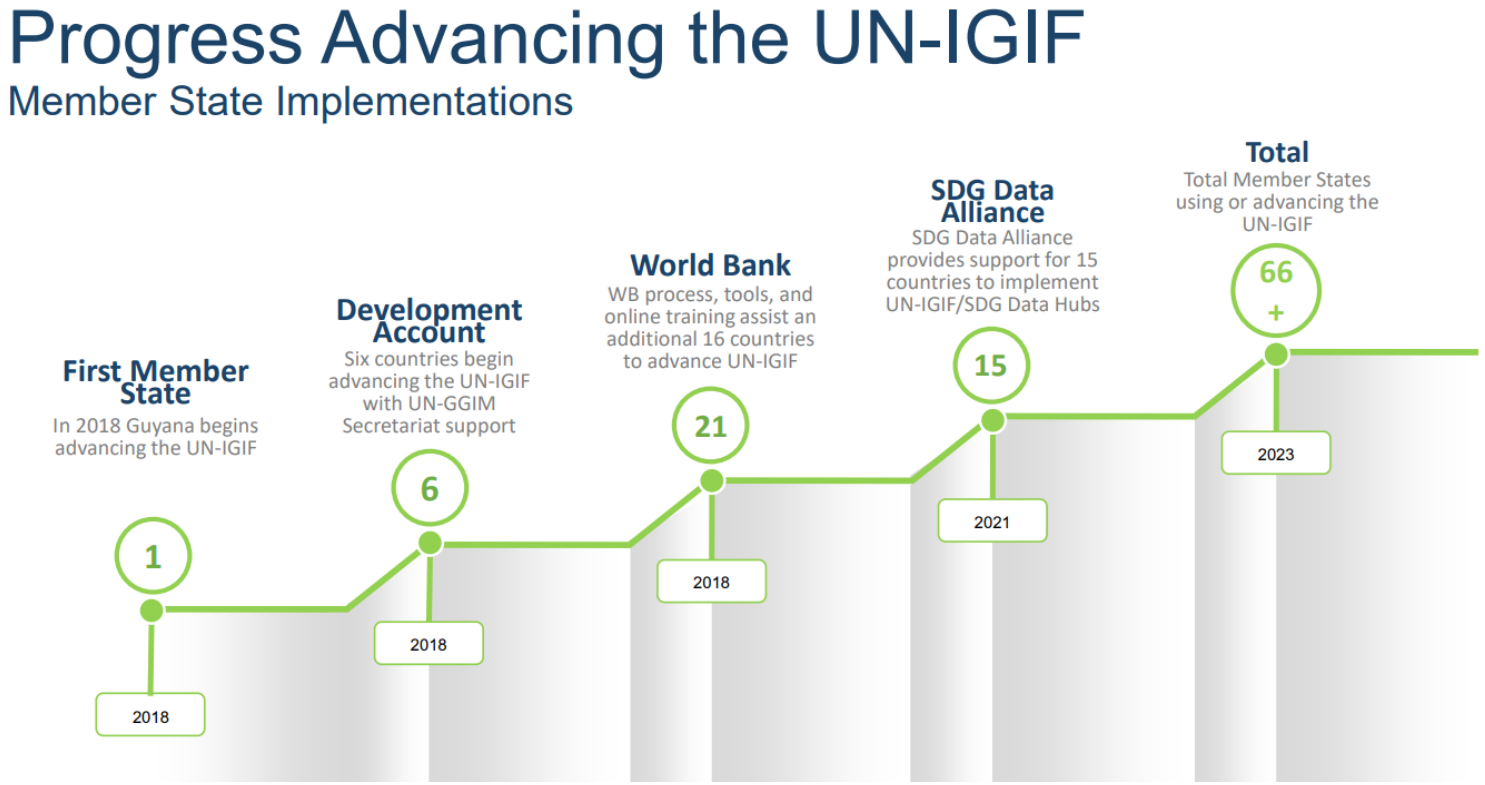
Session1:
IGIF Implementation
14:00 to 16:00 - 5 speakers

Session2:
Sharing Experiences & Capacity Building
+ Discussion Panel – Dr Zaffar
16:00 to 18:00 – 4 speakers

Dr Mr. Shri Pankaj Mishra,
Deputy Surveyor General Survey of India

روز دوم

Regional Seminar on
Integrated Geospatial Information Framework
(IGIF) WG4



روز سوم

Private Sector Panel Discussion on
Strengthening UN-GGIM Agenda – Industry's Role
09.30 to 13:00 am

With participation from
UN-GGIM: Academic Network
UN-GGIM: Geospatial Societies

Collaboration with other
Regional Committees

روز سوم

Working Groups internal meetings
14.00 to 15:30 am

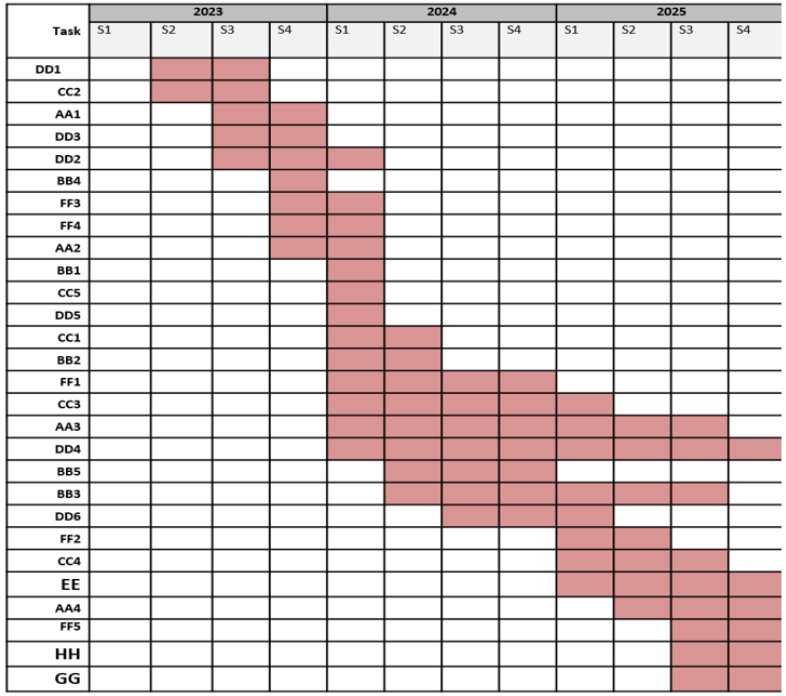
Iran
Kyrgyzstan
China
India
Republic of Korea

Evaluating Previous Term Progress and Setting Agendas

WG3 Detailed Work Plan				
	1	2	3	4
Objective	Identify common interest and expectation of member country in The Global Statistical Geospatial Framework (GSGF) in the context of UN-GGIM-AP	Promote and assist in the application of Global Statistical Geospatial Framework, working with UN-GGIM Expert Group on Integration of Statistical and Geospatial Information	Conduct pilot projects on Global Statistical Geospatial Framework to enhance the capabilities of National Geospatial Information Agencies	Development of capacity building plan and training at the regional level
2019				
1st Quarter	-	-	-	-
2nd Quarter	Conduct a survey (questionnaire) on common interest and expectation of member country in The Global Statistical Geospatial Framework (GSGF) , with focus on Challenges and Solutions for Creating Geospatial Statistical Outputs and institutional arrangement	Collect Best Practices of the application of Global Statistical Geospatial Framework in Asia and the Pacific region	Drafting a pilot project proposal (work plan) with BPS. Proposed Project: Disaggregation of statistical unit and mapping unit from village level to household level	
3rd Quarter	Draw up a report based on analysis results of the answers	Collect Best Practices of the application of Global Statistical Geospatial Framework in another region	Identify the common data standards, including data specifications and metadata catalogue	Workshop/Training: Introduction to Statistical and Geospatial Standards and Models (in a side event in planery meeting)
2020				
1st Quarter	1st draft report	Compile Best Practices of the application of Global Statistical Geospatial Framework in Statistics Agency in the application of Global Statistical Geospatial Framework		
2nd Quarter		Expert Group to share with member countries at Planery Meeting		Workshop/Training: Exploration of the use and application of Discrete Global Grid Systems to integrate statistical and geospatial information (in a side event in planery meeting)
3rd Quarter		Publised a guideline in the application of Global Statistical Geospatial Framework	System development	
2021				
1st Quarter		Provide technical assistance for member country with the support of expert group	Review work by expert group and other organizations	
2nd Quarter			1st draft report	Workshop/Training: Future Work relevant to Statistical and Geospatial Standards for Overcoming technical

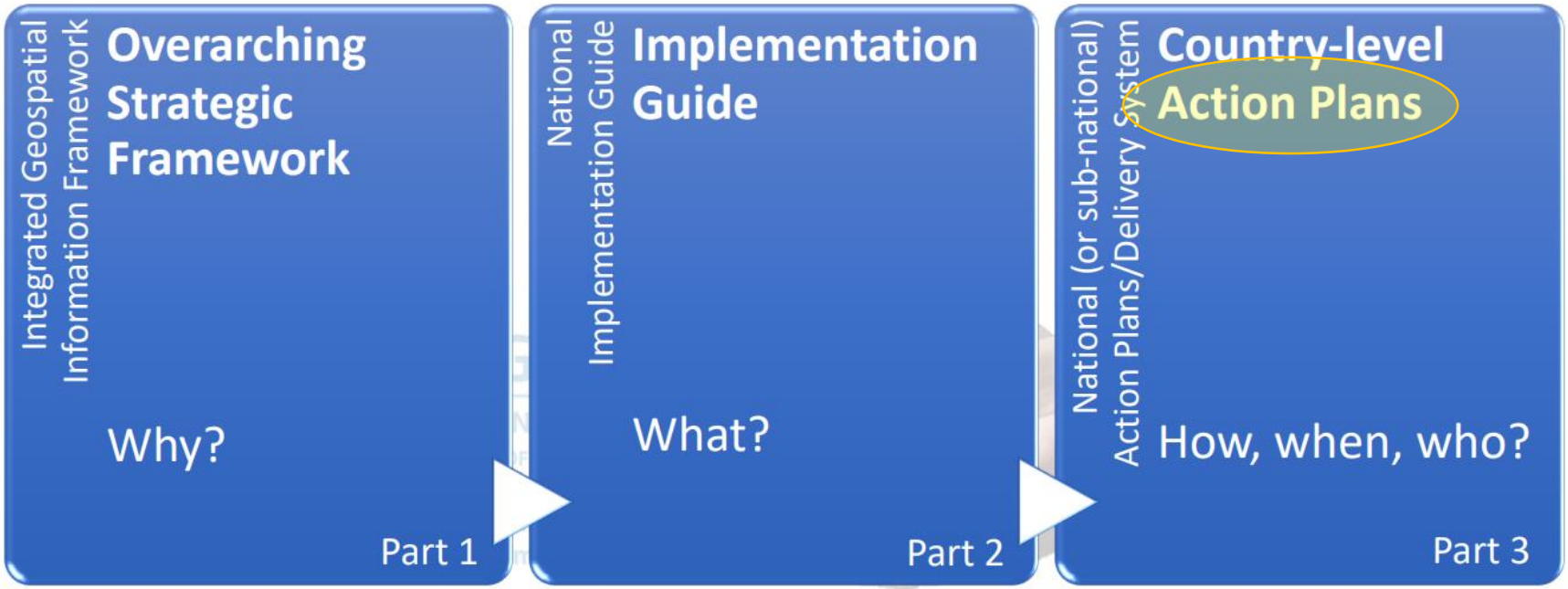
Document
Progress and Results for
Next 3-Year Term

low participation of working group members



Sub task	Priority
DD1-Develop a comprehensive plan for integrating geospatial statistics into all relevant sectors and departments.	4^{th}–9^{th} month
DD2-Invest in the necessary technology and infrastructure to collect, store, and analyze geospatial data.	7^{th}–15^{th} month
DD3-Build the capacity of staff in government agencies and other relevant organizations to use and interpret geospatial data.	7^{th}–12^{th} month
DD4-Collaborate with academic institutions and research organizations to develop new methods and tools for analyzing and visualizing geospatial data.	13^{th}–36^{th} month
DD5- Engage with stakeholders from different sectors to identify priority areas for using geospatial statistics to achieve sustainable development goals.	13^{th}–15^{th} month
DD6-Establish partnerships with other countries and international organizations to share knowledge and resources on geospatial data collection and analysis.	19^{th}–27^{th} month
DD1-Develop a comprehensive plan for integrating geospatial statistics into all relevant sectors and departments.	4^{th}–9^{th} month
DD2-Invest in the necessary technology and infrastructure to collect, store, and analyze geospatial data.	7^{th}–15^{th} month

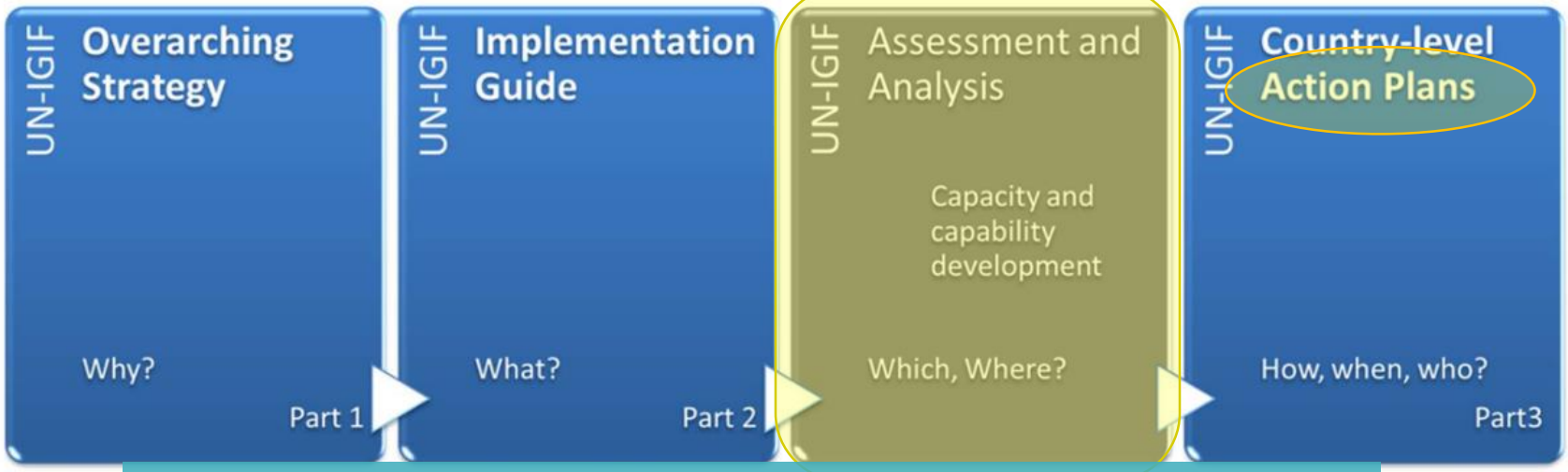
experiences documented in IGIF



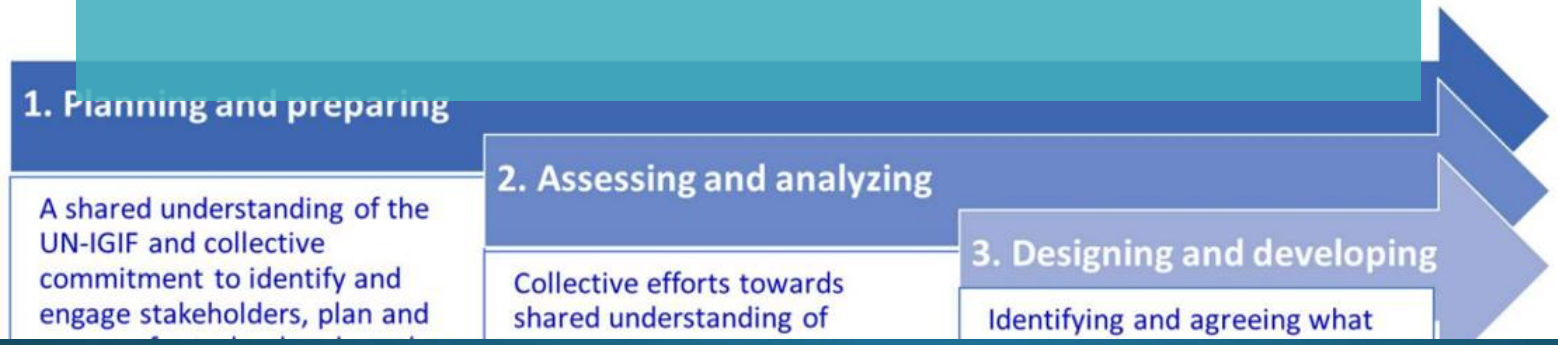
The **Integrated Geospatial Information Framework** comprises 3 separate, but connected, documents. The **Overarching Strategic Framework** has been adopted by UN-GGIM at its eighth session in August 2018. The **Implementation Guide** with 'in-principle' approval from UN-GGIM and being developed. **Country-level Action Plans** are work in progress.

www.igif.un.org

experiences documented in IGIF



Adopting a similar approach for WG3



Proposed Solution for Enhancing Working Group 3 Based on Lessons Learned

Create a checklist of GSGF Implementation.

Assess each country's readiness level.

Develop a tailored action plan for each country.

Weighted Assessment Indicators for Evaluating GSGF Establishment
New Version

1. National and Provincial SDIs (Weight: 12)
2. Geospatial Data Availability (Weight: 12)
3. Legal and Policy Framework (Weight:8)
4. Institutional Capacities (Weight: 12)
5. Technical Infrastructure (Weight: 8)
6. Human Resources and Expertise (Weight: 8)
7. Awareness and Education (Weight: 4)
8. Regional and International Collaboration (Weight: 8)
9. Citizen Participation (Weight: 4)
10. Disaster Risk Reduction and Climate Resilience (Weight: 4)
11. Artificial Intelligence Integration (Weight: 10)

روز سوم

Weighted Assessment Indicators for Evaluating GSGF Establishment New Version

1. **National and Provincial SDIs (Weight: 12)**
   a. Existence of a functional national SDI (4)
   b. Presence of established provincial SDIs (4)
   c. Integration between national and provincial SDIs (3)
   d. Regularly updated geospatial data within SDIs (1)
2. **Geospatial Data Availability (Weight: 12)**
   a. Wide range of geospatial data available (4)
   b. Accessibility of geospatial data for stakeholders (4)
   c. Adherence to quality standards for geospatial data (3)
   d. Established mechanisms for data sharing and exchange (1)
3. **Legal and Policy Framework (Weight: 8)**
   a. Comprehensive geospatial data management policies (3)
   b. Clear regulations on data sharing and access (2)
   c. Legal provisions for privacy and security of geospatial data (2)
   d. Alignment of policies with international standards and best practices (1)
4. **Institutional Capacities (Weight: 12)**
   a. Designated national geospatial agency (4)
   b. Effective coordination among relevant government organizations (4)
   c. Adequate financial resources for GSGF implementation (3)
   d. Dedicated teams for geospatial data management and analysis (1)
5. **Technical Infrastructure (Weight: 8)**
   a. Adequate hardware and software resources (3)
   b. Robust geospatial data servers and storage (2)
   c. Reliable internet connectivity and networking (2)
   d. Compatibility with international geospatial standards (1)
6. **Human Resources and Expertise (Weight: 8)**
   a. Availability of skilled geospatial professionals (3)
   b. Presence of academic institutions offering geospatial education (2)
   c. Regular training and capacity building programs (2)
   d. Active involvement of professionals in international forums (1)
7. **Awareness and Education (Weight: 4)**
   a. General awareness of GSGF among stakeholders (2)
   b. Inclusion of geospatial education in school and university curricula (1)
   c. Workshops and seminars to promote GSGF concepts (1)
8. **Regional and International Collaboration (Weight: 8)**
   a. Active participation in regional geospatial forums (3)
   b. Collaboration with neighboring countries on geospatial data sharing (2)
   c. Contributions to global geospatial initiatives and programs (2)
   d. Membership in international geospatial organizations (1)
9. **Citizen Participation (Weight: 4)**
   a. Mechanisms for public participation in geospatial data collection (2)
   b. Platforms for citizens to access and use geospatial data (1)
   c. Citizen feedback and suggestions for GSGF improvements (1)
10. **Disaster Risk Reduction and Climate Resilience (Weight: 4)**
- Utilization of geospatial data for disaster risk management (2)
- Integration of geospatial data in climate change adaptation plans (1)
- Collaboration with disaster management agencies (1)

11. **Artificial Intelligence Integration (Weight: 10)**
- Use of AI for geospatial data analysis and prediction (4)
- Development of AI-based tools for disaster risk assessment (2)
- Incorporation of AI in land administration processes (2)
- Collaboration with AI research institutions for geospatial innovations (2)

An Additional Point

Extensive volume of IGIF documentation

Developing Quick Reference

Working Group 3 discussion

Supply-Demand instead of Assessment

اقدامات مورد نیاز جهت ارائه در روز چهارم:

۱– تدوین مذاکرات انجام گرفته در نشست گروه کاری ۳ و تائید اعضاء کارگروه

۲– تدوین ارائه گزارش کارگروه به هیئت اجرایی UN-GGIM-AP

۳– تدوین ارائه گزارش به مجمع UN-GGIM-AP

۴– تدوین پیش نویس قطعنامه گروه کاری شماره ۳ برای دبیرخانه UN-GGIM-AP

روز چهارم

Executive Board Meeting

09.30 to 17:00

Working Group 3 Recommends for EB

a) Document use cases and best practices for GSGF implementation in member countries

b) Facilitate sharing of experiences and knowledge through proper understanding of supply-demand driven dynamics.

c) Promote frequent interaction amongst member countries, both in-person and virtually, to further accelerate GSGF implementation in the region .

d) Identify and promote standards for integration of geospatial and statistical data in accordance with GSGF principles.

e) Support capacity building initiatives at regional and national levels.

Regional Reports

UN-GGIM Regional Committees:

- **UN-GGIM Europe**
- **UN-GGIM Arab States**
- **UN-GGIM Africa**
- **UN-GGIM Americas**

روز چهارم

WORKING GROUP REPORT
THEMATIC GROUP REPORT

گزارش جزئیات کاملتر مذاکرات انجام شده در نشست داخلی گروه کاری ۳
به تفکیک هریک از کشورهای عضو

جمع‌بندی پیشنهادها به شرح ذیل که در نشست هیئت رئیسه نیز ارائه و تائید شده بودند شد.

الف) مستندسازی موارد استفاده و بهترین روش‌ها برای اجرایGSGF در کشورهای عضو.

ب) تسهیل اشتراک‌گذاری تجربیات و دانش از طریق درک صحیح از دینامیک‌های مبتنی بر عرضه و تقاضا.

ج) ترویج تعامل مکرر بین کشورهای عضو، چه به‌صورت حضوری و چه به‌صورت مجازی، برای تسریع اجرای GSGF در منطقه.

د) شناسایی و ترویج استانداردها برای ادغام داده‌های جغرافیایی و آماری مطابق با اصول GSGF

ه) حمایت از نوآوری‌های ساخت ظرفیت در سطوح منطقه‌ای و ملی.

SESSION 4: ADMINISTRATIVE CHANGE

Mr. Hitesh Kumar S. Makwana from Survey of India has replaced Mr. Sunil Kumar, as the Vice President;

Ms. Maree Wilson from Geoscience Australia has replaced Ms. Lisa Bush, as the member;

Mr. Yo Iida from Geospatial Information Authority of Japan (GSI) has replaced Mr. Shoichi Oki, as the Vice President.

Decides to establish a Young Geospatial Leaders Network (or other similarly appealing name, to be determined) under the auspices of UN-GGIM-AP, with the aim of promoting the geospatial profession and actively engaging students and young professionals in geospatial technology, innovation and leadership;

روز چهارم Working Group 3 Resolution (draft for discussion)

توصیه می‌کند که UN-GGIM-APاقدامات زیر را انجام دهد:

الف) تسهیل شناسایی و تجمیع نیازهای کشورهای عضو در دو زمینه عرضه و تقاضا برای ادغام داده‌های جغرافیایی؛

ب) تشویق کشورهای عضو به اشتراک‌گذاری تکنیک‌ها، روش‌ها و فناوری‌های کدگذاری جغرافیایی، از جمله کدگذارهای گروهی و سیستم‌های شبکه ملی؛

ج) حمایت از توسعه دستورالعمل‌ها و استانداردها برای داده‌های جغرافیایی آماده تحلیل به منظور افزایش محاسبه شاخص‌های مرتبط با اهداف توسعه پایدار((SDGs؛

د) ترویج همکاری در پیاده‌سازی چارچوب GSGFاز طریق تبادل دانش، کمک‌های فنی و اشتراک‌گذاری مطالعات موردی؛

هـ) تقویت همکاری‌های منطقه‌ای و بین‌المللی برای حمایت از ساخت ظرفیت، آموزش و انتقال فناوری در زمینه ادغام داده‌های جغرافیایی؛

و) تشویق کشورهای عضو به ادامه توسعه و به‌روزرسانی مجموعه‌های داده جغرافیایی، از جمله آدرس‌های نقاطی، قطعات زمین و ساخت‌های سه بعدی واقع‌گرایانه؛

ز) حمایت از گنجاندن ادغام داده‌های جغرافیایی در برنامه‌های توسعه ملی، سیاست‌ها و استراتژی‌ها؛

ح) حمایت از تحقیق و نوآوری در ادغام، تحلیل و تکنیک‌های تجسم داده‌های جغرافیایی به منظور بهبود فرآیند تصمیم‌گیری و شکل‌دهی سیاست‌ها در منطقه آسیا–اقیانوسیه.

سایر نکات ویژه

آقای Basara Miyahara از ژاپن گزارش خوبی از چالش‌های ژاپن دادند. تعداد۱۳۰۰ ایستگاه فعال دارند و با فواصل ۲۰ کیلومتری نصب شده‌اند. همه ایستگاه‌ها در دوره‌های ۵ ساله بازدید حضوری می‌شوند.

نشان دادند که قطع درختی که کنار ایستگاه بود باعث اختلاف ۶ سانتی در برآورد ارتفاع ایستگاه شده است. همین نوع خطا نیز در حالت نزدیکی به RFI مشاهده شده است. اعلام کردند که فایل CORS daily Coordinate Solution از Geonet قابل دانلود و استفاده می‌باشد.

آقای Guorong Hu از استرالیا گزارش کرد که GNSS های ملّی را با تراکمی کمتر به شبکه جهانی توسعه داده‌اند. همین موضوع را آقای Richard Gross از IAG نیز اعلام نمودند و اظهار داشتند این اقدام برای پروژه‌هایی که در بین دو کشور همسایه اجرا می‌شود اهمیت خودش رابیشتر نشان می‌دهد.

آقای Nick Brownاز UN-GGCEمطرح نمودند که یک پروژه اشتراکی در توسعه ژئودزی جهانی در سازمان ملل آغاز شده است و کشورهای داوطلب می‌توانند در این پروژه مشارکت نمایند.

آقایPankaj Mishra از هندوستان در ارائه خود به ارتباط SDI, NSDI, IGIF پرداختند که مناسب است در مستندات اجلاس جستجو شود و مورد مطالعه قرار گیرد.

همچنین از چارچوب FELA در کنار IGIF صحبت کردند که مشابه IGIF مستندات و Pathway های مختلفی دارد و برای ثبت املاک استفاده می‌شود و اینکه لازم است این دو چهارچوب تواما در کشورها توسعه پیدا کنند.

سایر نکات ویژه

حضور در این مجامع سالانه UN-GGIM باید حداقل در قالب یک تیم ۳ نفره انجام شود

خصوصا در سطوح رئیس کارگروه و یا عضو هیئت رئیسه

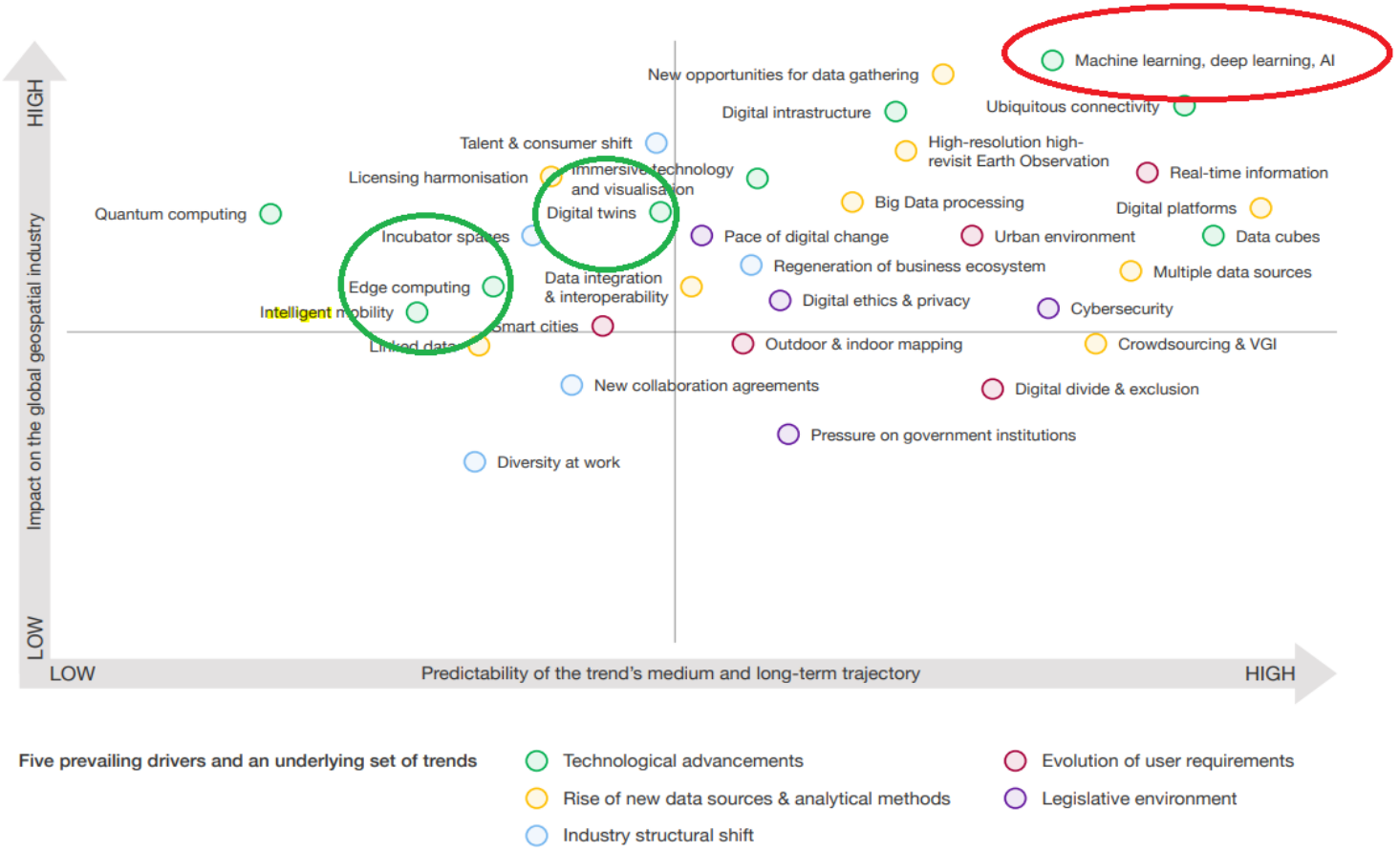
روز چهارم

برجسته‌ترین برداشت

اولویت گذاری حداکثری به شناخت و استفاده از هوش مصنوعی در تمامی امور مربوطه

UN-GGIM | United Nations Committee of Experts on Global Geospatial Information Management

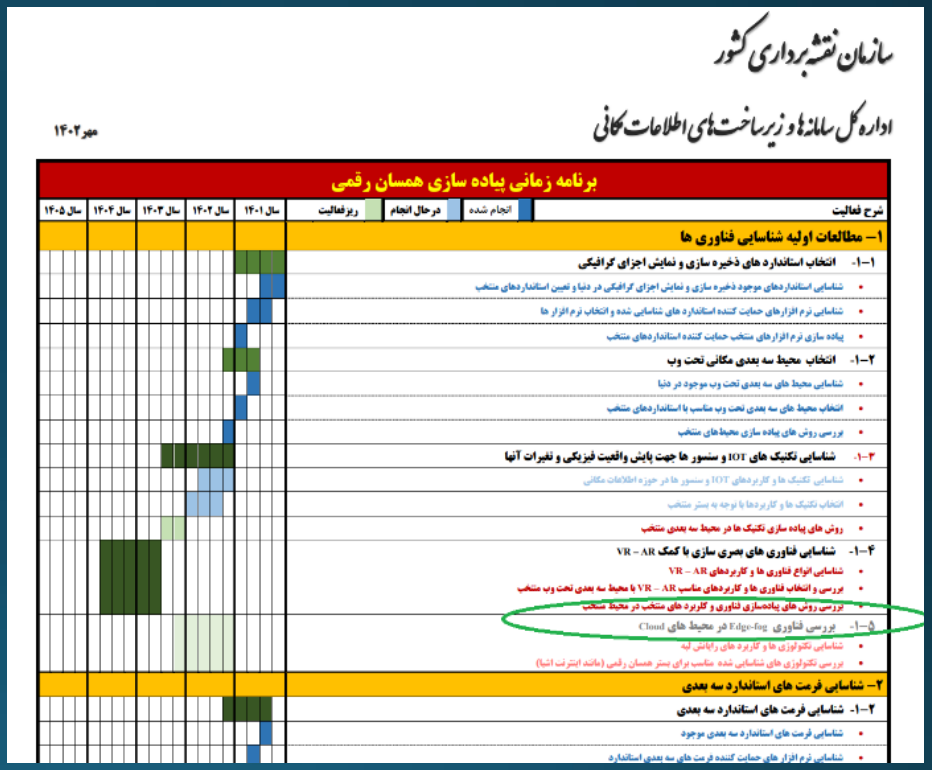
Graphic 1.
Five drivers will advance change in the global geospatial information management landscape over the next 5 to 10 years



روز چهارم

برجسته‌ترین برداشت

اولویت گذاری حداکثری به شناخت و استفاده از هوش مصنوعی در تمامی امور مربوطه



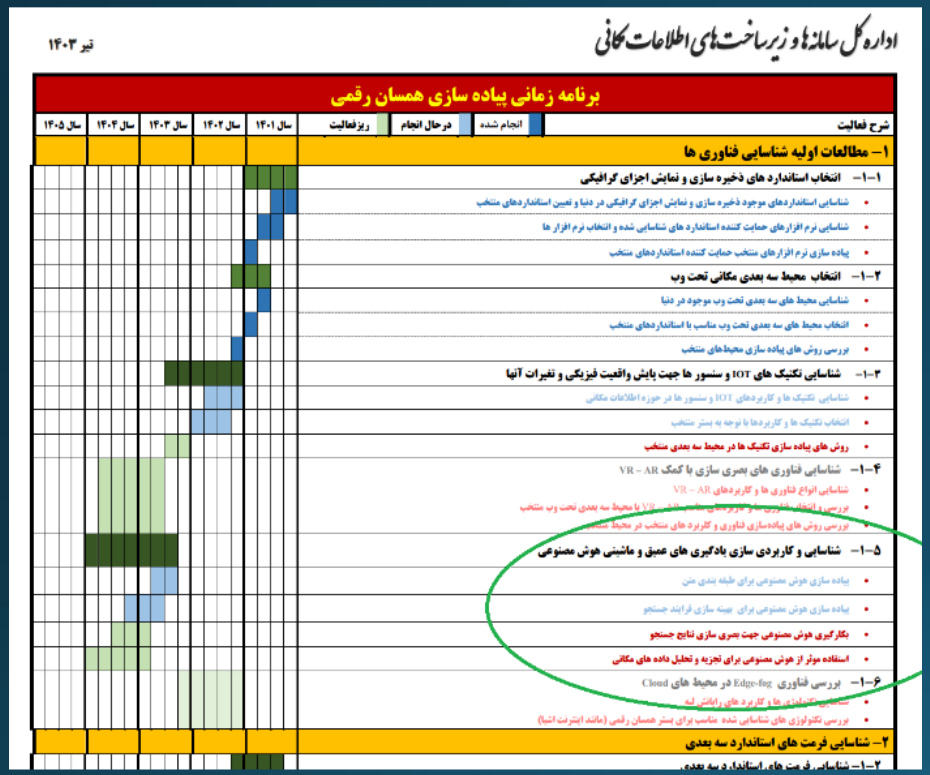
سازمان نقشه برداری کشور

اداره کل سامانه‌ها و زیرساخت‌های اطلاعات مکانی

مهر ۱۴۰۲

برنامه زمانی پیاده سازی همسان رقمی

شرح فعالیت	انجام شده	در حال انجام	ریزفعالیت	سال ۱۴۰۱	سال ۱۴۰۲	سال ۱۴۰۳	سال ۱۴۰۴	سال ۱۴۰۵
۱- مطالعات اولیه شناسایی فناوری ها								
۱-۱- انتخاب استاندارد های ذخیره سازی و نمایش اجزای گرافیکی								
• شناسایی استانداردهای موجود ذخیره سازی و نمایش اجزای گرافیکی در دنیا و تعیین استانداردهای منتخب								
• شناسایی نرم افزارهای حمایت کننده استاندارد های شناسایی شده و انتخاب نرم افزار ها								
• پیاده سازی نرم افزارهای منتخب حمایت کننده استانداردهای منتخب								
۱-۲- انتخاب محیط سه بعدی مکانی تحت وب								
• شناسایی محیط های سه بعدی تحت وب موجود در دنیا								
• انتخاب محیط های سه بعدی تحت وب مناسب با استانداردهای منتخب								
• بررسی روش های پیاده سازی محیط‌های منتخب								
۱-۳- شناسایی تکنیک های IOT و سنسور ها جهت پایش واقعیت فیزیکی و تغیرات آنها								
• شناسایی تکنیک ها و کاربردهای IOT و سنسور ها در حوزه اطلاعات مکانی								
• انتخاب تکنیک ها و کاربردها با توجه به بستر منتخب								
• روش های پیاده سازی تکنیک ها در محیط سه بعدی منتخب								
۱-۴- شناسایی فناوری های بصری سازی با کمک VR – AR								
• شناسایی انواع فناوری ها و کاربردهای VR – AR								
• بررسی و انتخاب فناوری ها و کاربردهای مناسب VR – AR با محیط سه بعدی تحت وب منتخب								
• بررسی روش های پیاده‌سازی فناوری و کاربرد های منتخب در محیط منتخب								
۱-۵- بررسی فناوری Edge-fog در محیط های Cloud								
• شناسایی تکنولوژی ها و کاربرد های رایانش لبه								
• بررسی تکنولوژی های شناسایی شده مناسب برای بستر همسان رقمی (مانند اینترنت اشیا)								
۲- شناسایی فرمت های استاندارد سه بعدی								
۲-۱- شناسایی فرمت های استاندارد سه بعدی								
• شناسایی فرمت های استاندارد سه بعدی موجود								
• شناسایی نرم افزار های حمایت کننده فرمت های سه بعدی استاندارد								



اداره کل سامانه‌ها و زیرساخت‌های اطلاعات مکانی

تیر ۱۴۰۳

برنامه زمانی پیاده سازی همسان رقمی

شرح فعالیت	انجام شده	در حال انجام	ریزفعالیت	سال ۱۴۰۱	سال ۱۴۰۲	سال ۱۴۰۳	سال ۱۴۰۴	سال ۱۴۰۵
۱- مطالعات اولیه شناسایی فناوری ها								
۱-۱- انتخاب استاندارد های ذخیره سازی و نمایش اجزای گرافیکی								
• شناسایی استانداردهای موجود ذخیره سازی و نمایش اجزای گرافیکی در دنیا و تعیین استانداردهای منتخب								
• شناسایی نرم افزارهای حمایت کننده استاندارد های شناسایی شده و انتخاب نرم افزار ها								
• پیاده سازی نرم افزارهای منتخب حمایت کننده استانداردهای منتخب								
۱-۲- انتخاب محیط سه بعدی مکانی تحت وب								
• شناسایی محیط های سه بعدی تحت وب موجود در دنیا								
• انتخاب محیط های سه بعدی تحت وب مناسب با استانداردهای منتخب								
• بررسی روش های پیاده سازی محیط‌های منتخب								
۱-۳- شناسایی تکنیک های IOT و سنسور ها جهت پایش واقعیت فیزیکی و تغیرات آنها								
• شناسایی تکنیک ها و کاربردهای IOT و سنسور ها در حوزه اطلاعات مکانی								
• انتخاب تکنیک ها و کاربردها با توجه به بستر منتخب								
• روش های پیاده سازی تکنیک ها در محیط سه بعدی منتخب								
۱-۴- شناسایی فناوری های بصری سازی با کمک VR – AR								
• شناسایی انواع فناوری ها و کاربردهای VR – AR								
• بررسی و انتخاب فناوری ها و کاربردهای مناسب VR – AR با محیط سه بعدی تحت وب منتخب								
• بررسی روش های پیاده‌سازی فناوری و کاربرد های منتخب در محیط منتخب								
۱-۵- شناسایی و کاربردی سازی یادگیری های عمیق و ماشینی هوش مصنوعی								
• پیاده سازی هوش مصنوعی برای طبقه بندی متن								
• پیاده سازی هوش مصنوعی برای بهینه سازی فرایند جستجو								
• بکارگیری هوش مصنوعی جهت بصری سازی نتایج جستجو								
• استفاده موثر از هوش مصنوعی برای تجزیه و تحلیل داده های مکانی								
۱-۶- بررسی فناوری Edge-fog در محیط های Cloud								
• شناسایی تکنولوژی ها و کاربرد های رایانش لبه								
• بررسی تکنولوژی های شناسایی شده مناسب برای بستر همسان رقمی (مانند اینترنت اشیا)								
۲- شناسایی فرمت های استاندارد سه بعدی								
۲-۱- شناسایی فرمت های استاندارد سه بعدی								

سیزدهمین مجمع سالانه UN-GGIM-AP ۶ – ۹ آذر ۱۴۰۳ دهلی نو