

# NATIONAL ARRANGEMENTS IN GEOSPATIAL INFORMATION MANAGEMENT / NATIONAL SPATIAL DATA INFRASTRUCTURES: GUYANA

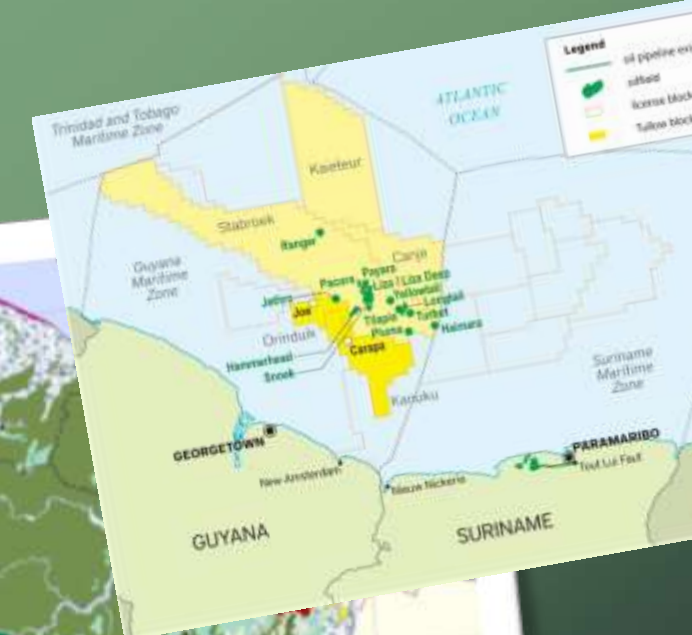
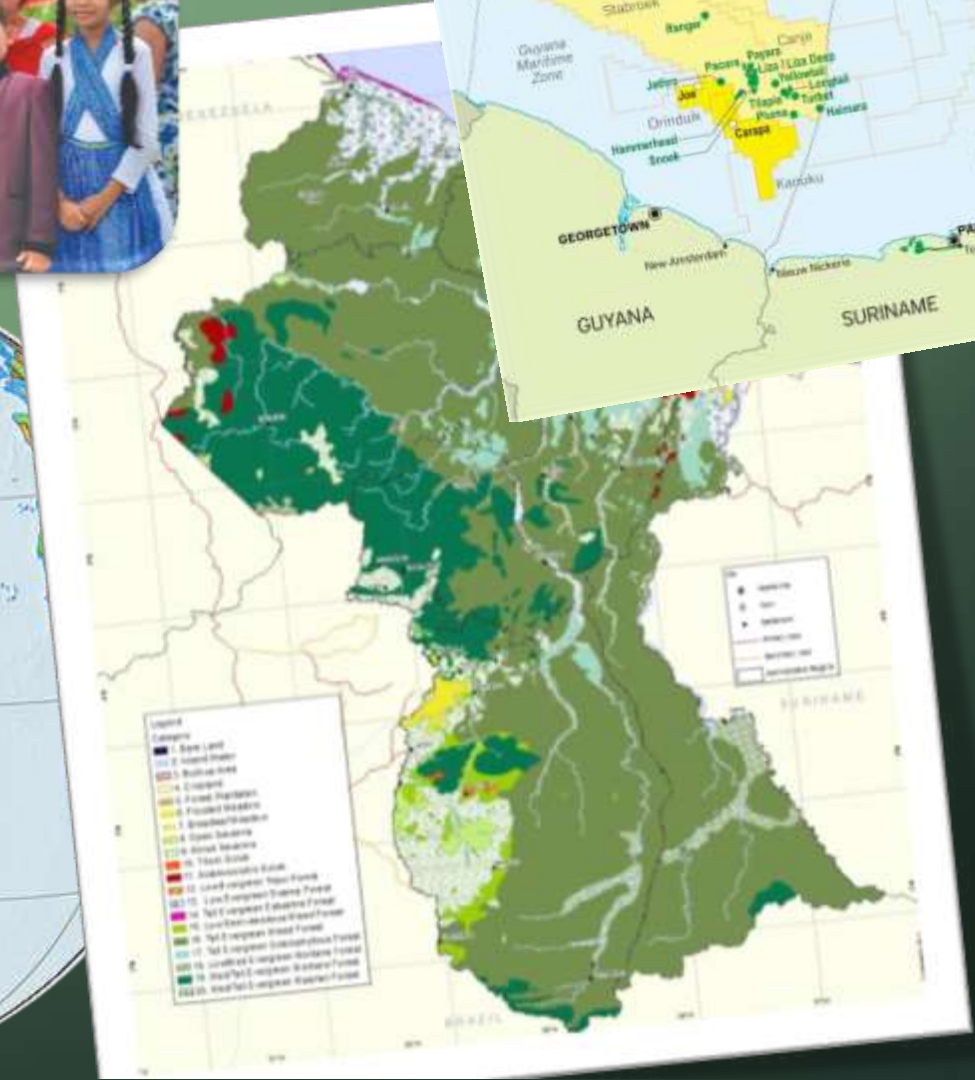
SANTIAGO, CHILE  
SEPTEMBER 2019





# COUNTRY PROFILE: GUYANA

- Population: 779,000 (2018)\*
- Total Area: 215,000 km<sup>2</sup>
- Per Capita Income: US\$4,635 (2018)\*
- Traditional Socioeconomic Base:
  - Agriculture
  - Forestry
  - Mining
- Emerging Oil Economy
- On a Green State Trajectory



\*Source: World Bank, 2018



# Kaieteur Falls

# OUTLINE – GUYANA’S NATIONAL ARRANGEMENTS IN GIM AND NSDI

## ➤ NATIONAL SITUATION

- SOME KEY DRIVERS FOR GEOSPATIAL INFORMATION MANAGEMENT
- GEOSPATIAL INFORMATION LANDSCAPE IN GUYANA

## ➤ CURRENT STATUS ON IMPLEMENTING IGIF

- IGIF-NSDI COUNTRY LEVEL ACTION PLAN
- STATUS ON ACTIONS FOR STRATEGIC PATHWAYS

## ➤ ISSUES

- CHALLENGES
- OPPORTUNITIES



# NATIONAL SITUATION – NATIONAL DEVELOPMENT POLICY: GREEN STATE VISION 2040



- The Green State Development Strategy (GSDS): Vision 2040 is Guyana's 20-year, national development policy that reflects the guiding vision and principles of the 'green agenda'
- The Strategy promotes 3 key messages:
  - Manage natural resource wealth;
  - Support economic resilience; and
  - Build human capital and institutional capacity.
- Many of GSDS Policy Recommendations will need Geospatial Information and management of GI for implementation



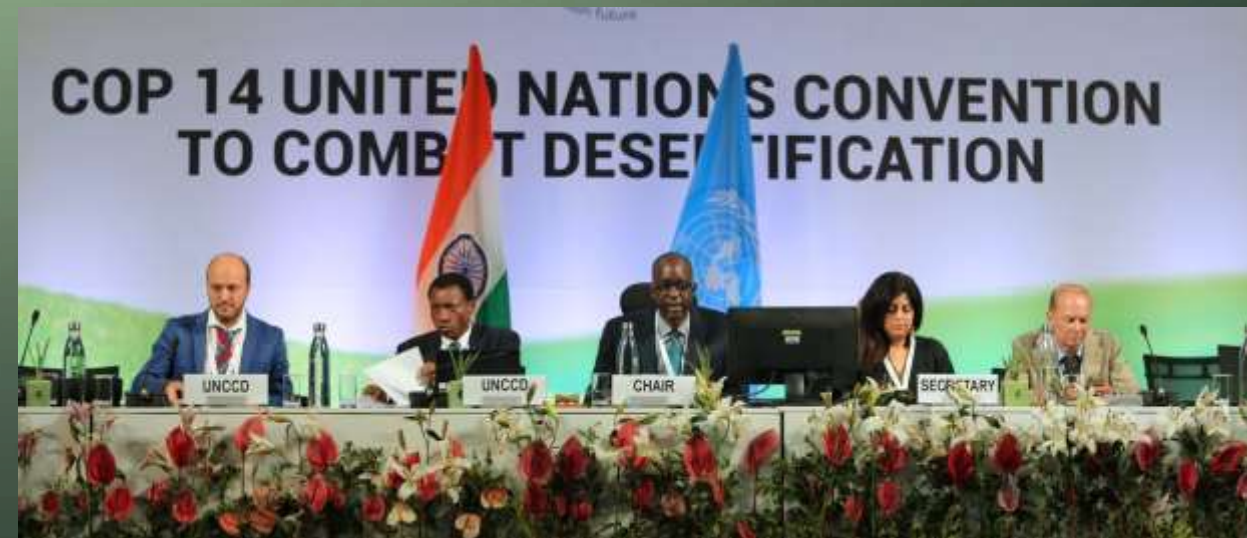
# NATIONAL SITUATION – MANDATED LEAD GEOSPATIAL AGENCY: GUYANA LANDS & SURVEYS COMMISSION (GLSC)

- Under the Guyana Lands and Surveys Commission Act of 1999, GLSC is legally mandated:
  - To have charge of and act as guardian over all public lands, rivers and creeks of Guyana;
  - To function as Guyana's -
    - National Mapping and Geospatial Agency
    - National Surveying and Cadaster Authority
    - National Public Land Administration Agency (Land Tenure administration, Land Use Planning, Land Development, Land Valuation)
    - Lead Agency Liaison among land agencies
    - Advisor to Government on geospatial related Policy
  - To formulate policy on geographic and land information and set standards in relation to digital data, establish the framework for a national network of geographic information systems and develop and maintain a parcel-based land information system;



# NATIONAL SITUATION: GUYANA LANDS & SURVEYS COMMISSION (GLSC) URGENTLY PURSUING MANDATE

- ▶ National Focal Point Agency of UNCCD, since 2003 (In 2019- Hosted CRIC17, Chair of COW @ COP14)
- ▶ National Focal Point Agency of UNGGIM, since 2017 (In 2019- Washington, Kuala Lumpur, New York, Santiago...)
- ▶ Member of IHO, from 2019
- ▶ Responsibility to implement the National Action Plan to combat land degradation under LDN-TSP



# NATIONAL SITUATION: SLDM PROJECT - MAINSTREAMING SUSTAINABLE LAND DEVELOPMENT AND MANAGEMENT IN THE CO-OPERATIVE REPUBLIC OF GUYANA



Executing Agency:

**Guyana Lands & Surveys Commission** on behalf of the Government of Guyana



Implementing Partner:

**United Nations Food and Agriculture Office (UNFAO)**

Source of Financing:

**Performance-based payments for avoided deforestation** received from **Kingdom of Norway** under the **Guyana REDD+ Investment Fund (GRIF)**



Project Period:

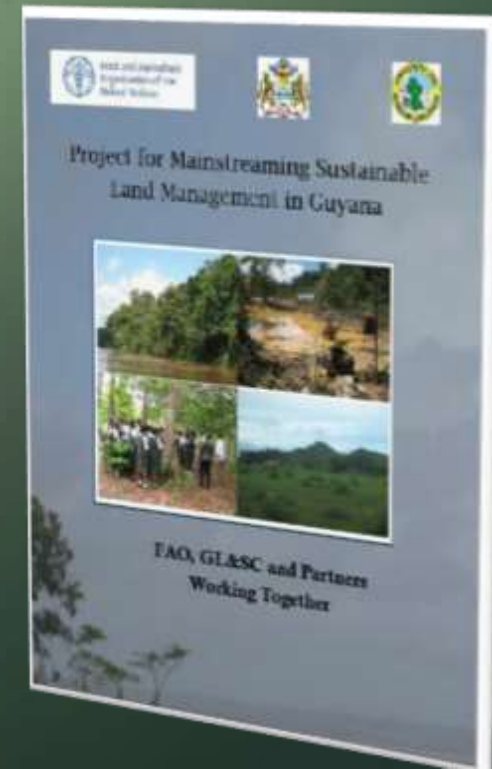
**Mid 2017- Mid 2021 (4 years)**

## Indicative Outcomes

**Outcome 1:** Sustainable Land Development and Management (SLDM) Mainstreamed In Policy, Institutional and Governance Mechanisms to Prevent Degradation and Restore Degraded Lands

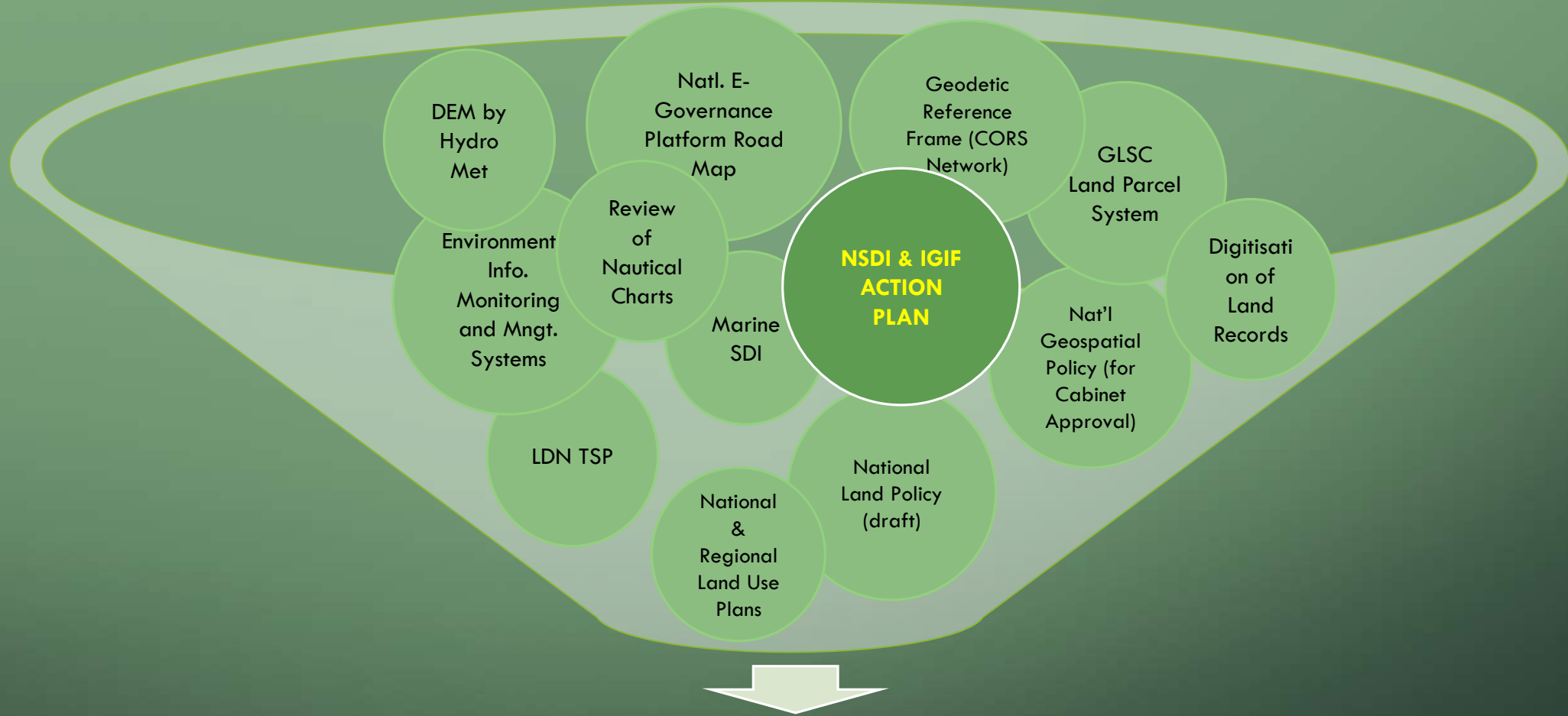
**Outcome 2:** Strengthened Institutional and Human Capacity for Participatory and Integrated SLDM

**Outcome 3:** Local Governance Strengthened in 3 Regions for Implementing SLDM

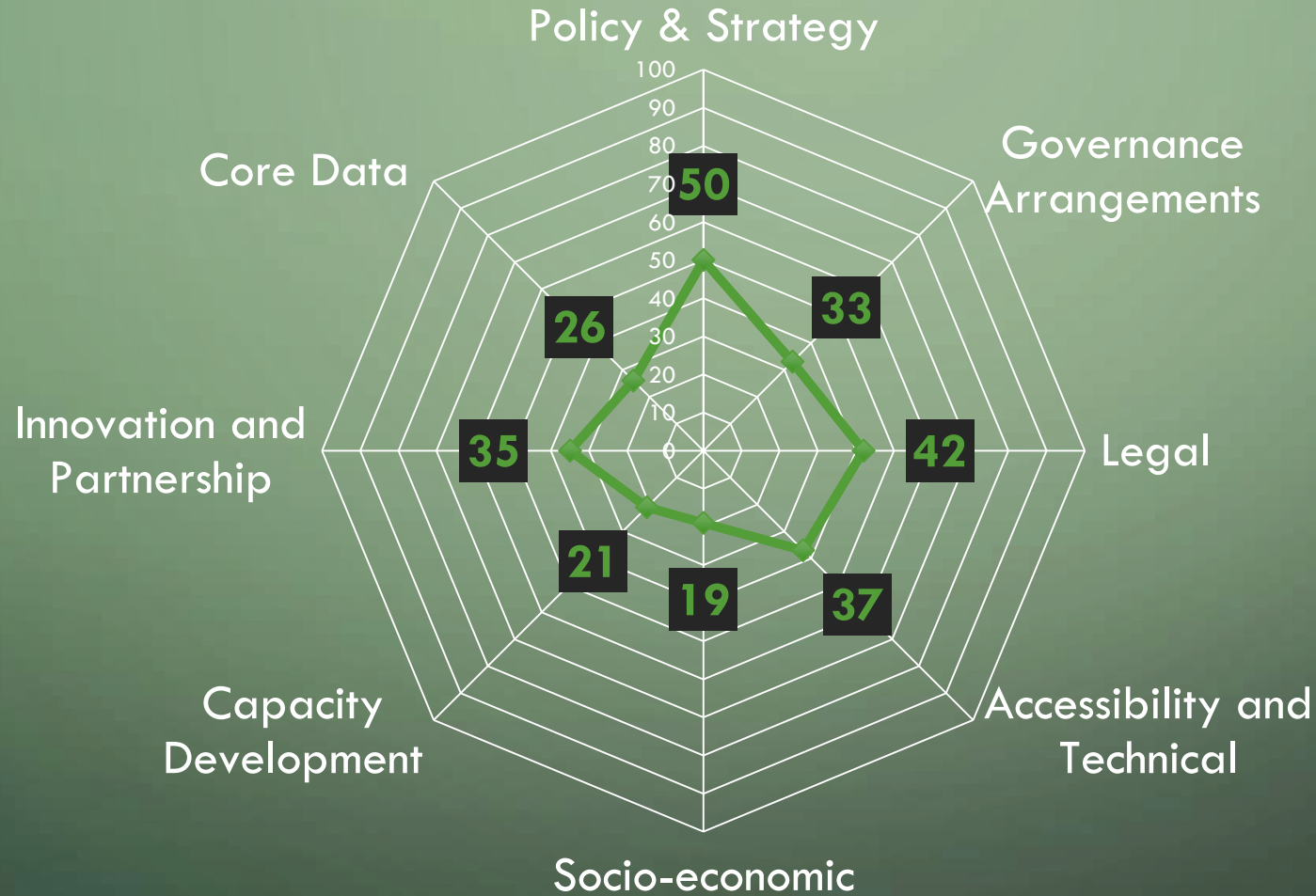




# NATIONAL SITUATION: Geospatial Information Development in Guyana



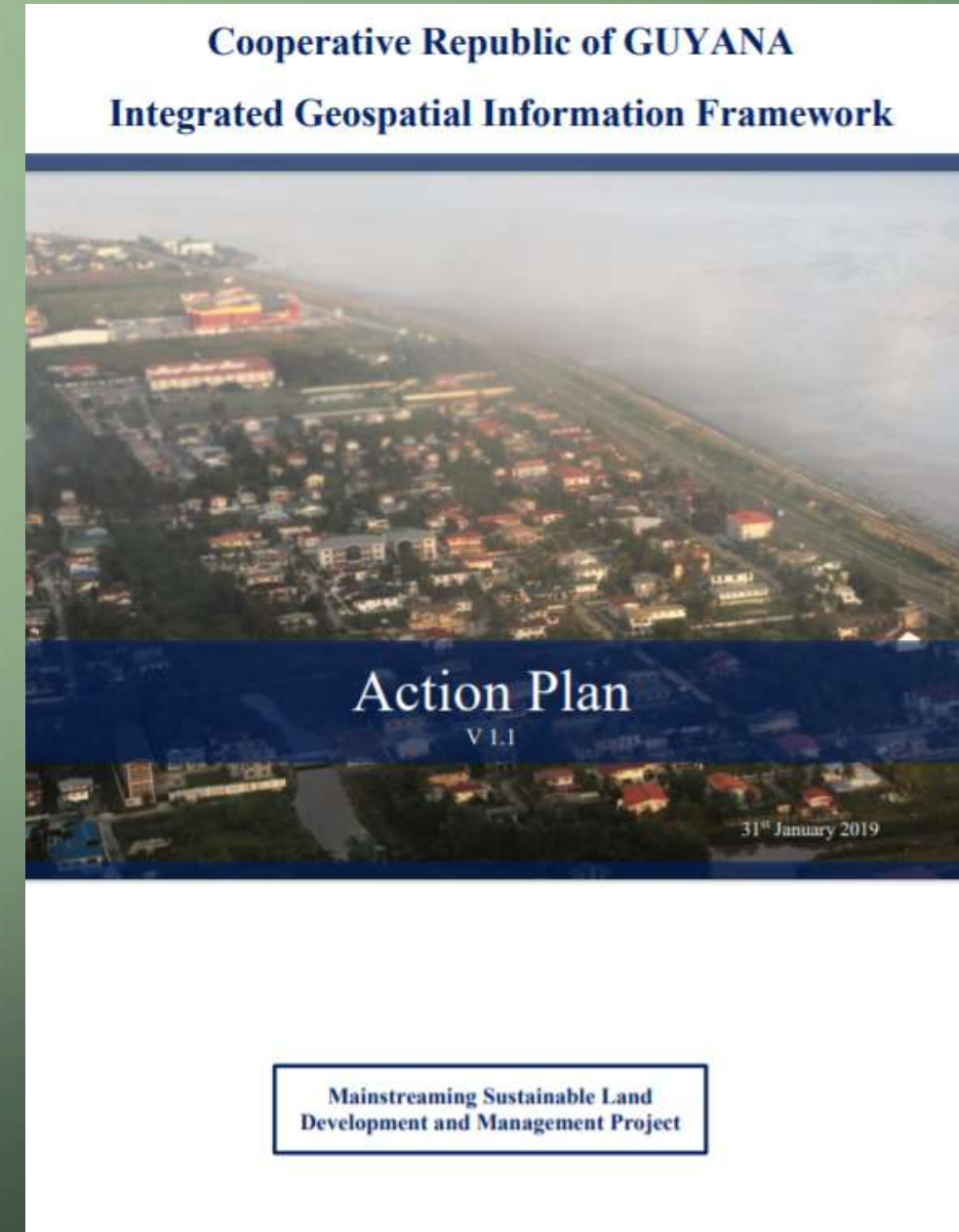
# NATIONAL SITUATION: Geospatial Landscape in Guyana



Source: Guyana NSDI Diagnostic,  
January 2019

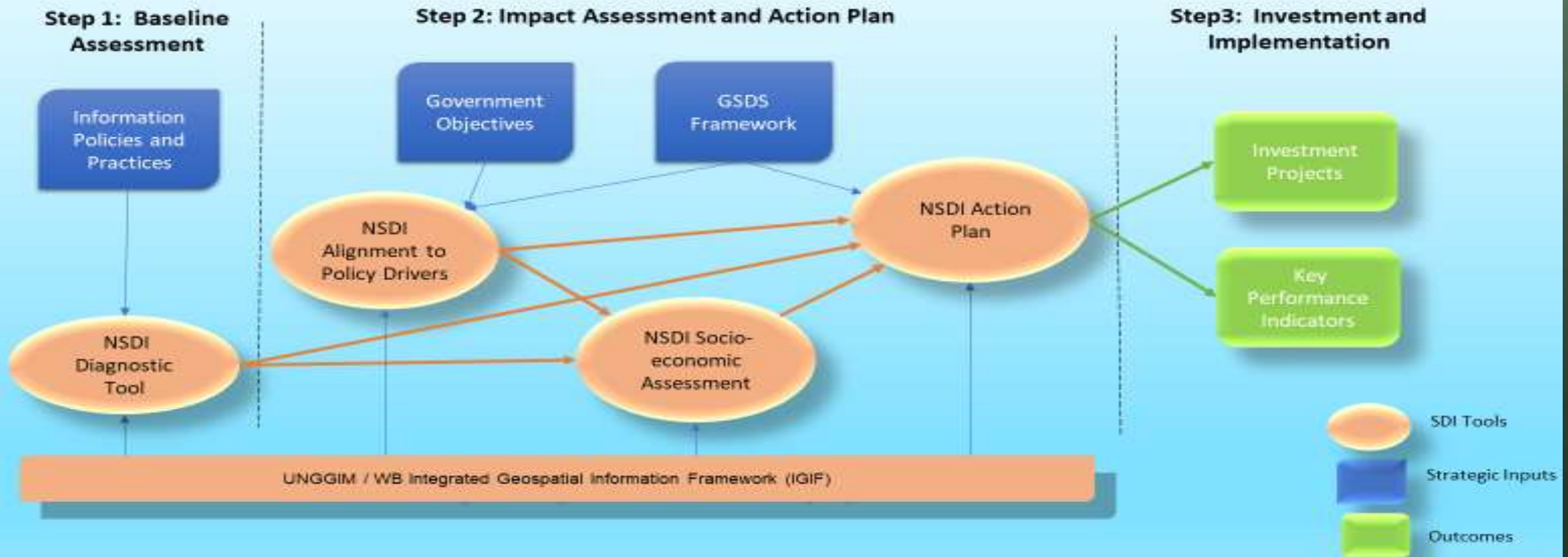
# IGIF - NSDI ACTION PLAN

- Developed under the SLDM Project, Approved by UNFAO & GLSC in January 2019 following highly consultative and review period.
- This document presents an Action Plan, based on the IGIF, for development of a National Spatial Data Infrastructure (NSDI) for Guyana over a 5-year period and outlines its socio-economic benefits.
- The implementation of the action plan will require an indicative level of investment of US\$7.8m for the 5-year period.
- It is a living document!
- 80 pages
- Guyana is one of the first countries globally to start implementing the UNGGIM IGIF



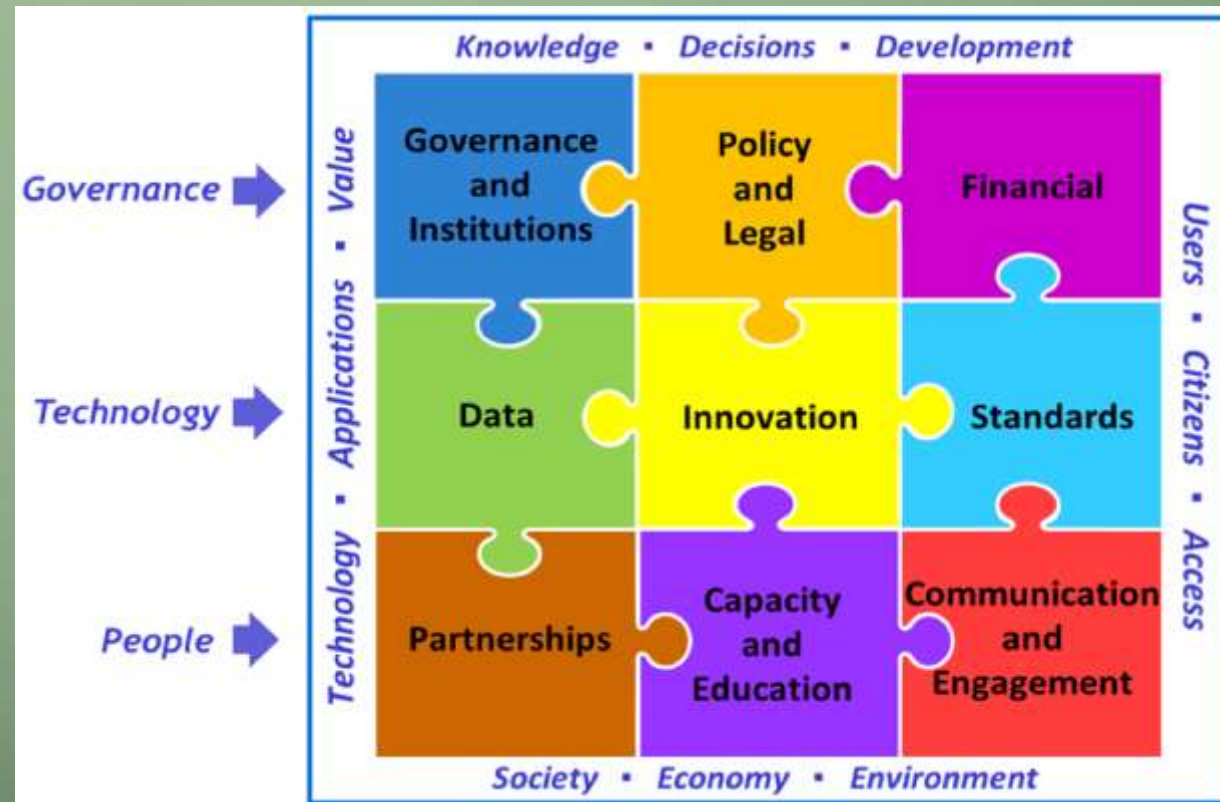
# TOWARDS IGIF IMPLEMENTATION: ASSESSMENT METHODOLOGY WITH ACCOMPANYING ANALYTICAL TOOLS (UNGGIM, WB, UNFAO)

## Methodology



# ACTION PLAN'S ALIGNMENT TO THE UNGGIM IGIF

- The Action plan sets out just over 30 key Actions grouped according to the 9 IGIF strategic pathways and addresses the 14 UNGGIM fundamental geospatial data themes
- Prioritizes the Actions and identifies KPIs for each Pathway.





# NATIONAL ARRANGEMENTS IN GEOSPATIAL INFORMATION MANAGEMENT/NATIONAL SPATIAL DATA INFRASTRUCTURES

CURRENT STATUS ON IMPLEMENTING IGIF IN GUYANA

■ COMPLETED ■ IN PROCESS ■ NOT STARTED

# NSDI / IGIF ACTION PLAN: STATUS (SEPTEMBER 2019)

## STRATEGIC PATHWAY 1: GOVERNANCE & INSTITUTIONS



### ACTIONS

### KPIs

- Ministerial Approval of National Geospatial Policy (High Priority)
- Establish Geospatial Advisory Committee (GAC) (High Priority)
- Establish Working Groups (Medium Priority)

- Geospatial Policy (approval within 3 months)
- GAC and working groups established and operational within 6 months

■ COMPLETED ■ IN PROCESS ■ NOT STARTED

# NSDI / IGIF ACTION PLAN: STATUS (SEPTEMBER 2019)

## STRATEGIC PATHWAY 2: POLICY AND LEGAL



### ACTIONS

- Update Land Surveys legislation to support cadastral upgrading
- Create Data Sharing Agreement (High Priority)
- NSDI Regulations (Medium Priority)
- Data Protection and Pricing and Licensing (Low Priority)

### KPIs

- ▶ Update Land Surveys legislation within 12 months.
- ▶ Data sharing agreement in place and regular operational sharing between 5 organisations within 12 months.
- ▶ Regular operational sharing between all major stakeholders within 3 years.



■ COMPLETED ■ IN PROCESS ■ NOT STARTED

# NSDI / IGIF ACTION PLAN: STATUS (SEPTEMBER 2019)

## STRATEGIC PATHWAY 3:

### FINANCIAL



### Actions

- Develop long-term GLSC Business Model (Medium Priority)

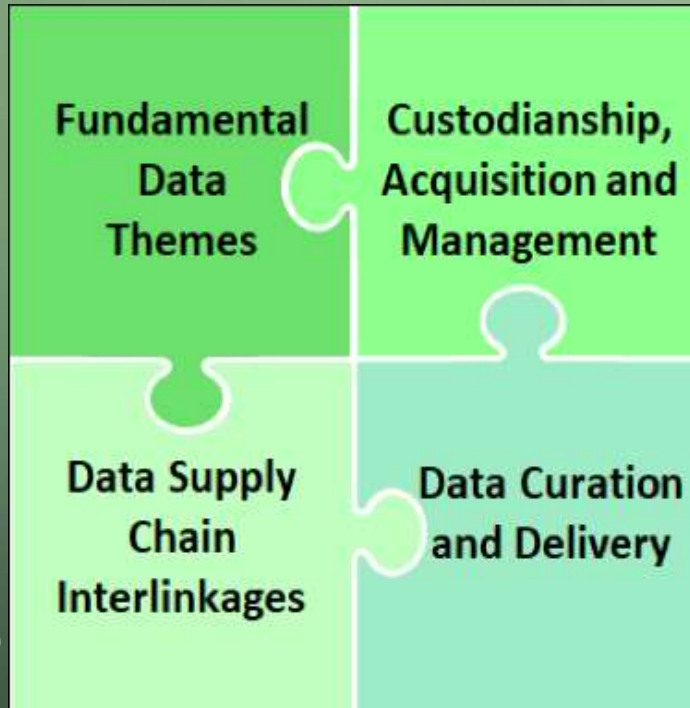
### KPIs

- Long-term GLSC Business Model approved within 18 months

■ COMPLETED ■ IN PROCESS ■ NOT STARTED

# NSDI / IGIF ACTION PLAN: STATUS (SEPTEMBER 2019)

## STRATEGIC PATHWAY 4: DATA



### ACTIONS

- Create National Discovery Geoportal (High Priority)
- Rationalise State Land Leasing Process (Very high Priority)
- National Access to Satellite Imagery (High Priority)
- Create a single National Street Address Database (High Priority)
- Hardware, Network and Software Needs to Support NSDI (Very High Priority)

### KPIs

- ▶ Discovery Metadata database populated with data from 10 key suppliers and openly accessible on the web within 6 months.
- ▶ Rationalise State Land Leasing process including new software live within 2 years.
- ▶ National street address database operational within 2 years.
- ▶ National coverage of updated topographic base mapping within 5 years.

■ COMPLETED ■ IN PROCESS ■ NOT STARTED

# NSDI / IGIF ACTION PLAN: STATUS (SEPTEMBER 2019)

## STRATEGIC PATHWAY 5: INNOVATION

### ACTIONS

### KPIs



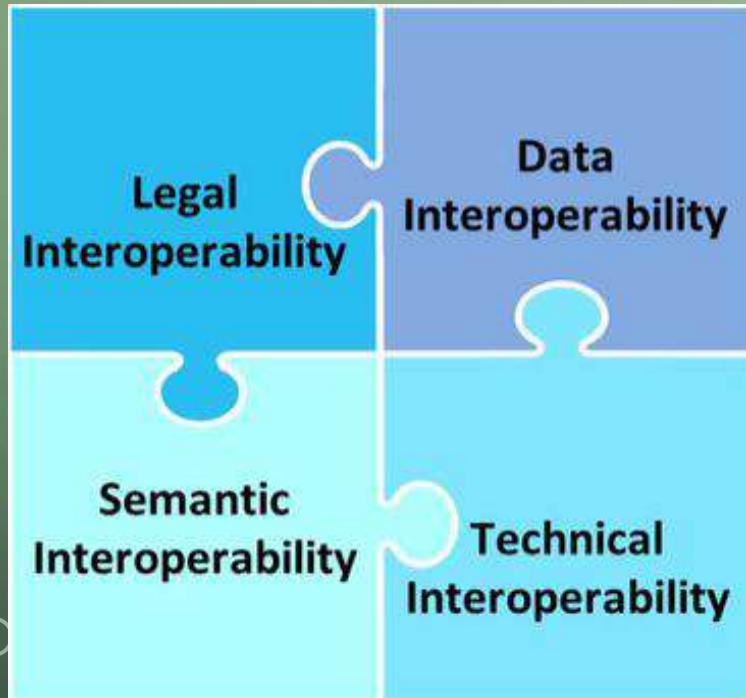
■ Guyana Centre of Geospatial Excellence (High Priority)

- ▶ Centre of Excellence terms of reference, funding and recruitment plans approved by GAC within 12 months
- ▶ Centre of Excellence fully operational within 2 years.

■ COMPLETED ■ IN PROCESS ■ NOT STARTED

# NSDI / IGIF ACTION PLAN: STATUS (SEPTEMBER 2019)

## STRATEGIC PATHWAY 6: STANDARDS



### ACTIONS

- Development and implementation of standards policy (High priority)
  - Discovery Metadata
  - Base Mapping / National Topographic Database
  - Addressing

### KPIs

- ▶ Street Addressing content standard agreed with 12 months.
- ▶ Content standards for 10 fundamental data themes agreed within 3 years.

■ COMPLETED ■ IN PROCESS ■ NOT STARTED

# NSDI / IGIF ACTION PLAN: STATUS (SEPTEMBER 2019)

## STRATEGIC PATHWAY 7:

### PARTNERSHIP



### Actions

- Define Scope of a Partnership with International NSDI Organisations
- Support creation of Guyana Association for Geospatial Information

### KPIs

- Study visits to two countries completed within 12 months.
- Guyana Association of Geospatial Information formed within 2 years

■ COMPLETED ■ IN PROCESS ■ NOT STARTED

# NSDI / IGIF ACTION PLAN: STATUS (SEPTEMBER 2019)

## STRATEGIC PATHWAY 8: CAPACITY & EDUCATION



### ACTIONS

- Consolidate National Geospatial and Land Administration Capabilities at Tertiary Level (High Priority)
- Geospatial Information in the School Curriculum (Medium Priority)
- Foster Geospatial Entrepreneurship (Medium Priority)

### KPIs

- ▶ GIS Laboratory at University of Guyana opened within 12 months
- ▶ 3 new geospatial topics within senior school curriculum within 2 years
- ▶ Land management and land valuation courses graduating students within 3 years

■ COMPLETED ■ IN PROCESS ■ NOT STARTED

# NSDI / IGIF ACTION PLAN: STATUS (SEPTEMBER 2019)

## STRATEGIC PATHWAY 9: COMMUNICATION & ENGAGEMENT



### Actions

- Create Outreach Group (High Priority)
- Monitoring and Evaluation Framework (High Priority)

### KPIs

- Monitoring and Evaluation framework approved by GAC within 6 months
- Outreach group staffed and communications plan approved within 12 months

# IGIF IMPLEMENTATION ISSUES: CHALLENGES / OPPORTUNITIES

General Area (IGIF Principle)	Opportunities	Challenges
<b>1. Strategic Enablement</b> (political and financial support)	<ul style="list-style-type: none"><li>- Strong political support,</li><li>- Some Financial support from SLDM Project</li><li>- Strengthen alignment with national development strategy (GSDS)</li></ul>	<ul style="list-style-type: none"><li>- Path to long-term financial sustainability still unclear</li><li>- Political climate with NCM and new elections pending</li></ul>
<b>2. Transparent and Accountable</b> (sharing of info. with citizens, within govt, academia, private sector)	<ul style="list-style-type: none"><li>- Growing awareness of need across GoG that geospatial information is to be shared and accessible (e.g. GLSC, MoF, BoS)</li></ul>	<ul style="list-style-type: none"><li>- Culture of data sharing to be nurtured</li><li>- Rationale for open data to be sold</li></ul>
<b>3. Reliable, Accessible &amp; Easily Used</b>	<ul style="list-style-type: none"><li>- To leverage technology with policy and standards</li></ul>	<ul style="list-style-type: none"><li>- Outdated data</li><li>- Data silos</li><li>- Inconsistent data standards</li></ul>



# IGIF IMPLEMENTATION ISSUES: CHALLENGES / OPPORTUNITIES

IGIF Principle	Opportunities	Challenges
<b>4. Collaboration and Cooperation</b>	<ul style="list-style-type: none"><li>- Tremendous avenues for international collab. – Mexico, UK (CORS), Norway (GRIF), UNFAO (SLDM), ECLAC, UNGGIM and possible Netherlands, Serbia</li></ul>	<ul style="list-style-type: none"><li>- Need to quickly coordinate numerous geospatial initiatives across GoG to avoid duplication of effort and wastage of resources</li></ul>
<b>5. Integrative Solution</b>	<ul style="list-style-type: none"><li>- NSDI Action plan developed with comprehensive UNGGIM IGIF framework</li><li>- Foundation laid by National Geospatial Policy and GLSC Act</li><li>- Integrative technology solutions are available</li></ul>	<ul style="list-style-type: none"><li>- Modern National Geodetic Reference Frame in its infancy (CORS Network)</li><li>- Formalisation of institutional arrangements, standards to be done</li><li>- Significant gaps in required geospatial capacity and skills</li></ul>

# IGIF IMPLEMENTATION ISSUES: CHALLENGES / OPPORTUNITIES

IGIF Principle	Opportunities	Challenges
<b>6. Sustainable and Valued</b>	<ul style="list-style-type: none"><li>- IGIF Action Plan drew from Alignment to national strategic drivers and basic socio-economic assessment</li></ul>	<ul style="list-style-type: none"><li>- 'Telling and selling' value of geospatial information (GI)</li><li>- Development of localised use cases / business cases &amp; models / studies for GI</li></ul>
<b>7. Leadership and Commitment</b>	<ul style="list-style-type: none"><li>- Strong leadership from CEO GLSC, Ministers of State and GoG Cabinet</li></ul>	<ul style="list-style-type: none"><li>- Political climate with NCM and new elections pending</li></ul>



# MUCHAS GRACIAS! PREGUNTAS? (En inglés por favor)

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