Expert meeting and Consultations on
Enhancing Geospatial Information Management Arrangements and Accelerating the Implementation of the Sustainable Development Goals and Sub-regional workshop on the Implementation of the United Nations Integrated Geospatial Information Framework for the Southern Africa

Maputo, Mozambique
24-28 March 2025

LAND LOCKED COUNTRIES - GROUP

Enhancing Geospatial Information Management arrangements
Accelerating the Implementation of the SDGs
Sub-regional Workshop on UN-IGIF for the Southern Africa

NATIONAL PRIORITIES

1. Improve food security;

2. Improve access to health;

3. Improve access to clean water;

4. Improved access and quality to education;

5. Improve energy security;

6. Improve road infrastructure;

7. Improved land administration;

8. Improve connectivity;

9. Digitilisation of all services;

10. Easy of doing business;

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	PRIORITIES	SUSTAINABLE DEVELOPMENT GOALS
1	IMPROVE FOOD SECURITY	2 - ZERO HUNGER
2	IMPROVE ACCESS TO HEALTH	3 - GOOD HEALTH AND WELL-BEING
3	IMPROVE ACCESS TO CLEAN WATER	6 - CLEAN WATER AND SANITATION
4	IMPROVED ACCESS AND QUALITY TO EDUCATION	4 - QUALITY EDUCATION
5	IMPROVE ENERGY SECURITY	7 - AFFORDABLE AND CLEAN ENERGY
6	IMPROVE ROAD INFRASTRUCTURE	9 - INDUSTRY, INNOVATION AND INFRASTRUCTURE
7	IMPROVED LAND ADMINISTRATION	11 - SUSTAINABLE CITIES AND COMMUNITIES 15 - LIFE ON LAND
8	IMPROVE CONNECTIVITY	9 - INDUSTRY, INNOVATION AND INFRASTRUCTURE
9	DIGITILISATION OF ALL SERVICES	16 – PEACE, JUSTICE AND STRONG INSTITUTIONS
10	EASY OF DOING BUSINESS	16 – PEACE, JUSTICE AND STRONG INSTITUTIONS

|	PRIORITIES	DATA SETS & WHERE ARE THESE DATA SETS
1	IMPROVE FOOD SECURITY	LAND COVER AND LAND USE, ADMINISTRATIVE BOUNDARIES, AGRICULTURE PRODUCTION RECORDS, STAKEHOLDER INTENVENTIONS, CENSUS RECORDS – AGRICULTURE, STATISTICS, LANDS
2	IMPROVE ACCESS TO HEALTH	HEALTH FACILITIES LOCATION AND ATTRIBUTES, ROAD NETWORK, ADMINISTRATIVE BOUNDARIES, CENSUS, ELEVATION MODEL, RIVERS, INFRASTRUCTURE – MINISTRIES RESPONSIBLE FOR HEALTH, PUBLIC WORKS & INFRASTRUCTURE, STATISTICS, LANDS
3	IMPROVE ACCESS TO CLEAN WATER	LOCATION OF WATER POINTS, RIVERS, ADMINISTRATIVE BOUNDARIES – MINISTRIES RESPONSIBLE FOR WATER, LANDS
4	IMPROVED ACCESS AND QUALITY TO EDUCATION	SCHOOL FACILITIES LOCATION AND ATTRIBUTES, ROAD NETWORK, ADMINISTRATIVE BOUNDARIES, CENSUS, ELEVATION MODEL, RIVERS, INFRASTRUCTURE - EDUCATION, STATISTICS, LANDS
5	IMPROVE ENERGY SECURITY	ENERGY GENERATION SITES AND ATTRIBUTES, POWERLINE NETWORK AND COVERAGE, ADMINISTRATIVE BOUNDARIES, METEOROLOGY, TOPOGRAPHY – MIN. FOR ENERGY, WEATHER, LANDS
6	IMPROVE ROAD INFRASTRUCTURE	ROAD AND RIVER NETWORKS, TOPOGRAPHY, ADMINISTRATIVE BOUNDARIES - MINISTRIES RESPONSIBLE FOR PUBLIC WORKS & INFRASTRUCTURE AND LANDS
7	IMPROVED LAND ADMINISTRATION	LAND PARCELS, COVER AND USE, ADMINISTRATIVE BOUNDARIES, OWNERSHIP - MINISTRIES RESPONSIBLE FOR LOCAL GOVERNMENT, LANDS
8	IMPROVE CONNECTIVITY	NETWORK COVERAGE, CENSUS – MINISTRIES RESPONSIBLE FOR TELECOMMUNICATION, STATISTICS
9	DIGITILISATION ALL SERV.	RESPONSIBLE DEPARTMENTS/INSTITUTIONS
10	EASY OF D. BUSINESS	RESPONSIBLE DEPARTMENTS/INSTITUTIONS – MONITORING AND EVALUATION

Shared Development Priorities: South Africa & Cameroon

Strategic Alignment with SDGs and IGIF

Date: March 2025
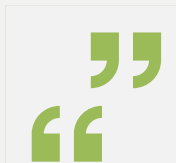
Presented by: Clinton Heimann, Fernand Isseri

Objective of the Presentation

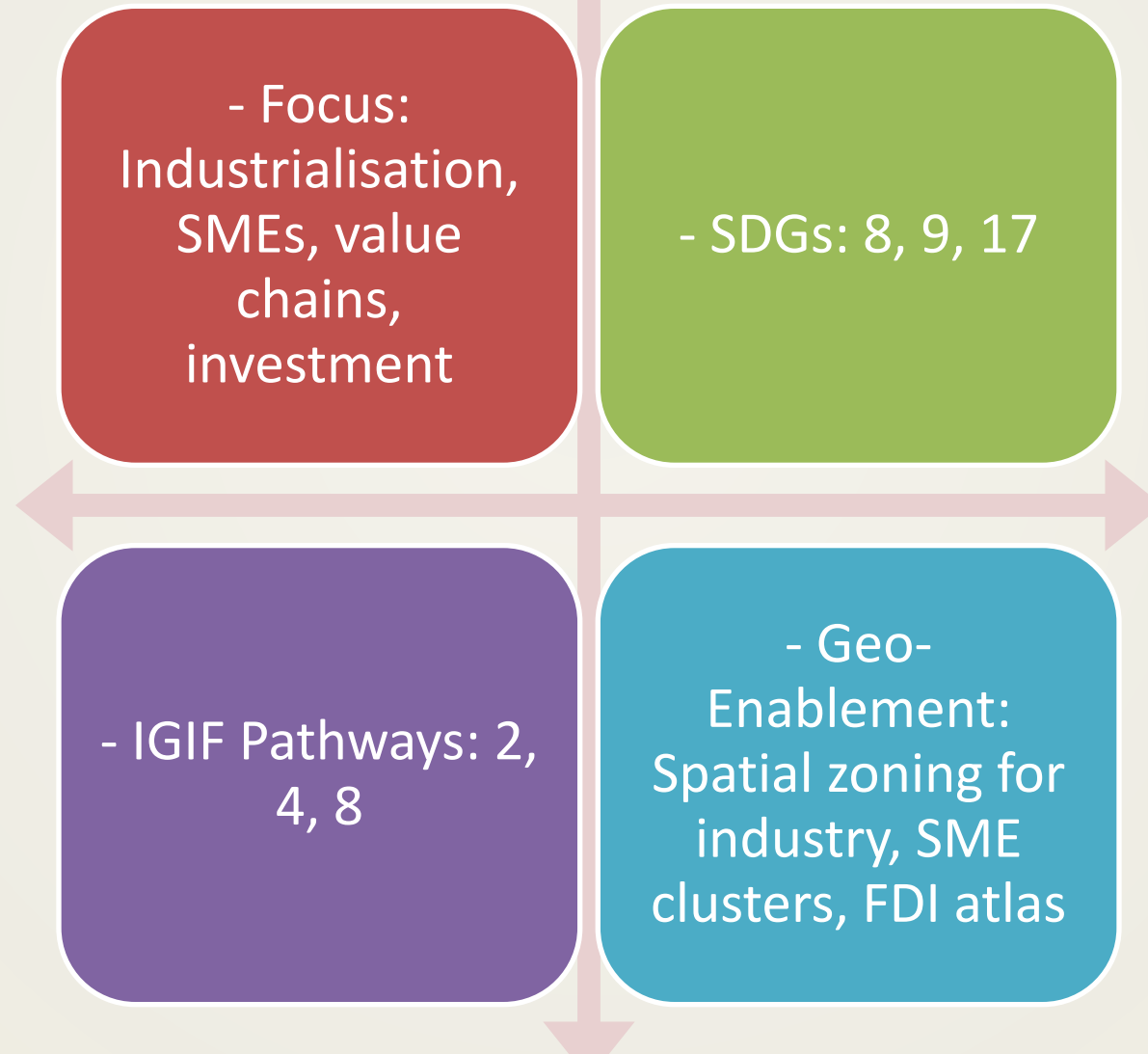|	
Identify and synthesize	- Identify and synthesize common development priorities
Align	- Align priorities with Sustainable Development Goals (SDGs)
Explore	- Explore Integrated Geospatial Information Framework (IGIF) convergence
Support	- Support regional cooperation under UN-GGIM: Africa

Framework for Alignment

South Africa (MTDP 2024–2029) vs Cameroon (NDS30)

Vision: Inclusive, evidence-based transformation vs Structural transformation & Vision 2035

SDGs Focus: Growth, equity, resilience vs Growth, industrialisation, governance

IGIF Relevance: Legal reform, data infrastructure, innovation vs NSDI development, decentralisation, geospatial policy

Shared Priority 1 - Inclusive Economic Transformation

- Focus: Industrialisation, SMEs, value chains, investment

- SDGs: 8, 9, 17

- IGIF Pathways: 2, 4, 8

- Geo-Enablement: Spatial zoning for industry, SME clusters, FDI atlas

Shared Priority 2 - Human Capital & Social Development

- Focus: Education, health, social protection, poverty reduction

- SDGs: 1, 3, 4, 10

- IGIF Pathways: 3, 6, 7

- Geo-Enablement: Poverty mapping, school/clinic catchment models, regional equity dashboards

Shared Priority 3 - Governance & Decentralisation

- Focus: Institutional reform, public service, local planning

- SDGs: 16, 11

- IGIF Pathways: 1, 5, 10

- Geo-Enablement: Municipal-level GIS, spatial planning laws, local SDI frameworks

Shared Priority 4 - Climate Resilience & Environmental Management

- Focus: Disaster risk, biodiversity, sustainable land use

- SDGs: 13, 15

- IGIF Pathways: 3, 5, 10

- Geo-Enablement: Land cover mapping, ecological corridor tracking, early warning systems

Shared Priority 5 - Digital Transformation & Innovation

- Focus: Broadband, geospatial services, startups

- SDGs: 9, 17

- IGIF Pathways: 6, 8

- Geo-Enablement: Drone programs, geospatial innovation hubs, open data platforms

Strategic Implications for Continental Collaboration

PIDA is a strategic framework by the African Union, AUDA-NEPAD, AfDB, and UNECA to advance regional integration through infrastructure in four sectors: energy (grids, renewables), transport (roads, rail, ports), ICT (broadband, fibre), and transboundary water (shared resources, dams).

- Joint IGIF case studies

- Regional GIS training curricula

- Spatial systems for AfCFTA and PIDA

- Shared use cases (e.g. SME tracking, youth employment, climate risk zones)

AfCFTA: The African Continental Free Trade Area is the world's largest free trade area by number of participating countries. It was established under the African Union (AU) and came into force on 1 January 2021.

Conclusion

- Shared priorities = platform for cooperation

- IGIF provides the enabler for alignment

- SDGs unify policy intent

- Opportunity: Regional leadership in geospatial development

Question 2:

Present national data holdings separately for South Africa and Cameroon

Align data assets with IGIF implementation priorities

South Africa: Foundational Geospatial Data

- Topographic Maps: NGI

- Cadastral Data: Chief Surveyor-General & Deeds Registry

- Admin Boundaries: Municipal Demarcation Board (MDB)

- Address Dataset: South Africa Post Office

- Transport & Hydrology: SANRAL, DWS

- Elevation/EO Data: SANSA, NGI

- Storage: NGI Geoportal, SANBI BGIS, Stats SA SuperWeb
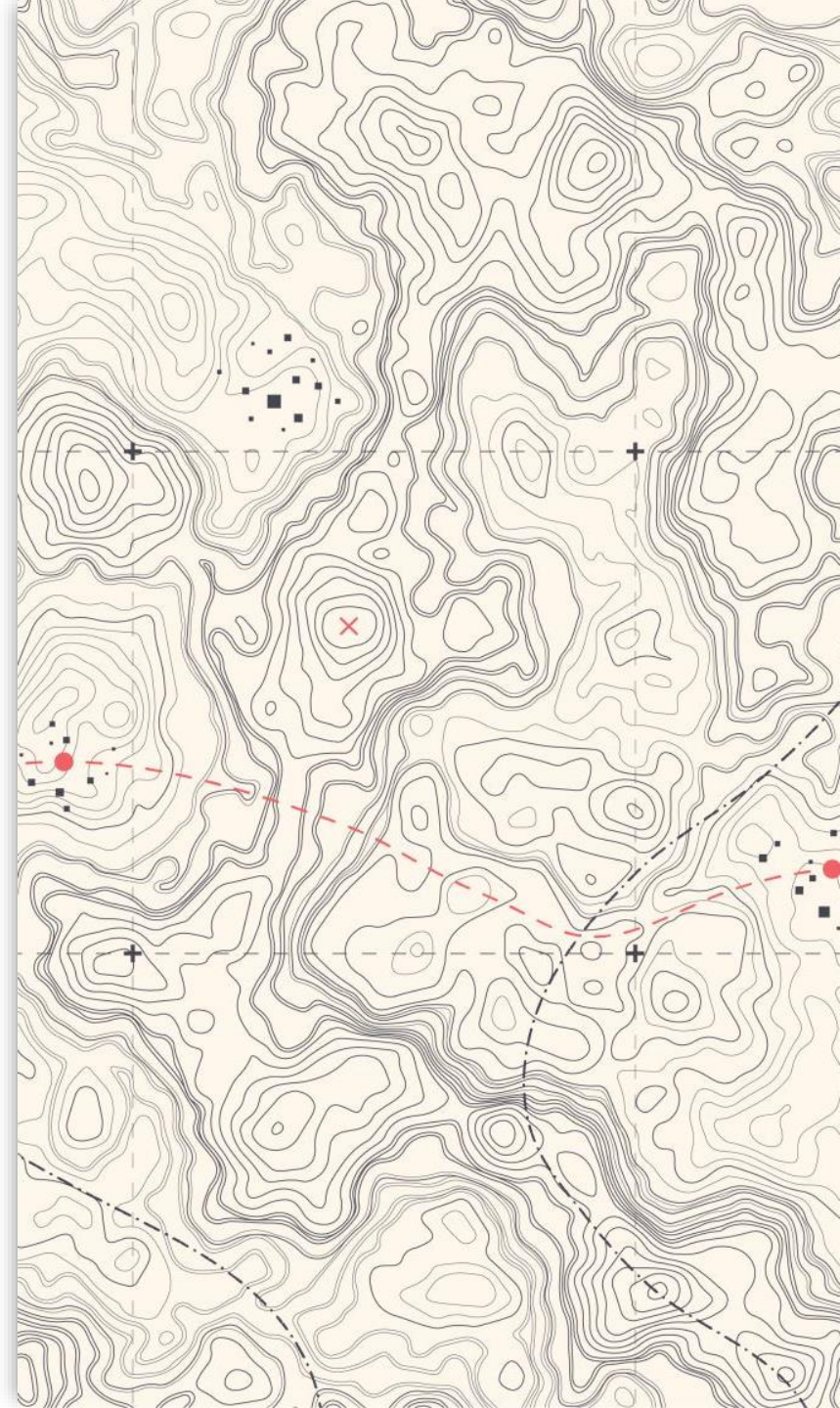
South Africa: Sector-Specific Data Assets

HEALTH: DHIS2, MASTER FACILITY LIST (NDOH)
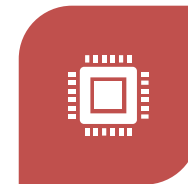
EDUCATION: EMIS (DBE)

ENVIRONMENT: BGIS (SANBI), DFFE

AGRICULTURE: DALRRD, ARC GIS LABS

DISASTER RISK: NDMC GIS HUB

ENERGY & TELECOMS: DMRE, ICASA
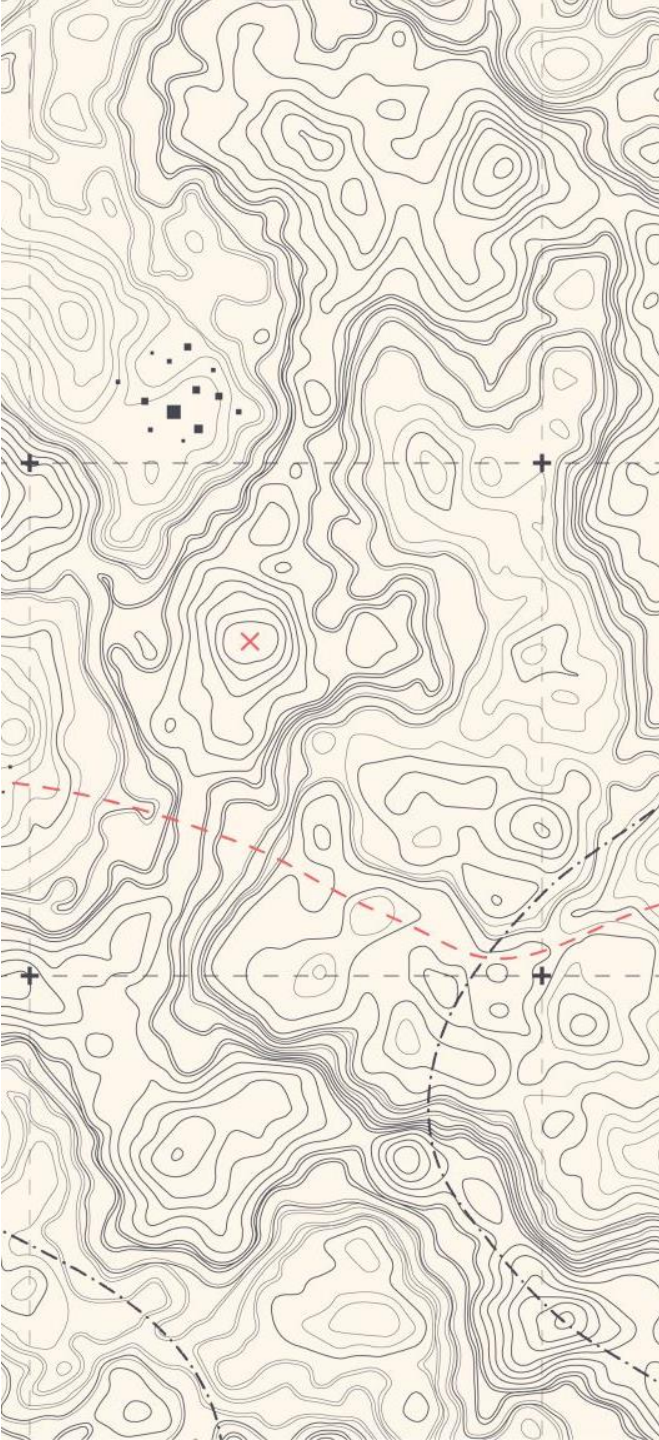
South Africa: SDI and IGIF Alignment

Legal Framework: SDI Act (Act 54 of 2003), SASDI

Governance: Committee for Spatial Information (CSI)

Metadata: Electronic Metadata Catalogue

Gaps: Enforcement, cross-sector integration

IGIF Focus: Policy reform, inclusive governance, drone/EO data

Cameroon: Foundational Geospatial Data

- Topographic Maps: INC (partial digitisation)
- Cadastral Data: MINDCAF
- Admin Boundaries: INC
- Addressing: Local councils (fragmented)
- Transport & Hydro: MINTP, MINEE
- Elevation/EO Data: INC
- Storage: INS Portal, Project-Based Systems
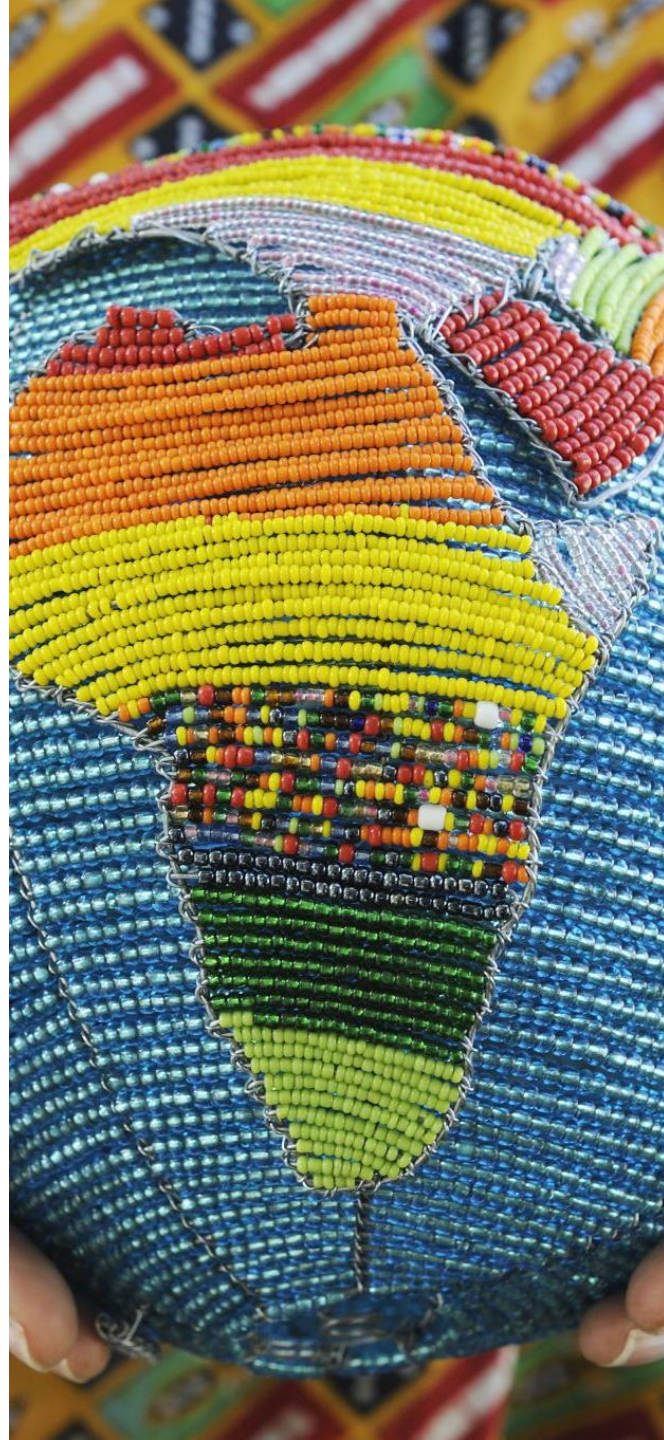
Cameroon: Sector-Specific Data Assets

- Health: DHIS2 (MINSANTE)
- Education: MINEDUB EMIS
- Agriculture: MINADER, IRAD
- Forestry: SIGIF2 (MINFOF, MINEPDED)
- Climate & Disaster: ONACC, Civil Protection
- Urban Data: MINDUH, City GIS (e.g. Yaoundé, Douala)

Cameroon: SDI and IGIF Alignment
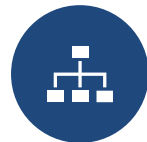
No formal NSDI or metadata registry

Institutional Fragmentation

Active EO work via ONACC, IRAD

IGIF-aligned Initiatives: National strategy under development

Gaps: Governance framework, data custodianship, capacity

Question 3: Key Ministries to work with to address the data availability:

ZA South Africa – Key Ministries and Institutions

Ministry / Entity	Role in IGIF / Spatial Data Governance
Department of Agriculture, Land Reform and Rural Development (DALRRD)	National geospatial authority (via NGI & SPLUM); land use, cadastral, agriculture data, SDI coordination Primary custodians of base maps,
Department of Cooperative Governance (DCoG)	Local government planning, municipal support, integration with SPLUMA
Department of Communications and Digital Technologies (DCDT)	Leads National Address Dataset; broadband and digital transformation alignment
Department of Forestry, Fisheries and the Environment (DFFE)	Biodiversity, protected areas, environmental data systems
Statistics South Africa (Stats SA)	Demographics, poverty maps, SDG indicator tracking, NAD co-host
South African National Space Agency (SANSA)	Earth observation, satellite data, remote sensing platforms
Department of Public Works and Infrastructure (DPWI)	Custodian of state-owned infrastructure and assets
Municipal Demarcation Board (MDB)	Maintains and updates administrative boundaries
National Treasury / GTAC	Financing, data infrastructure investments, economic modeling
Department of Science and Innovation (DSI)	Supports geospatial innovation, R&D, and digital economy linkages

CM Cameroon – Key Ministries and Institutions

Institution / Ministry	Role in IGIF / Spatial Data Governance
BUCREP (Central Bureau of Census and Population Studies)	**National Census Bureau**: Conducts RGPH; provides core demographic, housing, and geospatial census data; essential for enumeration areas, population maps, and SDG disaggregation.
National Institute of Cartography (INC)	National topographic mapping and cartographic production; supports geospatial base data and EO application.
Ministry of State Property, Surveys and Land Tenure (MINDCAF)	Manages cadastral and property data; potential lead for land parcel integration into NSDI.
Ministry of Decentralization and Local Development (MINDDEVEL)	Oversees local governance and commune boundaries; critical for spatial equity and decentralised data integration.
INS (National Institute of Statistics)	Coordinates national statistics (economic, trade, production); supports SDG reporting; collaborates with BUCREP and ministries.
Ministry of Agriculture and Rural Development (MINADER)	Holds land use, crop zoning, and rural data systems; works with IRAD and regional programs.
Institute for Agricultural Research for Development (IRAD)	Hosts GIS labs; supports geospatial analytics in food security, land productivity, and climate resilience.
Ministry of Public Health (MINSANTE)	DHIS2 custodian; maintains Master Facility List (MFL); supports health mapping and spatial access analytics.
ONACC (Climate Observatory)	National hub for EO, climate risk mapping, and spatial early warning systems.
Ministry of Urban Development and Housing (MINDUH)	Leads urban zoning, GIS-enabled master planning, and smart city initiatives in large municipalities.
MINEPDED (Environment Ministry)	Forestry GIS (SIGIF2), REDD+ implementation, and protected area spatial regulation.
MINRESI (Scientific Research)	Supports IGIF strategy design, spatial innovation ecosystems, and academic R&D partnerships.

Thank You

SIDS Group

Enhancing Geospatial Information Management arrangements
Accelerating the Implementation of the SDGs
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8 Core National Priorities

Based on the Emerging Comoros Plan

- Climate Resilience – SDG 13
- Environmental Protection – SDG 6, 7,13, 14, 15
- Sustainable Agriculture – SDG 2, 14, 15
- Biodiversity Conservation – SDG 13, 14, 15
- Healthcare – SDG 1, 2, 3, 6, 8, 10,
- SDGs Alignment – SDG 16, 17
- Protected Areas & renewable energy SDG 7, 14, 15
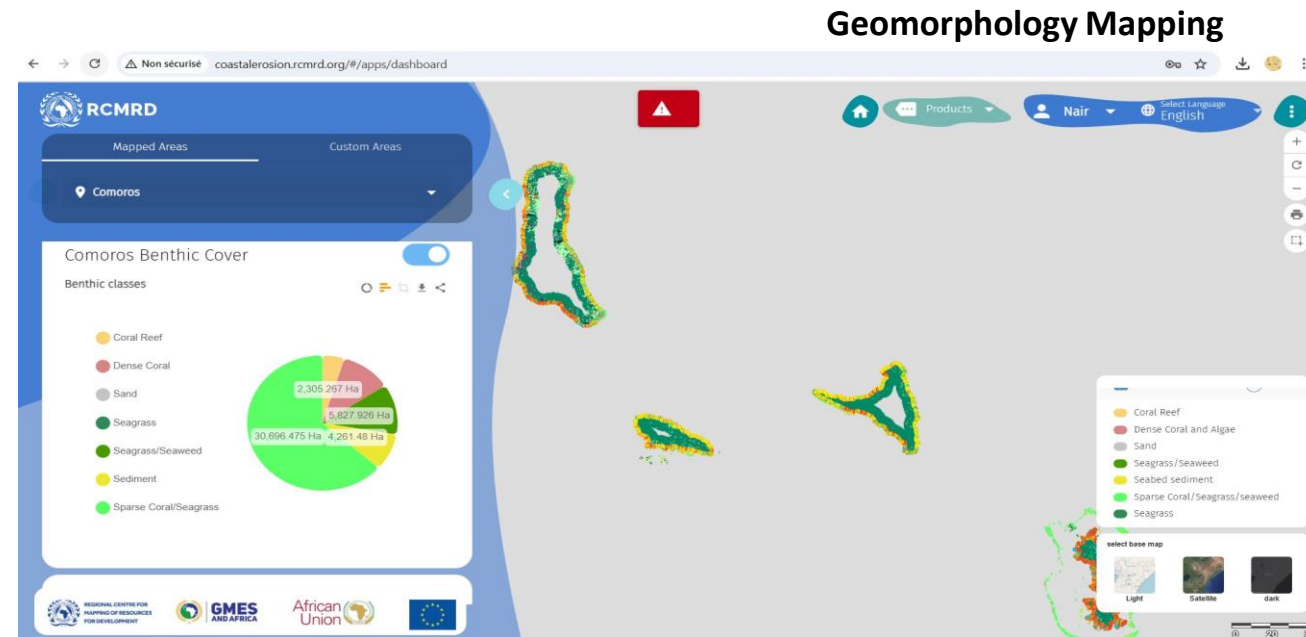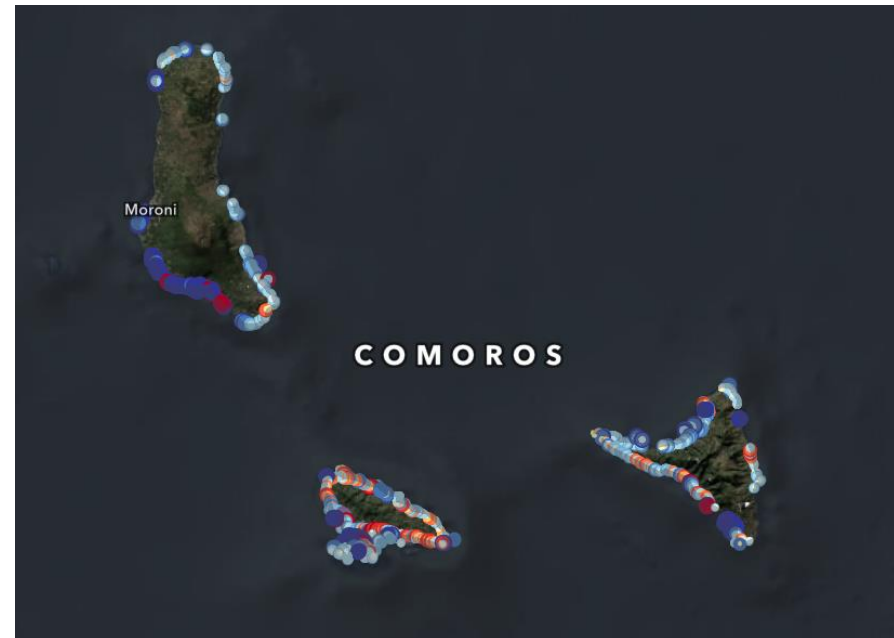- Financing strategy – SDG 8, 9, 11, 12, 16,

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National Priorities – Spatial Data Example

Based on the Emerging Comoros Plan

- Climate Resilience – SDG 13

Geomorphology Mapping

National Priorities – Spatial Data Example

Based on the Emerging Comoros Plan

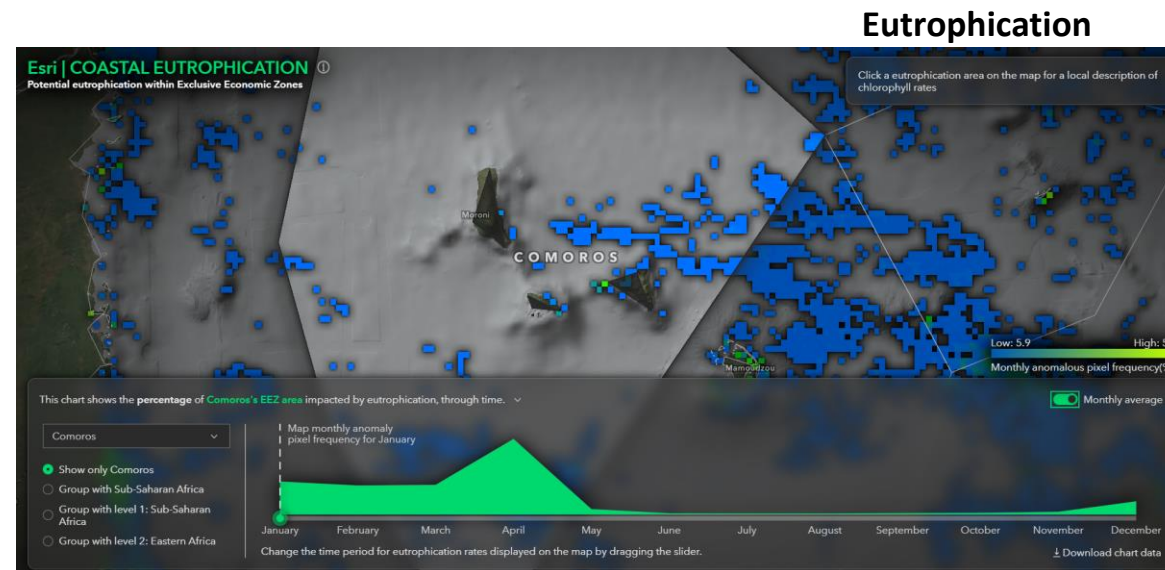- Environmental Protection – SDG 6, 7,13, 14, 15

Coastal Erosion

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8 National Priorities – Spatial Data Example

Based on the Emerging Comoros Plan

- Sustainable Agriculture – SDG 2, 14, 15
- Biodiversity Conservation – SDG 13, 14, 15

Eutrophication

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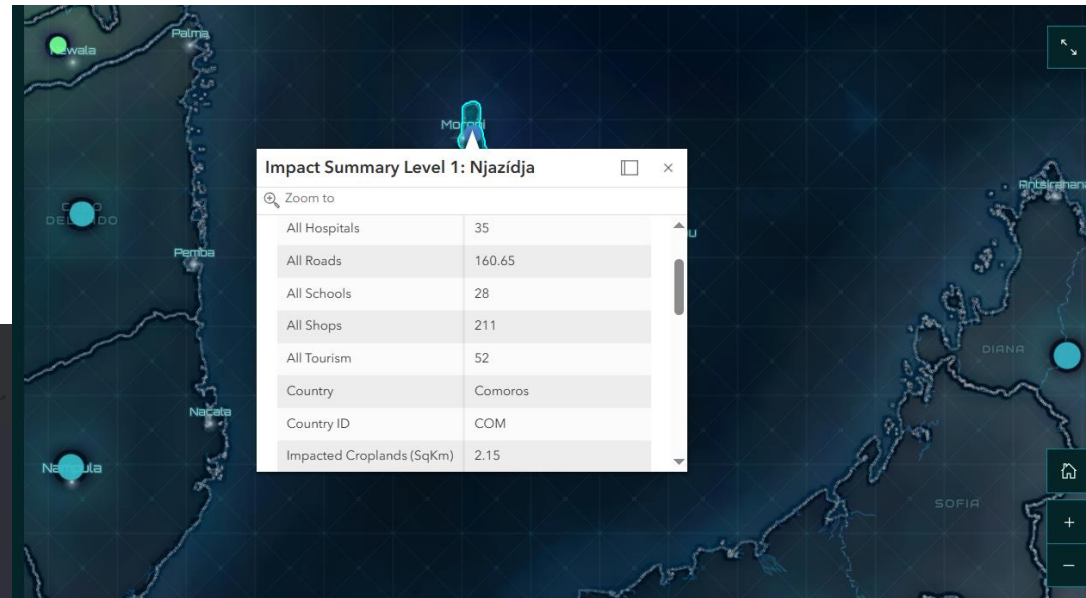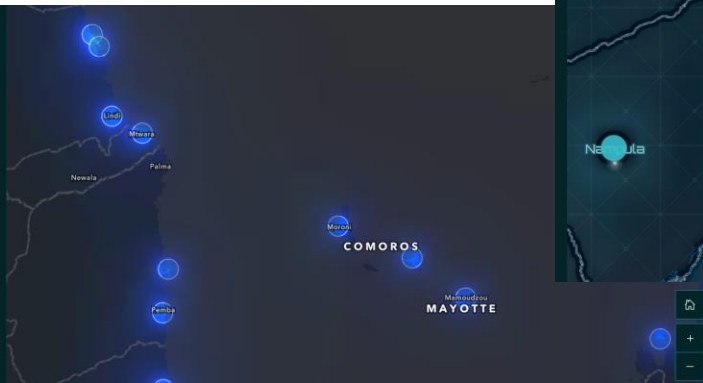# 8 National Priorities – Spatial Data Example

Based on the Emerging Comoros Plan

- Financing Strategy– SDG 13

Major Ports

Effects on Ports

Ports are a vital part of the supply chain in Africa, supporting trade in their countries and also serving the neighboring landlocked countries. These ports provides access to useful resources and also employment to communities around them.

Impact Summary Level 1: Njazídja

Zoom to	
All Hospitals	35
All Roads	160.65
All Schools	28
All Shops	211
All Tourism	52
Country	Comoros
Country ID	COM
Impacted Croplands (SqKm)	2.15

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The 14 Global Fundamental Geospatial Data Themes

- Global Geodetic Reference Frame
- Addresses
- Buildings and Settlements
- Elevation and Depth
- Functional Areas
- Geographical Names
- Geology and Soils
- Land Cover and Land Use
- Land Parcels
- Physical Infrastructure
- Population Distribution
- Orthoimagery
- Transport Networks
- Water

- Available data
  - Administrative building within the capital city
  - DTM & DEM 5 m resolution
  - Administrative boundaries (prefecture et communes)
  - Geology maps
  - Land use land cover 2019
  - Physical infrastructure (not complete , only within the capital city)
  - Population census 2019
  - Orthophotos 30 cm resolution 2019
  - Roads
  - Water

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Key Ministres to work with

- Ministry of finance
- Ministry of environnent and tourism
- Ministry of agriculture
- Ministry of interior
- Ministry of foreign affair
- Ministry of education
- Ministry of health

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Comoros Delegation Immediate Priority

Initial interests

Core Priority - Financing strategy – SDG 8, 9, 11, 12, 16,
Land Information System (LMS)
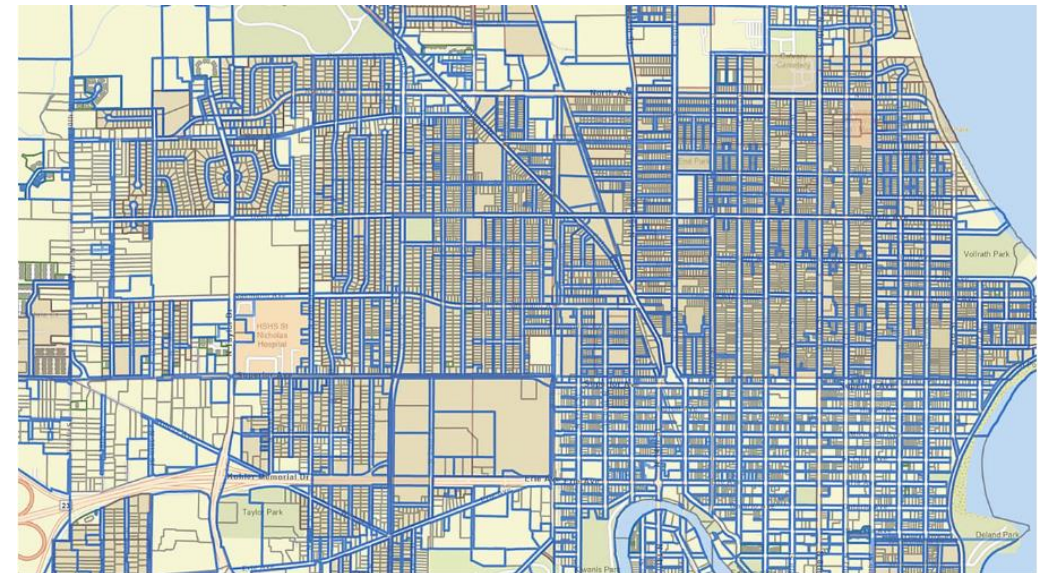   Currently conducting an inventory exercise in pilot site
LMS Needed for:
        Tax Collection
        Land Surveying
        Conflict Resolution

        …

Support via CARICOM knowledge sharing on LMS

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MOÇAMBIQUE

Top 10 National Priorities – SDG's
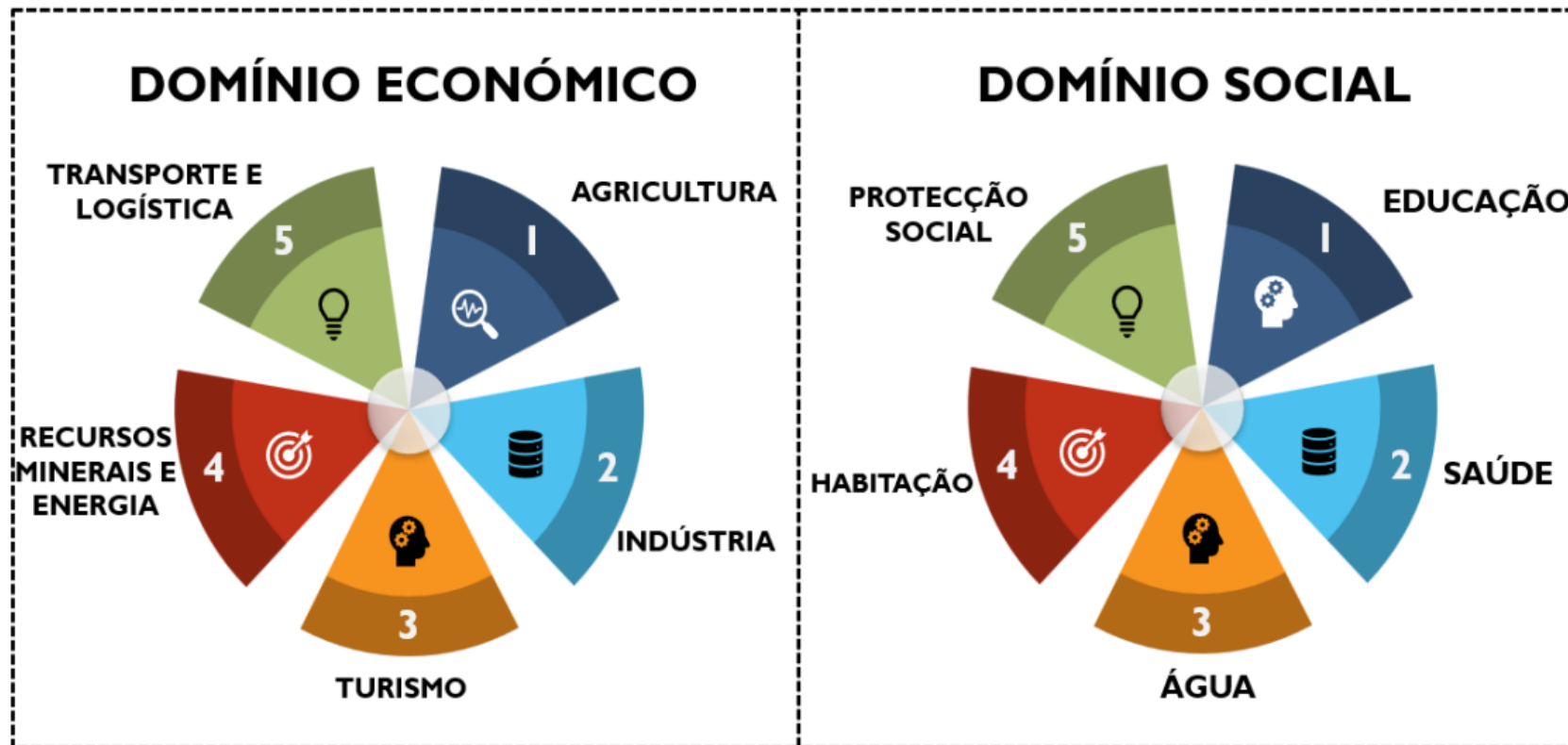
MOÇAMBIQUE

Prioridade Nacional (PQG 2025–2029)	ODS Correspondente(s)
Agrária (Agricultura, Segurança Alimentar)	ODS 2 – Fome Zero e Agricultura Sustentável ODS 12 – Consumo e Produção Sustentáveis
Indústria	ODS 9 – Indústria, Inovação e Infraestruturas ODS 8 – Trabalho Decente e Crescimento Econômico
Turismo	ODS 8 – Trabalho Decente e Crescimento Econômico ODS 12 – Consumo e Produção Sustentáveis ODS 15 – Vida Terrestre
Recursos Minerais, Hidrocarbonetos e Energia	ODS 7 – Energia Limpa e Acessível ODS 9 – Indústria, Inovação e Infraestruturas ODS 13 – Ação Climática
Transporte e Logística	ODS 9 – Indústria, Inovação e Infraestruturas ODS 11 – Cidades e Comunidades Sustentáveis
Educação	ODS 4 – Educação de Qualidade
Saúde	ODS 3 – Saúde e Bem-Estar
Abastecimento de Água	ODS 6 – Água Potável e Saneamento ODS 3 – Saúde e Bem-Estar
Habitação	ODS 11 – Cidades e Comunidades Sustentáveis
Proteção Social	ODS 1 – Erradicação da Pobreza ODS 10 – Redução das Desigualdades

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Priority	Geospatial Data Needed	Data source
Agriculture	Land use and land cover maps, Soil type and fertility maps, Crop distribution, Climate and weather data	CENACARTA, IIAM, INAM
Education	School locations, Student population distribution, Socioeconomic data, School infrastructure, Literacy rates	INE, MINEC
Industry	Industrial zones, Workforce distribution, Supply chain logistics, Transport infrastructure	ME, MinTrab, MinTransLog (MTL)
Health	Hospital and clinic locations, Disease outbreak monitoring, Clean water and sanitation access, Healthcare professional distribution, Health service coverage	MISAU/INS
Tourism	Cultural and heritage site mapping, Transport and accommodation facilities, Visitor movement analysis, Land use planning, Climate and environmental data, Security and risk mapping	MiTur
Water	Watershed and hydrology maps, Groundwater and surface water availability, Water quality monitoring, Flood and drought risk maps, Irrigation and sanitation infrastructure	MOPHRH
Natural Resources and Energy	Renewable energy potential maps, Fossil fuel and mineral resource locations, Protected areas, Biodiversity assessments, Deforestation monitoring, Energy infrastructure	MIREME
Infrastructures	Road, rail, and port mapping, Smart city data, Power grid and telecom networks, Public facilities, Utility networks, Climate resilience planning	ANE, CFM, INCM, Ports, EDM, FUNAE
Transport and Logistics	Public transport networks, Freight and supply chain mapping, Road quality and maintenance, Transport hubs, Route optimization	ANE, Municipalities, MTL
Social Protection	Poverty and vulnerability mapping, Household income data, Housing assessment, Social service access, Disaster response planning, Migration data	ME