



ZAMBIA NATIONAL SPATIAL DATA INFRASTRUCTURE POLICY 2026 - 2030

Integrating Spatial Data. Enabling Decisions. Building a Better Nation.



GEOSPATIAL
DATA



INTEGRATING
SPATIAL DATA



SATELLITE
IMAGERY



COLLABORATION



EVIDENCE-BASED
DECISIONS

INTEGRATING
SPATIAL DATA





Republic of Zambia

ZAMBIA NATIONAL SPATIAL DATA INFRASTRUCTURE POLICY

IMPLEMENTATION PLAN
2026 - 2030

JANUARY 2026

FOREWORD



The Government of the Republic of Zambia recognises spatial data as a critical national resource that underpins evidence-based planning, sustainable development, and effective service delivery. In an era where timely, accurate, and accessible geospatial information is essential for informed decision-making, the establishment of a robust Zambia Spatial Data Infrastructure (ZNSDI) marks a significant milestone in our national development agenda.

The Zambia National Spatial Data Infrastructure provides a coordinated framework for the production, management, sharing, and use of spatial data across government institutions, the private sector, academia, and development partners. By promoting common standards, interoperability, and data sharing mechanisms, the ZSDI aims to reduce duplication of effort, enhance efficiency, and improve the quality and accessibility of geospatial information nationwide.

This initiative directly supports the achievement of Zambia's national development priorities, including sustainable land management, infrastructure development, environmental protection, disaster risk reduction, and digital transformation. Furthermore, the ZNSDI aligns with regional and global frameworks such as the African Spatial Data Infrastructure (ASDI) and the United Nations Integrated Geospatial Information Framework (UN-IGIF), reinforcing Zambia's commitment to international best practices.

The successful implementation of the ZNSDI will depend on strong institutional collaboration, capacity building, and sustained investment in geospatial technologies and human capital. I therefore call upon all stakeholders to actively participate in the implementation and continuous improvement of this framework, in the spirit of cooperation and shared national interest.

It is my sincere hope that the Zambia National Spatial Data Infrastructure will serve as a foundational platform for innovation, transparency, and inclusive development, contributing meaningfully to Zambia's socio-economic transformation.

A handwritten signature in blue ink, reading "Patrick K. Kangwa".

Patrick K. Kangwa

SECRETARY TO THE CABINET

ACKNOWLEDGMENTS



The development of the Zambia National Spatial Data Infrastructure (ZNSDI) has been made possible through the collective efforts, commitment, and collaboration of numerous institutions and individuals. The Government of the Republic of Zambia extends its sincere appreciation to all stakeholders whose contributions were instrumental in the formulation of this framework.

Special recognition is accorded to SMART Zambia Institute for its guidance on digital transformation and data governance. The Ministry responsible for Lands and Natural Resources, and in particular the Survey Department, for providing technical leadership and coordination throughout the ZNSDI development process. Appreciation is also extended to other line ministries, government departments, and statutory bodies for their valuable technical inputs and sectoral expertise.

The Government further acknowledges the contributions of local authorities, academic and research institutions, professional bodies, and private sector organisations, whose participation enriched the framework and ensured that it responds to national needs and practical implementation realities.

Gratitude is also extended to cooperating partners and development agencies for their financial, technical, and advisory support, as well as for sharing international best practices in spatial data infrastructure development.

Finally, sincere thanks are conveyed to all technical experts, working groups, and individuals who dedicated their time, knowledge, and effort to the consultations, reviews, and validation processes that culminated in the completion of the Zambia National Spatial Data Infrastructure. Their collective contributions have laid a strong foundation for improved geospatial data coordination, accessibility, and use in support of Zambia's sustainable development goals.

A handwritten signature in black ink, appearing to read 'Percy Chinyama', with a stylized flourish at the end.

Mr. Percy Chinyama

NATIONAL COORDINATOR ELECTRONIC GOVERNMENT DIVISION (SMART Zambia Institute)

WORKING DEFINITIONS

Fundamental geospatial dataset	A geospatial dataset that has been identified as being the minimum primary set of geospatial information that cannot be derived from other geospatial datasets, and that is required to spatially represent phenomena, objects or themes important for the realisation of economic, social and environmental benefits, consistently across the nation.
Geospatial dataset	An identifiable collection of related geospatial information.
Geospatial data custodian	A public sector entity or organisation, appointed by the National Coordinating Committee, which captures, maintains, manages, integrates, archives, distributes or uses geospatial information.
Geospatial information	Information about geographical phenomena or objects and their attributes, which may appear or occur on, below or above the earth's surface, and which may be abstract, physical or human-made, and of a temporal nature. It includes spatial information, geo-referenced information, and geographical information.
Metadata catalogue	A technical system for the capture and dissemination of metadata records of available geospatial datasets, primarily to provide for discoverability and determination of fitness for use of geospatial datasets.
National Spatial Data Infrastructure	An infrastructure implementing a framework of policies, data, standards, systems and tools, people, and interconnections for the management of the collection, maintenance, dissemination and use of geospatial information, at the national level.
NSDI Coordinating Committee	Committee established under the NSDI Policy.
NSDI Technical Committee	Committee established under the NSDI Policy.
NSDI Technical Unit	Established under the NSDI Policy.
NSDI Working Groups	Established under the NSDI Policy.

ACRONYMS

GIS	Geographic Information Systems
ICT	Information and Communication Technology
ISO	International Organization for Standardization
IT	Information Technology
MLGRD	Ministry of Local Government
MLNR	Ministry of Lands and Natural Resources
MNDP	Ministry of National Development Planning
MoE	Ministry of Energy
MGEE	Ministry of Green Economy and Environment
MoMMD	Ministry of Mines and Mineral Development
NLA	National Land Audit
NRSC	National Remote Sensing Center
NSDI	National Spatial Data Infrastructure
SDI	Spatial Data Infrastructure
ZDA	Zambia Development Agency
ZEMA	Zambia Environmental Management Agency
ZESCO	Zambia Electricity Supply Corporation Limited
ZILAS	Zambian Integrated Land Administration System
ZILMIS	Zambia Integrated Land Management Information System

1.0 INTRODUCTION

Geospatial information is now recognized as key in all programmes and projects across all economic, social and environmental development sectors, including health, education, agriculture, planning and management of infrastructure, planning and management of urban centres, planning and management of utilities and resources, planning and management of environmental protection and land use, among others. As a result, it can and does play an increasingly important role in supporting evidence-based, effective decision-making to address issues related to the three pillars of sustainable development: economic, social and environmental.

To promote effective collection and management, improve access to available geospatial data and promote its use requires national spatial data infrastructure. NSDI is infrastructure that promotes the concept of a reliable, supportive environment and facilitates the availability of and access to geospatial data, and provides a basis for geospatial data discovery, evaluation, sharing, and application for users and providers at all levels of government, in the private sector, non-governmental organisations and academia, and by citizens in general.

Zambia has made strides in developing strong National Spatial Data Infrastructure (NSDI). However, there has been limited progress in improving the quality of geospatial data and standardization of data within the country and across sector. Although the country has developed digital infrastructure and platforms, access has been limited. The country has inadequate skilled human resources. The coordination of the national spatial data infrastructure has been inadequate. Most institutions have been operating as silos. The legal framework has been inadequate resulting in weak coordination among institutions in the national spatial data information.

The 2026 – 2031 National Spatial Data Infrastructure Policy Implementation Plan therefore seeks to improve the quality of Geospatial Data, improve access to geospatial data, strengthen Digital Infrastructure for geospatial data and strengthen governance and coordination in the management of geospatial national spatial data infrastructure, improve human capacity for the national spatial data infrastructure and strengthen the legal framework for geospatial data management.

The Implementation Plan is divided into four sections. Section One introduces the Policy document. Section Two presents the vision, rationale and guiding principles for the policy, while Section Three presents the objectives. The last Section is the Implementation Matrix which provides the objectives, measures and specific activities as well as costs of the implementing the activities and the responsible institutions.

2.0 VISION, RATIONALE AND GUIDING PRINCIPLES

2.1 Vision

A well-connected Zambia where reliable spatial data is accessible for informed decision making and sustainable development.

2.2 Rationale

Over the years, Zambia has made strides in developing a strong National Spatial Data Infrastructure (NSDI). Some progress has been made in improving the quality of geospatial data and standardization of data within the country and across sector. The country has developed digital infrastructure and platforms.

However, access to geospatial data has been limited. The country has inadequate skilled human resources. The coordination of the national spatial data infrastructure has been inadequate. Most institutions have been operating as silos. The legal framework has been inadequate, resulting in weak coordination among institutions in the national spatial data information.

The National Spatial Data Infrastructure Policy seeks to improve the management and sharing of spatial data. It aims to foster collaboration among organizations, enhance decision-making processes, support national development, and enable the efficient use of resources. The provision of accurate and standardized geospatial information is important in ensuring that all stakeholders can access the data they need to make informed decisions and contribute to sustainable development.

This NSDI Policy seeks to foster ownership, improve coordination, enhance commitment among stakeholders, and increase data availability while linking various systems. By establishing clear goals and guidelines, the policy promotes collaboration among government, businesses, and communities, prioritizes funding, and enhances accountability through oversight and transparency, ultimately creating a supportive environment for innovative solutions.

2.3 Guiding Principles

The implementation of this Policy will be guided by the following principles:

1. Transparency and Accountability:	Stakeholders shall be accountable and transparent in the implementation of this Policy.
2. Sustainable Development:	Stakeholders shall ensure that this Policy is implemented in a manner that ensures that it mitigates the effects of climate changes and environmental protection.
3. Partnerships and Coordination:	Stakeholders shall ensure that strong partnerships and coordination is promoted in the implementation of this Policy.
4. Participation:	Stakeholders shall be encouraged to actively participate in the implementation of this Policy.

5. Data Sharing:	Stakeholders shall ensure that geospatial data produced using public resources shall be shared across government institutions and, where appropriate, made accessible to the public to promote transparency, efficiency, and innovation.
6. Custodianship:	Stakeholders shall ensure that each fundamental geospatial dataset including geodetic control, topographic data, administrative boundaries, land parcels, and imagery shall have a designated custodian institution responsible for data maintenance, quality, and updates.
7. Non-Duplication:	Stakeholders shall ensure that spatial data shall be collected once and used many times, reducing duplication of data collection across ministries, provinces, districts, and projects, and optimising use of national resources.
8. Interoperability:	Stakeholders shall adopt national and international geospatial standards to ensure interoperability between systems, institutions, and sectors, and to enable regional and global data integration.
9. Data Protection:	Stakeholders shall ensure that sensitive data shall be protected to ensure national security, privacy, and security of critical infrastructure and adherence to national laws and while safeguarding Zambia's data sovereignty.

3.0 Policy Objectives

The Policy Implementation Plan aims to achieve the following Policy Objectives:

1. To improve the quality of Geospatial Data
2. To improve access to geospatial data
3. To strengthen Digital Infrastructure for geospatial data
4. To improve human capacity for the national spatial data infrastructure
5. To increase human resources for Geospatial and digital services
6. To improve awareness on availability and utilisation of Geospatial data
7. To strengthen the legal framework for Geo-spatial data management

4.0 POLICY IMPLEMENTATION PLAN MATRIX

Objective 1: To improve the quality of Geospatial Data										
Measures	Activities	Indicator	Baseline	Targets					Cost (K'000.00)	Implementation Institutions
				2026	2027	2028	2029	2030		
a). Enhance National Fundamental Datasets	Develop core datasets (Roads, boundaries, etc)	Fundamental Datasets available	5	5	10	10	10	15	1,000	MLNR, MLGRD, RDA, ZAMSTATS, MOE, EGD and Spatial Data Custodians
	Conduct training sessions on data formats		2	2	3	3	3	3	1,000	EGD, MOE & MOTS
b). Enhance National Geospatial Data Quality Standards	Develop and enforce standards and guidelines based on the ISO Standards	% of Guidelines and Standards developed	50%	60%	70%	80%	85%	90%	1,000	Bureau of Standards Body (ZABS), EGD and Spatial Data Custodians
c). Enhance National Geospatial Data Audit	Conduct regular audits	Audits/year	1	1	2	2	3	4	100	MLNR and ZAMSTATS
d). Strengthen the National Geospatial Data Acquisition Framework	Improve data collection framework	% of Data updated monthly	20%	30%	40%	50%	60%	80%	300	EGD and Spatial Data Custodians
e). Promote use of drones and crowd-sourced mapping for rapid updates.	Use drones for rapid updates	Area mapped (km ²)	1000 km ²	2000 km ²	4000 km ²	5,000 km ²	8000 km ²	10000 km ²	250	MLNR, NRSC, NGOs
	Use crowd-sourced data for updates	Area mapped (km ²)	752,000 km ²	150,400km ²	300,800km ²	460,200 km ²	700,400km ²	752,000 km ²		MLNR, NRSC, NGOs
f). Improve Continuous Data Update Mechanism	Automate updates	% of Data updated in real time	0%	10%	20%	30%	40%	50%	200	EGD, ICT MLNR
	Updating of Data	% of Data updated	0%	10%	20%	30%	40%	50%		Data Custodians
Subtotal									3,850	

Objective 2: To improve access to geospatial data										
a). Develop NSDI portal	Awareness campaigns, Launch the NSDI portal and integrate the datasets	Datasets to be available online (ZNSDI.SZI.gov.zm)	58	10	15	20	25	100	800	EGD, ICT and MLNR
b). Promote open data policies	Enforcing and Advocating for data sharing policies	% of authentic datasets open to the public	20%			50%		100%	150	MLNR, ZamStat and Data Custodians
Subtotal									950	
Objective 3: To strengthen Digital Infrastructure for geospatial data										
a). Upgrade data centers	Improve storage capacity, recovery sites and bandwidth	Uptime (%)	60%	75%	85%	95%	97%	99%	1,800	EGD, ICT and MLNR
b). Enhance data security	Implement and enforce security protocols	Number of Security breaches	5			2		0	300	EGD, (Data security agencies)
Subtotal									2,100	
a). Establish Geospatial Coordination Committee	Establish a coordinating committee and define its roles	Committee meetings/ year	0	4	8	12	16	20	1000	EGD & MLNR
b). Develop NSDI Policy	Draft and approve the policy	Policy approved	No			Yes			150	MLNR,EGD, PAC and Cabinet Office
Subtotal									1,150	
Objective 4: To improve human capacity for the national spatial data infrastructure										
a). Train Geospatial Staff	Conduct training workshops	Staff trained	50	100	150	200	250	300	400	EGD, MoE, MST,and MLNR
	Build capacity in the use of drones for capturing data	Staff trained	0	10	20	30	40	50		DCA, EGD, MoE, MST,and MLNR
	Collaborate with the Defence on the Aerial Surveys	Staff trained	0	10	20	30	40	50		EGD, MoE, MST, MOD,and MLNR

b). Partner with Universities and other Research Institutions	Integrate Geospatial in curricula	Universities partnered other Research Institutions	2	3	4	5	7	10	200	EGD, MoE, MST, and MLNR
Subtotal									600	
Objective 5: To increase human resources for Geospatial and digital services										
a). Recruit Geospatial experts	Hire or employ qualified staff and experts	Qualified staff and Experts recruited	10			30		50	1,100	EGD and MLNR
b). Offer Scholarships to International, local Universities Research Institutions and TEVET	Award Scholarships	Scholarships/ Year	5			10		20	300	MoE and MoTS
Subtotal									1,400	
Objective 6: To improve awareness on availability and utilisation of Geospatial data										
a). Promote Geospatial use	Conduct awareness campaigns Learning institutions and Digital Transformation Centers (DTCs - Post Offices and ICT hubs)	Campaigns/ year	1	2	3	4	5	6	100	EGD, MoCT
b). Develop use cases	Showcase applications	Use cases documented	5			15		30	200	MLNR and EGD
c). Subtotal									300	
Objective 7: To strengthen the legal framework for Geo-spatial data management										
a). Review Geo-spatial laws	Update and amend laws and regulations	No. of Laws updated	3	3	5	7	9	11	2,000	MLNR, EGD, MoTS, MoJ, ZamStats, Cooperating Partners

b). Enforce Compliance	Train and deploy compliance officers to conduct compliance checks	No. of Inspections/ year based on checklist	0	20%	40%	60%	80%	100%	1,000	EGD, MLNR, ZamStats, MoTS, MoE
Subtotal									3,000	
Total									13,350	

