

Catalogue of fundamental geo-spatial datasets for Africa: Country report for Botswana



HSRC
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1. Background

A continental-wide study was conducted in 2006 to catalogue the existence of fundamental geo-spatial datasets in Africa. This study was contracted to a consortium consisting of the HSRC and EIS-AFRICA as lead organisations and numerous sub-regional partners. It was conducted under the auspices of the UNECA.

The study used a questionnaire to obtain information about the 30 fundamental geo-spatial datasets. Although a contact was established in Botswana, this person did not return questionnaires for the country. Several international agencies also had data for this country and together this forms the analysis of data for Botswana.

2. Data availability

Table 1: Availability of fundamental geo-spatial datasets

Dataset	Have it?	Source
Geodetic control points	No	
Height datum	No	
Geoid model	No	
Aerial photography	No	
Satellite imagery	Yes	Map Maker Trust/ UNECA
DEM	Yes	ISCGM/ UNECA
Spot heights	No	
Bathymetry	No	
Coastline	No	
Water bodies	Yes	ISCGM/ Map Maker Trust/ UNECA
Government boundaries	Yes	ISCGM/ Map Maker Trust/ UNECA
Populated places	Yes	ISCGM/ UNECA
EA	No	
Place names	Yes	ISCGM/ Map Maker Trust/ UNECA
Feature names	Yes	ISCGM/ UNECA
Land parcels	No	
Land tenure	No	
Street address	No	

Dataset	Have it?	Source
Postal code zones	No	
Land use planning zones	No	
Roads	Yes	ISCGM/ Map Maker Trust/ UNECA
Road centrelines	No	
Railways	Yes	ISCGM/ Map Maker Trust/ UNECA
Airports	Yes	ISCGM/ UNECA
Bridges	Yes	ISCGM
Power	No	
Telecommunication	No	
Land cover	Yes	ISCGM
Soils	No	
Geology	No	

Botswana has access to twelve of the fundamental geo-spatial datasets and the country therefore has inadequate representation of these datasets. Since it is a landlocked country there would be no datasets on coastlines or bathymetry.

2.1 Data characteristics

Data characteristics were very poorly completed and it is therefore difficult to determine whether the geo-spatial datasets available are indeed of good quality. The table indicates for example that satellite imagery is available at the scale of 20 – 80m, it is fully complete and available in a GIS format. Empty cells in the table indicate that no response was received.

Table 2: Dataset metadata

Dataset	Scale at which available (000/ resolution m)	Completeness (%)	Format	Accessibility
Geodetic control points				
Height datum				
Geoid model				
Aerial photography				
Satellite imagery	20-80/ >1000	100	GIS	Unrestricted/ Free
DEM	50-125/ >1000	100	GIS	Authorisation/ Payment

Dataset	Scale at which available (000/ resolution m	Completeness (%)	Format	Accessibility
Spot heights				
Bathymetry	All scales	100	Db/ GIS	Unrestricted/ Authorisation/ Payment
Coastline				
Water bodies	62.5-100/ 500-1000	100	GIS	Unrestricted/ Free/ Authorisation/ Payment
Government boundaries	500-1000	100	GIS	Unrestricted/ Free/ Authorisation/ Payment
Populated places	12-50/ 500-1000	100	GIS	
EA				
Place names	500-1000	100	GIS	Unrestricted/ Free/ Authorisation/ Payment
Feature names	500-1000	100	GIS	Authorisation/ Payment
Land parcels				
Land tenure				
Street address				
Postal code zones				
Land use planning zones				
Roads	500-1000	100	GIS	Unrestricted/ Free/ Authorisation/ Payment
Road centrelines				
Railways	500-1000	100	GIS	Unrestricted/ Free/ Authorisation/ Payment
Airports	500-1000	100	GIS	Authorisation/ Payment
Bridges	500-1000	100	GIS	Authorisation/ Payment
Power				
Telecommunication				
Land cover	500-1000	100	GIS	Authorisation/ Payment

Dataset	Scale at which available (000/ resolution m	Completeness (%)	Format	Accessibility
Soils				
Geology				

Most datasets with completed data scale characteristics are available at a general scale. The data completeness is 100% for the various datasets, while most data is available in a GIS format and with unrestricted/restricted and free /against payment access.

3. Conclusion

Despite the fact that it seems that Botswana has access to some of the fundamental geo-spatial datasets, the lack of data characteristics complicates the final decision on the quality of the data. Based on this one cannot conclude that the existing geo-spatial data is useful.