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

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 no questionnaires were received from organisations within the country, a number of international agencies had data for Eritrea. This report reflects the findings collected from that questionnaire for Eritrea.

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/ FAO-GLCN
DEM	Yes	UNECA/ FAO-GLCN
Spot heights	No	
Bathymetry	Yes	GEBCO/ FAO-GLCN
Coastline	Yes	FAO-GLCN
Water bodies	Yes	Map Maker Trust/ UNECA/ FAO-GLCN
Government boundaries	Yes	Map Maker Trust
Populated places	Yes	UNECA
EA	No	
Place names	Yes	Map Maker Trust/ UNECA
Feature names	Yes	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	Map Maker Trust/ UNECA
Road centrelines	No	
Railways	Yes	Map Maker Trust/ UNECA
Airports	Yes	UNECA
Bridges	No	
Power	No	
Telecommunication	No	
Land cover	Yes	FAO-GLCN
Soils	No	
Geology	No	

Eritrea has 13 of the 30 fundamental geo-spatial datasets and the country therefore has inadequate access to fundamental geo-spatial datasets.

2.1 Data characteristics

Data characteristics were incomplete for due to the lack of fundamental geo-spatial datasets. It therefore remains difficult to determine whether the available geo-spatial datasets available are indeed of good quality. The table indicates for example: satellite imagery is available at the scale of 20 – 80m, it is 100% complete and available in a GIS format. Empty cells in the table indicate that no response was received.

Table 2: Dataset characteristics

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

Dataset	Scale at which available (000/ resolution m)	Completeness (%)	Format	Accessibility
Spot heights				
Bathymetry	All scales	100	Dbase/ GIS/ Other	Unrestricted/ Authorisation/ Free/ Payment
Coastline				
Water bodies	12-50/ 62.5-100/ 500-1000	100	GIS	Unrestricted/ Free
Government boundaries	125-250	100	GIS/ Other	Unrestricted/ Free
Populated places	12-50	100	GIS	Unrestricted/ Free
EA				
Place names	12-50/ 500-1000	100	GIS	Unrestricted/ Free
Feature names	500-1000	100	Spread sheet/ GIS	Unrestricted/ Free
Land parcels				
Land tenure				
Street address				
Postal code zones				
Land use planning zones				
Roads	500-1000	100	GIS	Unrestricted/ Free
Road centrelines				
Railways	500-1000	100	GIS	Unrestricted/ Free
Airports	500-1000	100	GIS	Unrestricted/ Free
Bridges				
Power				
Telecommunication				
Land cover				
Soils				
Geology				

A number of datasets are available at a general scale (e.g. railways, airports, etc.) while other are at a detail scale. Data completeness is 100% for all datasets. This indicates that the data covers the complete spatial extent for which it was captured. Most data is available in a GIS format and

therefore requires no conversion. Many datasets are freely available while bathymetry data requires payment.

3. Conclusion

Based on the questionnaires received, Eritrea does not have sufficient fundamental geo-spatial datasets. This conclusion might have been different if in-country questionnaires were received. The existing datasets are many times available at a general scale. The final decision on the quality of the existing data is complicated by the lack of data and data characteristics. Based on this it cannot be concluded that the existing geo-spatial data is useful.