Spatial Data Production for Implementing the SDGs

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Legon

Spatial Data Infrastructure (SDI)

"The technologies, policies, and people necessary to promote sharing of geospatial data throughout all levels of government, the private and non-profit sectors, and the academic community" and the goals to include "standards, geo-data, metadata, and mechanism of data sharing"

Tchale, 2013

Development of a National Geospatial Policy for Ghana

Draft Final Policy Report – 26th February 2016

Prepared for the Ministry of Lands and Natural Resources, Government of Ghana

Second Land Administration Project

IDA Credit No 4870-GH
RFP No. LC 44

Airbus Defence and Space
Geo-Intelligence Programme Line

SERVIR WEST AFRICA

USAID FROM THE AMERICAN PEOPLE

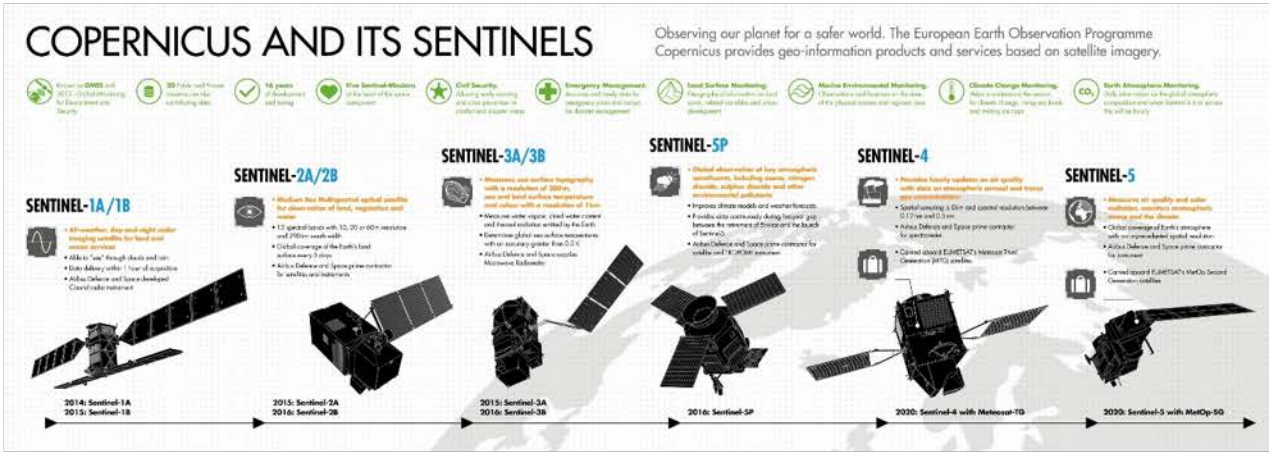
NASA

SERVIR strengthens the ability of governments and other development stakeholders to incorporate Earth observations and geospatial technology into their decision-making.

SERVIR advances free and open information sharing through national and regional platforms and collaborations.

MODIS

MODERATE RESOLUTION IMAGING SPECTRORADIOMETER



Landsat Program

proba VEGETATION

Small Satellite for Global Vegetation Monitoring

Earth Observation and Geoinformation could provide essential and complimentary data for the implementation of the SDGs


GOAL
6
ENSURE AVAILABILITY AND
SUSTAINABLE MANAGEMENT OF WATER
AND SANITATION FOR ALL


GOAL
9
BUILD RESILIENT INFRASTRUCTURE,
PROMOTE INCLUSIVE AND SUSTAINABLE
INDUSTRIALIZATION AND FOSTER INNOVATION

Proportion of population Indicators

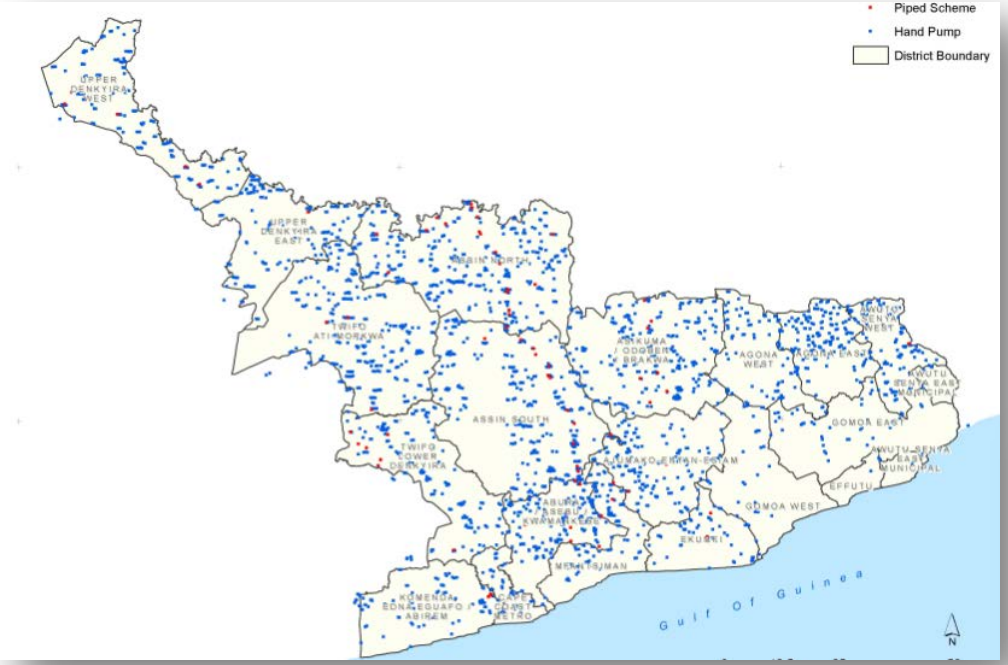
Indicator 6.1.1: Proportion of population using safely managed drinking water services

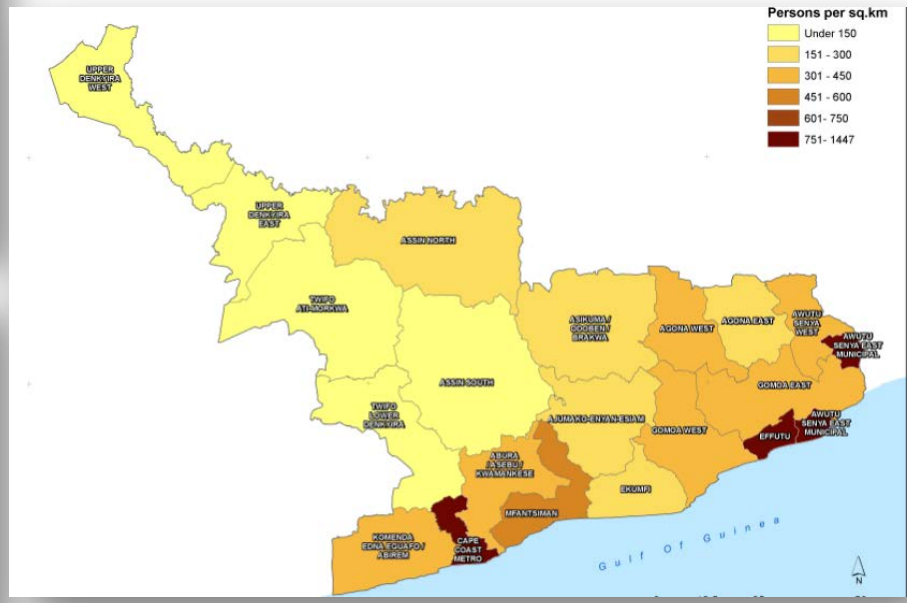
Indicator 7.1.1: Proportion of population with access to electricity

Indicator 9.1.1: Proportion of the rural population who live within 2 km of an all-season road

Indicator 11.1.1: Proportion of urban population living in slums, informal settlements, or inadequate housing

Indicator 11.2.1: Proportion of the population that has convenient access to public transport


Piped Scheme
Hand Pump
District Boundary
UPPER DENKYIRA WEST
UPPER DENKYIRA EAST
ASSIN NORTH
TWIFO ATI-MORKWA
ASIKUMA ODOBEN BRAKWA
AGONA WEST
AGONA EAST
AWUTU SENYA WEST
AWUTU SENYA EAST MUNICIPAL
ASSIN SOUTH
GOMOA EAST
TWIFO LOWER DENKYIRA
AJUMAKO-ENYAN-ESIAM
AWUTU-SENYA EAST MUNICIPAL
EFFUTU
GOMOA WEST
ABURA ASEBU KWAMANKESE
EKUMFI
MFANTSIMAN
KOMENDA EDINA EGUAFO ABIREM
CAPE COAST METRO
Gulf Of Guinea
N


Persons per sq.km
Under 150
151 - 300
301 - 450
451 - 600
601- 750
751- 1447
UPPER DENKYIRA WEST
UPPER DENKYIRA EAST
ASSIN NORTH
TWIFO ATI-MORKWA
ASIKUMA ODOBEN BRAKWA
AGONA WEST
AGONA EAST
AWUTU SENYA WEST
AWUTU SENYA EAST MUNICIPAL
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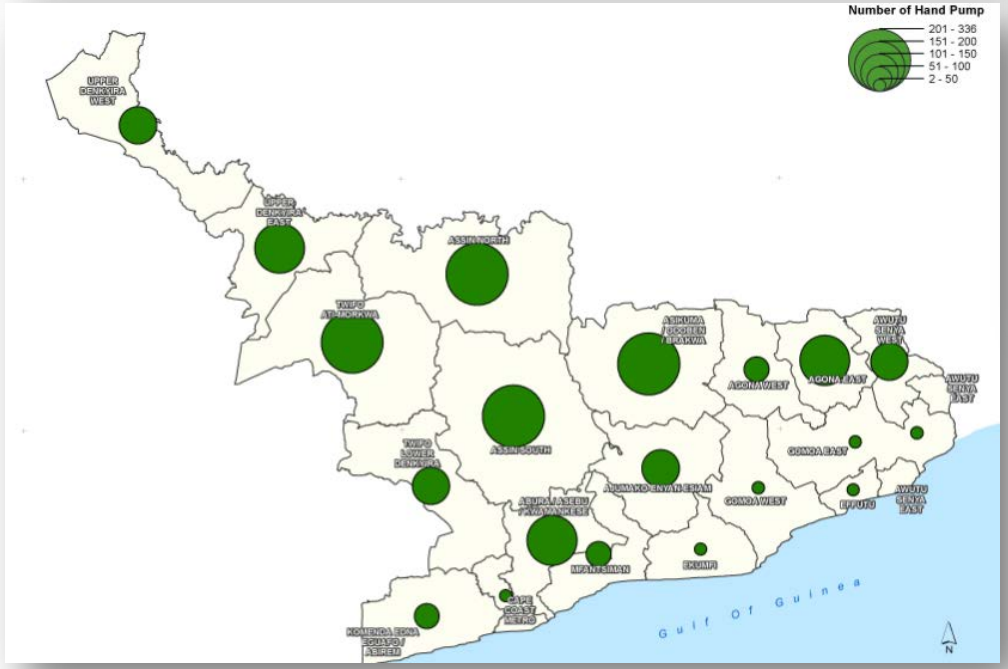
MFANTSIMAN
KOMENDA EDINA EGUAFO ABIREM
CAPE COAST METRO
Gulf Of Guinea
N


Number of Hand Pump
201 - 336
151 - 200
101 - 150
51 - 100
2 - 50
UPPER DENKYIRA WEST
UPPER DENKYIRA EAST
ASSIN NORTH
TWIFO ATI-MORKWA
ASIKUMA ODOBEN BRAKWA
AGONA WEST
AGONA EAST
AWUTU SENYA WEST
AWUTU SENYA EAST
ASSIN SOUTH
GOMOA EAST
TWIFO LOWER DENKYIRA
AJUMAKO-ENYAN-ESIAM
GOMOA WEST
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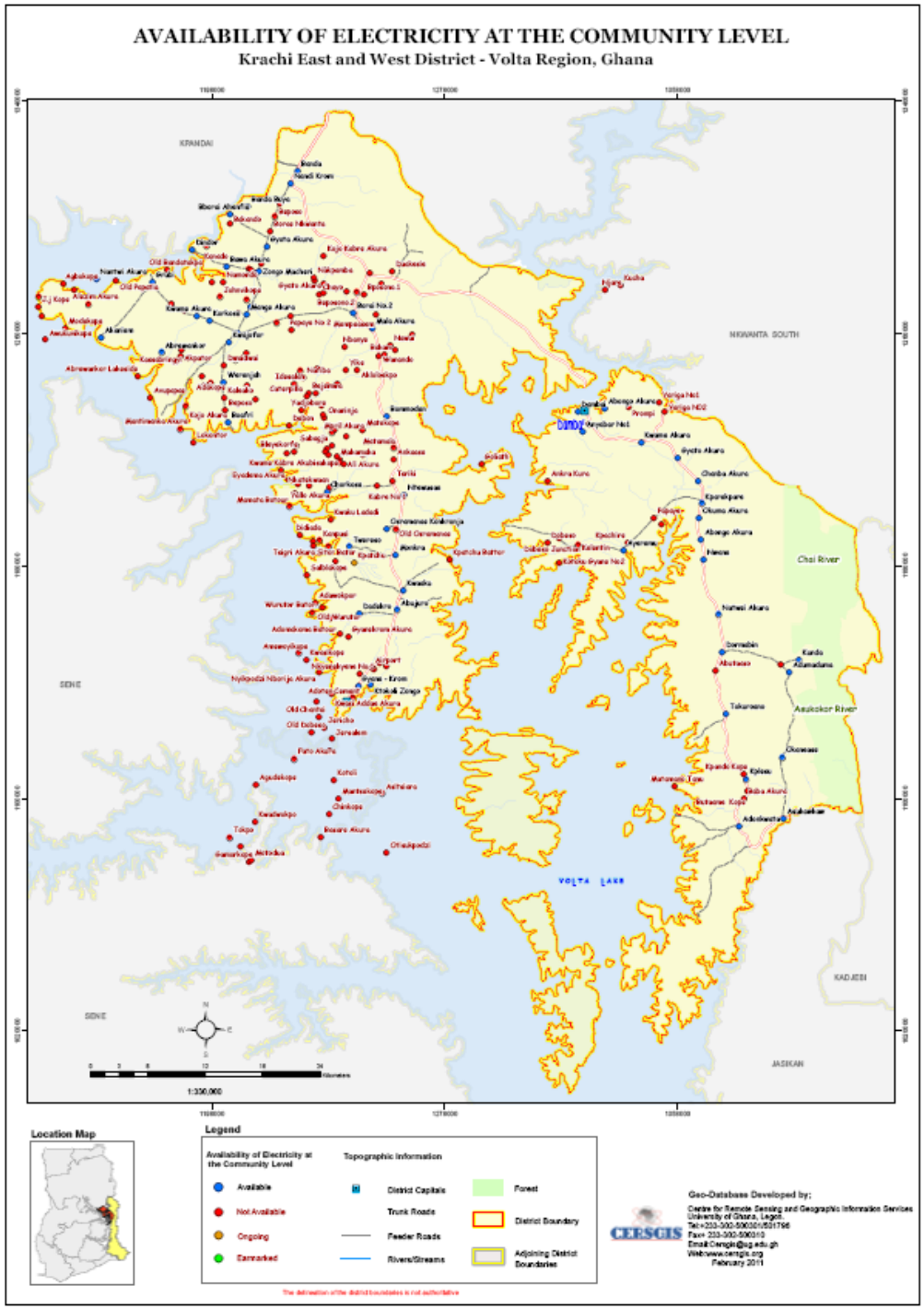
ABURA ASEBU KWAMANKESE
MFANTSIMAN
EKUMFI
CAPE COAST METRO
KOMENDA EDINA EGUAFO ABIREM
Gulf Of Guinea
N

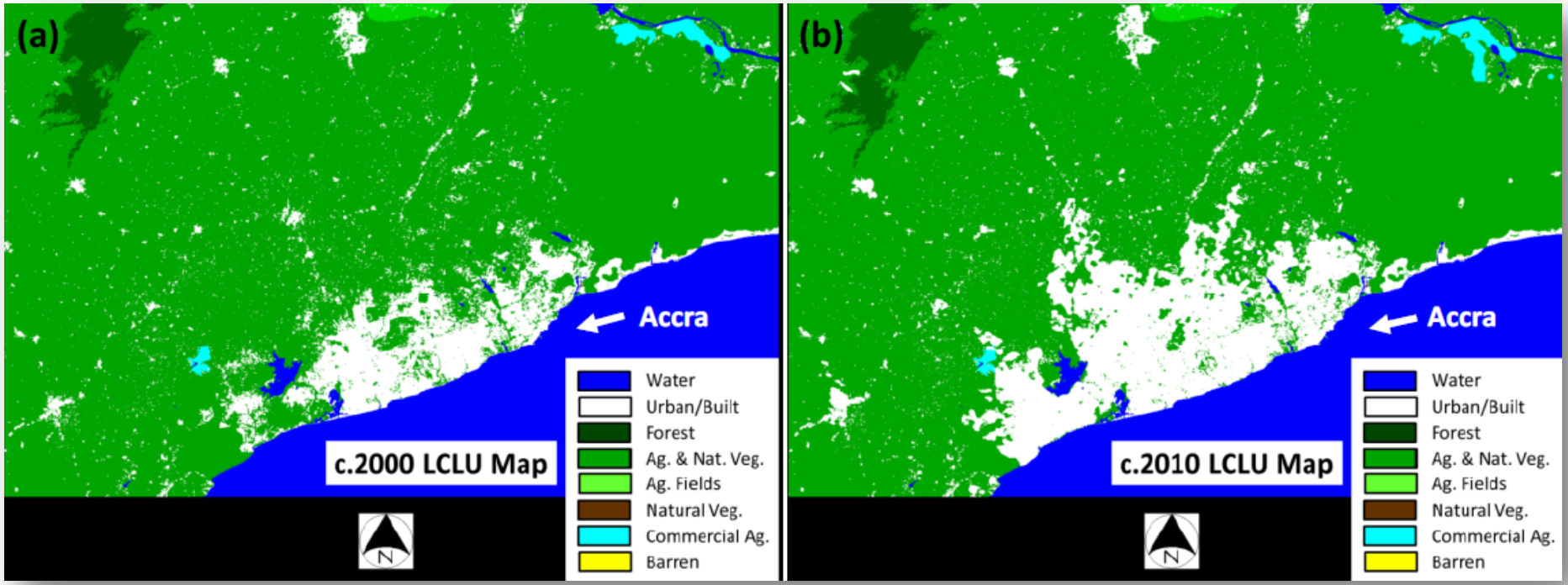

GOAL
7
ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE, AND MODERN ENERGY FOR ALL


AVAILABILITY OF ELECTRICITY AT THE COMMUNITY LEVEL
Krachi East and West District - Volta Region, Ghana
KRANDAI
NKWANTA SOUTH
Chai River
Asukokor River
VOLTA LAKE
SENE
KADJEBI
JASIKAN
1:350,000
Location Map
Legend
Availability of Electricity at the Community Level
Available
Not Available
Ongoing
Earmarked
Topographic Information
District Capitals
Trunk Roads
Feeder Roads
Rivers/Streams
Forest
District Boundary
Adjoining District Boundaries
Geo-Database Developed by;
Centre for Remote Sensing and Geographic Information Services
University of Ghana, Legon.
Tel:+233-302-500301/501766
Fax: 233-302-500310
Email:cersgis@ug.edu.gh
Web:www.cersgis.org
February 2011
CERSGIS

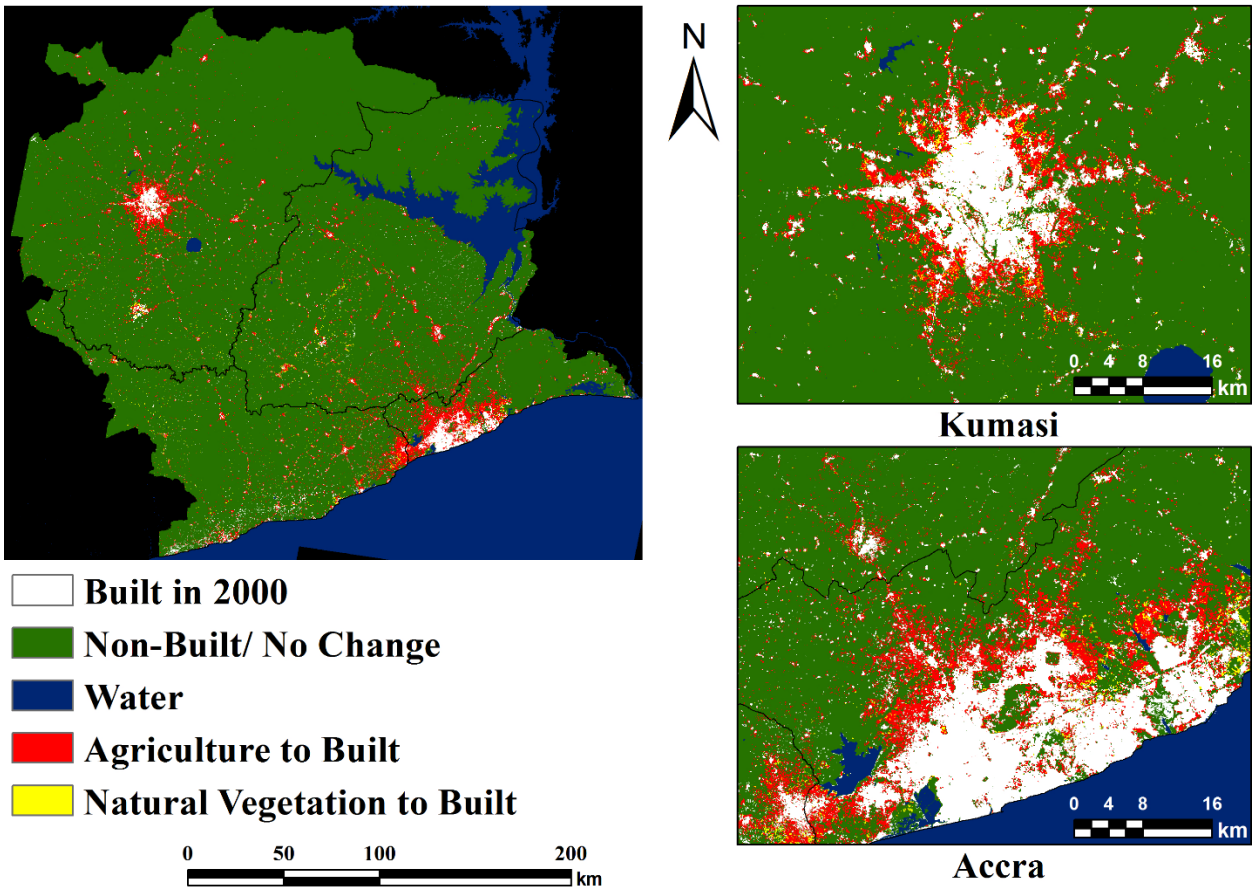

GOAL
11
MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE

Mapping and monitoring slum areas

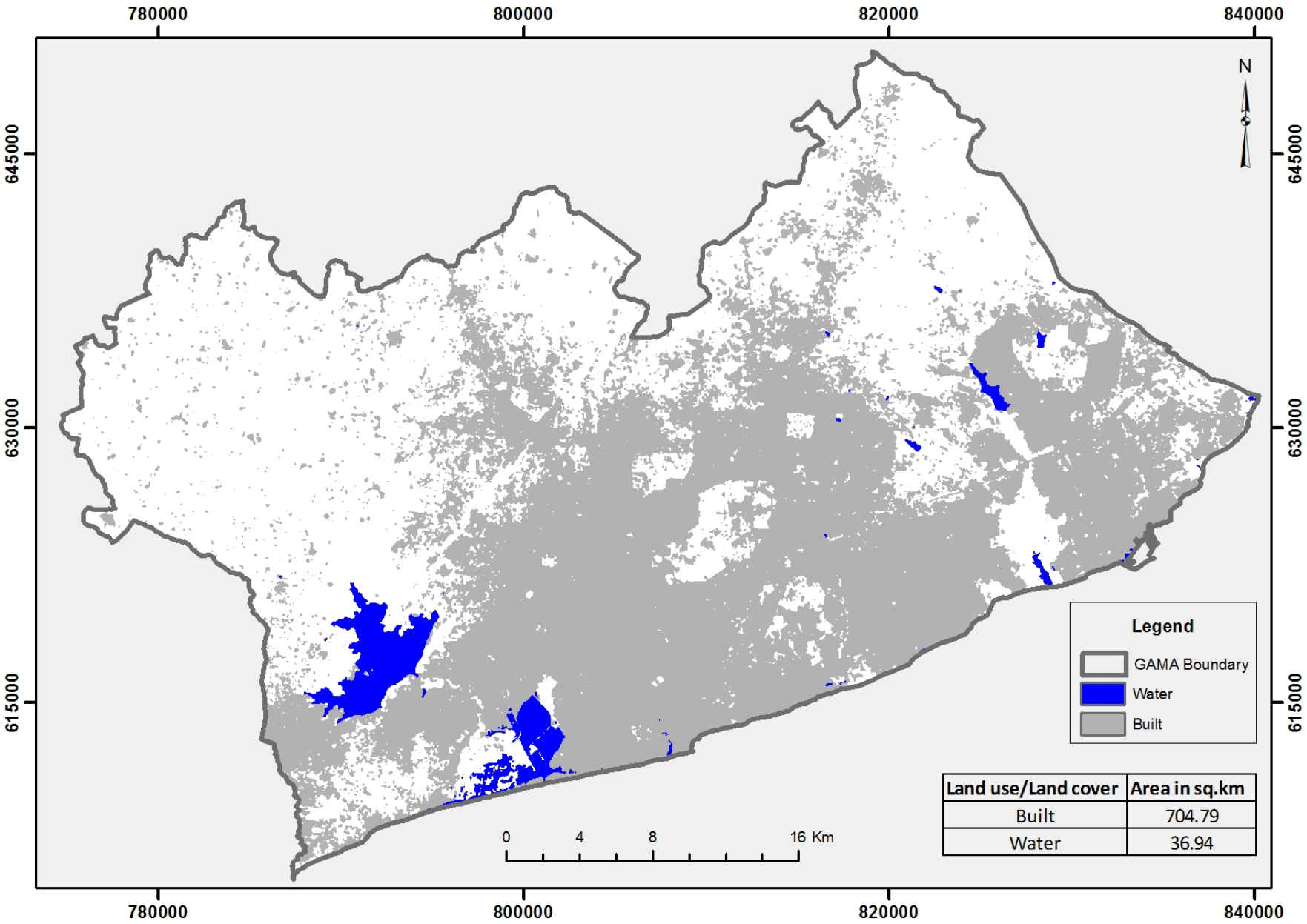
Urban Land cover and Land use Change



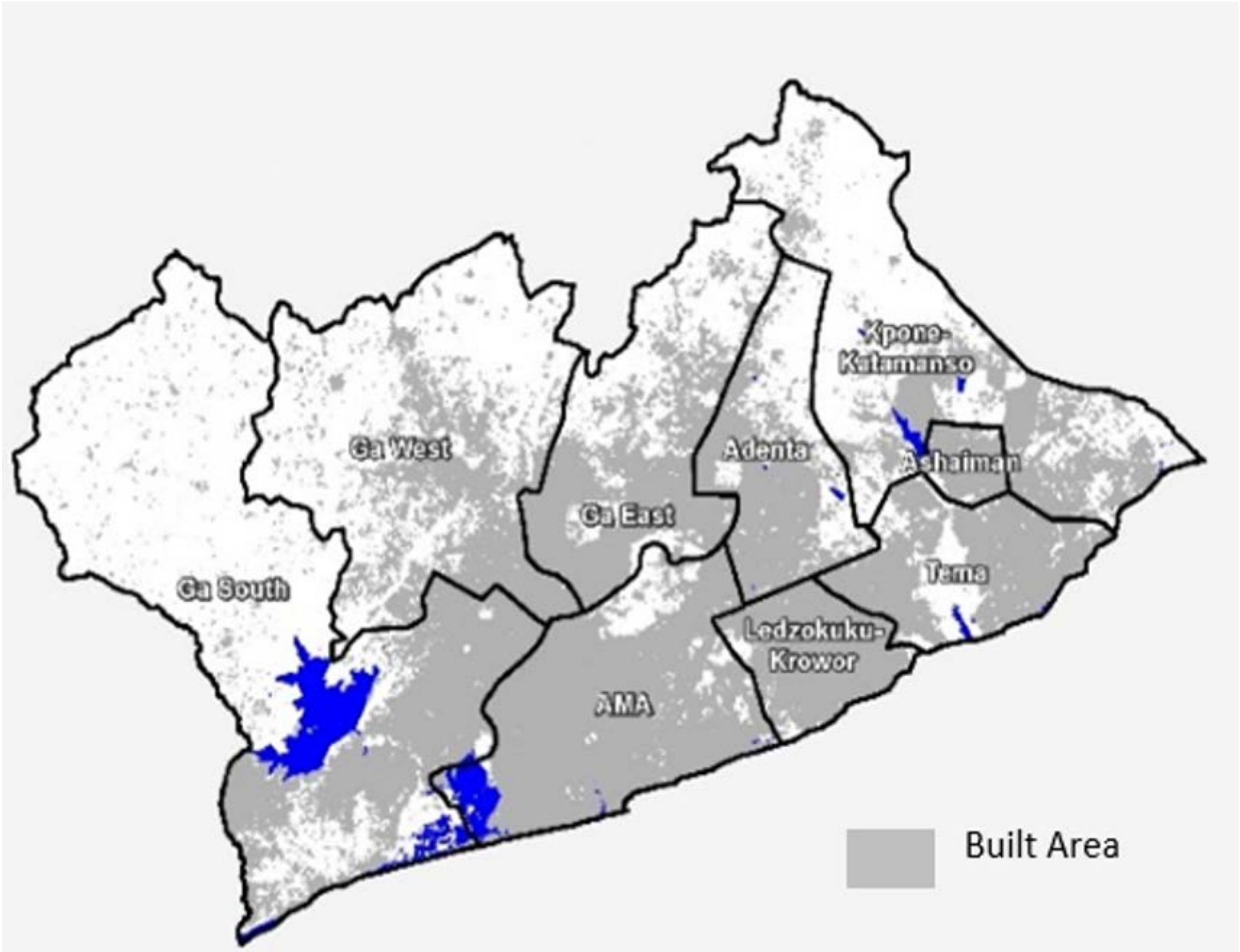
Landsat 7 ETM+ imagery for assessing land cover and land use change for Greater Accra region for c.2000 (a) and c.2010 (b)

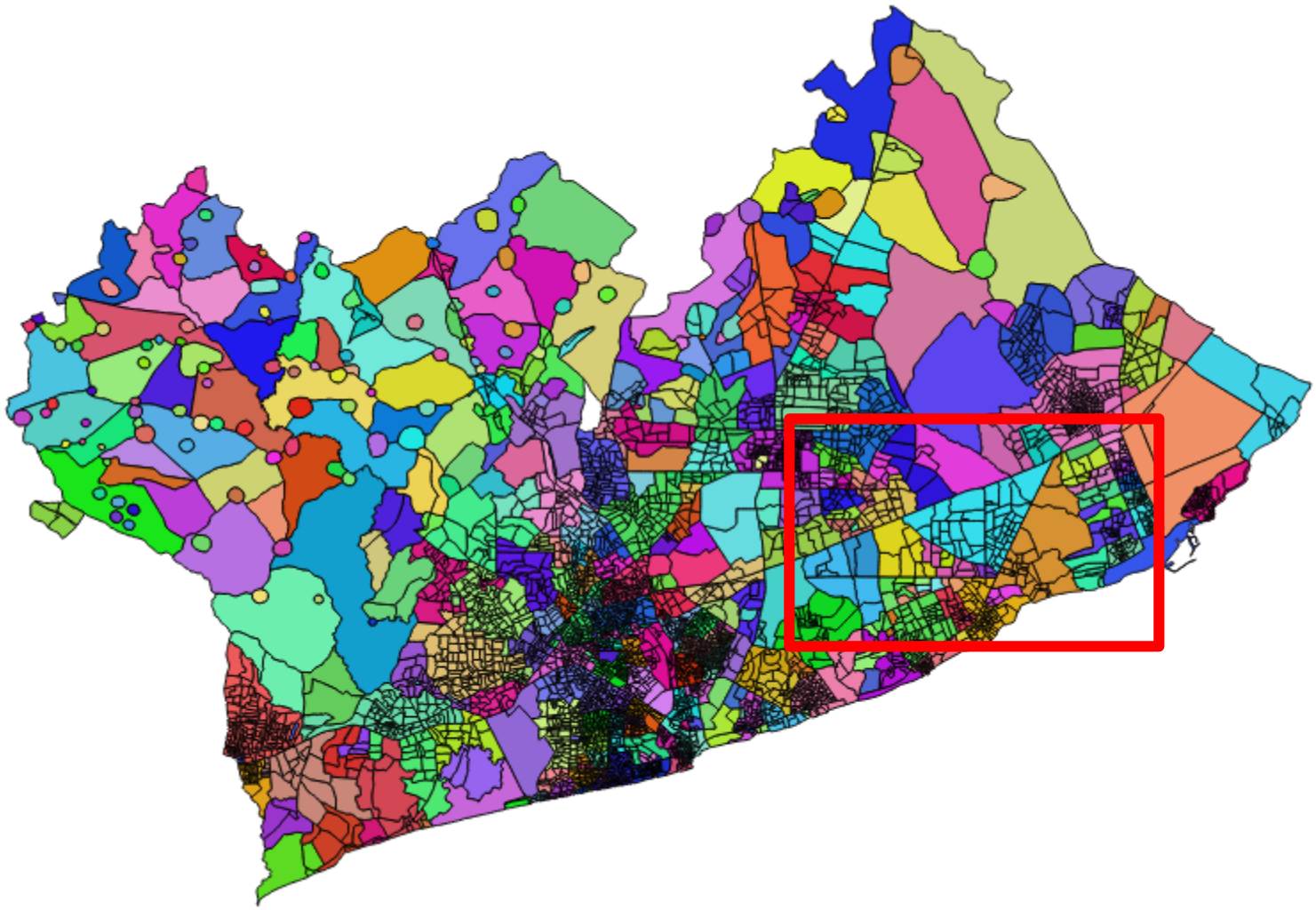


Maps of change to Built LCLU for 2000 and 2010 for the entire four region study area. a. Change to Built pixels in relation to pixels that were Built in 2000; b. 2000 LCLU class for pixels that changed to Built as well as pixels that were Built in 2000.

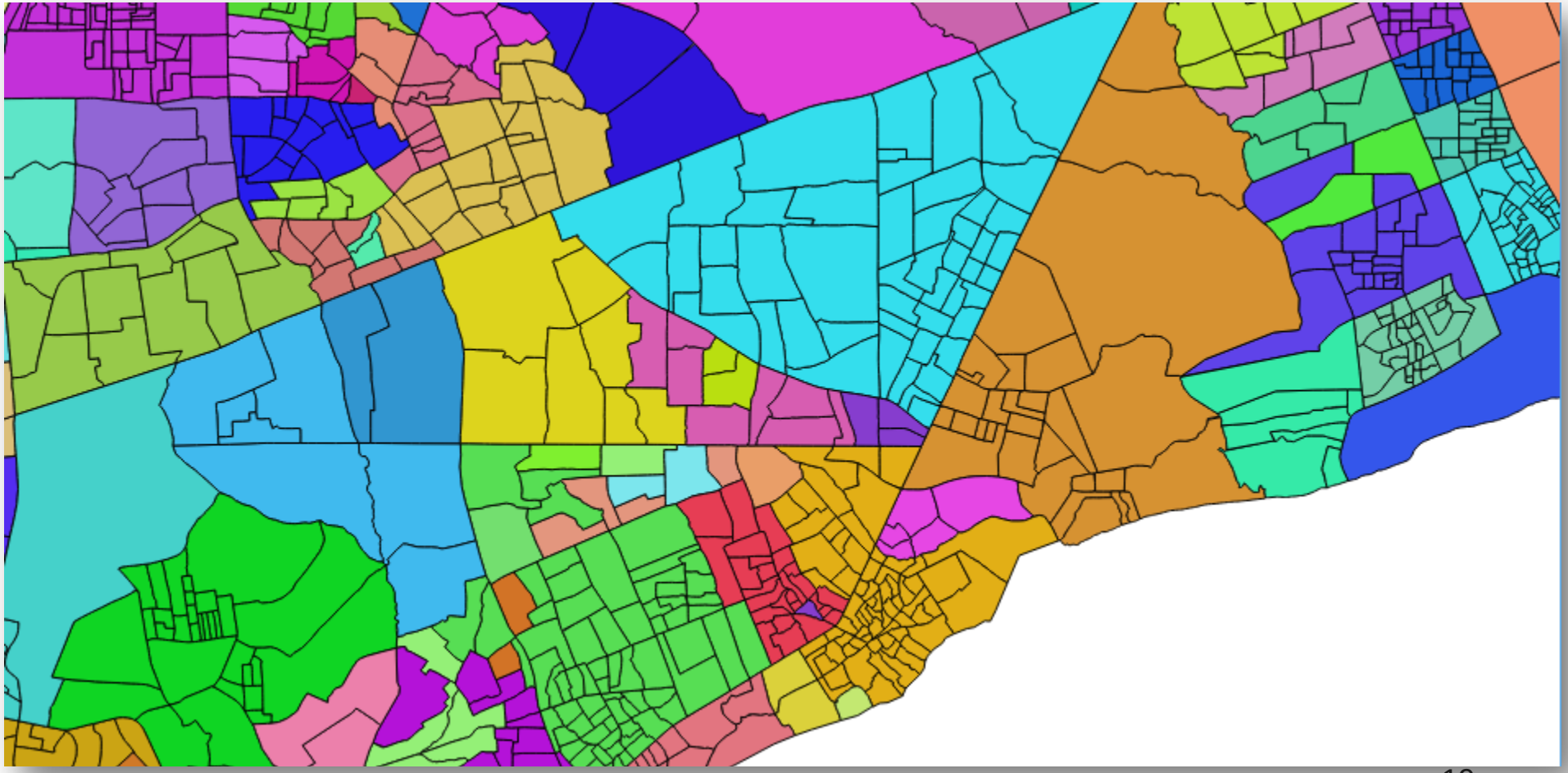


Land use/Land cover	Area in sq.km
Built	704.79
Water	36.94

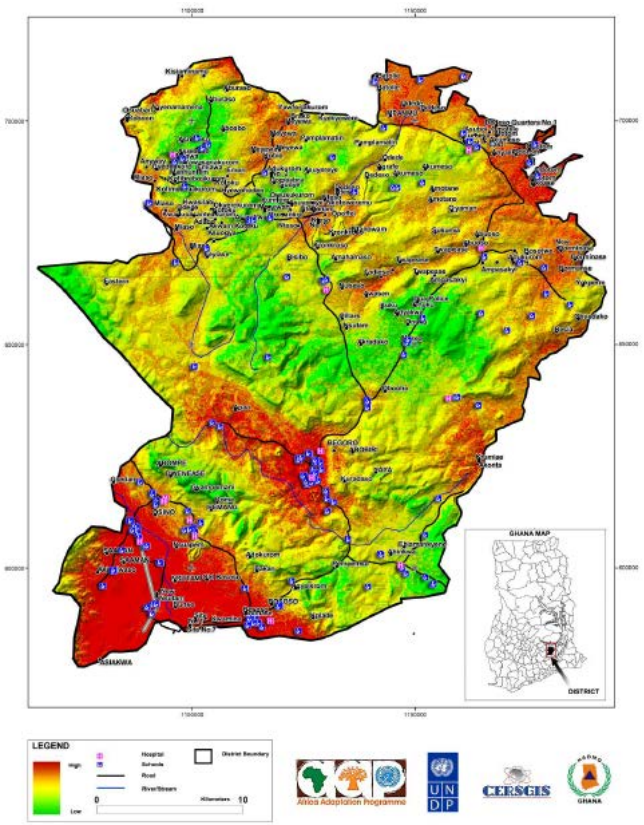

Ga West
Ga East
Ga South
Adenta
Xpone-
Katamanso
Ashaiman
Tema
Ledzokuku-
Krowor
AMA
Built Area

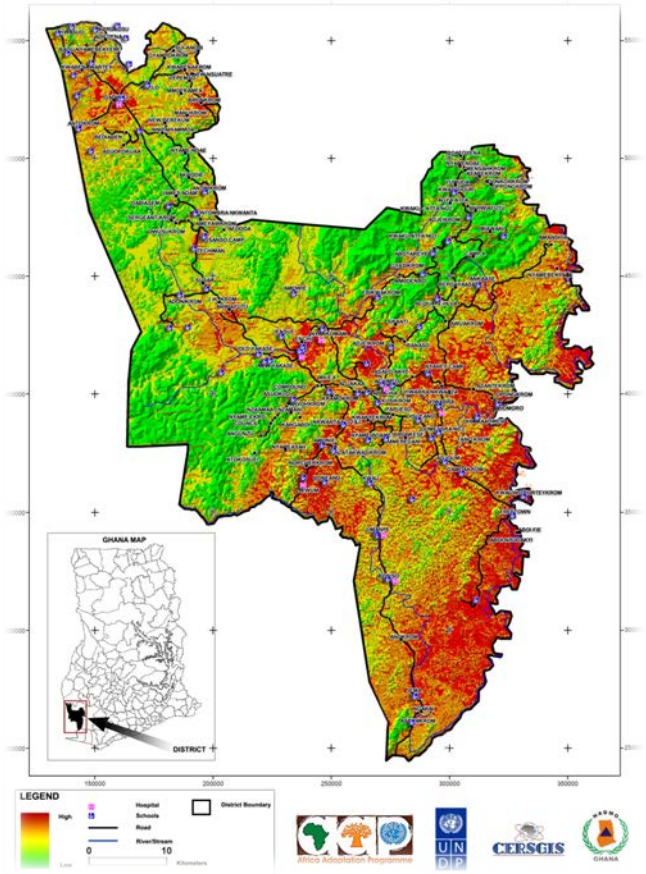


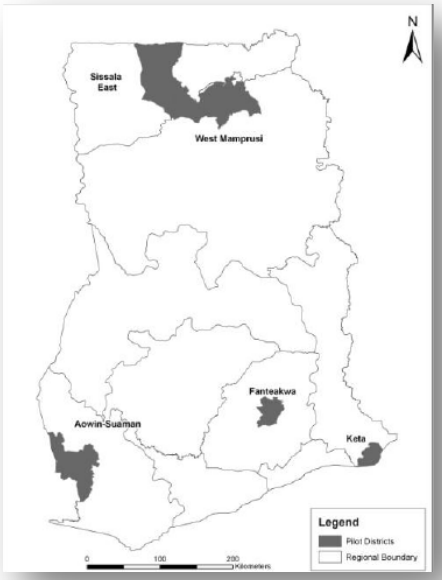
Production of standardized base geography from census enumeration areas will ensure comparison over time



Flood risk maps



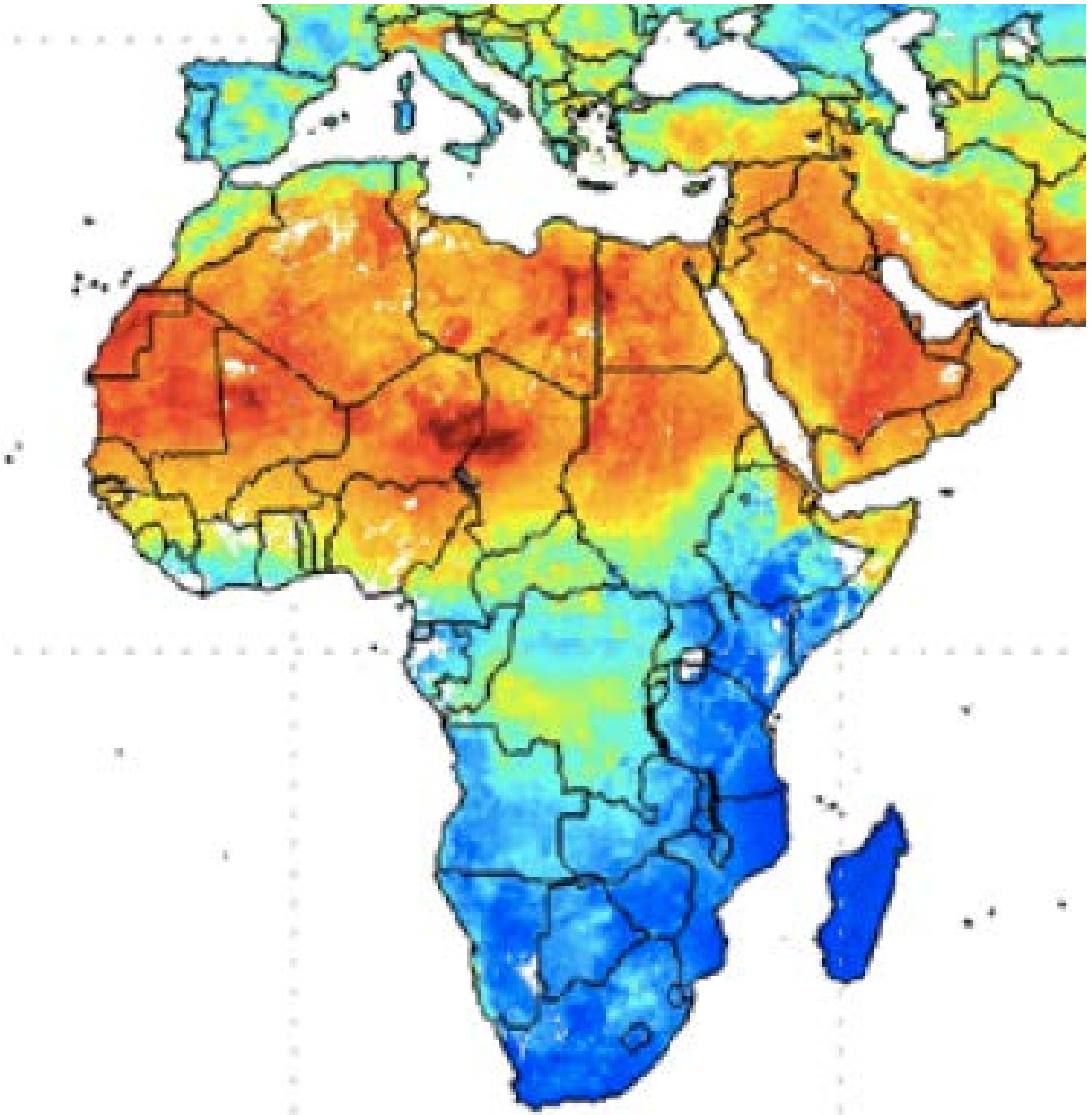




Target 11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to **air quality** and municipal and other waste management - Indicator 11.6.2: **Annual mean levels of fine particulate matter** (e.g. PM2.5 and PM10)

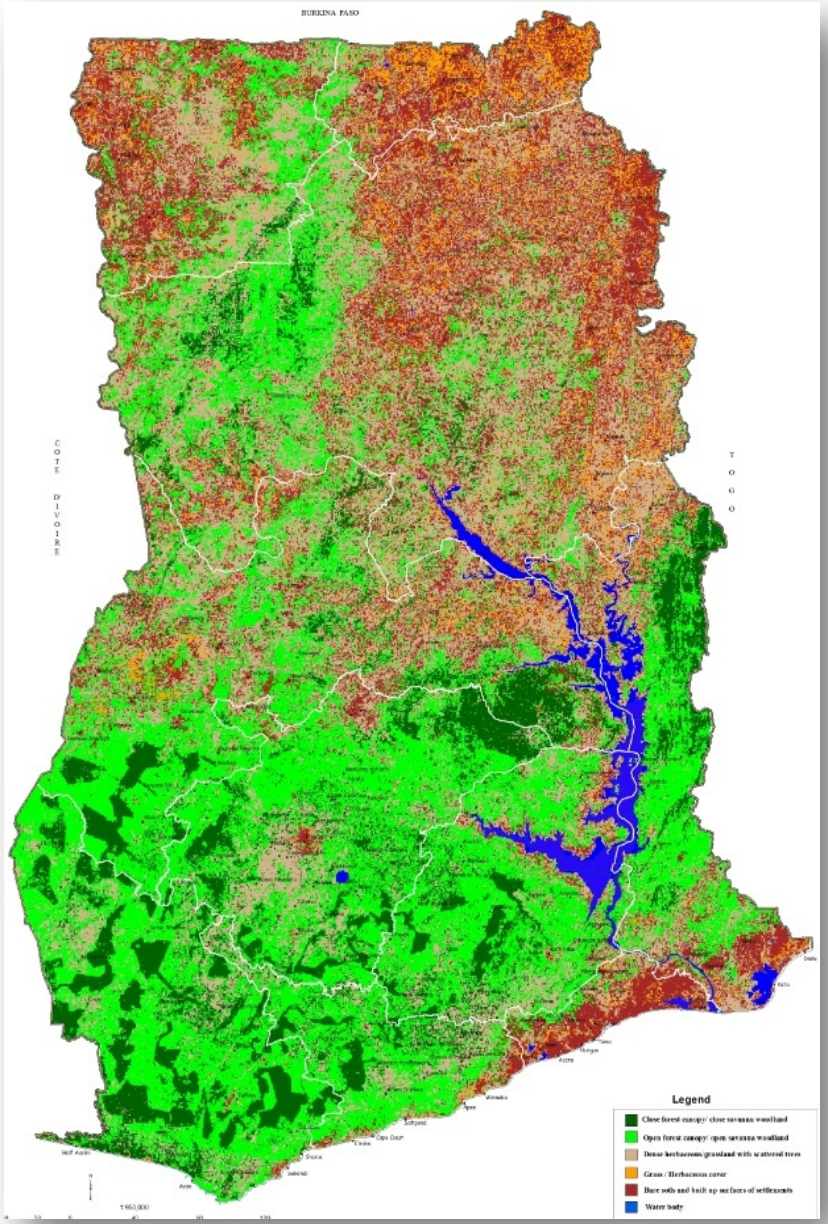
Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination –Indicator 3.9.1: Mortality rate attributed to household and **ambient air pollution**

SATELLITE ESTIMATED PARTICULATE MATTER (PM2.5)
Availability of Global datasets for monitoring air quality



PROTECT, RESTORE AND PROMOTE SUSTAINABLE USE OF TERRESTRIAL ECOSYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, AND HALT AND REVERSE LAND DEGRADATION AND HALT BIODIVERSITY LOSS

Land Cover Mapping



Conclusions

Earth Observation and Geoinformation could provide essential and complimentary data and information products for the implementation of the SDGs

There is existing data and sources for free and open satellite images for monitoring the implementation of SDGs

A national spatial data infrastructure is required to support sustainable development (including the SDGs in Ghana

THANK YOU !