The background features a collage of large, semi-transparent numbers in shades of green and blue, including '962', '441', '936', and '441'. On the left side, there is a circular inset image showing a group of people in a meeting, with one man pointing at a screen. The overall design is modern and professional, with a blue and green color palette.

BROKERAGES AND NETWORKS: AN APPROACH TO MAKING GEOINFORMATION MORE AVAILABLE IN AFRICA

Craig Schwabe
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**Sives Govender, Gina Weir-Smith and Jacob
Gyamfi-Aidoo**

Social science that makes a difference



Key challenges, opportunities, and potential

needed to bring about the effective use of

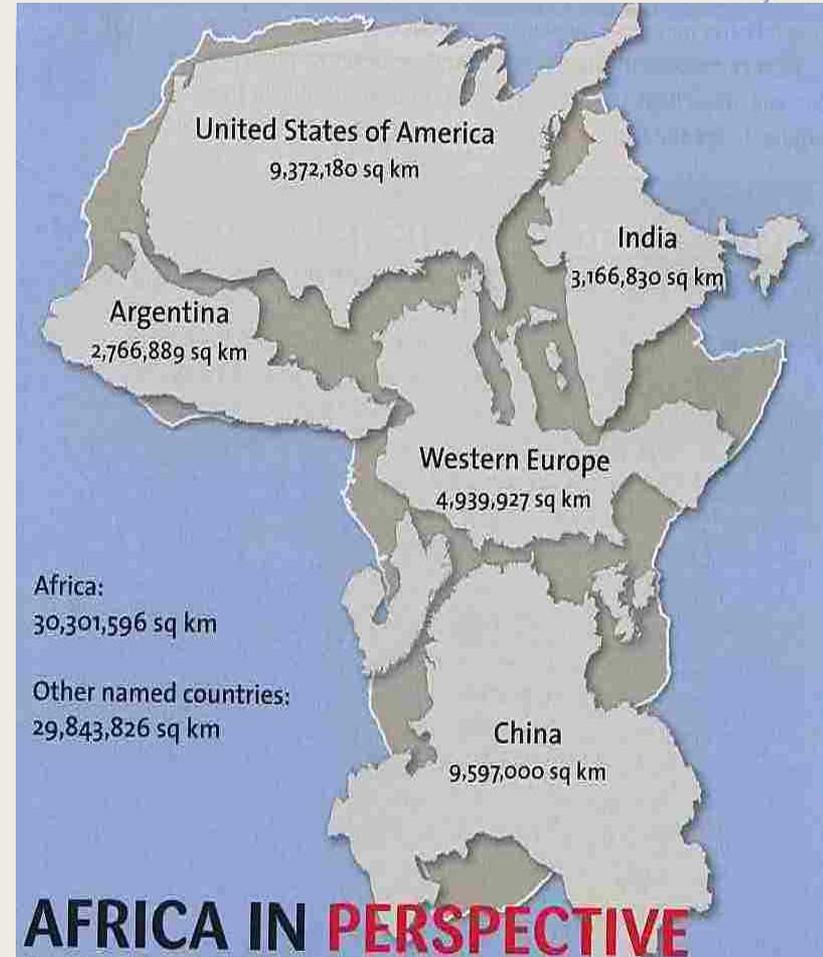
geospatial sciences for

sustainable development

Knowledge Systems

The Size of the Challenge

- As large as China, India, Argentina, United States and Western Europe combined
- 54 countries with 4 main regional languages (English, French, Portuguese, Arabic) and thousands more local languages
- 100 million people with diverse cultures
- High levels of poverty
- Lowest life expectancy and literacy rates in the world.
- High levels of deforestation and desertification
- Weak states.



Access Challenges

- Much information available but not accessible
- Still gaps - socio-economic GIS data
- Outdated national policies – control access to geoinformation
- Lack of policies – make information freely available

Other Challenges

- Lack of coordination
- Lack of knowledge – existing datasets
- Lack of entrepreneurial skills/capacity
- Lack of institutional structures/barriers
- Lack of a vibrant private sector
- Lack of funding

Sustainable Development Defined

- Sustainable development is defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” (WCED, 1987)
- Sustainable development is about how people’s needs are met and limiting the impact of their behaviour on the environment and the economy over time

But.....

It's about a lot more....its about

DPSIR

driving forces

pressures

state

impact

RESPONSE

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A PARADIGM SHIFT

- Its also about how government's address the needs of people and respond to problems
- Its about supply and demand
- *Bring about an effective use of geospatial sciences in sustainable development will need a paradigm shift*
- Learn from principles of social accountability

What is Social Accountability?

Social accountability is about the state engaging with citizens, especially the poor, and being accountable to them in meeting their basic needs

Making geospatial data appropriate

- Linking to the budgetary or development cycle
- People have basic human rights
- Governments 'operate' through their constitutions, policies and institutional structures
- Partnership between citizens and governments

Access to relevant information

- Accurate information is needed to empower citizens and bring about more effective decision-making
- Using the most scientific and innovative techniques available (e.g. satellite imagery, GIS)
- Information must be disseminated in easy to understand formats (e.g. info briefs)
- People and government officials need to be capacitated to use information
- Systematic communicating between them is needed

Networks and institutionalization

- Need to support networks:
 - Active communicate of what is happening in the industry – best practices/lessons learnt
 - Create linkages between practitioners and initiatives
 - Developing capacity to use methodological approaches
- The need to be institutionalized in the development or public budgetary process

World Summit Recommendations

- Coming out of the World Summit on Sustainable Development (South Africa, 2002) a regional workshop on data recommended the need to:
 - Communicate – raise awareness with decision-makers
 - Influence government officials - get their buy-in – mobilization
 - Institutionalize – financial and human resources, data maintenance
 - Develop policy – national SDI committees and policies
 - Coordination – role of UNECA
 - Partnerships and networks – EIS-AFRICA and regional centres

Fundamental geospatial datasets

- Define core or fundamental geospatial datasets
- Conduct inventories and cataloguing of datasets
- Collect core or fundamental datasets – socio-economic data (its about people's needs)
- Data storage and dissemination

Google

Said it

I believe it

So lets do it.....

Census Data for Africa

Measuring Africa for Africa (MAFA)

(Liz Gavin, 2008)

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What's happening

- UNECA's Mapping Africa for Africa (MAFA) initiative has:
 - Defined the fundamental geospatial datasets in Africa
 - Inventory and catalogue of fundamental geospatial datasets in Africa
- Mapping of road networks and settlements
- Access to satellite imagery
- Poverty mapping

Fundamental geospatial datasets

“Fundamental data sets are the minimum primary sets of data that cannot be derived from other data sets, and that are required to spatially represent phenomena, objects, or themes important for the realisation of economic, social, and environmental benefits consistently across Africa at the local, national, sub-regional and regional levels.”

Level	Category	Data Theme	Data Set
0	Primary Reference	Geodetic Control Network	Geodetic control points Height datum Geoid model
I	Base geography	Rectified Imagery	Aerial photography Satellite imagery
		Hypsography	Digital elevation model Spot heights Bathymetry
		Hydrography	Coastline Natural water bodies
II	Administration and spatial organisation	Boundaries	Governmental units Populated places Enumeration areas
		Geographic names	Place Names Feature Names
		[Land management units/areas]	Land Parcels/Cadastrre Land Tenure Street Address Postal or zip code zones Land use planning zones
	Infrastructure	Transportation	Roads Road centrelines Railways Airports and ports
		Structures	[Bridges and tunnels]
		Utilities and services	Power Telecommunications
III	Environmental Information	Natural environment	Land cover Soils Geology

Inventory and Catalogue

- Majority of countries' data sets available
 - rectified aerial photography, satellite imagery, digital elevation models, water bodies, administrative boundaries, populated places, place names and transport available
- Data sets generally not available are
 - census data, land parcels, land tenure, street addresses, postal code zones, and land use planning zones, infrastructure
- Very little metadata is captured by data custodians and functional data holders
- SDI Committees non-existent or non-functional but must still be pursued with a possible change of approach

Now

For Something

Different

Brokerages & Networks

Knowledge Systems

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“Brokerage”

- Facilitate access to Africa’s national datasets by large corporations, international and multilateral organizations, regional communities and national governments
- Pan-African organization establish national partners
- National partners establish MoUs with national agencies (ie mapping, statistics, ministries, private sector)
- Brokerage would communicate availability and facilitate access
- Generate funds to sustain knowledge portal on geospatial data in Africa
- Source of funds donor agencies, private foundations or private sector?

Networks

- EIS-Africa and HSRC extensive knowledge in establishing networks
- EIS-Africa's network consists \pm 5 000 members in 52 African countries established over 15 years
- HSRC's ANSA-Africa network consists of >1 600 members and AGIRN has 2 300 members
- Communicate with via newsletter and knowledge portals
- Function of networks are:
 - Develop cross-country collaboration through conferences
 - Provide technical assistance to enhanced initiatives
 - Deliver training programs on specific tools and techniques
 - Share experiences and lessons both regionally and globally



African Geo Information Research Network (AGIRN)

Geo-information community recognized that research being done in Africa not be disseminated and practitioners not receiving recognition

- Through AGIRN idea was develop the research capacity of industry and reveal the work that has been done
- Portal where information can be accessed, share industry knowledge and encourage discussion on a wide variety of issues
- Launched in 2006 and has developed a resource of over 400 documents with 900 daily hits (ANSA – 2 000 and SARPN – 20 000) – 38% increase over 6 months
- “Push and pull” approach makes it different
- JBGIS support for African national mapping agency portal
- Proposed hosting of Global Map data for Africa

Knowledge Systems

Conclusion

- Africa faces many problems (e.g. poverty, food security) which necessitates access to geoinformation
- Much is being done that Africa can be proud of but more needs to be done
- Need to look at a paradigm shift – other factors that will elevate geoinformation to its rightful position
- Must be made more relevant to decision-makers and people (and private sector?)
- Is census data the key? Is satellite imagery the key?
- We believe that the establishing of continent wide brokerages and networks is one of the approaches to making geospatial sciences more effective in bringing about sustainable development

The End