ZanSEA – capacity building in GIS/EIA on Zanzibar

Impact Assessment in the Digital Era / IAIA15, Florence
Presented by Sigurd Juel Kinn, Statoil
Outline of presentation

✓ Challenges faced on Zanzibar on EIA/SEA and data management
✓ Shortly about the involved parties
✓ Presenting the framework of ZanSEA-project
✓ A quick glance into ZanSEA GIS tool
✓ Conclusions

Contributors/contacts

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Where are we in Africa?
Short about Zanzibar

• Independency 1963/64, formed union with Tanganyika in 1964 to become Tanzania

• To main Islands, Unguja and Pemba
  - 1.3 million inhabitants, strong growth in population

• Tourism, artisanal fisheries and agriculture (famous for spices)

• Oil&Gas has been disputed within union, but now likely to be under Zanzibarian sovereignty
  - Oil and Gas industry likely to kick off in Zanzibar in coming years

• Lack of institutions and capacities for EIA/SEA
Short about SUZA

• SUZA: State University of ZAnzibar
• Started in 2001 with 55 students
• 2015: More than 1500 students
• School of Natural and Social Sciences (one of four schools)
  – Includes Department of Computer/IT
• Establishing a centre for “Environmental Management in Tropical Coastal and Marine Areas”
Short about Statoil in Tanzania

• Statoil is operator for Block 2, Tanzania
• Main office in Dar, offices in Mtwara (base) and Zanzibar
• Block 2 - Huge gas discoveries
• Part of a Joint Venture to develop an onshore LNG-plant for Block 1-4.
• CSR: Capacity building programs with universities in Tanzania
SUZA-Statoil cooperation

• Statoil-SUZA MoU signed 2013
  – Focus area: *Capacity building on Environmental Management in Coastal and Marine areas*

• 3 workshops held in 2013 (1/2Q) - scoping the projects with help from international specialists
  1. Environmental & social data management
  2. EIA/SEA
  3. Environmental monitoring
Main findings during the workshops

✓ Many challenges on sustainability due to tourism industry, population growth, climate change, upcoming oil&gas activities
✓ Coastal Zone particular sensitive
✓ EIA/SEA important tools for a sustainable development
✓ Quite well developed EIA-legislation in Zanzibar, but general lack of enforcement
✓ Lack of regulations on SEA
✓ Lack of capacity/competence within regulators
✓ Lack of data in coastal and marine areas
✓ Lack of sharing existing data between authorities

- Which role can SUZA play?
- How to involve authorities?
Projects initiated from the workshops

**Vision:**
SUZA to become a national and regional centre within sustainable management of coastal and marine areas

**Project 1: EIA/SEA-training**
- SEA-seminar Febr.2014 (Eco-Management Support)
- EIA-training course Febr-July 2014 (Samaki Consultants)

**Project 2: ZanSEA-project**
- About data needed for EIA/SEA
- Supported by all relevant stakeholders on Zanzibar
- Running 2014-2017
What is ZanSEA about?

• **Capacity building at SUZA**
  - Build competence and skills on Geographical Information Systems (GIS)
  - Implement GIS into Research and Education at SUZA
  - Educate/train stakeholders/partners

• **Promote data-sharing on Zanzibar**
  - Develop a Coastal Spatial Data Infrastructure (SDI)
  - Implement a tool for data management in the coastal and marine areas

• **Support EIA/SEA in Coastal and Marine areas**
  - Climate change and biodiversity
  - Hotels/tourism
  - Oil and gas industry
ZanSEA management

• ZANSEA-contractor: OBSCOM (France)
• Statoil is the ZanSEA sponsor
• The «ZANSEA team» at SUZA established
  – Separate GIS-lab dedicated at SUZA
  – Project manager and all key team functions
• Steering committee
• Technical group to be trained
• Using open source GIS-tool (Geonode)
  http://geonode.org/
ZanSEA – creating a “data sharing community”

SUZA
Centre of GIS excellence
Running the SDI
Providing GIS-support to partners
Training ZanSEA-partners and SUZA-students

ZanSEA Partners

- Energy
- Forestry
- Water
- Environment
- Fisheries
- Historical sites
- Other stakeholders
- Statistics
- IMS
- Agriculture
- Land use

✔ Partnership Agreements
✔ Data sharing agreements

✔ Steering Committee
✔ Technical Group

OBSCOM to provide training and support until 2017
A “taste of ZanSEA” – using the Geonode Tool

Welcome

Zanzibar Social and Environmental Atlas for coastal and marine areas

ZANSEA: Geonode is an open source platform for sharing geospatial data, interactive maps and best practices in GIS. It is part of the Spatial Data Infrastructure (SDI) developed under the ZANSEA project.

70 Layers
Click to search for geospatial data published by other users, organizations and public sources. Download data in standard formats.

Explore layers »

27 Maps
Data is available for browsing, aggregating and styling to generate maps which can be shared publicly or restricted to specific users only.

Explore maps »

37 Users
GeoNode allows registered users to easily upload geospatial data in several formats including shapefile and GeoTiff.

See users »
Explore Layers

**zan_ugunjawards_nbs2012_wgs84**

**Boundaries by admin_geonode**

The 2012 Population and Housing Census (PHC) of Tanzania was preceded by the preparatory geographic work, which involved field visiting of all regions, districts, wards/shehia, villages/mitaa, localities and sub-villages in the country, primarily to create and delineate Enumeration Area boundaries (EAs) so as to produce maps required for census operations. The most important principle followed in delineating an EA was that under no circumstance should an EA overlap the existing administrative boundaries of regions, districts, wards/shehia or villages/mitaa. Adherence to this principle was necessary since the census results were to be presented at the level of these administrative units.

- **1 Apr 2015**
- 3 comments
- 0 ratings

**unguja_ltt51660642009182mlk00_321**

**Imagery Base Maps Earth Cover by admin_geonode**

Satellite Image acquired by LANDSAT 5 on the 1st of July 2009. The "natural color" band combination. Because the visible bands are used in this combination, ground features appear in colors similar to their appearance to the human visual system, healthy vegetation is green, recently cleared fields are very light, unhealthy vegetation is brown and yellow, roads are grey, and shorelines are white. This band combination provides the most water penetration and superior sediment and bathymetric information. It is also used for urban studies. Cleared and sparsely vegetated areas are not as easily detected here as in the 4:5:1 or 4:3:2 combination. Clouds and snow appear white and are difficult to distinguish. Also note that vegetation types are not as easily distinguished as the 4:5:1 combination. The 3:2:1 combination does not distinguish shallow water from soil as well as the 7:5:3 combination does.

- **17 Mar 2015**
- 9 comments
- 0 ratings

**Natural Areas**

Environment by admin_geonode
Explore Maps

Total: 27

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Zansea: Tanzania Water Sources
by AMH
This map shows the important streams of water from their sources in Tanzania.

02 Feb 2015 | 18 | 0 | 0

UNGUJA marine biodiversity map
by Yves_Bartelemy
This map shows the extreme richness of the island.

02 Feb 2015 | 22 | 0 | 0

BIODIVERSITY
Environment by KMM
This map shows all information related to Biodiversity in Tanzania

14 Feb 2015 | 5 | 0 | 0
Makame Omar (MO)

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Keywords: Not provided

Mapping hotspots of malaria transmission from pre-existing hydrology, geology and geomor...

Health by MO

Larval source management strategies can play an important role in malaria elimination programmes, especially for tackling outdoor biting species and for eliminating parasites and vector populations when they are most vulnerable during the dry season. Effective larval source management requires tools for identifying geographic foot of vector proliferation and malaria transmission where these efforts may be concentrated. Previous studies have relied on surface topographic wetness to indicate hydrological potential for vector breeding sites, but this is unsuitable for karst (limestone) landscapes such as Zanzibar where water flow, especially in the dry season, is subterranean and not controlled by surface topography.

19 Mar 2015 | 1 | 0 | 0

Unguja map

by MO

This map shows historical sites and seaweed farming
Explore Groups

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The State University of Zanzibar
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Conclusions

• ZanSEA evolved from GIS-project at SUZA to become a SDI-project on Zanzibar

• ZanSEA has created enthusiasm for GIS and develops a data sharing community

• ZanSEA will support highly needed EIA/SEA-work on Zanzibar

• ZanSEA has a potential for supporting further development of SUZA as an institution

• SUZA has a great potential to become a competence centre to support development on GIS&Impact Assessment on Zanzibar
Thank you for your attention.

Questions/Comments?