Using Participatory GIS Approaches for Resource Conservation and Management: Case of the Greater Amanzule Wetland

By: Justice Camillus Mensah, Daniel Doku Nii Nortey & Stephen Kankam
Outline

• Introduction

• Goal/Objectives

• HM Approach

• Results

• Impacts/Observation

• Conclusions

• Recommendations
Introduction

• Participatory GIS is one of the most effective ways of mapping wetland resources

• In Ghana high resolution multispectral imagery for local scale mapping and planning is limited
Goal/Objectives

- To use participatory GIS as a tool for community participation in the conservation, planning and management of mangrove ecosystems associated with the Greater Amanzule Wetland landscape.
Objectives

• Map the current extent of mangroves and identify degraded mangroves within the GAW

• Identify possible management actions

• Pilot mangrove restoration in selected communities
STUDY AREA

GREATER AMANZULE WETLAND SHOWING CSLP FOCAL COMMUNITIES

Legend
- Focal Communities
- Other Communities
- Roads
- Rivers
- Wetland
- Water Body
- Forest Reserve
HM Approach-Mangrove Mapping

- Visual interpretation of 2005 orthophotos
- Google images and GPS survey points for validation
HM Approach- Management Action

- Formation and training of CCCs and DCCs
- Consultation meetings with Traditional authorities
- Development of management actions with communities
- Implementation of specific community resource management actions
HM Approach - Mangrove Restoration

- Pilot Communities - Sanwoma, Anyanzini, Metika

Weekly Activities at Nursery Site...

Filling of polythene pots

Nursing of mangrove propagules to seedling stage

Before Replanting

During Replanting

After Replanting
• 688.75 hectares of mangroves mapped
• 160 hectares of mangroves degraded
Results

• Mangrove nurseries established voluntarily and field replanting activities initiated

• 21.30 hectares of degraded mangrove areas restored

• Mangrove harvesters now champions of mangrove replanting and conservation efforts
Impacts/Observation

• Increase in shrimps and periwinkles harvest

• Increase in sizes and quantities of *Chrysichthys nigrodidtatus* harvested
Conclusions

• Participatory approach is a cost-effective approach to wetland conservation and management planning and has proven to be a successful tool for conservation and management.

• Mapping products generated for each community to aid in communication and identification of specific management actions.

• The use of participatory approach in natural resource mapping and management is an effective tool in the absence of local scale high resolution imagery.
Recommendations

• Increase restoration efforts to restore degraded sites

• Development of local norms or by-laws to govern the exploitation of the wetland resources
THANK YOU

✓ Coastal Sustainable Landscapes Project (CSLP)
✓ Sustainable Fisheries Management Project