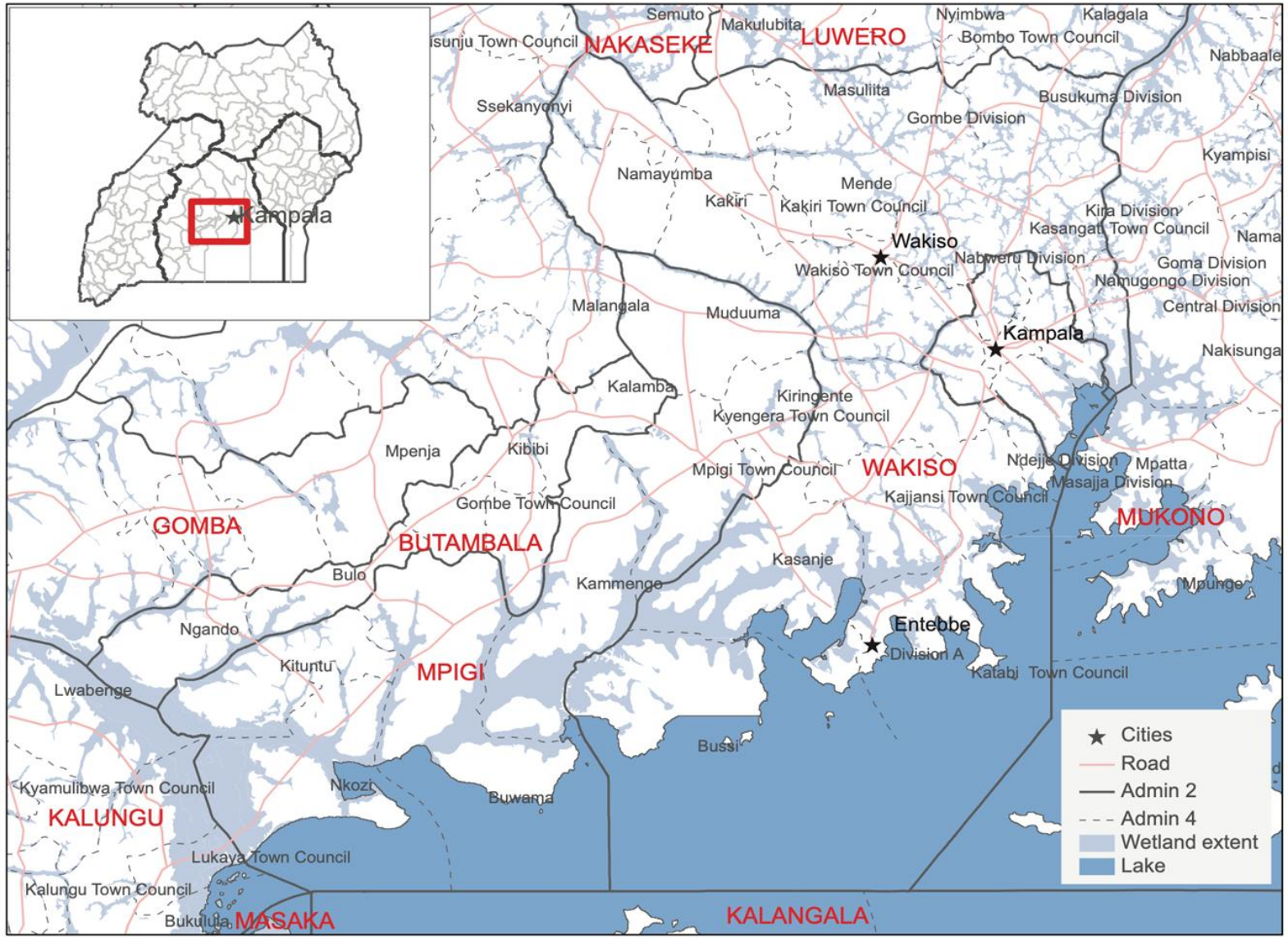
UGANDA TEEB AGRIFOOD STUDY FOR MABAMBA BAY WETLANDS

Scenario Analysis Based on the TEEB Agrifood Evaluation Framework of Policies for Urban and Peri-Urban Agriculture and Wetland Restoration for the Mabamba Bay Wetland System, Uganda

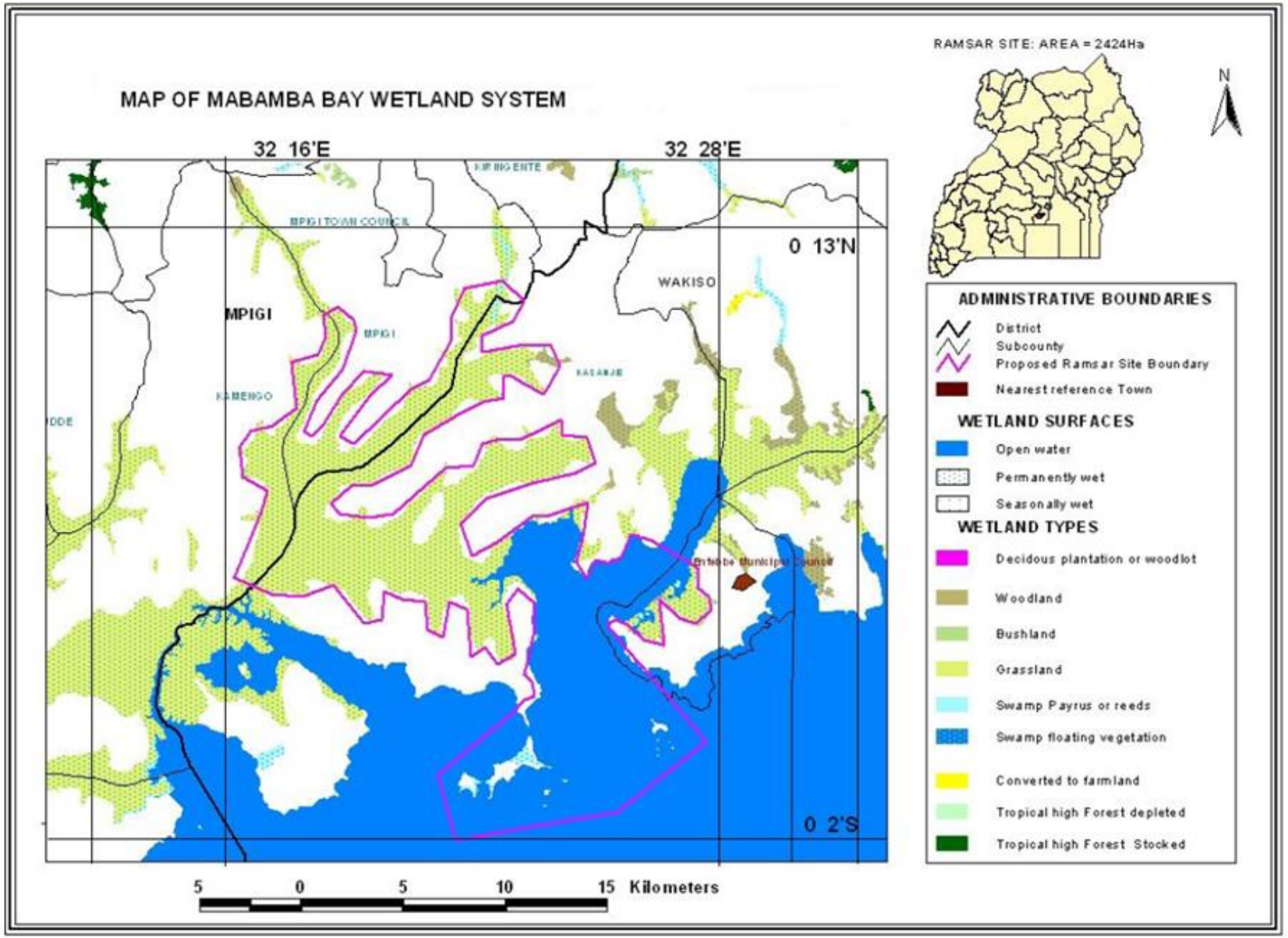
SCOPING REPORT

27th September, 2021

Mabamba Wetland Landscape and Urban and Peri-Urban Areas



Mabamba Wetland System and Administrative Jurisdictions



Study Approach and Methodology I

TEEBAgriFood Evaluation Framework

- ❑ Natural Capital
- ❑ Human Capital
- ❑ Social Capital
- ❑ Produced Capital

Scoping Report:

- ❑ Literature Review
- ❑ Field Observations
- ❑ Field Local Interviews
- ❑ Field Focus Group Discussions
- ❑ Field Expert Interviews

- ❑ **Stakeholder mapping and analysis** for identification of interests and multiple and plural benefits being accrued from the Mabamba wetlands landscape.

- ❑ **Land-use and cover mapping** for habitat types classification (**typology generation**) and **spatial analysis** of ecosystem services critical for urban and peri-urban agriculture and wetlands ecosystem integrity.

- ❑ **Mapping of ecosystem services and valuation** following total economic valuation approach in the Mabamba wetlands landscape in relation to urban and peri-urban agriculture and wetlands ecosystem integrity.

- ❑ **Identification and mapping of urban and peri-urban agriculture value chains** and linkage with Mabamba wetlands landscape ecosystem services.

- ❑ **Literature review and stakeholder consultations** for Mabamba wetlands landscape visioning and development options conceptualization .

- ❑ This will ultimately result into **scenario options and analysis** of selected development pathways for informing and influencing prevailing policies, strategies, plans and practices for sustainability.

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Study Approach and Methodology II

- Measuring of Social and Human Capital;
  - One Health
  - Livelihoods
  - Land rights/land access/tenure
  - Food security
  - Farmers Cooperatives

Study Approach and Methodology III

- InVEST (Integrated Valuation of Ecosystem Services and Tradeoffs)
- Based on Data Availability; Indicative Models
  - Carbon Storage and Sequestration model
  - The Seasonal Water Yield (SWY) model
  - Crop Production Percentile and Crop Production Regression models
  - Crop Pollination model
  - Water purification; Nutrient Delivery Ratio model
  - Sediment Retention model
  - Fisheries Production model
  - Recreation model
  - Scenic Quality model
  - Habitat Quality model
  - Marine Fish Aquaculture model
  - Urban flood risk mitigation model
  - Urban Cooling model

Land Use/Land Cover Types

- ❑Open Water
- ❑Papyrus Wetlands
- ❑Grassland
- ❑Bushland
- ❑Forests
- ❑Farmlands
- ❑Plantations/Woodlots
- ❑Settlements; Urban and Peri-Urban Areas

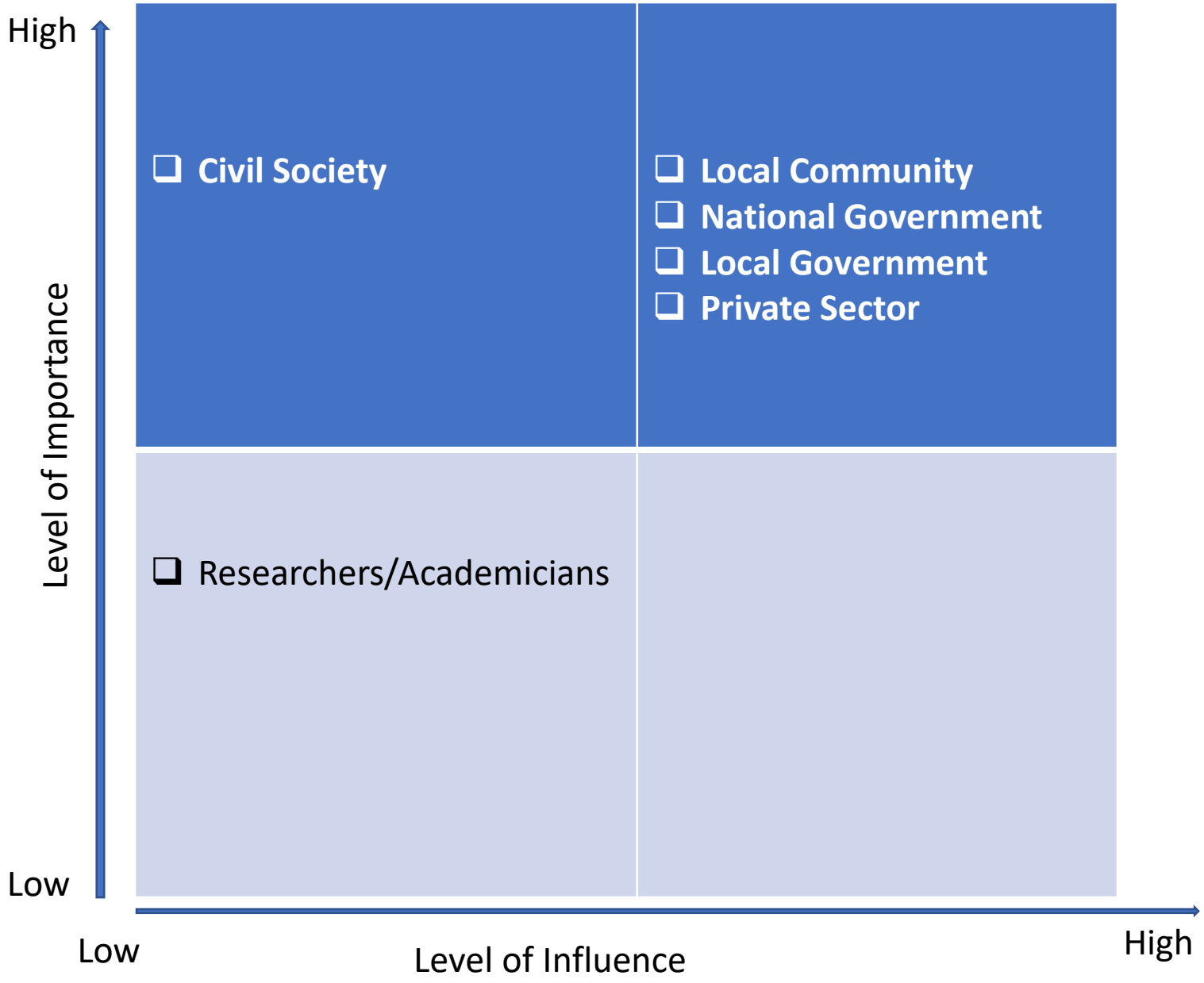
Urban and Peri-Urban Agricultural Systems

- ❑Cultivated Crops; Cash and Food Crops
- ❑Small-holder
- ❑Horticulture
- ❑Floriculture
- ❑Aquaculture
- ❑Apiculture
- ❑Livestock Husbandry; Poultry, Piggery
- ❑Plantations/Woodlots

Power / Interest Grid for Stakeholder Analysis

- The role, interest, influence and power of stakeholders on the Mabamba Wetland varies

- International and Regional Level, National Level, Local Level, Civil Society Organizations, Academic and Research Institutions



Situational Appraisal

- Increasing population, urbanization, climate change
- Increasing migration from urban areas to peri-urban and rural areas for land for agriculture and settlements
- Wetlands encroachment
- Small-holder farming prevails
- UPA is characterized by food and cash crops, horticulture, floriculture, aquaculture etc

Drivers of Change and Indicators

- The main driving forces are population, urbanization and climate change. Other driving forces include agricultural production systems, corruption, Gross domestic product and infrastructural development. This is explored through indicators such as yields of rainfed crops, yields of irrigated crops, area of rainfed arable land, area of irrigated arable land, livestock numbers, livestock yields, agricultural input costs, prices of agricultural products, nutrition, dietary diversity, poverty, equity, wetlands extent or cover change and biodiversity

Impacting Institutions; Vision, Policies, Plans, Strategies, Programmes

- Uganda Vision 2040
- The National Development Plan III (2020/21 – 2024/25)
- District Development Plan
- National Environment Management Policy (2017)
- Uganda's second national biodiversity strategy and action plan (NBSAP II 2015-2025) in 2014
- The National Agriculture Extension Policy 2016 /National Agricultural Extension Strategy/National Organic Agriculture Policy (2019
- National Fisheries and Aquaculture Policy 2018

Mabamba Wetland Provisioning Ecosystem Services

No	Category	Ecosystem Services	Stakeholders
1.	Provisioning	Water supply (domestic, livestock, irrigation)	Local community
		Fishing/capture fisheries	Local community
		Wild meat/Hunting	Local community
		Medicinal plants	Local community
		Papyrus	Local community
		Pasture/Fodder	Local community
		Fuel wood/Biomass	Local community
		Crops/Horticulture/Floriculture/Yams, Sugarcane	Local community
		Livestock (chicken, pigs, goats, cattle, sheep, Bees/Honey)	Local community
		Fish farming/Aquaculture (pond and cage)	Local community
		Sand mining	Local community
		Brick making	Local community

Mabamba Wetland Regulation Ecosystem Services

No	Category	Ecosystem Services	Stakeholders
2.	Regulation	Microclimate regulation	Local community
		Water purification	Local and Regional community
		Flood regulation	Local community
		Pollination	Local community
		Erosion regulation	Local community
		Aquifers recharge	Local community
		Cultural sites	Local Community

Mabamba Wetland Supporting Ecosystem Services

No	Category	Ecosystem Services	Stakeholders
3.	Supporting	Carbon storage/sequestration	Local, Regional and Global community
		Soil formation/fertility; sediments and soil traps/deposits	Local community
		Nutrients Retention	Local community
		Breeding and Nursery Grounds	Local and Regional Community

Mabamba Wetland Cultural Ecosystem Services

No	Category	Ecosystem Services	Stakeholders
4.	Cultural	Tourism/Birdwatching	Local, Regional and Global community
		Boat transport	Local community
		Research and Education	Local, Regional and Global community
		Habitat and Biodiversity	Local, Regional and Global community
		Cultural sites	Local Community

Mabamba Wetland Human, Social and Produced Capital

No	Human	Social	Produced	Stakeholders
5.	One Health (Nutrition etc)	Land rights/land access/tenure	Inputs/Outputs	Local, community
	Livelihoods	Food security		Local community
		Farmers Cooperatives		Local, community
				Local, community
				Local Community

Scenarios Options

- Drivers include population increase, urbanization and climate change

I. Business as Usual Scenario (BAU).....**ONE**

- This is the baseline projected scenario; no intervention
- High land cover change to arable land
- Increase expansion of unsustainable UPA (high erosion rate)
- Focus on agriculture and food production
- Encroachment into Mabamba Wetlands for Agriculture/Settlements

- Tourism growth and behavior, infrastructure (roads, bridges), agricultural land use, settlements and urban expansion, conservation zonation and protected areas (including IBAs, Ramsar Sites, Forest Reserves….Tap on relevant indicators

Scenarios Options

- Drivers include population increase, urbanization and climate change

I. Alternative Green Scenario……**TWO**

- Low land cover change to arable land
- Mabamba Wetlands Restoration/Green Infrastructure
- Mabamba Wetlands Biodiversity protection
- Sound land use planning
- Resilience building of agricultural production system
- Strong enforcement of policies and regulations

- Tourism growth and behavior, infrastructure (roads, bridges), agricultural land use, settlements and urban expansion, conservation zonation and protected areas (including IBAs, Ramsar Sites, Forest Reserves….Tap on relevant indicators

Scenarios Options

- Drivers include population increase, urbanization and climate change

I. Alternative Green-Grey Scenario……THREE

- Medium land cover change to arable land
- Optimal expansion of sustainable UPA
- Hybrid of conservation and sustainable UPA growth
- Moderate Mabamba Wetlands Encroachment

- Tourism growth and behavior, infrastructure (roads, bridges), agricultural land use, settlements and urban expansion, conservation zonation and protected areas (including IBAs, Ramsar Sites, Forest Reserves….Tap on relevant indicators

Q & A Session

- Any critical capital or associated elements not captured?
- Any agricultural system not captured?
- Any stakeholder not captured?
- Any data sources e.g., spatial data/shapefiles etc ?


WELCOME TO
MABAMBA BAY
A Ramsar site and Important Bird Area
Home to the
SHOEBILL
Shoebill
Balaeniceps rex
FOR MORE INFORMATION, PLEASE CONTACT
• Mabamba Bay Wetland Eco-Tourism Association
• Kasanje Town Council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