

# STAKEHOLDER-INCLUSIVE ASSESSMENT OF BENEFITS AND OPPORTUNITIES

In the SIO-MALABA-MALAKISI BASIN

Presented by

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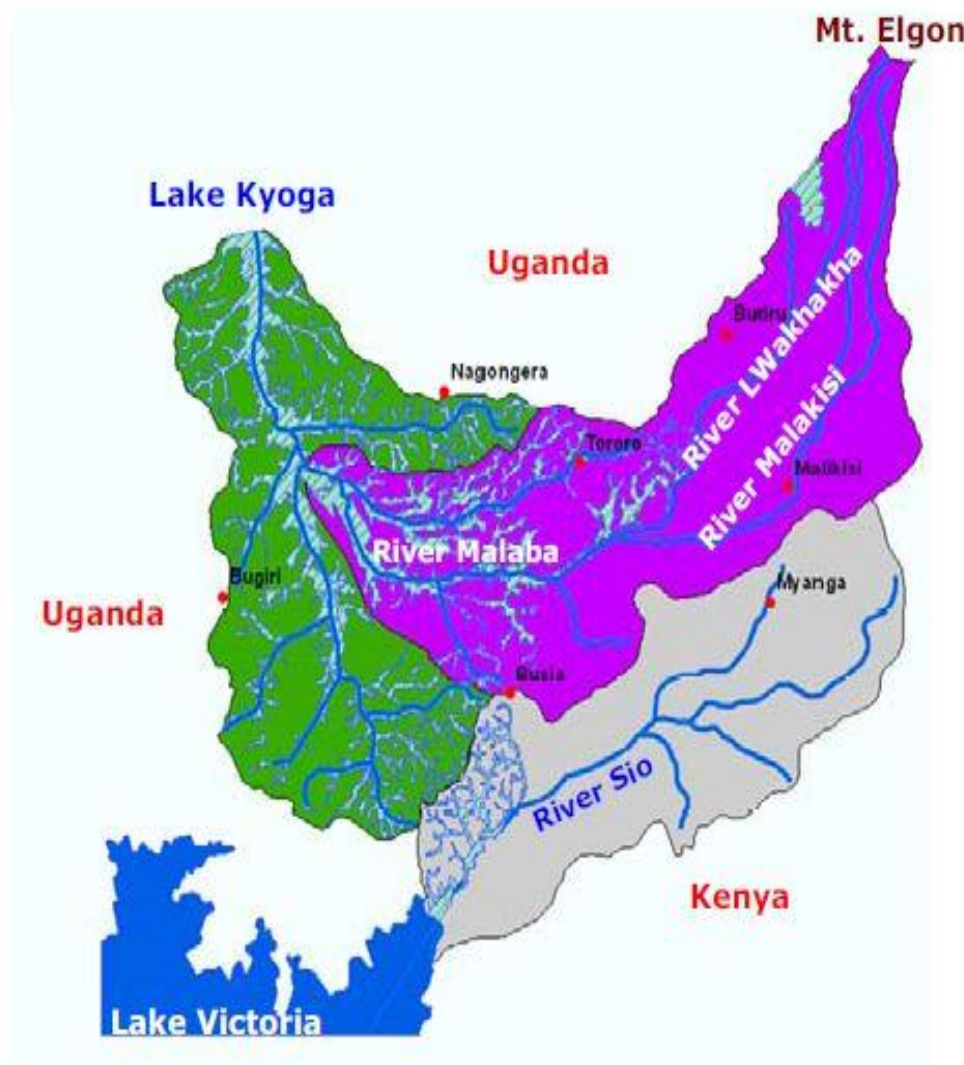
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# Sio Malaba Malakisi Basin



- The Sio-Malaba-Malakisi (SMM) River Basin is shared by Kenya and Uganda.
- All the rivers originate from Mt Elgon- combined catchment area => 3240 square kilometers.
- Total combined population=> about 4million people 80% of are engaged in rain-fed agriculture
- Rainfall- Mt Elgon areas =>1800mm, Lowlands(Butaleja and Iganga)=> 900mm-1180mm
- Good climatic conditions contribute to an ecosystem rich in fauna and flora
- Poverty is very high(30%-66%); many of the rural population struggle to meet their basic needs

# Basin issues

## Pollution and poor solid waste management:

- breeding grounds for flies and other vectors that cause disease.
- surface water and groundwater pollution by leachate, impairment of soil permeability, and blockage of drainage

## Flooding: affects both people and property

## High population growth (2% to 5% rate):

- land fragmentation and farming in marginal areas causing soil erosion and nutrient loss.

## Weak enforcement of environmental management regulations

## Weak law enforcement institutions

## Increase in water- and land-related conflicts



# 18 Confirmed Dead, 450 Buried After Bududa Landslide

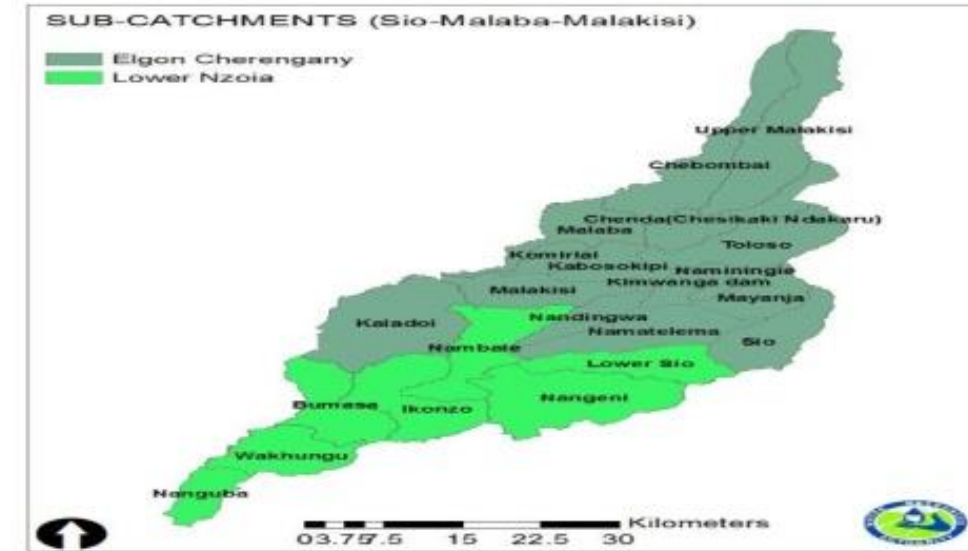
Posted on June 26, 2012



# Stakeholder-inclusive Interventions in SMM under the Nile Basin Initiative

A number of environmental management activities were implemented and water related investment opportunities identified, e.g.:

- **SCMPs:** Developed 10 trans boundary Sub Catchment Management Plans ( SCMPs).
- **Hydromet stations:** Installed 20 Transboundary Hydromet stations



# BENEFITS and opportunities from cooperation in the SMM basin

## Economic Benefits

- Increased activity, productivity and long-term sustainability in economic sectors (aquaculture, irrigated agriculture, energy generation, nature-based tourism)
- Employment in agro based industries

## Ecosystem Benefits

- Preservation of aquatic and terrestrial habitats and biodiversity
- Inter-generational sustainability of ecosystems and natural infrastructure

## Social Benefits

- Improved water quality and reduced risk of water-related disaster
- Social welfare from increased employment and reduced poverty

## Regional Economic Cooperation Benefits

- Development of regional markets for goods, services and labor
- Increase in cross-border investments
- Development of transnational infrastructure networks (transport, energy)

## Peace and security benefits

- Shared basin identity
- Increased geopolitical stability and strengthened diplomatic relations

## → OPPORTUNITIES IN SMM

- Basin Monograph
- Investment Strategy
- Decision Support System (DSS)
- Memorandum of Understanding between the riparian states



# Benefit Opportunities Assessment

- The SMM stakeholders recently engaged in an innovative exercise to maximise benefits across stakeholders through cooperative planning
- The aim is to support decisions about investments in water management and development that benefit the most stakeholders in both riparian countries.
- This exercise was used in the context of updating the SMM investment strategy and defining priority investments
- A shortlist of 12 priority investments had been identified through prior multi-criteria analysis



Project	Country	Rating
Malaba Irrigation	Both	5.0
Eastern SMM Water Security and Development (combining six SCMPs)	Kenya	4.6
Sio-Sango Irrigation	Kenya	4.4
Toloso SCMP	Kenya	4.4
Lwakhakha Hotspots	Uganda	4.2
Community-based Wetlands Management NELSAP	Both	4.0
Food Security	Kenya	4.0
Angolola Dam NELSAP	Both	4.0
Solid Waste NELSAP	Both	3.8
Nyabanja Irrigation NELSAP	Uganda	3.6
Stormwater Drainage Master Plans NELSAP	Both	3.4
Bulusambu Small Multi-purpose Reservoir	Kenya	3.4

# Benefit Opportunities Assessment Tool (BOAT): Examining Qualitative Impacts on Stakeholders

- Water use activities may have **positive** or **negative** impacts (externalities) on other water users
- A first step consisted of examining the balance of **positive** and **negative** impacts from a given project, or set of projects, across different stakeholder groups in a shared basin
- Then stakeholders worked together to see how joint changes in water management can enhance **benefits** for the most stakeholders and both riparian countries?

→ BOAT is a multi-stakeholder dialogue and decision support tool which precedes a more in-depth analytical process to design strong sets of interventions

Exercise: Konfundesia and Akinonia projects NO COOPERATION

Water use activities	Stakeholders										Net number of impacts per project
	Hydro K	Hydro A	Agri K	Agri A	City K	City A	Env K	Tourism A	Fish A	Cult A	
Hydropower production at Edara Dam	+	-	-	-	+		-	-	-	-	-5
Biofuel expansion in Metis			+	-	+		-	-	-		-2
Hydropower production at Papyrus Dam		+		-	-	+		-	-	-	-3
Net number of impacts per stakeholder	1	0	0	-3	1	1	-2	-3	-3	-2	

WITH BENEFIT SHARING

Water use activities	Stakeholders										Net number of impacts per project
	Hydro K	Hydro A	Agri K	Agri A	City K	City A	Env K	Tourism A	Fish A	Cult A	
Enlarged hydropower capacity at Edara Dam & reoperated	+	-	-	+	+		+	+	+	+	5
Biofuel expansion in Metis			+	-	+		-	-	-		-2
Removal of Papyrus Dam & drainage of reservoir		-		+	+	+		+	+	+	5
Net number of impacts per stakeholder	1	-2	0	1	3	1	0	1	1	2	



# Preliminary BOAT Matrix SMM

		STAKEHOLDERS																			
		biodiversity	capture fisherfolk	culture fisherfolk	domestic sanitation users	domestic water users	hydropower producers	industrial consumptive water users	industrial non-consumptive water users	irrigating farmers	irrigation service providers	financial service providers	foresters	rainfed farmers	regulators	sanitation service providers	soils	water resources	water supply service providers	wetland biomass users	
	Country																				
neutral or irrelevant to a particular type of stakeholder		yellow																			
provides benefits for a particular type of stakeholder		green																			
represents threats for a particular type of stakeholder		red																			
<b>Malaba-Malakasi System</b>																					
Lwakhakha Hotspots Interventions	Kenya	green	yellow	yellow	green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	green	yellow	green	green	yellow	green	yellow	
	Uganda	green	yellow	yellow	green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	green	yellow	green	green	yellow	green	yellow	
Solid Waste Management	Kenya n/a	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	
	Uganda	green	green	yellow	yellow	yellow	yellow	yellow	yellow	green	yellow	yellow	yellow	green	yellow	green	green	yellow	green	yellow	
Eastern SMM Chebombai	Kenya	red	red	green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	yellow	green	green	yellow	green	yellow	
	Uganda	red	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	yellow	green	green	yellow	green	yellow	
Angolola Dam	Kenya	red	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	yellow	green	red	yellow	green	yellow	
	Uganda	red	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	yellow	green	red	yellow	green	red	
Eastern SMM SCMPs	Kenya	green	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	green	yellow	green	green	red	red	yellow	
	Uganda	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	green	yellow	green	green	red	red	yellow	
Malakisi Malakisi	Kenya	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	red	yellow	red	red	yellow	yellow	
	Uganda	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	red	yellow	red	red	yellow	red	
Malaba irrigation Project	Kenya	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	red	yellow	red	red	yellow	yellow	
	Uganda	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	red	yellow	red	red	yellow	red	
Nyabanja Irrigation	Kenya n/a	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	
	Uganda	red	red	green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	yellow	red	red	green	red	
Community Based Wetlands - 1	Kenya n/a	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	
	Uganda	green	green	green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	green	yellow	yellow	green	yellow	yellow	green	
<b>Sio System</b>																					
Food Security in Western Kenya	Kenya	red	red	green	yellow	yellow	red	red	red	yellow	yellow	yellow	yellow	green	yellow	yellow	red	red	yellow	yellow	
	Uganda	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	
Toloso	Kenya	red	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	yellow	
	Uganda	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	
Eastern SMM Mayanja	Kenya	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	red	
	Uganda	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	
Solid Waste Management	Kenya	green	green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	green	green	
	Uganda	yellow	green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	
Eastern SMM Sio	Kenya	green	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	red	
	Uganda	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	
Sio-Sango Irrig'n and Watershed Mgt	Kenya	red	red	green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	yellow	yellow	red	red	yellow	red	
	Uganda	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	
Eastern SMM Namatelema	Kenya	green	red	yellow	yellow	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	
	Uganda	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	
Easter SMM Kimwanga	Kenya	green	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	green	green	
	Uganda	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	
Community Based Wetlands - 2	Kenya	green	green	green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	green	yellow	yellow	green	green	yellow	green	
	Uganda	green	green	green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	green	yellow	yellow	green	green	yellow	green	
		6	-10	15	5	9	10	2	2	11	11	19	12	4	6	10	7	-12	7	3	

# Group work to define the best bundle of projects at sub-basin level

- **Step 1** Each group analyzed the proposed Boat matrix and proposed changes for each project to reach an agreed starting point
- **Step 2:** Each group selected which 3 projects to cluster into a “bundle” that could yield the most benefits across stakeholder groups and across Uganda and Kenya, in this sub-basin.
- **Step 3:** Each group worked on their chosen bundle using the BOAT tool to find ways to optimize outcomes for the most stakeholders in the sub-basin, e.g. through alternative/additional measures in project design and/or by substituting projects
- **Step 4:** Once their bundle was finalised, each group summarised the benefits and remaining challenges that this bundle presented



# Example of a selected project bundle

## Group 1 bundle consisted of:

- Lwakhakha , Chebombai -Catchment Restoration
- solid waste management ;
- Angolola multi purpose Dam
- Community based wetlands
- Malakisi SCMP. - Catchment Management & Devt

## Expected benefits:

- Improved WQ & Q, Health, Food security, reduced soil erosion
- Whole sub basin management perspective

## Expected opportunities:

- enhance transboundary cooperation
- an integrated basin wide approach
- The two governments and DPs can choose the bundles relevant for support

**Expected challenges :** Funding the projects.



# THANK YOU

