

IUCN

Benefit Opportunities Assessment in the SMM



A Multi-stakeholder Analysis of
Benefit-enhancing bundles of
investment projects

Isabelle Fauconnier, IUCN Global Water Programme

Phil Riddell, consultant



Concept 1

River basins offer different types of benefits that can be shared, vs. sharing the allocation of water

Concept 2

Watersheds can be managed with decisions based on sharing benefits equitably among stakeholders

Concept 3:

Opportunities for enhancing benefits can be identified jointly

Concept 4

Several methods to value and distribute benefits and costs exist, with different data needs

Concept 5

Negotiation based on benefit-sharing takes a win-win approach

Concept 6

Implementation of benefit-sharing requires functional institutions



From improved water management in the basin

Economic benefits

- Increased activity, productivity and long-term sustainability in economic sectors (aquaculture, irrigated agriculture, mining, energy generation, industrial production, nature-based tourism)
- Enhanced livelihoods and increased household incomes
- Reduced cost of carrying out productive activities
- Reduced economic impacts of water-related hazards (floods, droughts)
- Increased value of property

Social benefits

- Positive health impacts from improved water quality and reduced risk of water-related disasters.
- Improved access to basic services (such as electricity and water supply)
- Social welfare from increased employment and reduced poverty
- Improved satisfaction due to preservation of cultural resources or access to recreational opportunities.

Ecosystem benefits

- Preservation of aquatic and terrestrial habitats and biodiversity
- Preservation of key biophysical processes, e.g. e-flows
- Better carbon management
- Inter-generational sustainability of ecosystems and natural infrastructure

From enhanced trust in and beyond

Regional economic cooperation benefits

- Development of regional markets for goods.

Peace and security benefits

- Shared basin identity
- Reduced risk and avoided cost of conflicts between water users and between countries
- Strengthening of international law
- Increased geopolitical stability and strengthened



Benefit Opportunities Assessment Tool: Examining **Qualitative** Impacts on Stakeholders

- Water use activities may have **positive** or **negative** impacts (externalities) on other water users
- A first step consists in examining the balance of **positive** and **negative** impacts across different stakeholder groups in a shared basin
- How can joint changes in water management enhance **benefits** for the most stakeholders and both riparian countries?

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



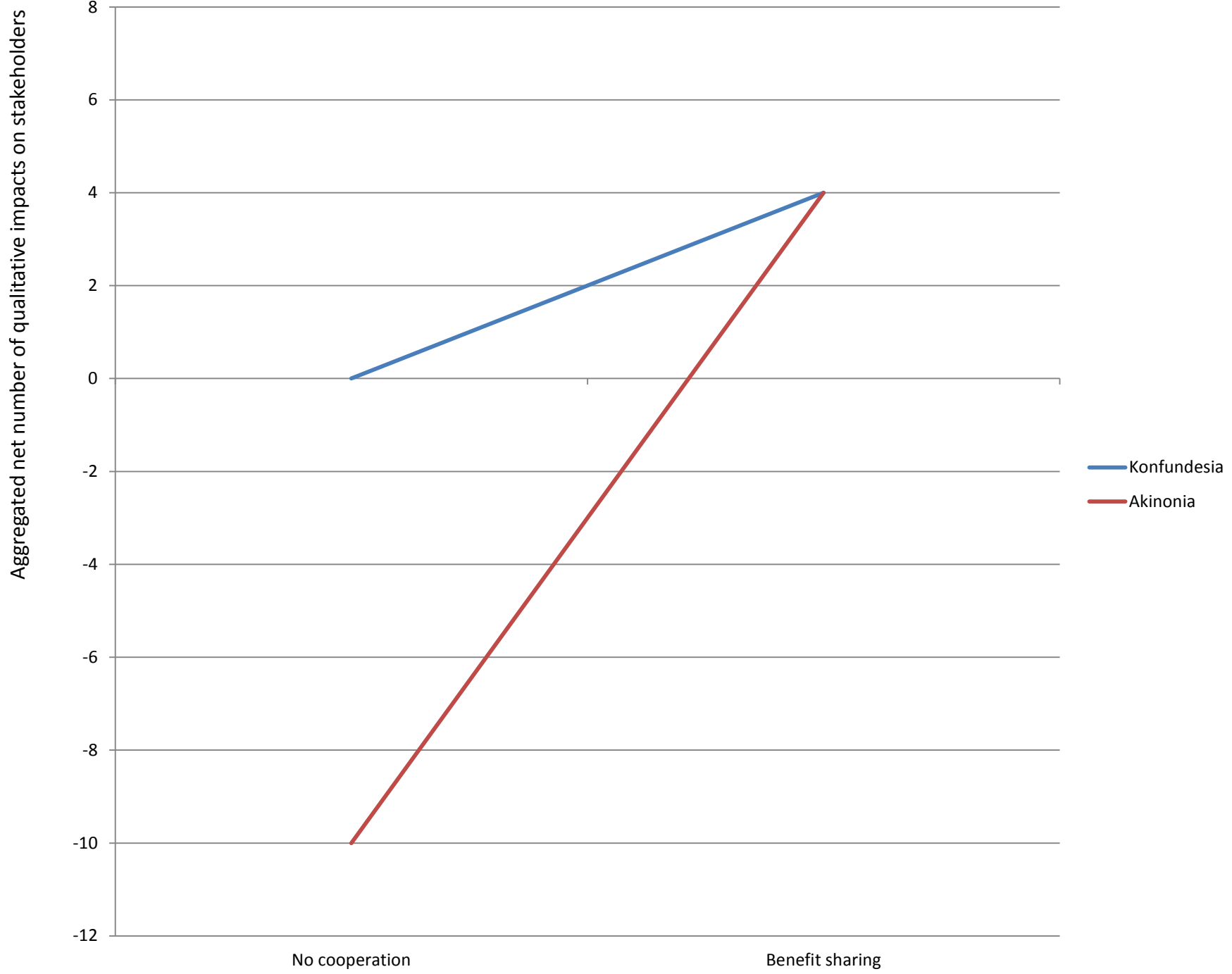
The Takong Basin (exercise)

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	Envt K	Touris m 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	Envt K	Touris m 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	



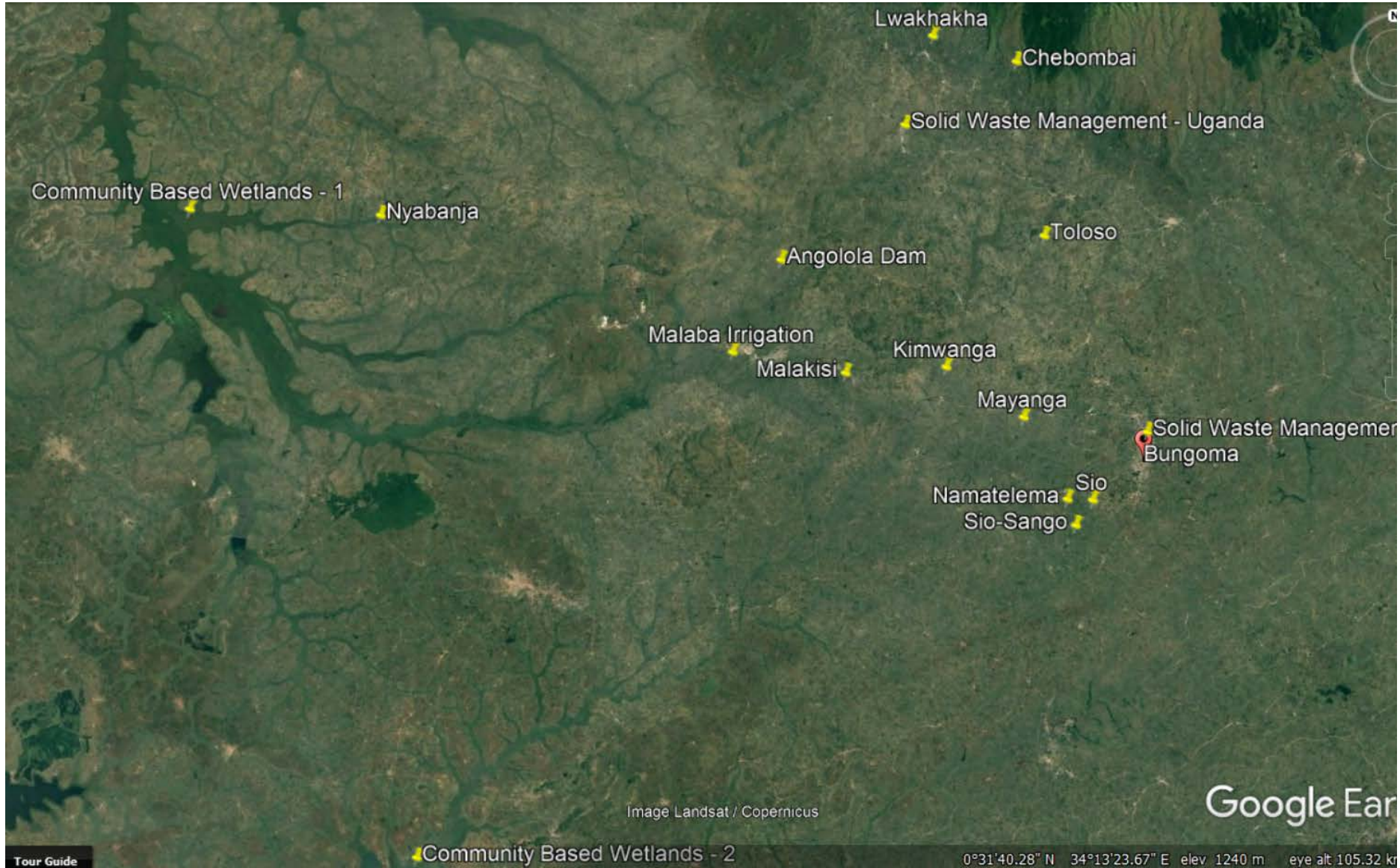
BOAT applied to the SMM basin

- What we did last year: discussed benefits, stakeholders, and vision for the SMM
- Now, building on the prioritised short list: use BOAT for further prioritisation and multi-stakeholder analysis in the SMM
- Discuss real projects, real beneficiary groups and real impacts
- Aim: to arrive at preferred bundles of projects

Remember: BOAT is a multi-stakeholder dialogue and decision support tool, it precedes a more in-depth analytical process to design strong sets of interventions

Short list of SMM projects with transboundary relevance

Project	Budget	Country	Rating
Malaba Irrigation	USD 2.2 million	Both	5.0
Eastern SMM Water Security and Development (combining six SCMPs)	USD 5.2million	Kenya	4.6
Sio-Sango Irrigation	USD 37 million	Kenya	4.4
Toloso SCMP	USD 9 million	Kenya	4.4
Lwakhakha Hotspots	USD 0.8 million	Uganda	4.2
Community-based Wetlands Management NELSAP	USD 6.7 million	Both	4.0
Food Security	USD 22.7 million	Kenya	4.0
Angolola Dam NELSAP	USD 67.1million	Both	4.0
Solid Waste NELSAP	USD 9.2 million	Both	3.8
Nyabanja Irrigation NELSAP	USD 23.3 million	Uganda	3.6
Stormwater Drainage Master Plans NELSAP	USD 3.2 million	Both	3.4
Bulusambu Small Multi-purpose Reservoir	USD 10 million	Kenya	3.4



Lwakhakha

Chebombai

Solid Waste Management - Uganda

Community Based Wetlands - 1

Nyabanja

Angolola Dam

Toloso

Malaba Irrigation

Malakisi

Kimwanga

Mayanga

Solid Waste Management
Bungoma

Namatelema

Sio

Sio-Sango

Image Landsat / Copernicus

Google Earth

Tour Guide

Community Based Wetlands - 2

0°31'40.28" N 34°13'23.67" E elev 1240 m eye alt 105.32 km

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																			
Malaba-Malakasi System																					
Lwakhakha Hotspots Interventions	Kenya	green	yellow	yellow	green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	
	Uganda	green	yellow	yellow	green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	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	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	
Eastern SMM Chebembai	Kenya	red	red	green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	
	Uganda	red	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	
Angolola Dam	Kenya	red	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	
	Uganda	red	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	
Eastern SMM SCMPs	Kenya	green	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	
	Uganda	green	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	
Malakisi	Uganda	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	red	yellow	yellow	yellow	yellow	yellow	
Malaba irrigation Project	Kenya	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	red	yellow	yellow	yellow	yellow	yellow	
	Uganda	yellow	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	red	yellow	yellow	yellow	yellow	yellow	
Nyabanja Irrigation	Kenya n/a	yellow	red	yellow	yellow	yellow	yellow	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	
Community Based Wetlands - 1	Kenya n/a	yellow	red	yellow	yellow	yellow	yellow	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	
Sio System																					
Food Security in Western Kenya	Kenya	red	red	yellow	yellow	red	red	red	red	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	
Toloso	Kenya	yellow	red	yellow	yellow	yellow	yellow	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	
Eastern SMM Mayanja	Kenya	yellow	red	yellow	yellow	yellow	yellow	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	
Solid Waste Management	Kenya	yellow	green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	
	Uganda	yellow	green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	
Eastern SMM Sio	Kenya	yellow	red	yellow	yellow	yellow	yellow	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	
Sio-Sango Irrig'n and Watershed Mgt	Kenya	red	red	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	red	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	
Eastern SMM Namatelema	Kenya	yellow	red	yellow	yellow	red	yellow	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	yellow	red	yellow	yellow	yellow	yellow	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	
Community Based Wetlands - 2	Kenya	yellow	red	yellow	yellow	yellow	yellow	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	
		6	-10	15	5	9	10	2	2	11	11	19	12	4	6	10	7	-12	7	3	

SMM BOAT Briefing pack

Contents:

- Introduction
- Preliminary BOAT Matrix
- Project fact sheets
- Form to register changes to the BOAT Matrix

Your task for tomorrow morning:

- Read the briefing pack
- Study the preliminary SMM BOAT matrix
- Record any request to change ratings on the BOAT matrix