



# Building Resilience through Integrated Programming

USAID/KEA Planning for Resilience in  
East Africa through Policy, Adaptation,  
Research and Economic Development  
(PREPARED)

June 14<sup>th</sup>, 2018



# THE PREPARED PROGRAM



**TETRA TECH**



Center for International Earth  
Science Information Network  
EARTH INSTITUTE | COLUMBIA UNIVERSITY





# CLIMATE CHANGE ADAPTATION

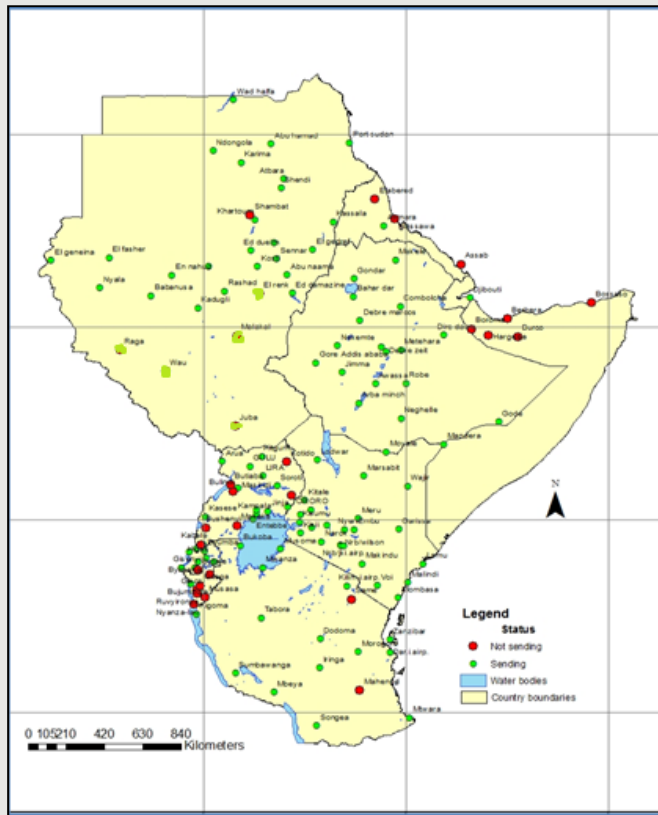
—  
MARC LEVY



**USING EVIDENCE TO MAKE BETTER DECISIONS!**



# LACK RELIABLE & CONSISTENT CLIMATE DATA



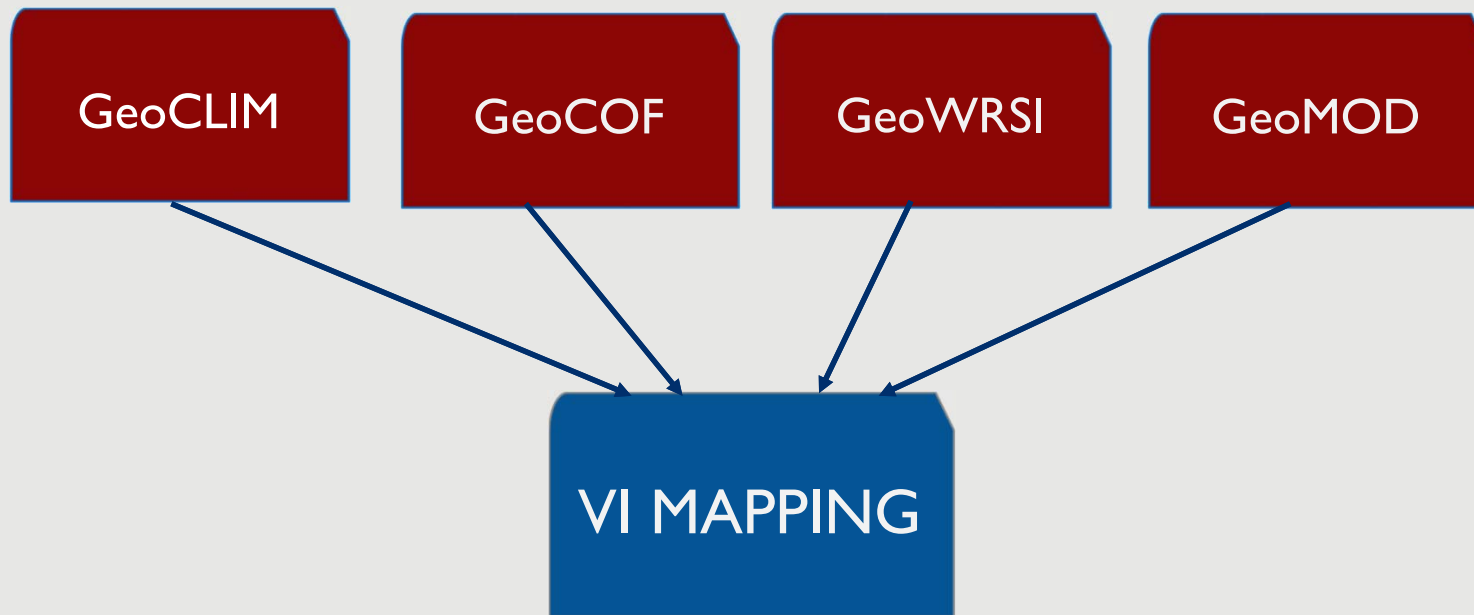
## PREPARED's Response:

2013/14:  
Tools Development

2015/16: Sectoral Applications

2016/17: Decision/Policies Support

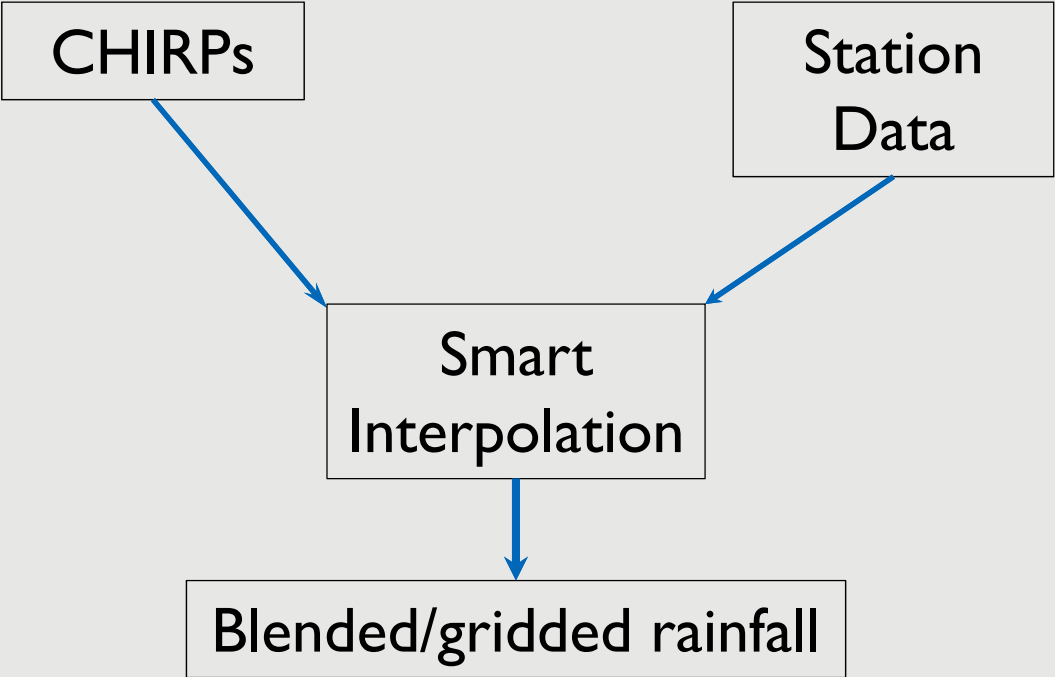
# GeoTOOLS



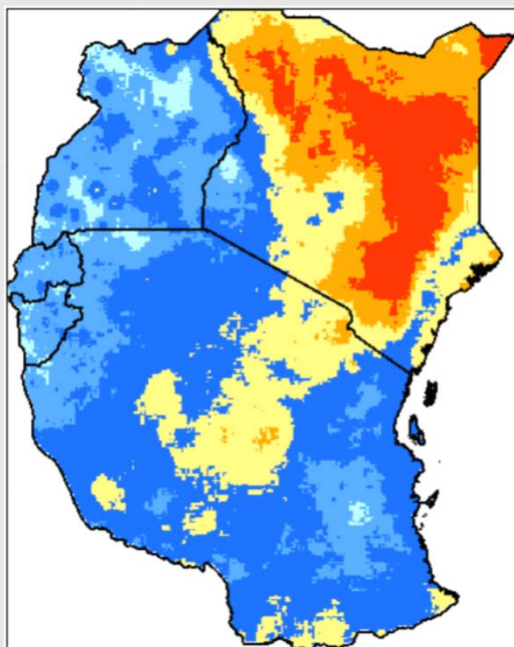


# GEOCLIM

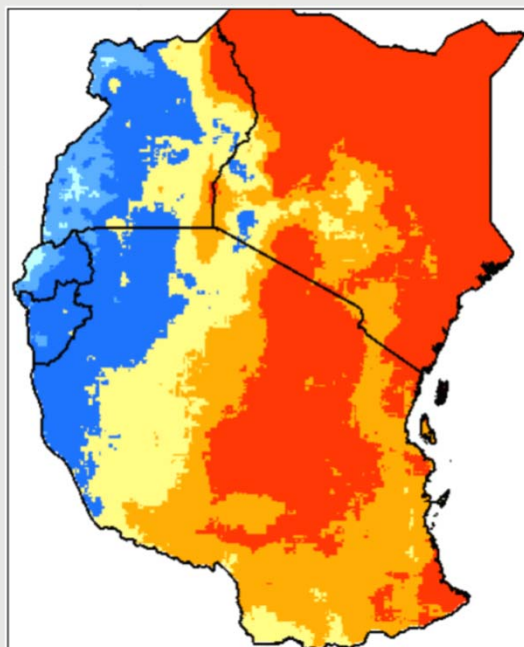
**C**LIMATE  
**H**AZARDS  
**I**NFRA-  
**R**ED  
**P**RECIPIATION  
WITH  
**S**TATIONS



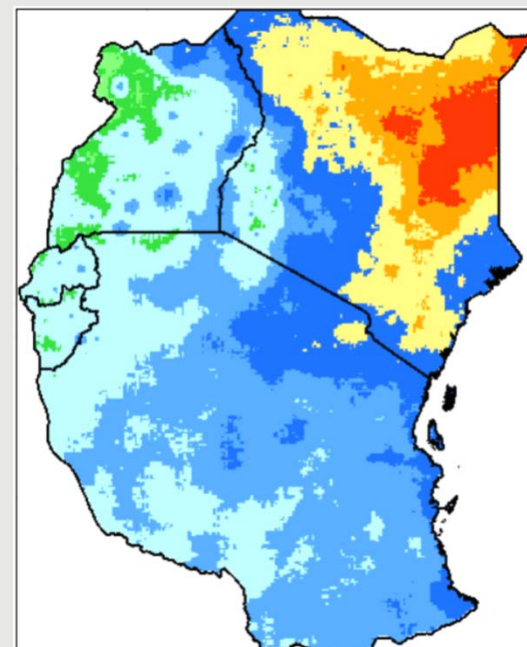
# RAINFALL VARIABILITY



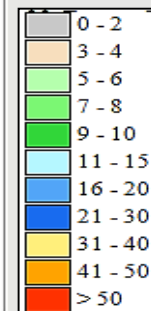
MAY - JUN



OCT - DEC

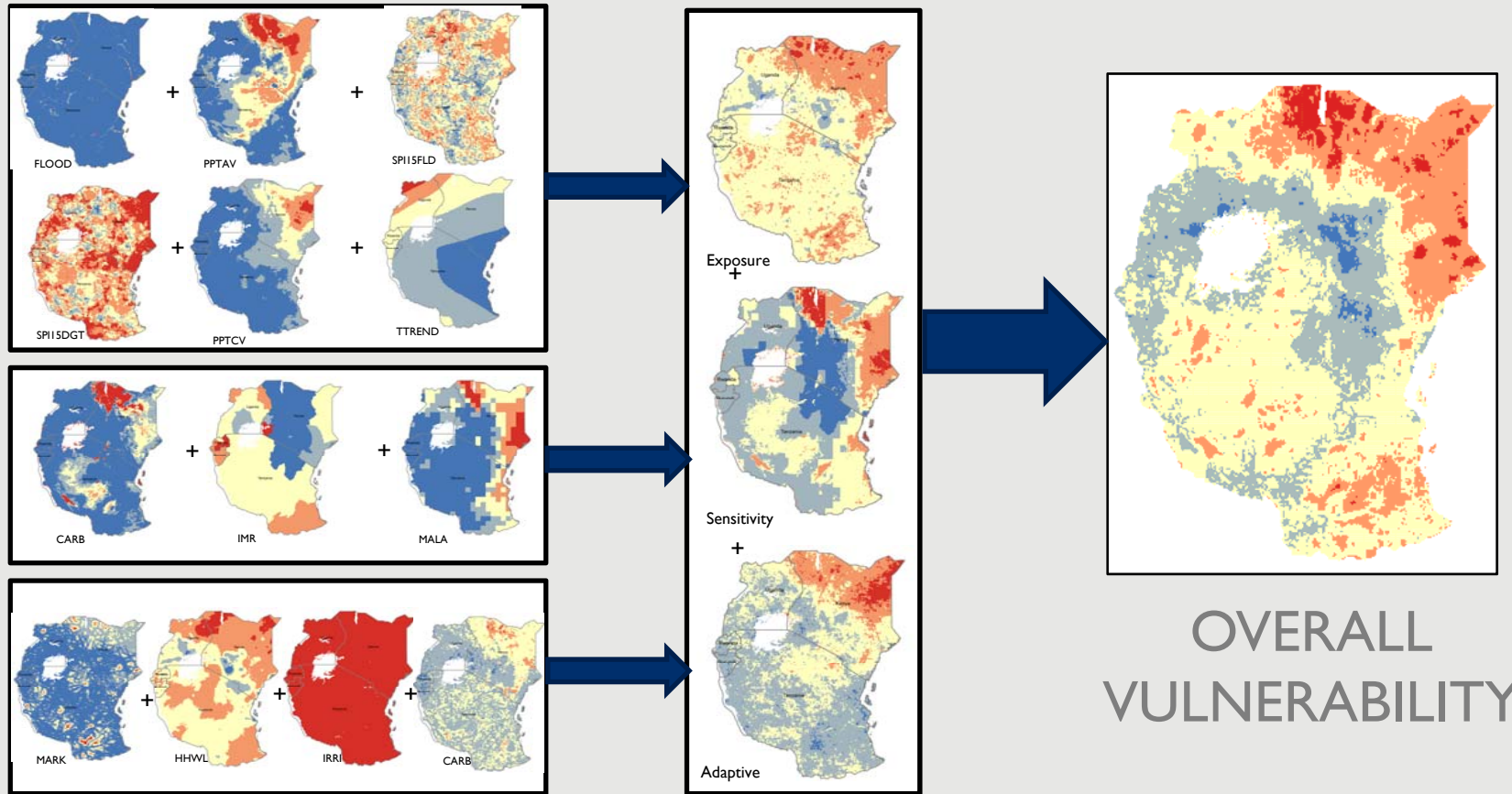


Annual



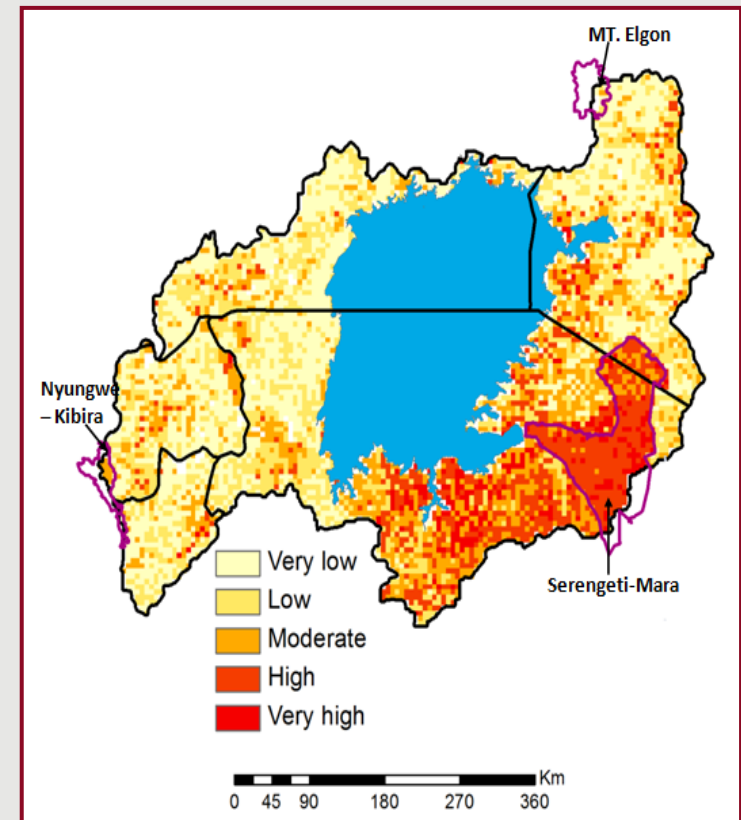


# EAST AFRICA REGIONAL VULNERABILITY MAP



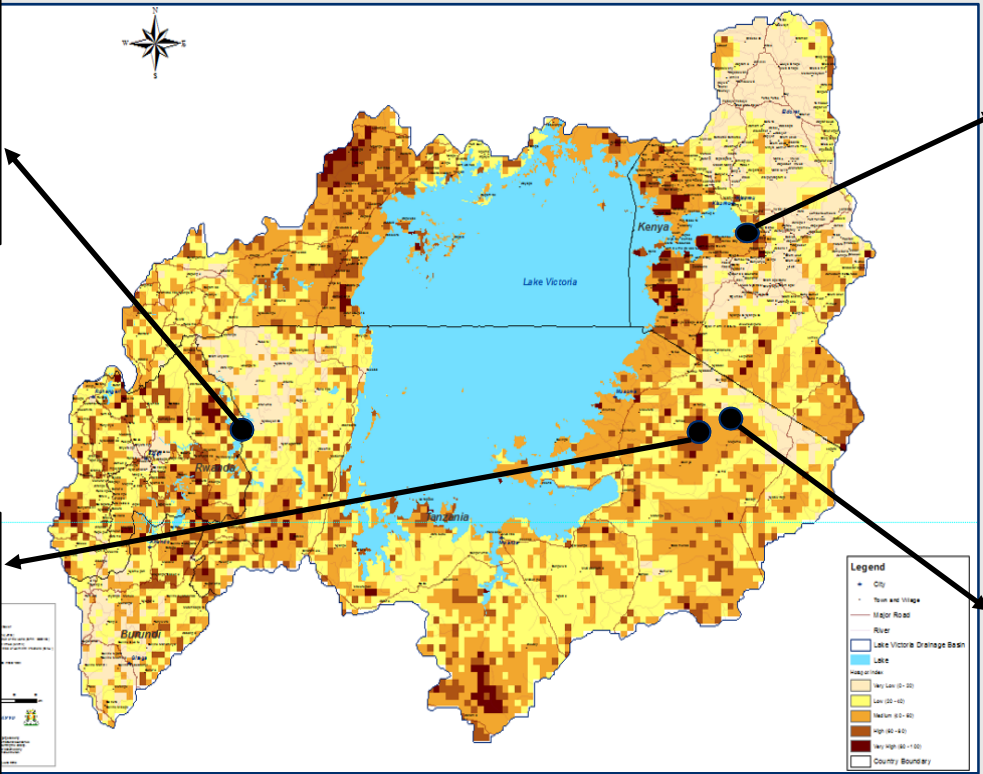
# APPLYING VI MAPPING FOR ECOSYSTEM ANALYSES

Vulnerability Component	Factor	Possible Indicator
Exposure	Rainfall	i. Annual rainfall variability (CV)
		i. Occurrence (frequency) of drought and floods over the years
	Temperature	i. Monthly min & max temperature
		i. CV for min & max
Sensitivity	LULC	i. LULC dynamic
	NDVI	i. NDVI dynamic
	Human population	i. Population dynamic
	Animal population	i. Level of protection (NP, GCA, NR, GR, FR)
		ii. Wild animal & Livestock population dynamics
	Topography	i. Slope (%)
Fire	i. Fire frequency and intensity	
Adaptive capacity	Protected areas	i. Conservation status (conservancies, wildlife management areas, community based conservation development)
	LUP	i. Presence/absence of LUPs

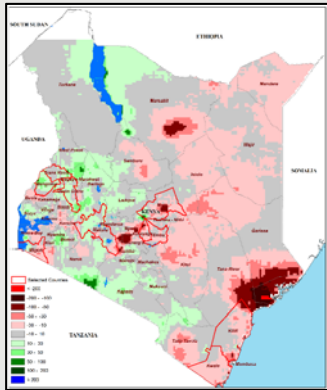




# COMMUNITY CLIMATE CHANGE ADAPTATION ASSESSMENT (C3A2)

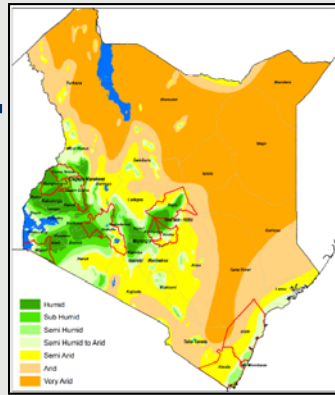


# ESTABLISH KNOWLEDGE BASE



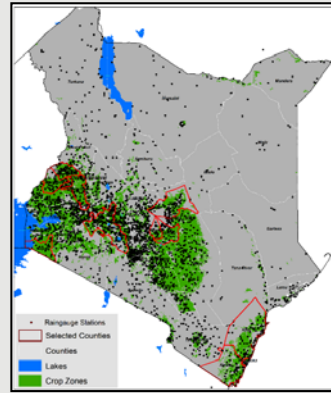
MAY – JUN  
RAINFALL TRENDS

+



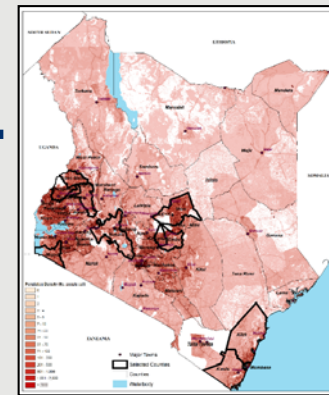
AGRO-ECOLOGICAL  
ZONES

+



CROPPING  
AREAS

+



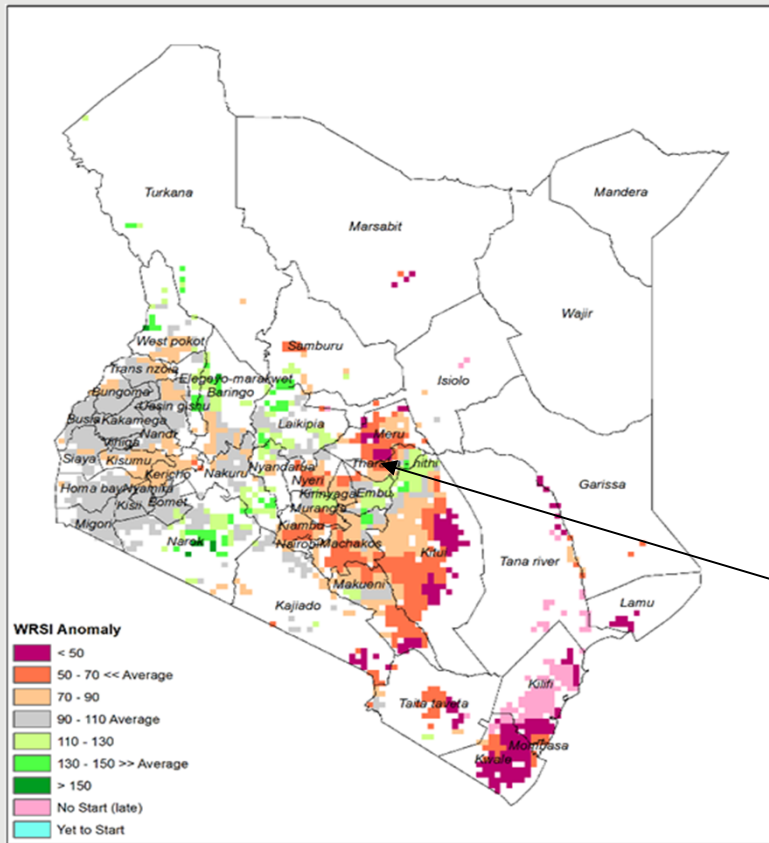
EST. POP. DENSITY  
(2016)

=

UNIT AREAS  
OF  
INSURANCE



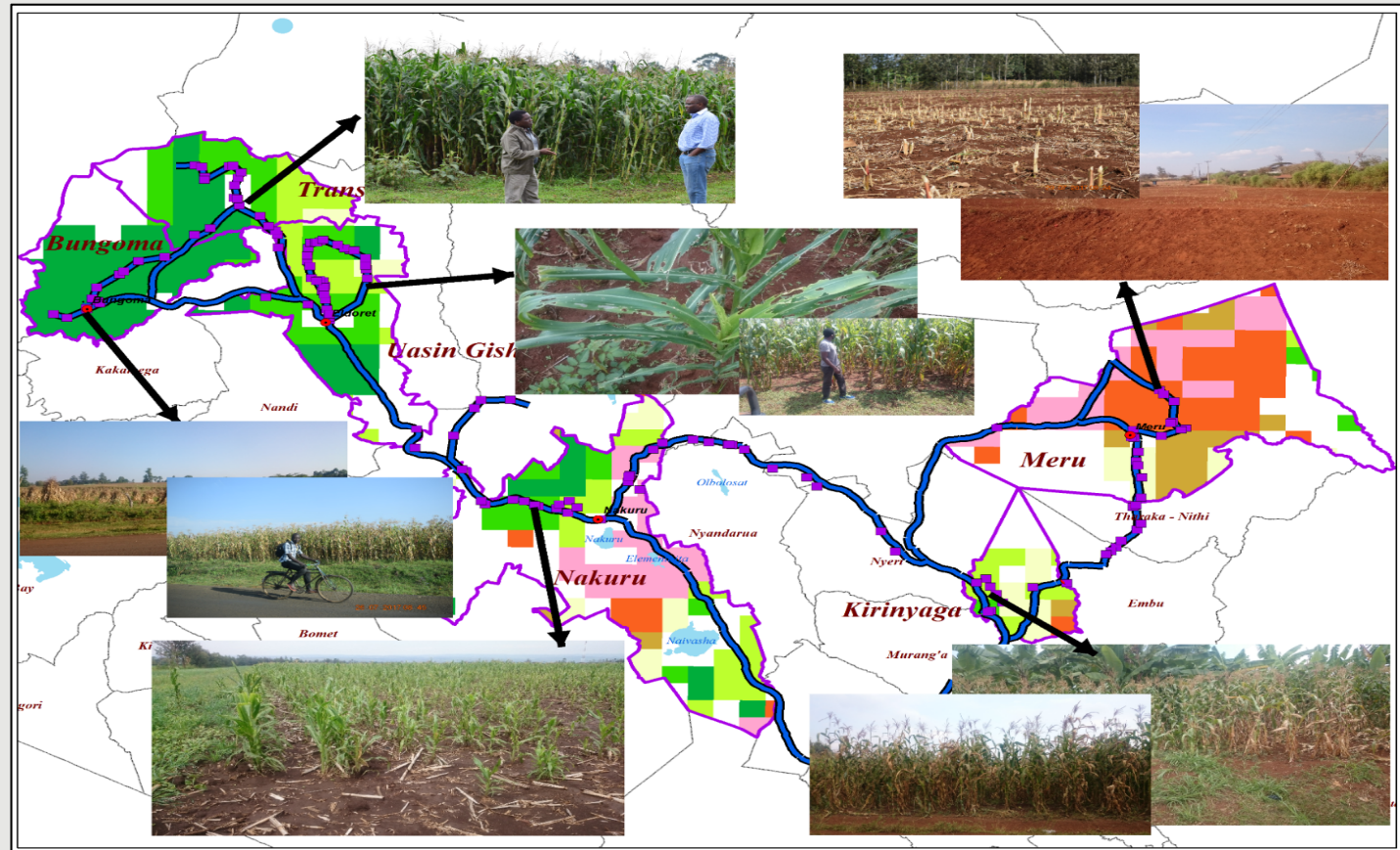
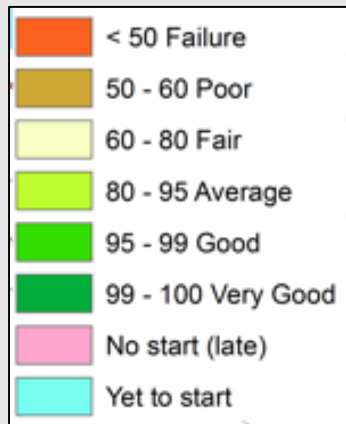
# MAIZE VULNERABILITY DURING LONG RAINS



Areas often at risk of maize crop failure or reduced yield



# MONITORING RESULTS



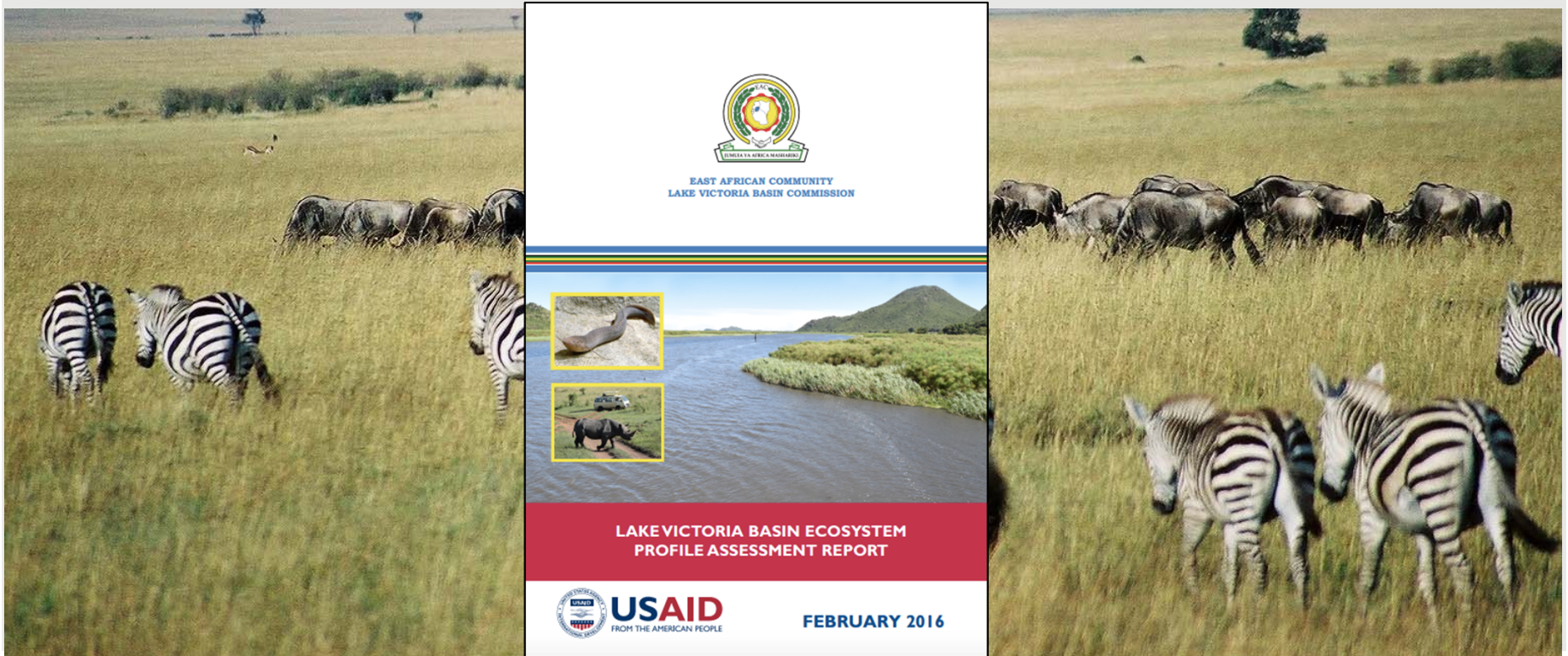


STRENGTHENING RESILIENCE &  
SUSTAINABLE MANAGEMENT OF  
ECOSYSTEMS IN EAST AFRICA

—  
CHELSEA KEYSER

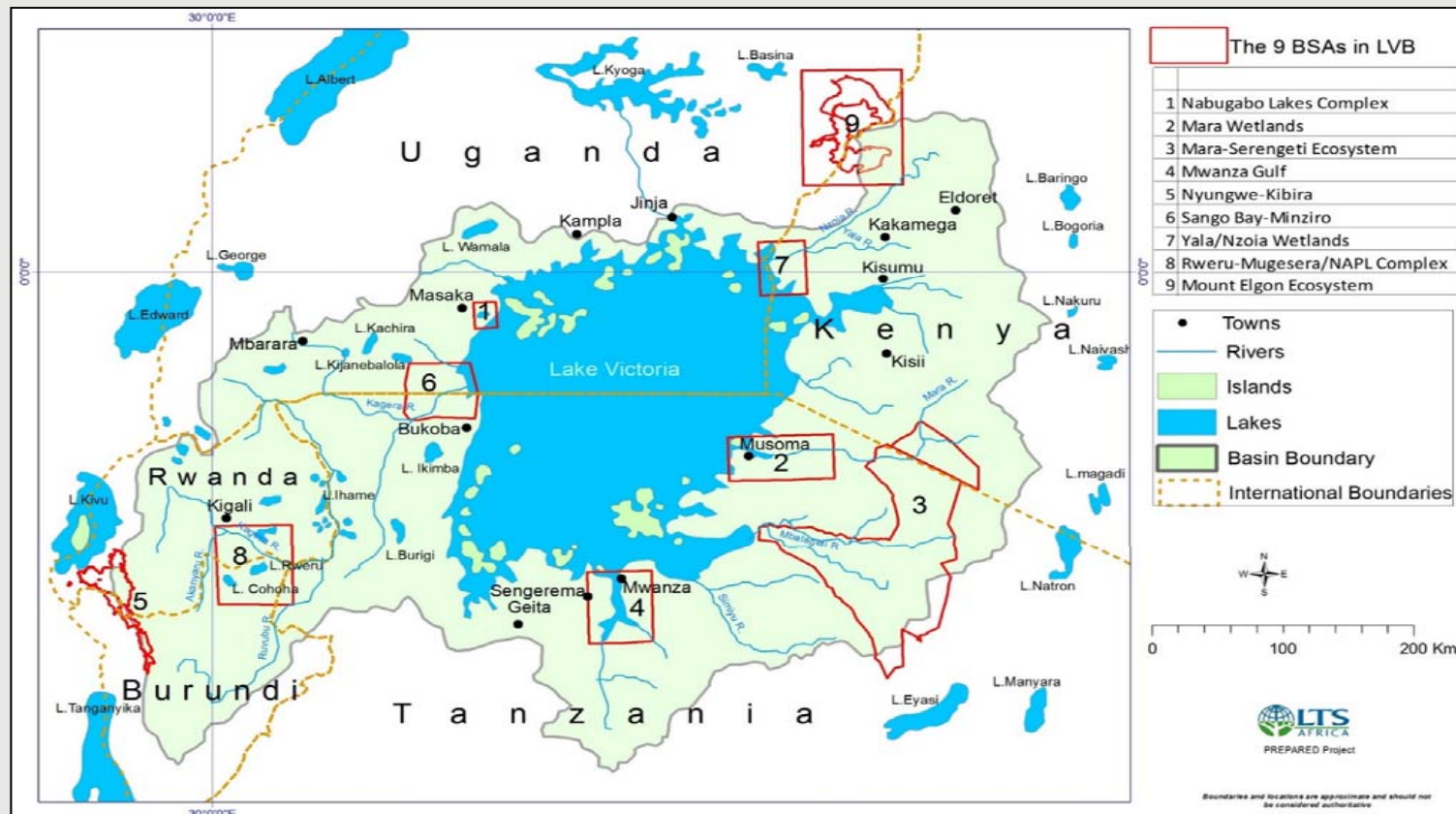


# UNDERSTAND CRITICAL ECOSYSTEMS, RESOURCES & THREATS

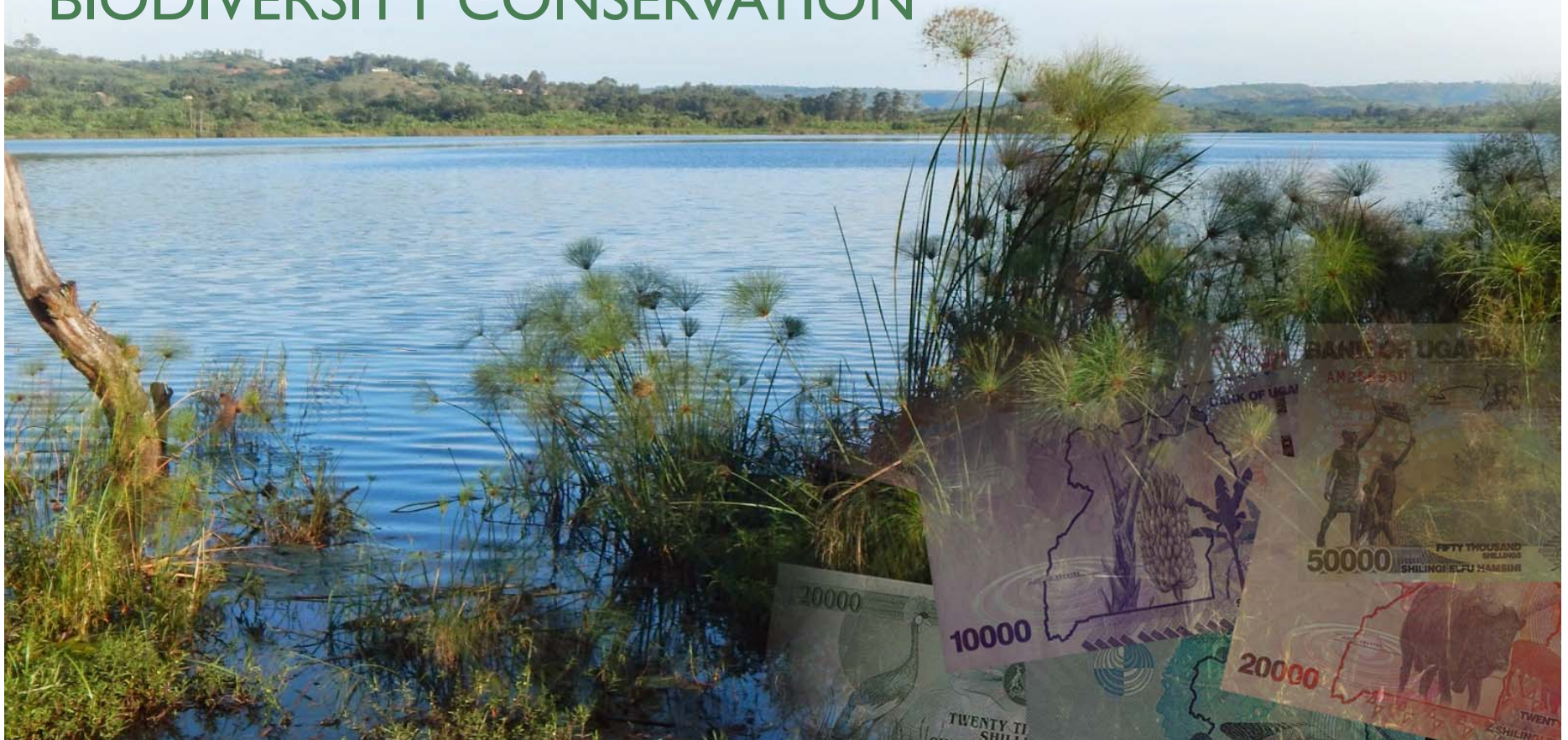




# 9 BIOLOGICALLY SIGNIFICANT AREAS (BSAs)



# MAKE THE ECONOMIC & POLITICAL CASE FOR BIODIVERSITY CONSERVATION







*“Extended Nabugabo Ramsar site from 22,200 to 77,700ha. Increased economic value by 90% — from \$4.5M to \$44M.”*

## EXTENDED NABUGABO RAMSAR SITE

“Planning for Resilience in East Africa through Policy, Adaptation, Research and Economic Development (PREPARED)”

Conserving the wealth in Nabugabo to support community livelihoods

SITATUNGA/ Enjobe



BIRDS: Malachite Kingfisher and Grey Crowned Crane



White Winged Black Terns



CICHLID FISH



INSECTIVOROUS plants



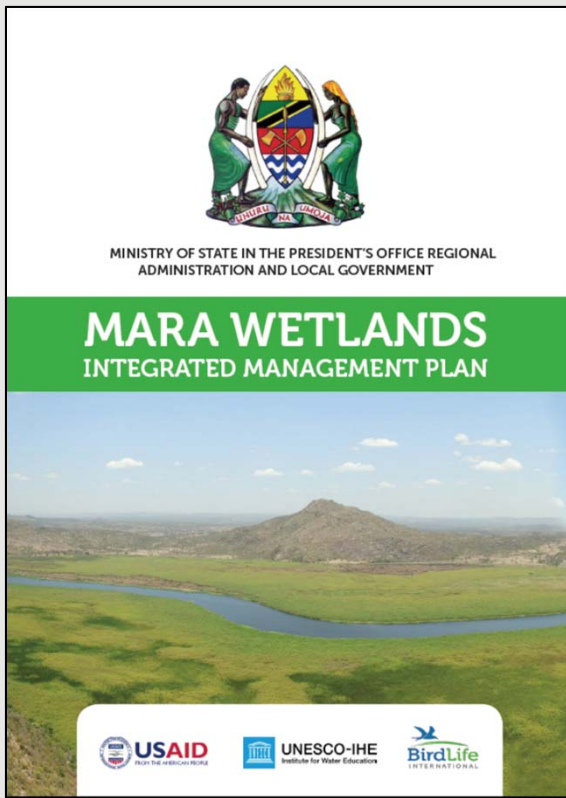
HOSPITALITY facilities



**USAID** | EAST AFRICA  
FROM THE AMERICAN PEOPLE

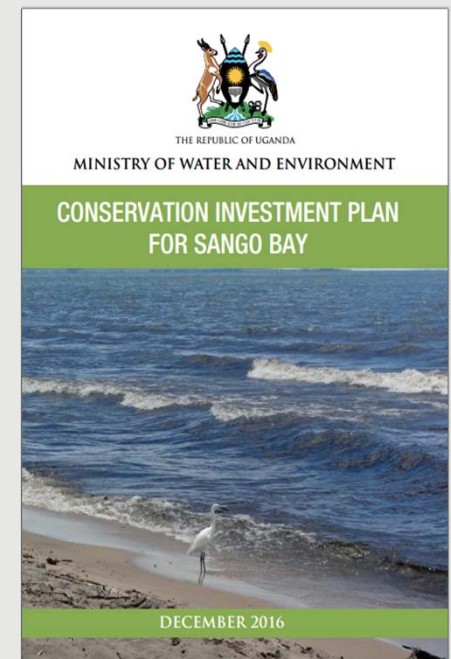
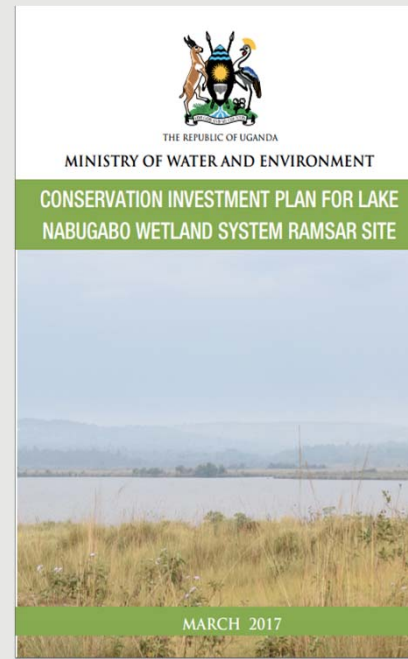
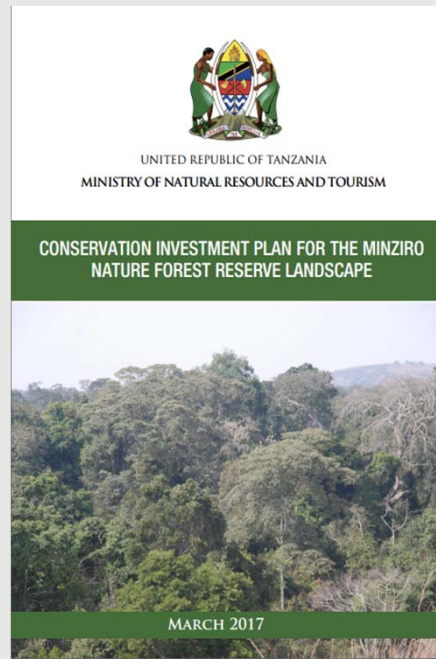
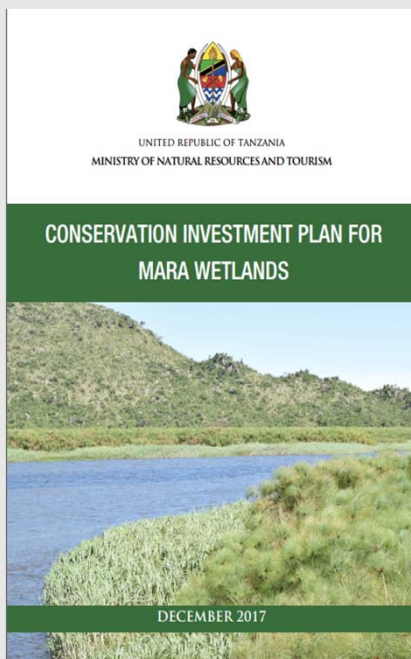


# DEVELOP PARTICIPATORY SUSTAINABLE MANAGEMENT PLANS

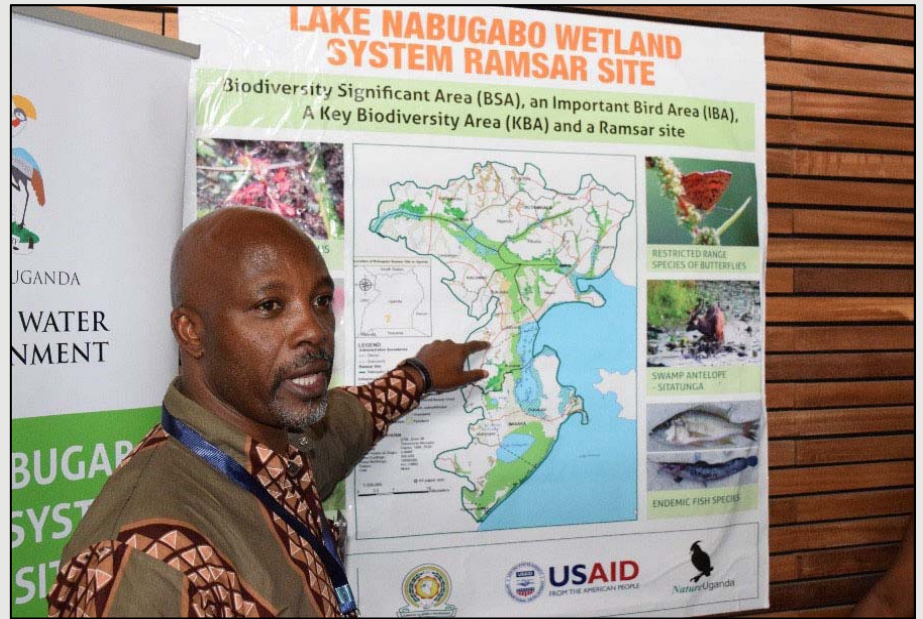




# MOBILIZE RESOURCES THROUGH CONSERVATION INVESTMENT PLANS

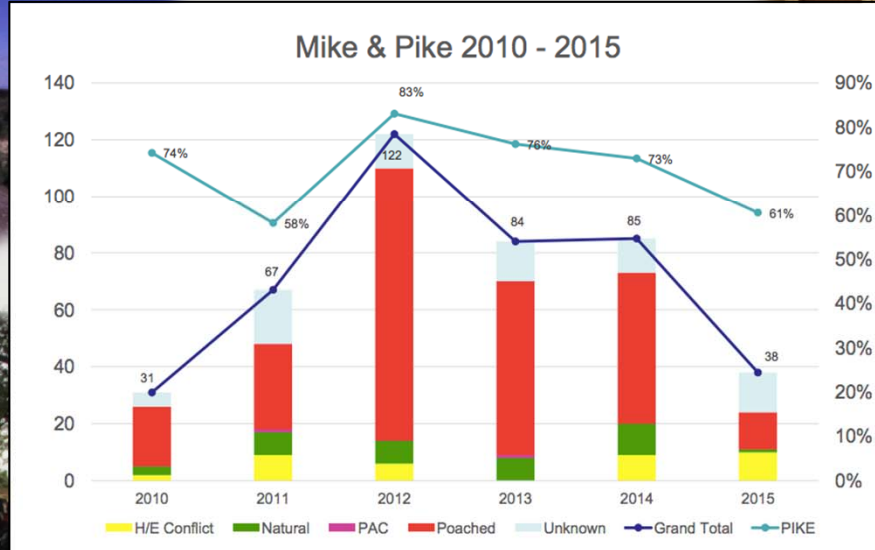


# BUILDING RESILIENCE IN THE NABUGABO WETLANDS, UGANDA

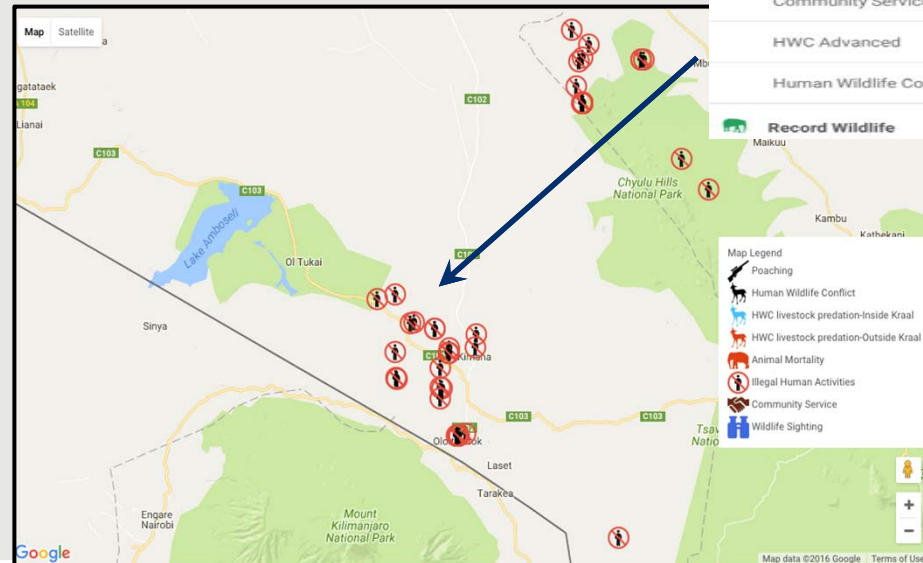
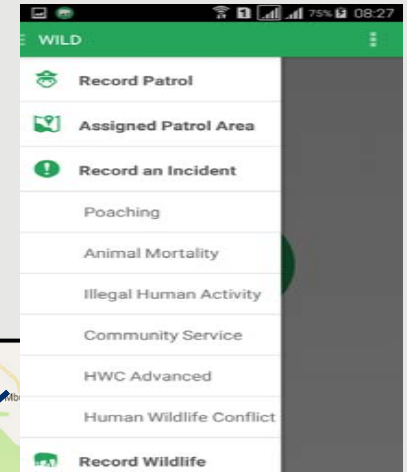




# COMMUNITY-BASED APPROACHES TO DETER HUMAN WILDLIFE CONFLICT



# WILDLIFE INFORMATION LANDSCAPE DATABASE (WILD)







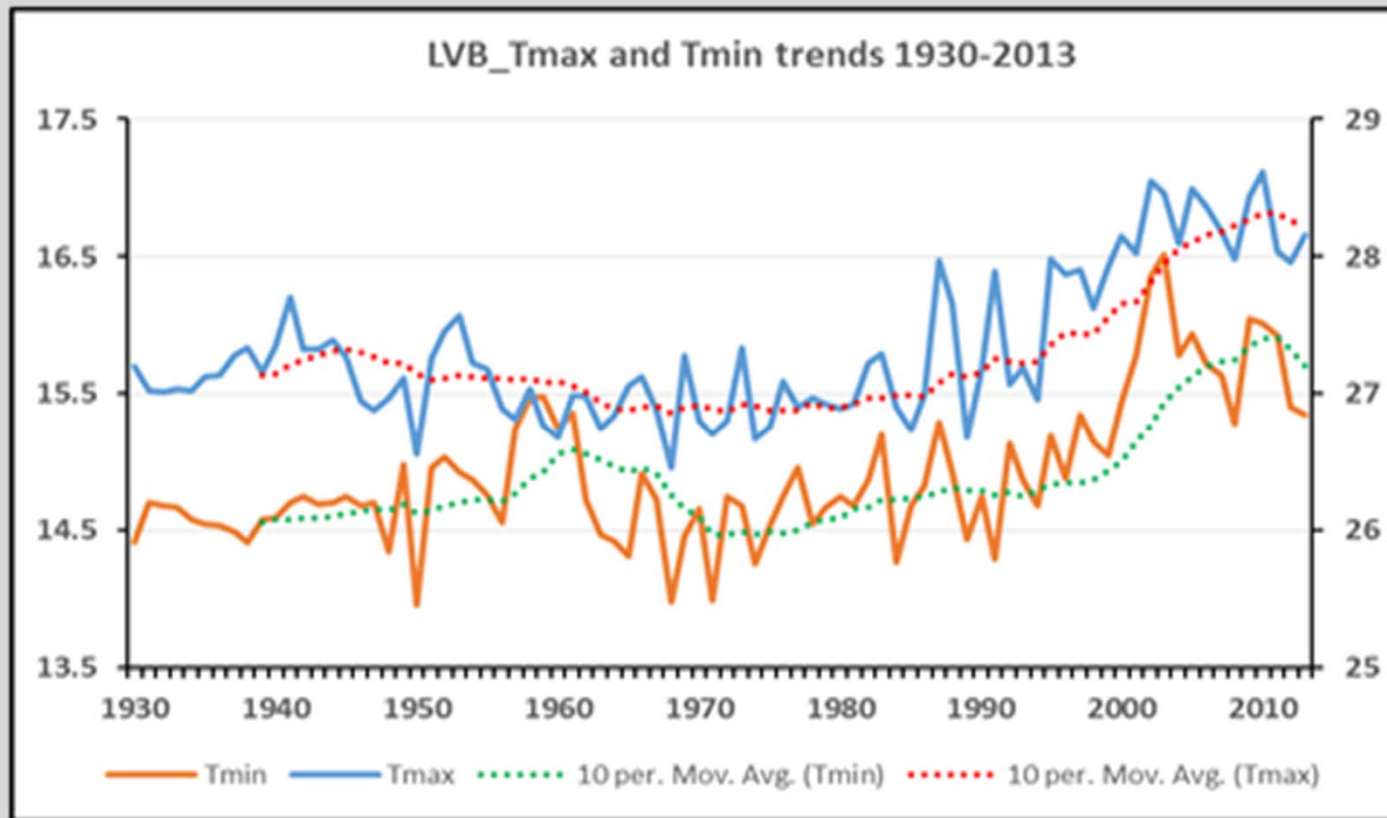


# WHY IS WATER SECURITY IMPORTANT?

—

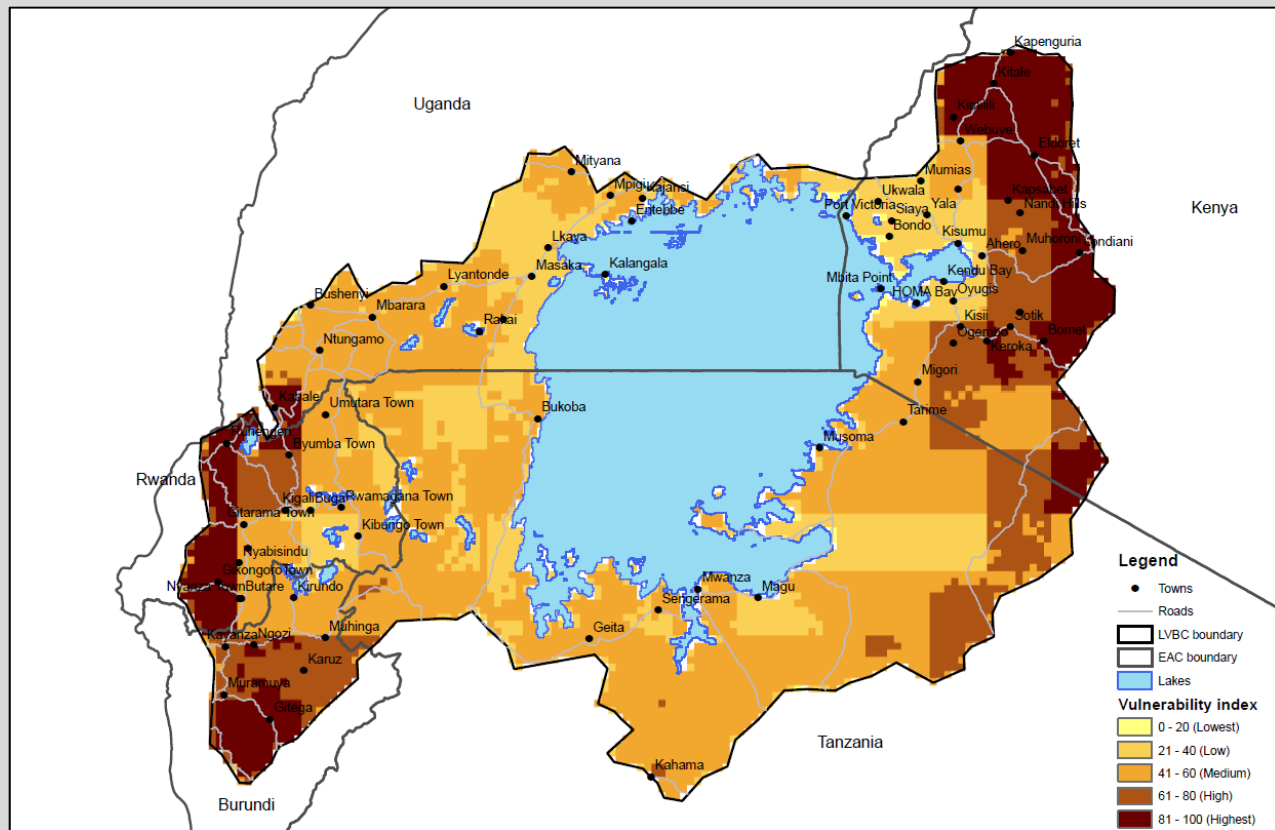
SCOTT MCCORMICK

# INCREASING TEMPERATURES IN THE LAKE VICTORIA BASIN



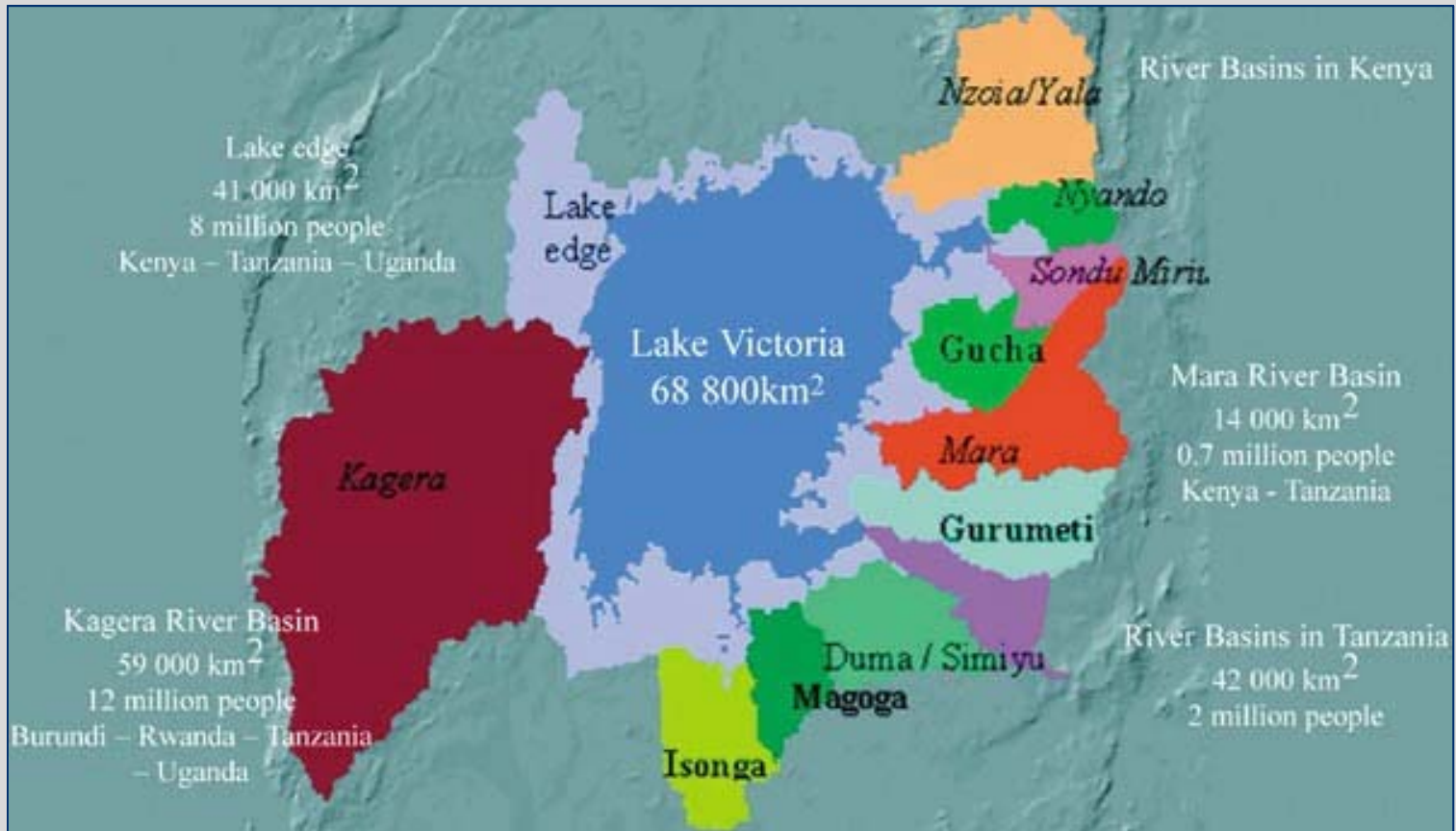
# INCREASED WATER STRESS

LVB WATER SECTOR CC VULNERABILITY 2050 RCP 4.5





# LAKE VICTORIA SUB-BASINS



# TRANSBOUNDARY MARA RIVER BASIN MANAGEMENT

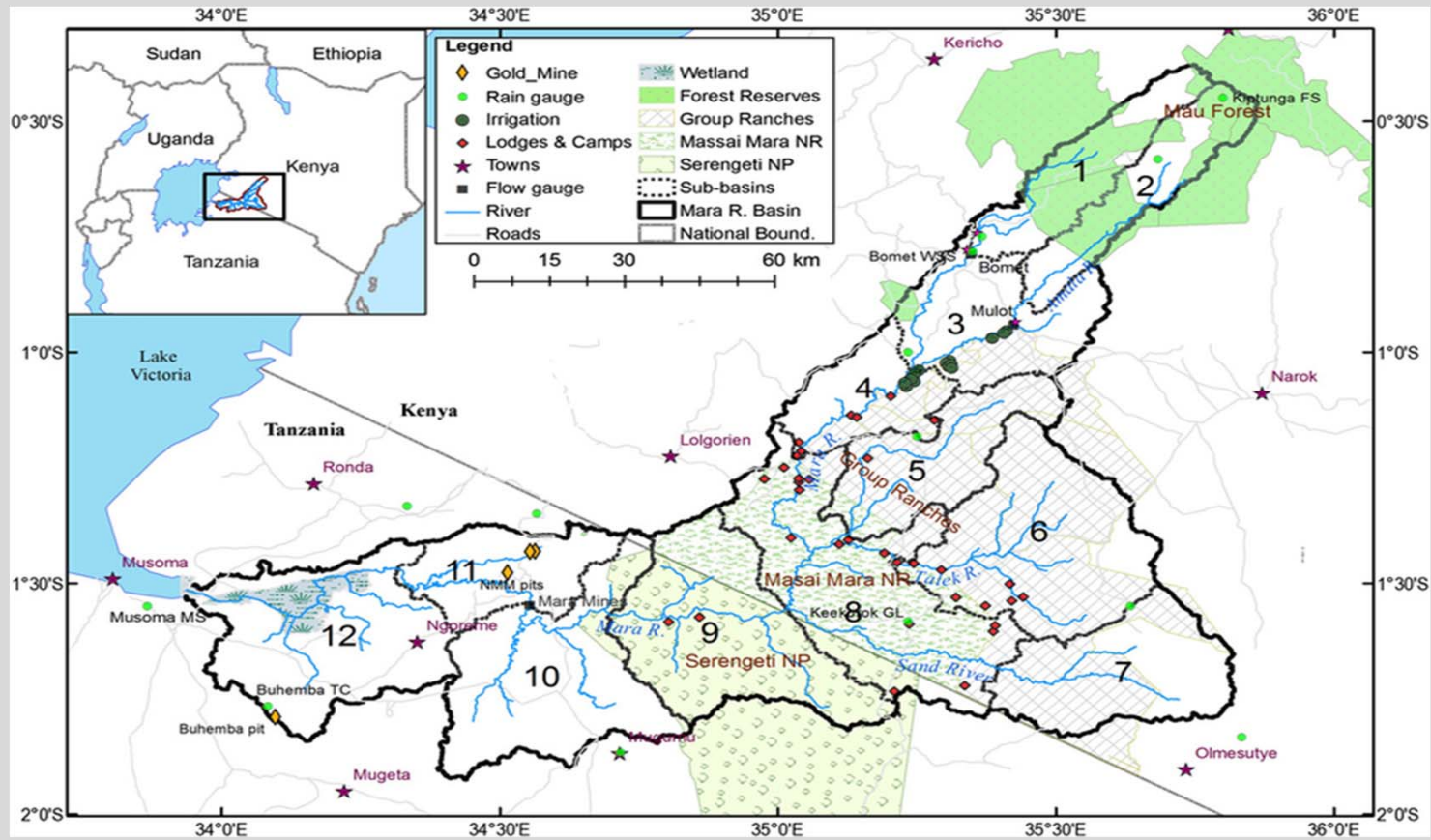


# MARA RIVER BASIN JOINT MANAGEMENT COMMITTEES

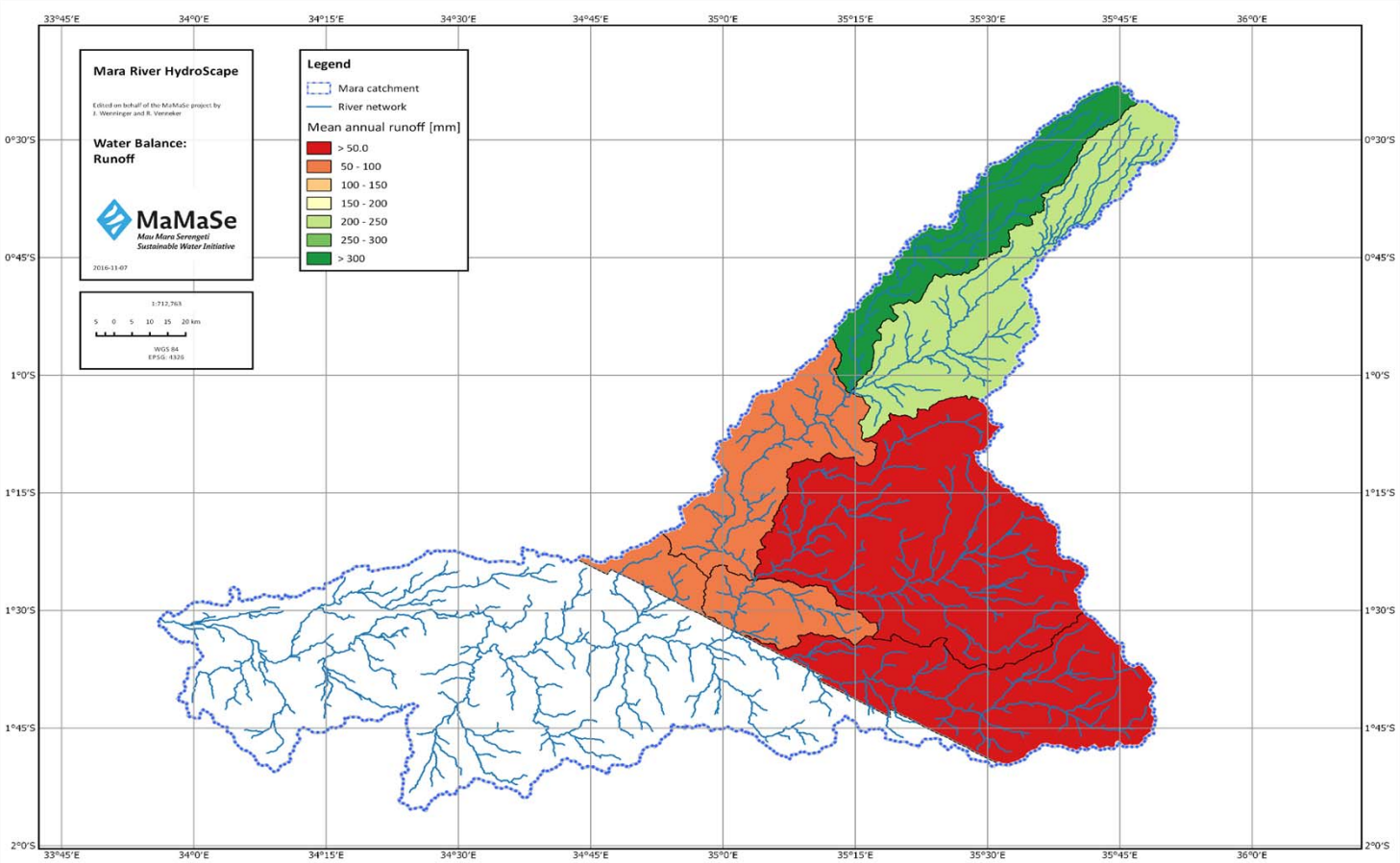




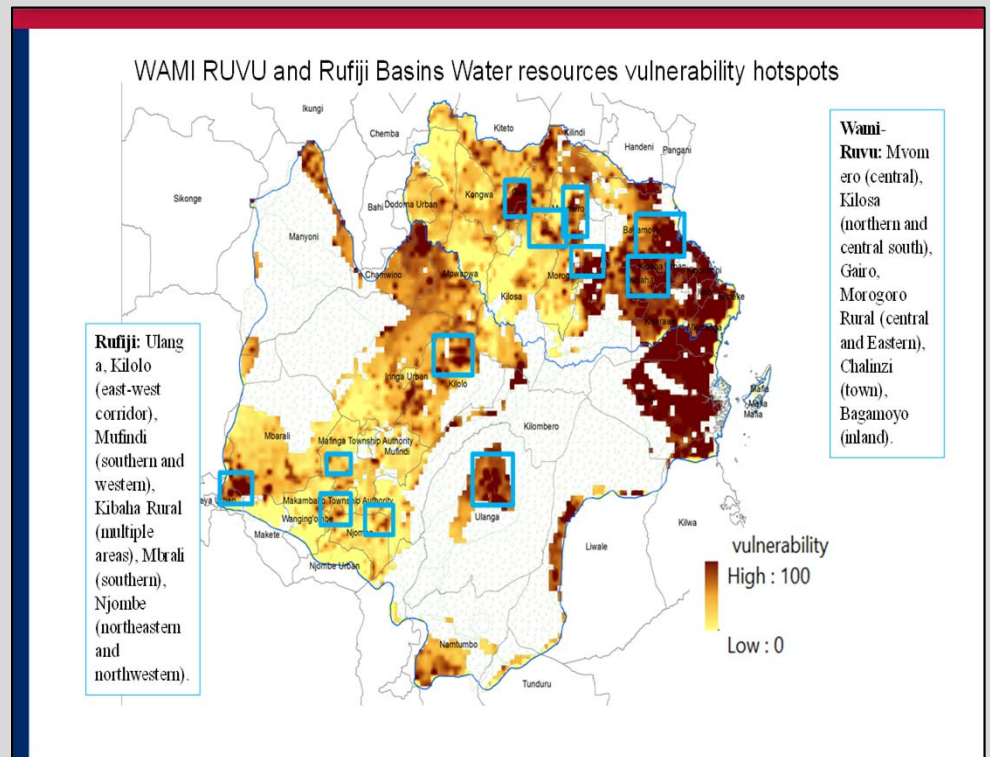
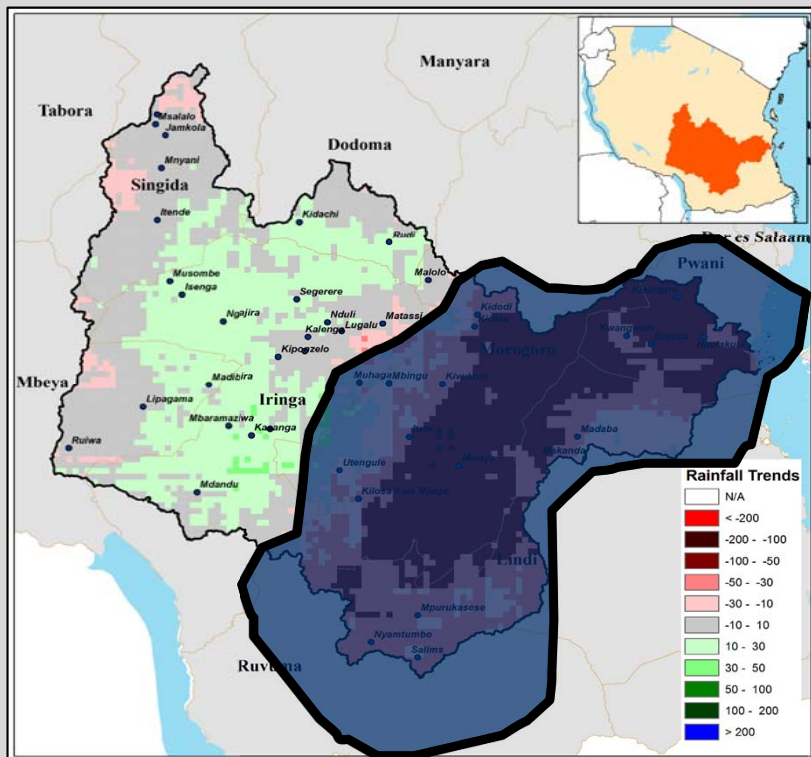
# SUSTAINABLE WATER IN THE MARA RIVER BASIN



# WATER ALLOCATION PLANNING

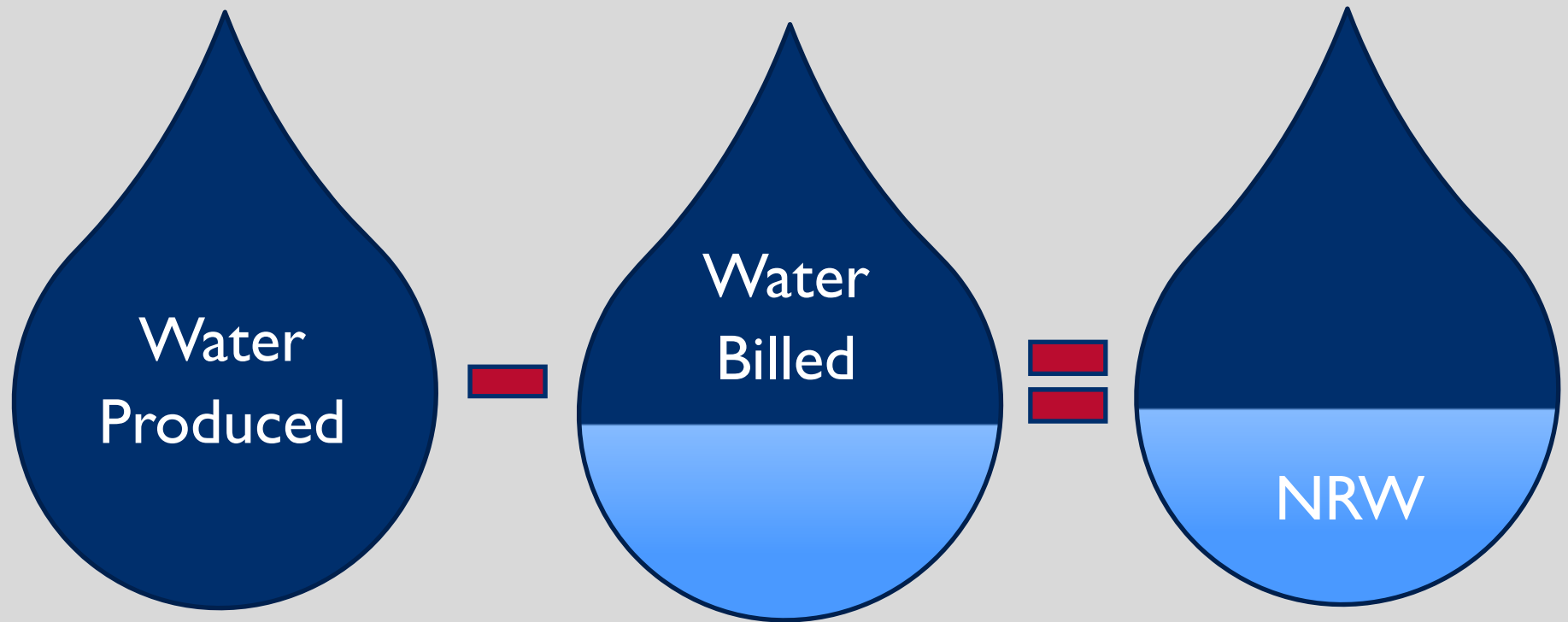


# APPLYING CLIMATE TO WATER RESOURCES MANAGEMENT





# NON REVENUE WATER (NRW)



# NATIONAL WATER AND SEWERAGE CORPORATION (NWSC)



Jinja and Iganga intake in Lake Victoria

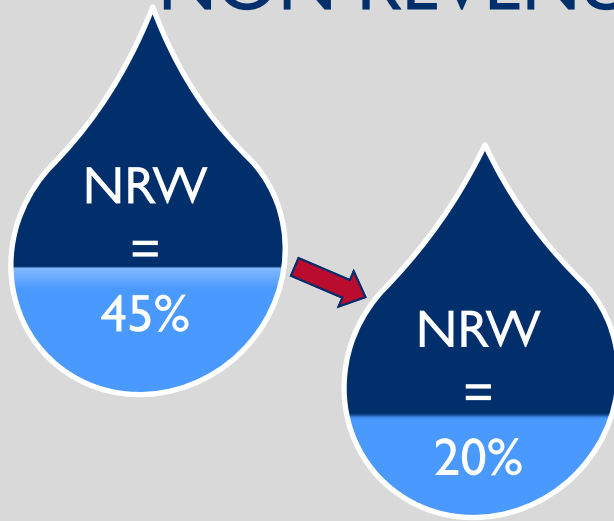
# NON REVENUE WATER REDUCTION STRATEGY





# NON REVENUE WATER REDUCTION RESULTS

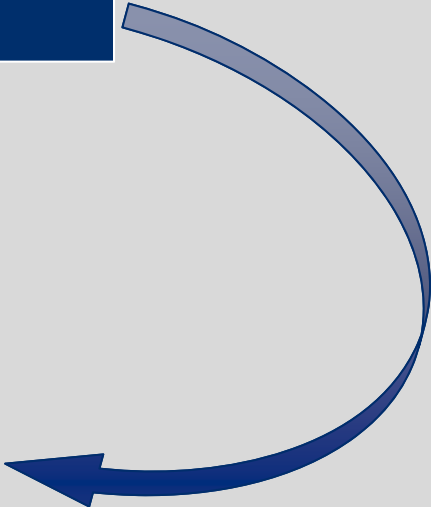
SEPTEMBER 2015 - JUNE 2017



12,202 people served

Billing

Increased by 38%









**USAID**  
FROM THE AMERICAN PEOPLE

# REGIONAL INTEGRATION AND BIODIVERSITY CONSERVATION

MARY ROWEN

