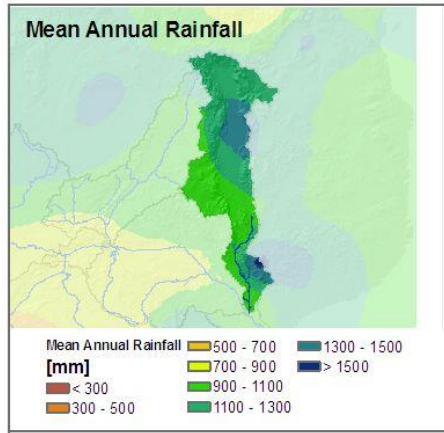
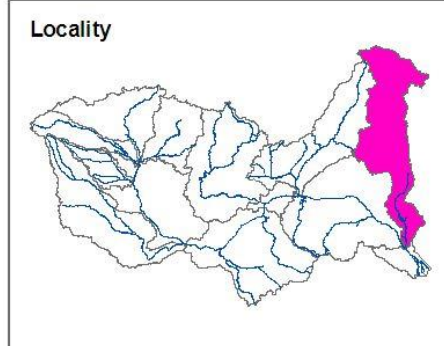
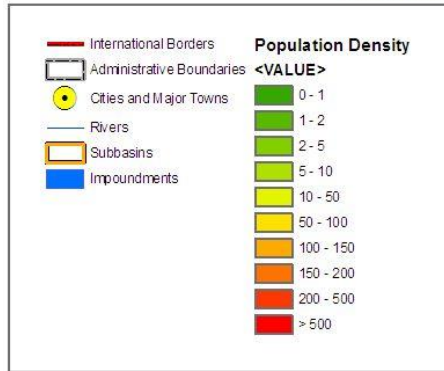
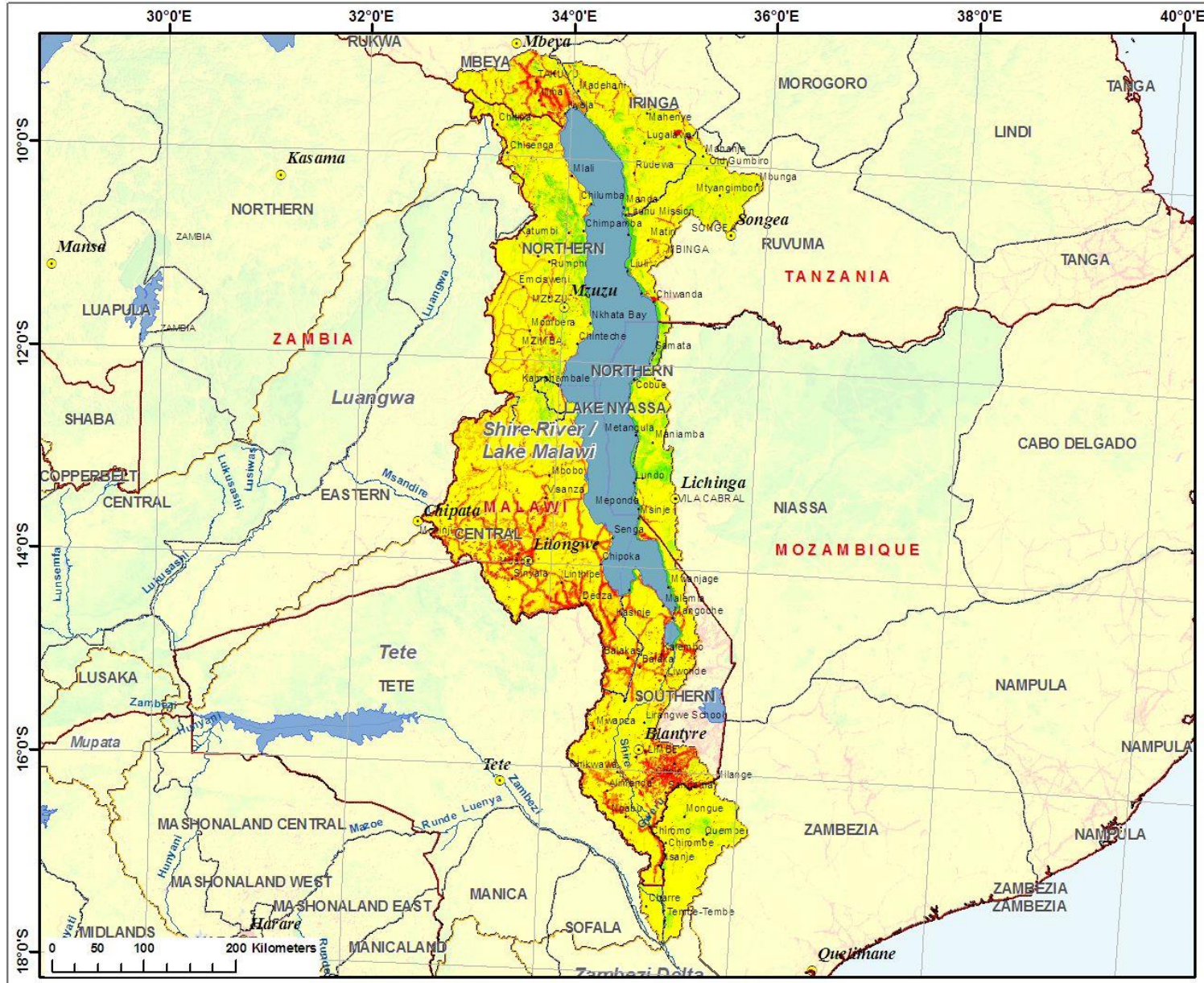


# Ruhuhu Multipurpose Project Update

- 💧 **Presentation to PMU**
- 💧 **12<sup>th</sup> February 2014**



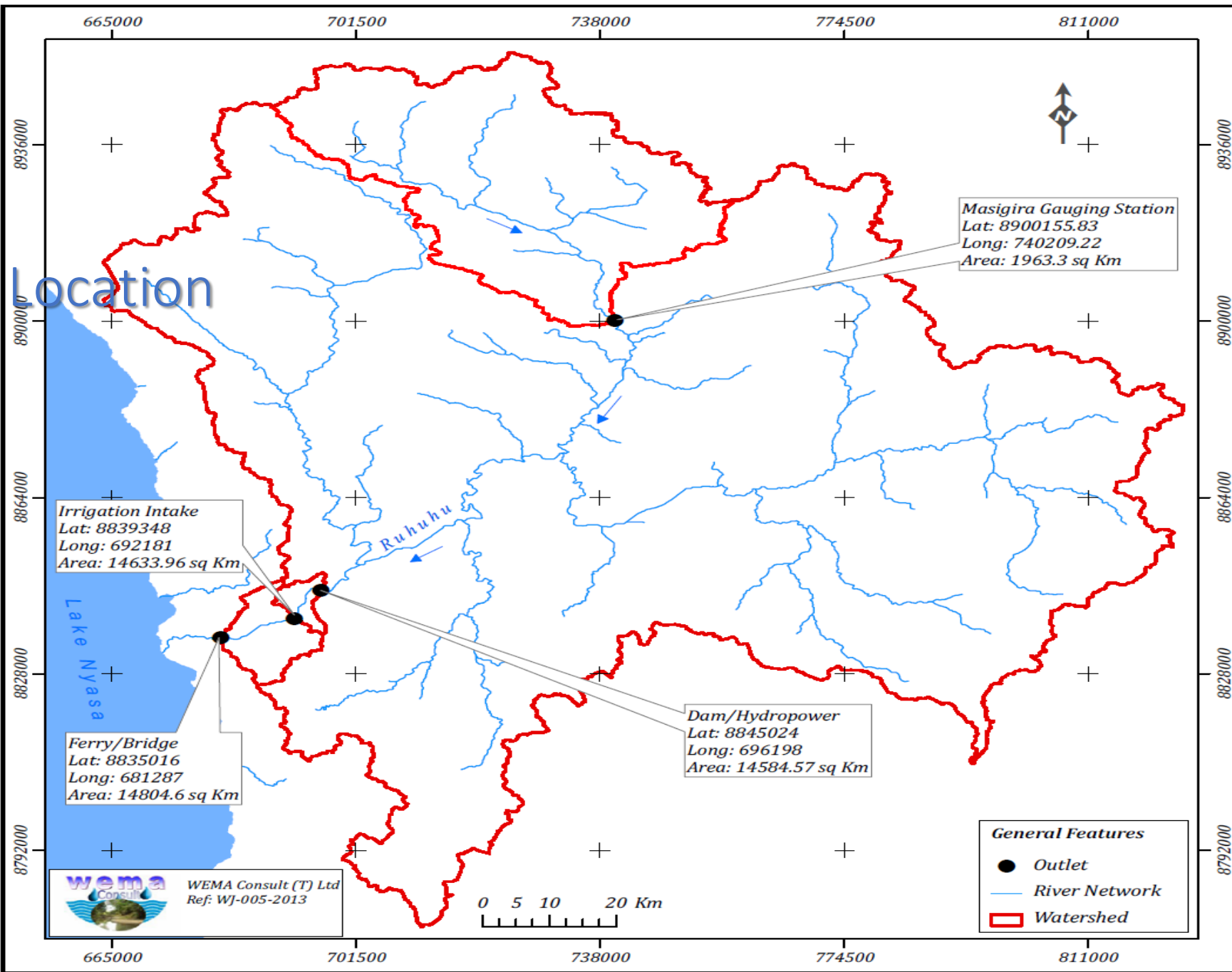


Euroconsult Mott MacDonald

### River inflow into the Lake

- Tanzania – 44% (27,623km<sup>2</sup>)
- Malawi – 46% (62,906km<sup>2</sup>)
- Mozambique – 10% (8,182km<sup>2</sup>)





- Ruhuhu sub-basin: 14,205km<sup>2</sup> (52% of Nyasa Basin in Tanzania)
- Contributes about 12% of total inflow into the Lake.



# Regional and trans-boundary context

- 💧 Project identified from the RIDMP (Maseru 23); adopted as a priority irrigation project (scope expanded after CRIDF intervention)
- 💧 Can significantly contribute towards clean energy supply to the region
- 💧 May foster cooperation in national water infrastructure development in a transboundary basin
- 💧 Project will assist countries to see value in notification as a tool to facilitate peaceful infrastructure development at national level.



# Climate change resilience context

- Possible impacts identified:
  - Increased occurrence of floods and droughts
  - High projected population growth will increase demand for food
  - Intensification and Diversification of crop production: higher temps may favour some crops eg rice
  - Increase productivity per ha; per m<sup>3</sup>
  - Rainfed converted to irrigation (vulnerability to drought is shifted to a regional issues) Farmers become less vulnerable.
  - Exploitation of underground water. After hydro-geological studies
  - Reservoirs for hydropower production store more flood water for an even power production and flood control
  - Irrigation designs should cater for possible increase in irrigation peak requirements.
- Need to diversify sources of livelihoods for households in the project area through provision of energy



# Project outputs

Output	Responsible
O1 - Irrigation infrastructure for targeted smallholder farmers in the Ruhuhu and Lituhi wards developed.	CRIDF/GoT
O2 - Production and Productivity of targeted crops under smallholder farming improved	Government of Tanzania
O3 - Markets for crops produced by targeted smallholder farmers developed	GoT/CRIDF/Pvt Sector
O4 - Capacity of private and public institutions supporting the irrigation and watsan schemes improved	GoT/CRIDF/Pvt Sector
O5 – Access to clean electricity for the rural community in the Lituhi ward and generation of clean electricity improved	TANESCO/REA /Pvt Sector/CRIDF
O6 – Water supply, sanitation and hygiene facilities and practices in Ruhuhu and Lituhi wards improved.	CRIDF/RWS
O7 – Flooding of the agricultural lands on the Ruhuhu delta reduced	



# Component descriptions: Irrigation and hydropower

## 💧 Irrigation development:

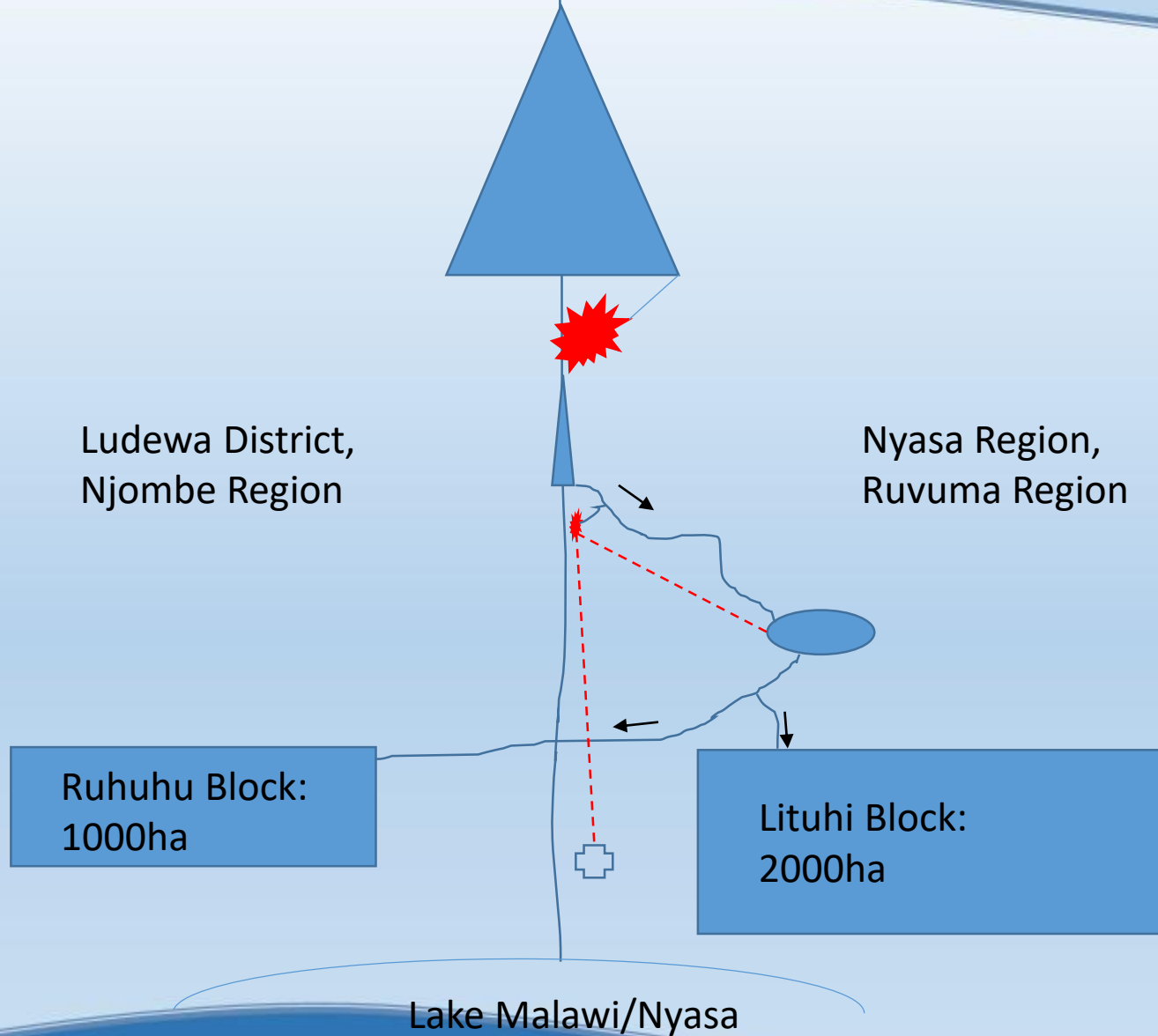
- Area: Approx. 4000ha
- No. beneficiaries: 8,000 households
- Cost: GBP21 million
- Main crops: Rice, vegetables, maize

## 💧 Kikonge Hydropower Plant

- Dam height: 120m
- Potential installed capacity: 280 – 330 MW
- No. beneficiaries: National
- Potential Cost: GBP400 million
- Main advantage: Year round electricity production



# Schematic layout of the Ruhuhu Multi-purpose Irrigation Project





# Kikonge Hydropower Project

Dam Height	FSL	NMOL	TWL	Ave Head	Active Storage	Ave Annual Dam inflow	Active Storage/ inflow	Station Capacity	Capacity Factor	Spill	Annual Generation
m	masl	masl	masl	m	MCM	m <sup>3</sup> /s	vol/vol	MW		%	GWh
140	680	640	520	140	11000	120	2.90	285	0.5	5%	<b>1187</b>
120	660	620	520	120	6200	120	1.64	240	0.5	10%	<b>947</b>
100	640	610	520	105	3000	120	0.79	210	0.5	15%	<b>782</b>



# Advantages of Kikonge Hydropower Project

- 💧 Large storage – high energy security year round
- 💧 Can be flexibly dispatched to meet seasonal or peaking requirements of the system
- 💧 Cost of supply likely to be highly competitive with alternatives



# Ruhuhu Multi-Purpose Project



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Image Landsat  
US Dept of State Geographer

Google earth

# Component description: Water supply and sanitation

- 💧 No. of households: 12,000
- 💧 Possible Cost: GBP530,000
- 💧 Project area: Ruhuhu, Manda and Lituhi wards in Tanzania
- 💧 Immediate response
  - Utilise potential ground water sources with simple technology
- 💧 Medium term response
  - Rehabilitate existing water systems (e.g. Lituhi water scheme) to determine requirements to improve services



# Main issues

## 💧 MoU with Government of Tanzania

- Financing
- Procurement
- Quality assurance and liabilities

## 💧 Financing the studies

## 💧 Procuring of TA for carrying out studies

## 💧 Financing implementation

