

# REPUBLIC OF MALAWI MINISTRY OF AGRICULTURE, IRRIGATION AND WATER DEVELOPMENT

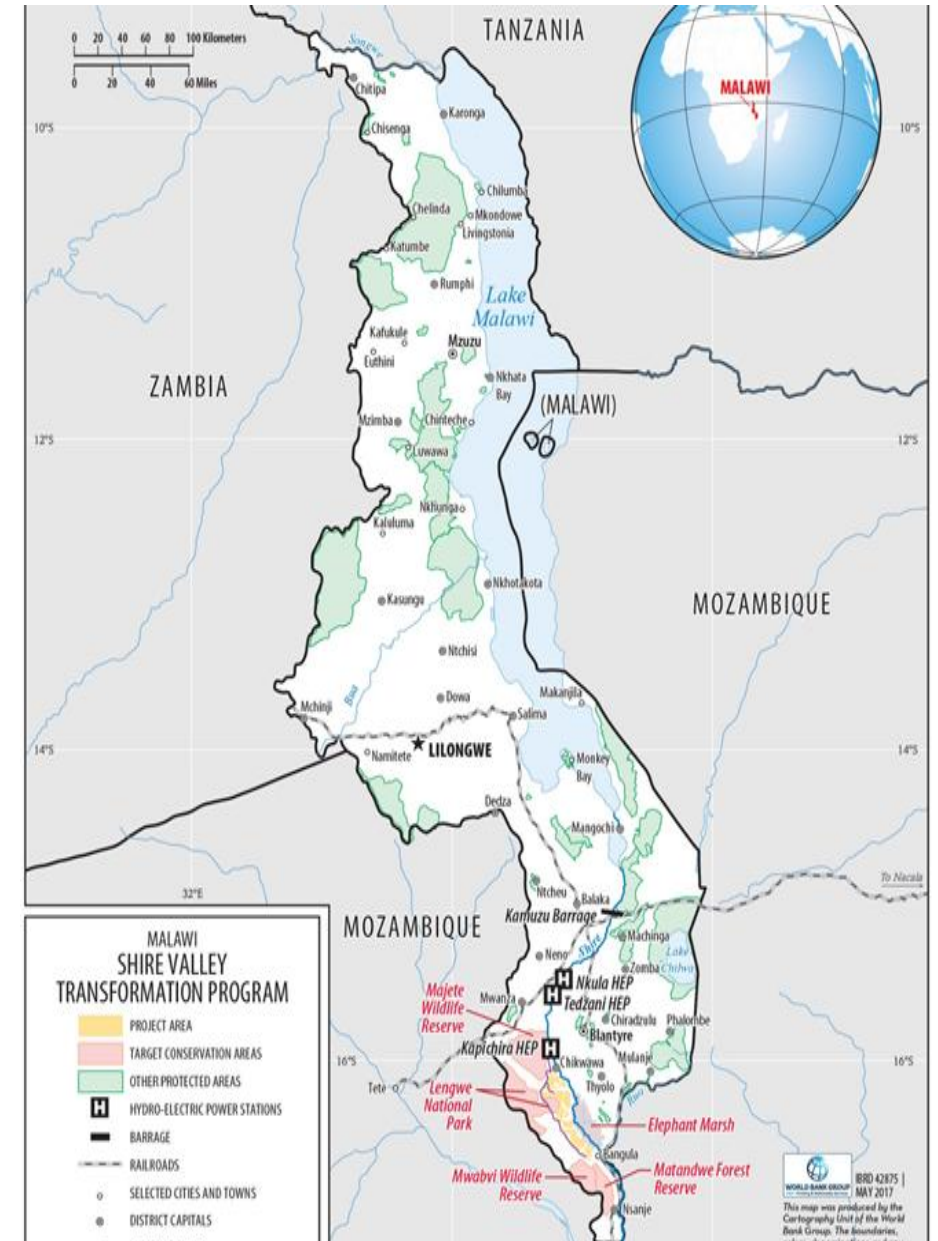
*Eng. Geoffrey C. Mamba*

**SHIRE VALLEY  
TRANSFORMATION PROGRAM  
(SVTP)**



# WHAT AND WHERE IS MALAWI?

- Located in Southern Africa and is within the Great Rift Valley
- Borders Tanzania to the North and North East; Mozambique to the East and South; Zambia to the Western side
- Because of its friendly people, the country is fondly called *"The Warm Heart of Africa"*
- Has been at peace since independence from Britain
- Belongs to Southern Africa Development Community (SADC) and the Common Market for Eastern and Southern Africa (COMESA)



# PROJECT SOCIO-ECONOMIC PROFILE

- **Population:** 223,000 in the project area
  - Household size is 4.6 persons
- **Marital status:** 85% of household heads are married
- 40% of the population is younger than 36 years
- **Education:** 24% FH HHs and 59% MH HHs completed primary school or higher
- 90% of population: Main occupation and source of income is farming
- 81% of land is smallholder farming land
- Major crops are sugarcane, cotton, sorghum, maize, pigeon peas
- The area has a large population of cattle and goats

# **PROGRAM DEVELOPMENT OBJECTIVE**

- The program development objective is to improve the management and utilization of natural resources in a sustainable way to increase agricultural productivity and commercialization for targeted households in the Shire Valley
- Will develop 43,300 ha of land under gravity irrigation leading to economic growth and reduction of rural poverty in the Lower Shire Valley by establishing market-linked smallholder farming ventures and professionally operated irrigation services.

# PROGRAM PHASES

## **SVTP has Three (3) Overlapping Phases:**

- SVTP I (2017 – 2023): Detailed design SVIP I, Construction SVIP I (22,300 ha), RAP and ESMP implementation, land consolidation, selection of private operator, Initiate Farmer Organization, Farm investment and operation support (initial), environmental protection, etc
- SVTP II (2020 – 2026): Prepare SVIP-II investments, Monitor O&M, support block level irrigation management, mechanization, operation and value chain support, ag services provision, agronomy support, etc.
- SVTP III (2026 -2031): Scale up of Phase II activities; construction SVIP II (~21,000 ha), ESMP & RAP implementation, private investment expansion, water use efficiency support, expanded value chain support, agric services provision, agronomy support, etc

# SHIRE VALLEY TRANSFORMATION PROGRAM-PHASE 1

- SVTP I, among others, include the development of 22, 300 ha
- This Stage will have four components:
  - **Component 1 (US\$141.8 million) : Irrigation Service Provision:**
    - Sub component 1.1 (US\$141.7 million): Main Infrastructure Development of Shire Valley Irrigation Project (Intake, MC 1, MC 2, MC 3 and associated structures, Secondary canals, NSRs and Main drainage works)
    - Sub Component 1.2 (US\$0.7 million): Support to Effective and Sustainable O&M (engagement of private operator)

# COMPONENTS

- **Component 2 (US\$16.29 million):** Preparing land-based investments and natural resources management support
  - **Subcomponent 2.1(US\$10.7 million):** Supporting land governance and land consolidation
  - **Subcomponent 2.2(US\$5.59 million GEF):** Natural Resources Management
- **Component 3 (US\$49.9 million):**Agriculture Development and Commercialization
  - Farm investment (on-farm works)
  - Farm equipment (movable and fixed)
  - Initial production and management support, etc.
- **Component 4 (US\$8.9 million IDA):** Project Management and Coordination



# WHY TRANSFORMATIVE



Subsistence Smallholder Farming affected by floods  
& Droughts



Professional Irrigation: all-year round Commercial  
Farming



# SVTP: SWOT ANALYSIS

STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
Fertile land	Subsistence farming	Availability of markets	Water availability
Suitable climate	Small land holdings	Good donor support	High loan interest rates
Willingness to change	Un-organized farmers	Existing commercial enterprises	
Existing smallholder commercial farm models	Low crop yields	Availability of agri-business & farm management cadre	

# KEY TRANSFORMATIVE ELEMENTS

Element	Possibilities	Result	Outcome
Gravity fed irrigation water supply from Electric Powered	Multiple cropping cycles	Increased productivity	<ul style="list-style-type: none"> <li>•Food security</li> <li>•Increased incomes</li> </ul>
Land consolidation	Large scale production	Large volumes of crops	<ul style="list-style-type: none"> <li>•Bargaining power</li> <li>•Better markets</li> </ul>
Organised farmers (cooperatives)	<ul style="list-style-type: none"> <li>•Farmers pooling resources</li> <li>•Access to financial markets</li> </ul>	Subsistence farmers become commercial	<ul style="list-style-type: none"> <li>•Poverty reduction</li> <li>•Key players in the national economy</li> </ul>
Professional farm management	Commercial production responding to international standards	Efficient production	Competitive farm produce
Value Chain Development	<ul style="list-style-type: none"> <li>•Storage</li> <li>•Processing</li> <li>•Transportation</li> </ul>	<ul style="list-style-type: none"> <li>•Value addition</li> <li>•Employment</li> </ul>	<ul style="list-style-type: none"> <li>•Market share</li> <li>•Prosperity</li> </ul>

## **TRANSFORMATIVE ELEMENT: LAND CONSOLIDATION**

- Groups of farmers will consolidate land and register it into customary estates in accordance with new Land Law (2016);
- The land consolidation process would take the following processes:
  - Adjudication of land parcels
  - Demarcation
  - Production of an adjudication record
  - Production of registry map
  - Registration of title

# **TRANSFORMATIVE ELEMENT: FORMATION OF COOPERATIVES**

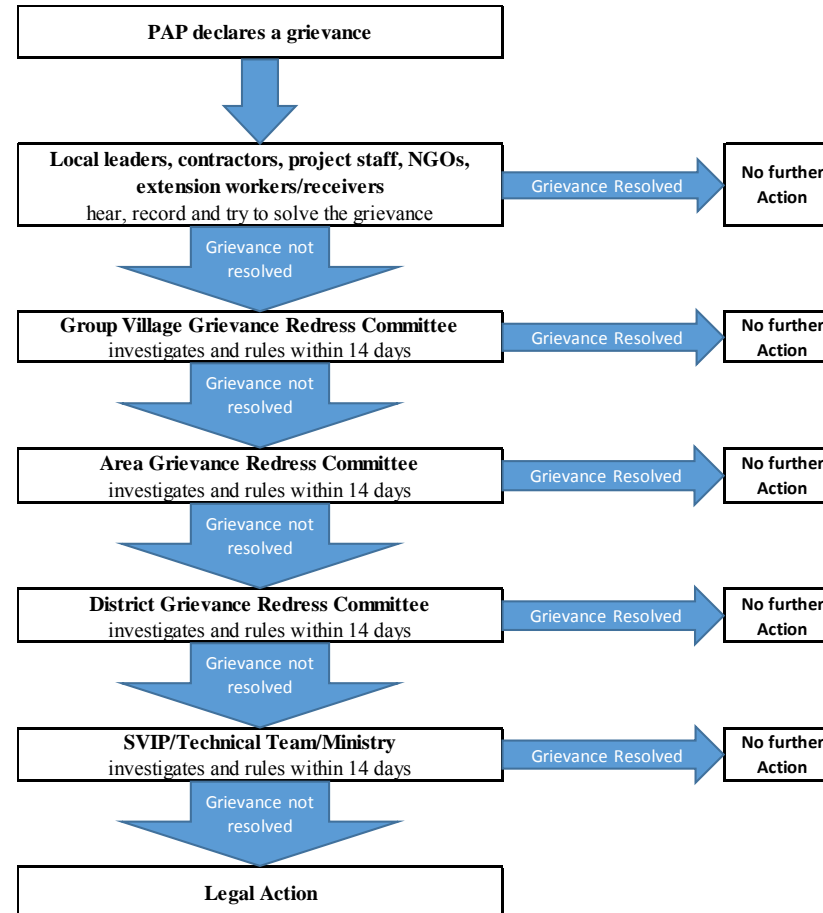
- MITT has mandate for the development of Cooperative Societies in the whole of Malawi and this includes the responsibility for:
  - Providing initial training,
  - Registration of Cooperatives, and
  - Conducting annual performance assessments
- In accordance with the Malawi Government's policy and in order to enhance the utilization of farm technologies and realize economies of scale in production, marketing and value addition activities the farmers will be encouraged to form cooperatives.
- The cooperatives will be formed by the owners of land as consolidated customary estates.



## **IMPLEMENTATION STRATEGY: RESETTLEMENT POLICY FRAMEWORK**

- A Resettlement Policy Framework (RPF) has been developed
- Project Affected Persons and property will be compensated
- A Resettlement Action Plan will be developed for this purpose
- Valuation of Affected Land and Property will be done
- Procedures and Principles of Resettlement will be followed

# IMPLEMENTATION STRATEGY: GRIEVANCE REDRESS MECHANISMS



## **IMPLEMENTATION STRATEGY: PROFESSIONAL MANAGEMENT OF IRRIGATION INFRASTRUCTURE**

- There will be a management contract under a Public Private Partnership Approach
- A private firm will be hired and will be responsible for O&M of the infrastructure
- A service fee for the water supply will be charged to all water users
- Receiving technical assistance from the International Finance Corporation

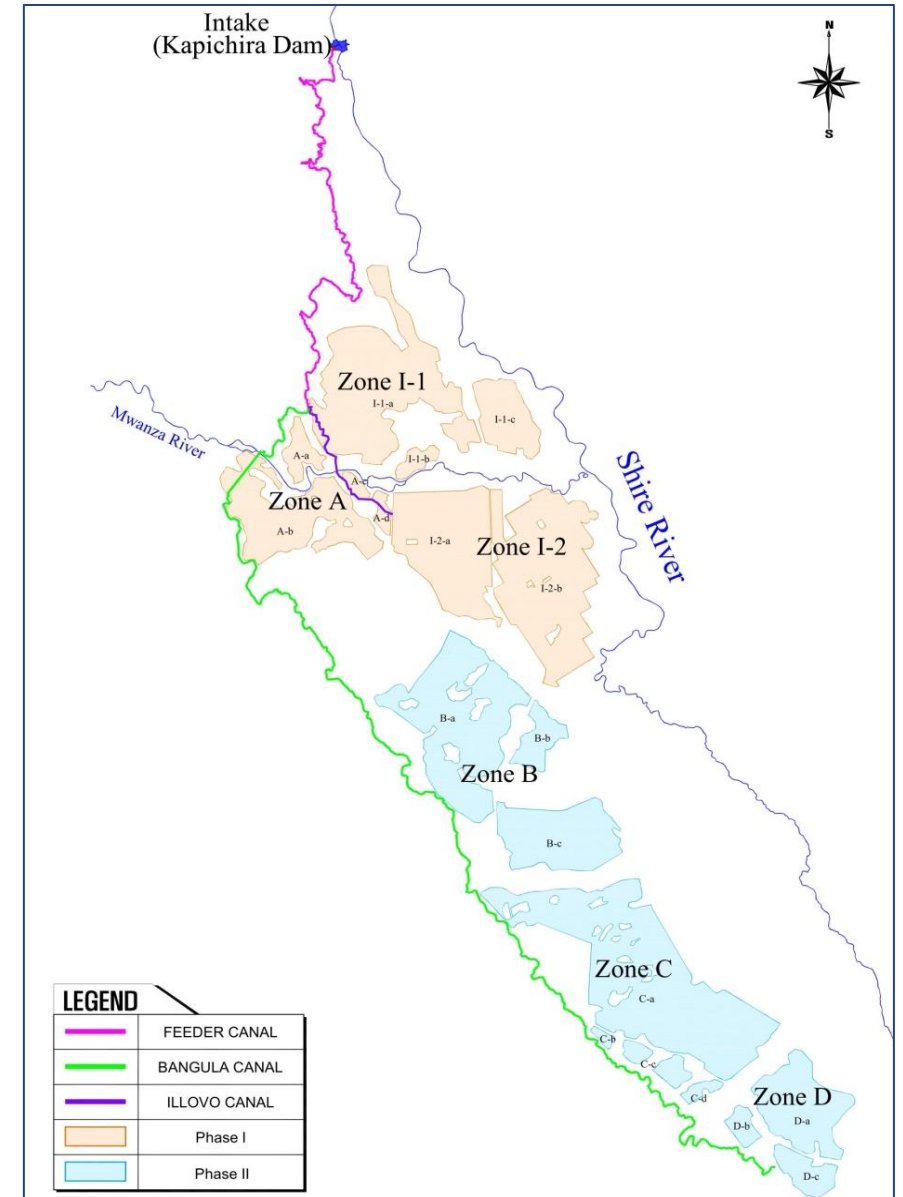
# PREPARATORY STUDIES

No.	DESCRIPTION OF ASSIGNMENT	CONSULTANT	MAJOR OUTPUTS
1	Technical Feasibility Study	KRC, DASAN & GK Works	Final Technical Feasibility Report, GIS, Geotechnical and soils report
2	Agricultural Development Planning Strategy	PWC	Final Agricultural Development Planning Strategy Report
3	ESIA and PMP	BRLi	Final Baseline, ESIA, ESMP and PMP Reports
4	CCPLT and RPF	COWI	Final Baseline, Gender and youth strategy, communication strategy, RPF, Land tenure, Institution, etc. Reports
5	PPP Feasibility study	BRLi	Final PPP Feasibility Report and draft Water Purchase Agreement
6	Hydraulic Modelling of Intake Structure	Artelia Eau and Environment	Final Numerical Modelling Report
7	Kapichira Dam Safety	POE	Final Report containing recommendations



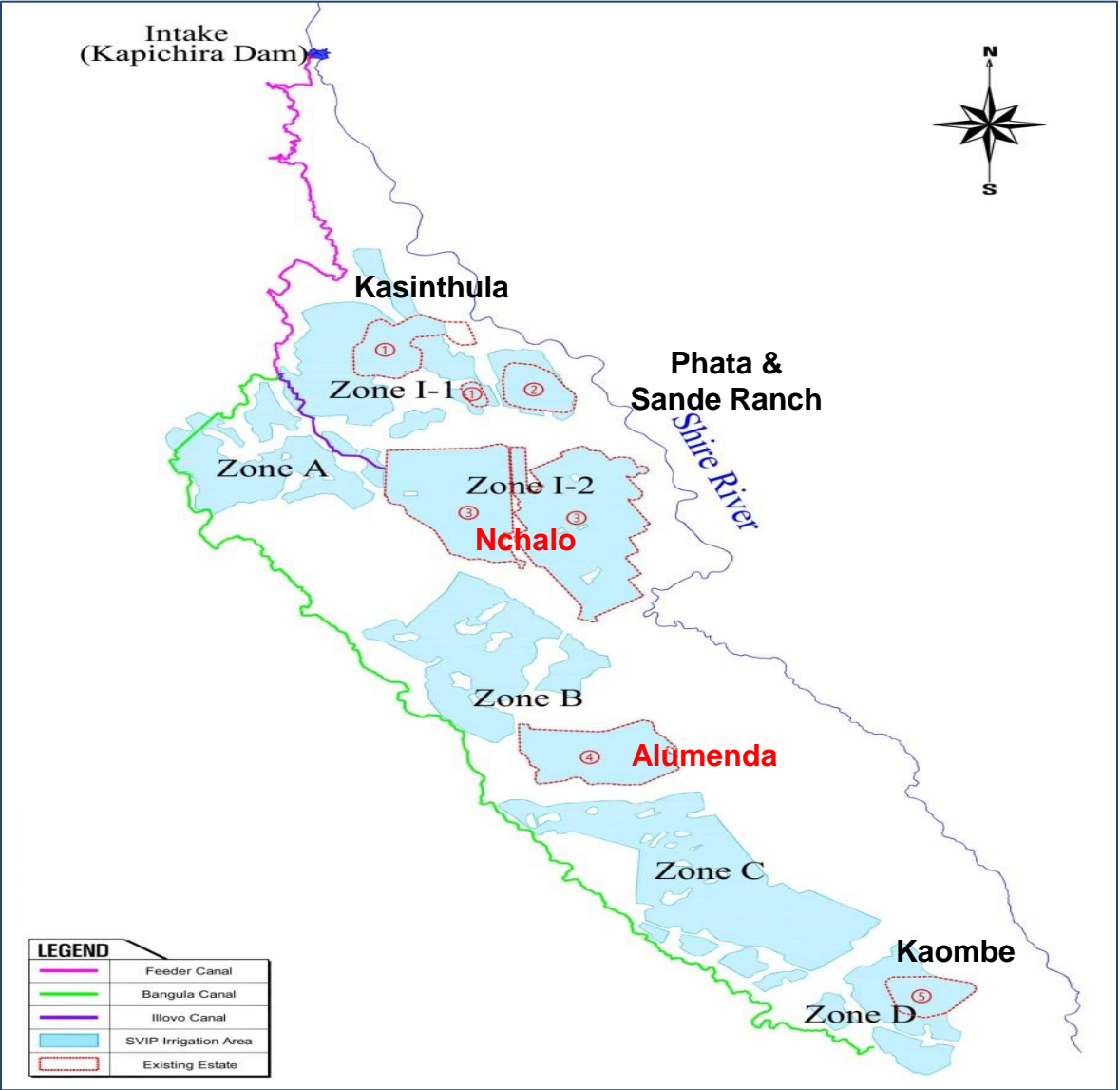
# MAJOR FEATURES

	Zone	Gross Area	Net Area
<b>Phase 1</b>	Zone I-1	8,849 ha	7,866 ha
	Zone I-2	11,250 ha	9,995 ha
	Zone A	4,959 ha	4,419 ha
<b>Sub Total</b>		<b>25,057</b>	<b>22,280</b>
<b>Phase 2</b>	Zone B	6,737 ha	8,490 ha
	Zone C	10,749 ha	9,136 ha
	Zone D	4,076 ha	3,464 ha
<b>Sub Total</b>		<b>24,750</b>	<b>21,090</b>
<b>TOTAL</b>		<b>49,806 ha</b>	<b>43,370 ha</b>



# Existing Irrigated Areas

## Existing Large Estate



Estate	Area (ha)
Nchalo	9,995 ha
Sande Ranch	454 ha
Phata	296 + 400 ha
Kasinthula	1,429 ha
	12,174
Alumenda	2,764 ha
Kaombe	819 ha
	3,583
Total	15,557 ha

# PHASE I AREAS

Estate	Existing (ha)	New (ha)	Total (ha)
Nchalo	9,995 ha		
Sande Ranch	454 ha		
Phata	296 ha		
Kasinthula	1,429 ha		
Kaombe	819 ha		
Zone I-1		5,705	
Zone A		4,420	
Total	<b>12,175</b>	<b>10,125</b>	<b>22,300</b>





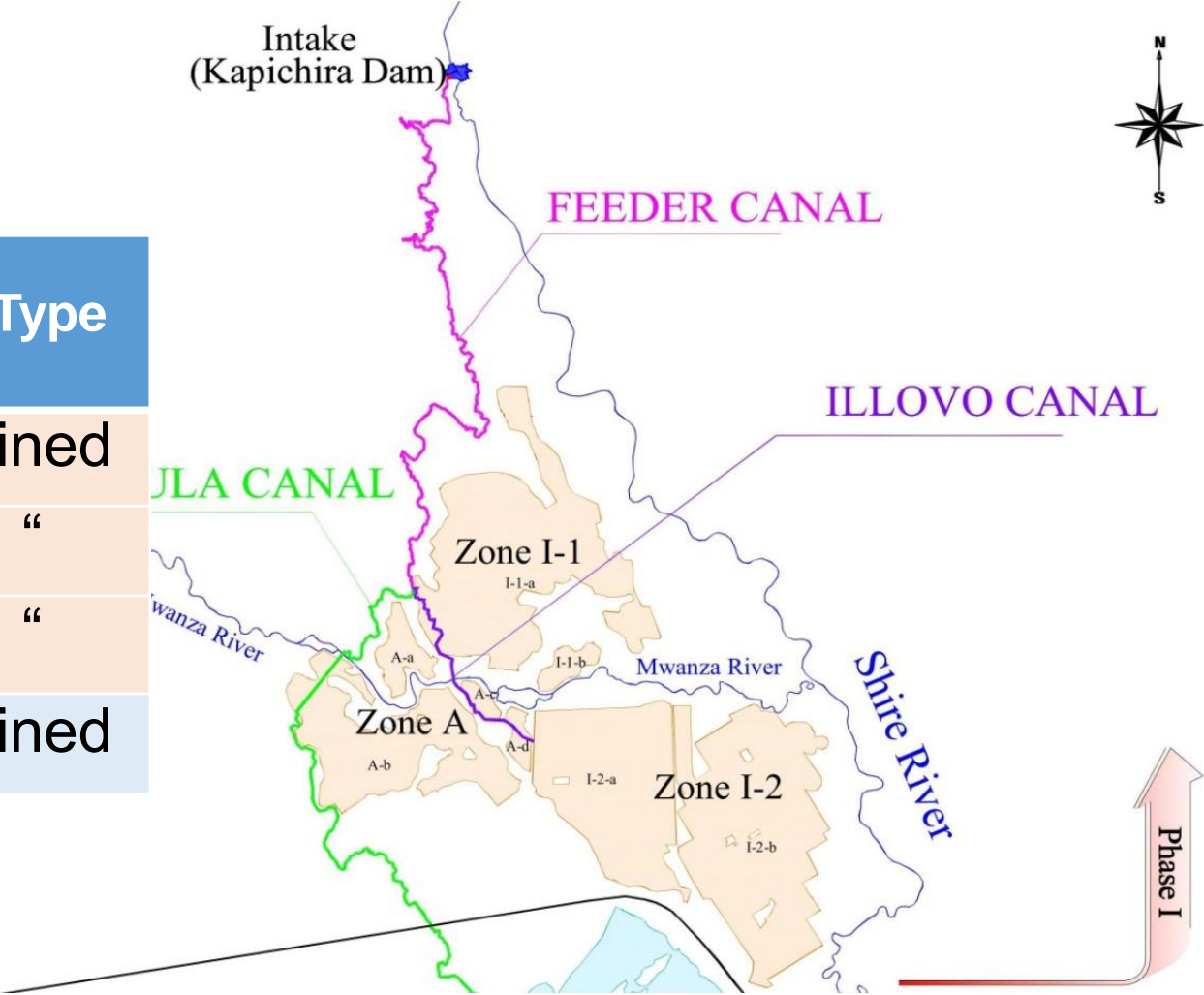
## ◆ Advantages

- Less sediment entry
- Less rock blasting required
- Less environmental impact



# Canal Network

Canal	Length (km)	Capacity M3/s	Type
Main Canal 1	33.4	50	Lined
Main Canal 2	88 (18)	29	“
Main Canal 3	10.6	15	“
Sec. canals	(91)	varies	Lined



# Project Cost Estimate

Project construction cost (Phase I):

= **227 M** (With VAT)

Others= **40 M**  
(compensation, farm dev., project magt, etc.)

**Total = 267 M**

**Committed Fund:**

WB = USD 160 M

GEF= USD 6 M

AfDB= USD 50 M

GoM= USD 50 M

**Total= USD 266 M**

Description		Quantities	Total (USD)
<b>I. Direct Total Cost (incl. VAT)</b>			<b>199,886,040</b>
a) Intake*			4,564,000
b) Main Canal 1		L=33.80km	49,892,000
c) Main Canal 2		L=18.40km	21,830,000
d) Main Canal 3		L=10.64km	7,240,000
e) Secondary Canal		L= 92.4km	17,020,000
f) Drainage Canal		L=32.40km	9,840,000
g) Night Storages		14	1,610,000
h) On Farm Works **		12,266	57,440,000
i) SCADA		1	1,110,000
j) Water Supply System			1,030,000
Total (a – j)			171,576,000
VAT (over a – j)	16.5 %		28,301,040
<b>II. Contingency (% of direct cost)</b>	7.5%		14,991,453
<b>III. Consultant (% of direct cost)</b>	6.0%		11,993,162
<b>IV. Total Project Cost Phase 1</b>			<b>226,870,655</b>

# **MAJOR EXPECTED BENEFITS OF SVIP**

- Incremental field crops production and productivity
- Increased livestock production
- Aquaculture
- Value for Water through charges
- Increased Resilience of Vulnerable Communities
- Boosting Regional Integration and Trade
- Reduced electricity consumption: up to 22 MW can be released
- Safe drinking water supply to Chikwawa township
- Illovo's saving in cost of O&M of its pumps
- Flood protection and Natural Resources Conservation
- Multiplier effect
- Paid employment opportunities; and,
- Positive externalities

## COST BENEFIT ANALYSIS

- The CBA has shown that the Shire Valley Irrigation Project is financially and economically viable,
- The Technical Feasibility Study has shown that the project is technically feasible,
- The ESIA study also has shown that the project is environmental friendly and socially acceptable,
- Thus, the project is bankable,

	Phase I
Investment Cost (USD)	234 M *
FIRR (%)	9.3
EIRR (%)	10.8
B/C Ratio @discounting rate=6%	1.41; 1.53

\* After deducting cost of infrastructure serving Phase II proportionally



## **PROJECT READINESS**

- All Feasibility Studies were completed in December 2017...the Project was found to be viable
- Detail Designs are underway, expected to finish in December 2017 (Consultants are KRCC, DASAN & GK Works)
- The World Bank and African Development Bank Boards will consider the project between September and October 2017
- Construction is expected to commence in 1<sup>st</sup> half of 2018

## TIMELINES FOR IMPLEMENTATION-PHASE 1

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# PROJECTS

## ON-GOING

- Smallholder Irrigation and Value Addition Project: (AfDB)
- Support to ASWAp and Irrigation, Bwanje Dam Phase I: 40 metre high, 5.6 million cubic metre (European Union)
- Agriculture Infrastructure and Youth in Agri-business Project: 1945 ha (AfDB)
- Malawi Floods Emergency Recovery Project (World Bank)
- Programme for Rural Irrigation Development: 5300 ha (IFAD)
- Small Farms Irrigation Project: 1 600 ha (Govt & BADEA)
- Malawi Drought Recovery Project: Installation of 600 ha solar powered scheme  
: Rehabilitation of 1000 ha schemes (World Bank)

## PROSPECTIVE PROJECTS

- Bwanje Dam Phase II: 19 more metres high, 32.0 million cubic metres
- Bwanje Valley Irrigation Project Extension: 1 600 ha
- Songwe River Stabilisation Project: Dam, hydropower and Irrigation (Malawi & Tanzania)
- Shire Valley Transformation Program: Phase II and III



# ZIKOMO KWAMBIRI! THANK YOU

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