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Report No: PAD4790

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT  
ON A  
PROPOSED CREDIT

IN THE AMOUNT OF SDR 99.7 MILLION  
(US\$134 MILLION EQUIVALENT)

TO THE

REPUBLIC OF MALAWI

FOR THE

SHIRE VALLEY TRANSFORMATION PROGRAM - PHASE 2

MAY 26, 2022

Water Global Practice  
Eastern and Southern Africa Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective April 30, 2022)

Currency Unit = Malawi Kwacha (MWK)

US\$1 = MWK 813

US\$1 = SDR 0.74

FISCAL YEAR  
April 1 – March 31

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#### ABBREVIATIONS AND ACRONYMS

AfCFTA	Africa Continental Free Trade Area
AfDB	African Development Bank
AGCOM	Agricultural Commercialization Project
CAADP	Comprehensive African Agriculture Development Program
CERC	Contingent Emergency Response Component
CLA	Customary Land Act
CLC	Customary Land Committee
COVID-19	Coronavirus Disease 2019
CPF	Country Partnership Framework
DNPW	Department of National Parks and Wildlife
DoF	Department of Forestry
DoFi	Department of Fisheries
Dol	Department of Irrigation
EAD	Environmental Affairs Department
EFA	Economic and Financial Analysis
ESHS	Environment Social Health and Safety
ERR	Economic Rate of Return
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impacts Assessment
ESMP	Environmental and Social Management Plan
ESRC	Environmental and Social Risk Classification
FM	Financial Management
GBV	Gender Based Violence
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gas
GoM	Government of Malawi
GRID	Green Resilient Inclusive Development
GRM	Grievance Redress Mechanism
GVH	Group Village Headman
Ha	Hectare
IAP	Investment Assessment Panel
IDA	International Development Association
IFC	International Finance Corporation
IFR	Interim Financial Report
ILO	International Labor Organization
IPF	Investment Project Financing
IMP	Irrigation Master Plan
IWPA	Irrigation Water Purchase Agreement
LIMS	Land Information Management System
LRIU	Land Reform Implementation Unit
METT	Management Effectiveness Tracking Tool
M&E	Monitoring and Evaluation
MIP	Malawi 2063 Implementation Plan
Moa	Ministry of Agriculture

Mol	Ministry of Lands
MOLG	Ministry of Local government
MOM	Management, Operation and Maintenance
Mou	Memorandum of Understanding
MWASIP	Malawi Watershed Services Improvement Project
NPV	Net Present Value
NRM	Natural Resources Management
O&M	Operation and Maintenance
PAP	Project Affected Person
PBC	Performance-Based Condition
PBG	Performance Based Grant
PDO	Project Development Objective
PIM	Project Implementation Manual
PMP	Pesticide Management Plan
PMT	Project Management Team
PPE	Personal Protective Equipment
PPPC	Public Private Partnership Commission
PPSD	Project Procurement Strategy for Development
PSC	Project Steering Committee
PTC	Project Technical Committee
RfP	Request for Proposals
RP	Resettlement Plan
SME	Small and Medium Enterprise
SOCFE	Smallholder Owned Commercial Farm Enterprise
SP	Services Providers
SoP	Series of Projects
SPV	Special Purpose Vehicle
STEP	Systematic Tracking of Exchanges in Procurement
SVTP	Shire Valley Transformation Program
TA	Technical Assistance
TLMA	Traditional Land Management Authority
ToR	Terms of Reference
WP	With-project
WOP	Without project
WUA	Water Users Association
ZAMCOM	Zambezi Watercourse Commission

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## DATASHEET

## BASIC INFORMATION

Country(ies)	Project Name	
Malawi	Shire Valley Transformation Program - Phase 2	
Project ID	Financing Instrument	Environmental and Social Risk Classification
P176575	Investment Project Financing	High

## Financing &amp; Implementation Modalities

<input type="checkbox"/> Multiphase Programmatic Approach (MPA)	<input checked="" type="checkbox"/> Contingent Emergency Response Component (CERC)
<input checked="" type="checkbox"/> Series of Projects (SOP)	<input type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Performance-Based Conditions (PBCs)	<input type="checkbox"/> Small State(s)
<input type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input type="checkbox"/> Responding to Natural or Man-made Disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	<input type="checkbox"/> Hands-on Enhanced Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
21-Jun-2022	30-Sep-2028
Bank/IFC Collaboration	Joint Level
Yes	Complementary or Interdependent project requiring active coordination

## Proposed Development Objective(s)

To develop irrigated commercial agriculture and strengthen the management of natural resources in the Program area.

## Components

Component Name	Cost (US\$, millions)



Component 1 – Irrigation Infrastructure Development and Service Provision	150.00
Component 2 – Land Tenure and Consolidation	15.00
Component 3 – Agriculture Development and Commercialization	85.00
Component 4 – Strengthening Landscape and Natural Resources Management	20.00
Component 5 – Project Management and Coordination	15.00
Component 6 - Contingent Emergency Response	0.00

### Organizations

Borrower: Republic of Malawi  
Implementing Agency: Ministry of Agriculture

### PROJECT FINANCING DATA (US\$, Millions)

#### SUMMARY

Total Project Cost	285.00
Total Financing	235.00
of which IBRD/IDA	134.00
Financing Gap	50.00

#### DETAILS

##### World Bank Group Financing

International Development Association (IDA)	134.00
IDA Credit	134.00

##### Non-World Bank Group Financing

Counterpart Funding	91.00
Borrower/Recipient	91.00
Commercial Financing	10.00
Unguaranteed Commercial Financing	10.00

**IDA Resources (in US\$, Millions)**

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount
Malawi	134.00	0.00	0.00	134.00
National PBA	134.00	0.00	0.00	134.00
<b>Total</b>	<b>134.00</b>	<b>0.00</b>	<b>0.00</b>	<b>134.00</b>

**Expected Disbursements (in US\$, Millions)**

WB Fiscal Year	2022	2023	2024	2025	2026	2027	2028	2029
Annual	0.00	10.00	15.00	25.00	25.00	25.00	20.00	14.00
Cumulative	0.00	10.00	25.00	50.00	75.00	100.00	120.00	134.00

**INSTITUTIONAL DATA****Practice Area (Lead)**

Water

**Contributing Practice Areas**

Agriculture and Food, Environment, Natural Resources & the Blue Economy, Finance, Competitiveness and Innovation, Urban, Resilience and Land

**Climate Change and Disaster Screening**

This operation has been screened for short and long-term climate change and disaster risks

**SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)**

Risk Category	Rating
1. Political and Governance	● Moderate
2. Macroeconomic	● Substantial
3. Sector Strategies and Policies	● Moderate
4. Technical Design of Project or Program	● Substantial
5. Institutional Capacity for Implementation and Sustainability	● Substantial



6. Fiduciary	● Moderate
7. Environment and Social	● High
8. Stakeholders	● Moderate
9. Other	
10. Overall	● Substantial

**COMPLIANCE****Policy**

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes    [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes    [✓] No

**Environmental and Social Standards Relevance Given its Context at the Time of Appraisal**

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
Cultural Heritage	Relevant
Financial Intermediaries	Not Currently Relevant

**NOTE:** For further information regarding the World Bank's due diligence assessment of the Project's potential environmental and social risks and impacts, please refer to the Project's Appraisal Environmental and Social Review Summary (ESRS).

**Legal Covenants**

## Sections and Description

Schedule 2, Section I.B.1(a) - Implementation: The Recipient shall no later than three months from the Effective Date update the Project Implementation Manual (PIM) in a manner satisfactory to the Association and ensure that the Project is carried out in accordance with the PIM.

**Conditions**



## I. STRATEGIC CONTEXT

### A. Country Context

1. **Over the past decades, Malawi's economy has shown modest growth.** The country continues to face substantial macroeconomic instability related to: (i) vulnerability to weather shocks; (ii) Coronavirus Disease 2019 (COVID-19) exacerbation of recent fiscal slippages resulting in further increases in high-cost of domestic debt; and (iii) deterioration in the balance of payments due to increased import demand and fall in tobacco prices. Before the COVID-19 pandemic, gross domestic product (GDP) per capita grew at an average of 1.5 percent per year from 1995 to 2019, which was about half the growth rate of comparable peer countries in Sub-Saharan Africa. Incomes are unequally distributed, with the poorest quintile of households accounting for only 7 percent of income compared to 50 percent for the wealthiest quintile. The COVID-19 pandemic and several recent natural disasters have negatively affected economic growth, created new fiscal pressures, and increased income inequality. GDP growth was only around one percent in 2020 but is expected to reach 3.1 percent in 2022 and 4.5 percent thereafter.<sup>1</sup> Public policy responses to the pandemic have increased government expenditure at a time when government revenues have fallen. Therefore, the fiscal deficit has increased significantly and is expected to widen further. This is exacerbated further by the war in Ukraine which is leading to higher international food, fertilizer, and energy prices and is worsening the country's structural current account deficit.
2. **Malawi has a population of about 18 million people, with a mean age of 17 years and with 75 percent of Malawians under the age of 35 years.** The population is growing at about 2.7 percent per year and is anticipated to double by 2038. Malawi is already one of the most densely populated countries in Africa, but the rapid population growth is one of the defining features of Malawi's development challenge, putting increasing strain on the natural resource base, limited public services including health and education, and available employment opportunities.
3. **Almost 70 percent of Malawi's population lived below the poverty line of US\$1.90 per day per capita in 2021.** Poverty is mainly a rural phenomenon, with the vast majority (95 percent) of poor people in Malawi living in rural areas. People living in rural areas are three times more likely to be poor (57 percent) than those living in urban areas (19 percent). Rural poverty has remained broadly constant during the last 15 years. It is heavily influenced by climatic shocks, mainly floods and droughts, and the degradation of forests and natural landscape. Poverty is most acute in Malawi's Southern Region, with the Shire Valley containing the highest incidence of poverty in the country, where communities are frequently affected by both floods and droughts.
4. **Around 85 percent of Malawi's population is living in rural areas and mostly rely on agriculture for employment.** The share of rural women is slightly higher than that of rural men (51.7 percent vs. 48.3 percent). There is also a higher share of female-headed households in rural areas than in urban areas, estimated at 24 percent in rural areas compared to 15 percent in urban areas. Women are more likely to be employed in agriculture than men (77 percent vs. 68 percent). There are significant gaps in productivity of plots managed by female farmers, with male-managed plots producing on average 25 percent more per hectare than female-managed plots. The productivity gap exists because women typically have less access to critical agricultural inputs such as labor, knowledge, fertilizer, improved seeds, and financial and agricultural extension services. Moreover, rural women in Malawi are twice as likely

<sup>1</sup> World Bank Open Data, 2022.



to suffer ‘time poverty’ as rural men, relative to the total amount of productive and unpaid work they perform, with 82 percent of women involved in unpaid care and domestic work as opposed to 18 percent of men.

**5. Malawi is already experiencing some of the effects of climate change with observed rising temperatures and changes in the variability of rainfall that are threatening the viability of rainfed agriculture.** The country has experienced some 20 major flooding events and seven droughts over the past five decades, with three of the most extreme events taking place in 2015, 2019, and 2022. Malawi is ranked 163 of 182 countries in the Notre Dame-Global Adaptation Initiative (ND-GAIN) country index, resulting from a combination of high vulnerability and low readiness. A higher average summer temperature and an increasing number, and severity of impact, of extreme weather events have in the past few years caused severe floods and drought resulting in considerable damage, disrupted economic activity and adversely affected the lives of many people, particularly the poor who are highly vulnerable to weather-related shocks. Increasingly erratic rainfall, watershed degradation, and limited storage infrastructure reduce the availability and quality of water resources, increase the country’s vulnerability to droughts and floods, and hamper energy security and agricultural productivity. Overcoming the economic impacts of weather shocks on the agriculture-based economy will be important.

**6. Tropical Storm Ana hit Malawi on January 24 and 25, 2022 causing substantial hardship and damage in the Shire watershed.** It brought strong winds and heavy rains and resulted in floods in the Southern and Central Regions of Malawi. The tropical storm affected an estimated number of 870,000 people, including about 190,000 who were displaced, mostly in Chikwawa and Nsanje Districts. A total of 46 deaths have been reported, as well as 18 people missing and 206 injured. Malawi is heavily dependent on hydropower for its energy needs, with about 98 percent (358 megawatts) of current electricity generation coming from hydropower plants on the Shire River. The electricity supply was severely constrained by the tropical storm, which caused serious damage to Kapichira Dam and a loss of about a third of its entire generation capability. The storm also damaged the Shire Valley Transformation Program (SVTP) intake and first section of the siphon that are currently under construction under SVTP-1.

**7. Deforestation, riverbank degradation, and poor on-farm water and land use management form the most serious threats to the environment and natural resource base in the Shire River Basin, resulting in increased incidence of erosion, run-off, sedimentation, and flash floods.** High loads of sediment are deposited in rivers, reservoirs, and floodplain wetlands, affecting irrigation canals, fisheries, and hydropower generation. Water resources are increasingly degraded through silt loads, sedimentation, eutrophication, biological contamination, effluents, and other solid waste. These problems are a direct result of catchment degradation, unsustainable land use and management practices, and increased use of chemical fertilizers without complementary soil and water conservation measures. An integrated approach will be needed to address these broader watershed issues.

**8. The continued vulnerability of Malawi’s economy points to the critical need to improve resilience as climate change is increasing the severity of floods and droughts.** Higher average temperatures of 1–3°C are expected by 2050, with the largest increases in early summer months, while rains will become more erratic, with extended dry periods and increased evaporation rates. This will negatively impact rainfed farming, likely leading to more frequent failures in maize cultivation, which in turn could have significant implications for future food security. A more climate-smart and diversified agriculture sector is essential to growth and poverty reduction. A challenge will be to ensure that any transformation is done efficiently and in a sustainable manner to avoid further depletion of the country’s resources, including forests and wetlands. More than half of Malawi’s wealth is constituted of natural capital, however, this natural capital base is under pressure due to agricultural expansion, population growth, and climate change.



9. The Malawi 2063 vision (MW2063) aligns with Africa's regional agenda of promoting investments and productivity in the agriculture sector as part of the Comprehensive African Agriculture Development Program (CAADP) and Africa Continental Free Trade Area (AfCFTA). The CAADP agenda has been an integral part of Malawi's efforts to promote food security and economic development through agricultural-led economic growth for the past decades aimed at achieving the Sustainable Development Goals. The CAADP process in Malawi is to improve agricultural development through a coherent long-term framework that guides the planning and implementation of priority development and investment areas. In 2020, the Government of Malawi (GoM) ratified the AfCFTA agreement, which was set up in 2018. The AfCFTA aims at accelerating intra-African trade through better harmonization and coordination of trade liberalization, and facilitation and development of trade instruments across Africa. SVTP intends to leverage these regional agreements to expand Malawi's markets resulting from increased production. However, for Malawi to fully benefit from these regional agreements, it needs to put in place legislation and regulations that enable the free flow of goods, capital and information across borders; create competitive business environments that can boost productivity and investment; and promote increased foreign competition and foreign direct investment that can raise productivity and innovation by domestic firms.

## B. Sectoral and Institutional Context

10. Agriculture is the main source of Malawi's economic activity, representing about 30 percent of GDP, 85 percent of employment, and over 80 percent of total export earnings. The agricultural sector has experienced intermittent periods of strong growth and decline over the last decades. Total cultivated land in Malawi is approximately 5.3 million hectares (ha), of which over 95 percent is rain fed. The agricultural sector is dualistic, comprising the smallholder subsector (2.7 million households) and the (private) estate subsector (approximately 30,000 farms). Subsistence farming is practiced on approximately 4.2 million hectares, cultivating small and fragmented parcels of land held under customary land tenure, from which 75 percent of the agricultural output of the country, predominantly maize, is produced. Over 70 percent of all the farmers cultivate less than one hectare and a significant number struggle to produce enough food to meet even their own basic consumption requirements. Because of climate change, rainy seasons will grow shorter, potentially leading to more frequent failures in crop production, which in turn has significant implications for future food security and suggests that current rainfed agricultural systems may not be sustainable in the long run.

11. Agricultural expansion has reached its limits as an increasing number of fragile catchments are cultivated, often on hillsides, resulting in high erosion, rapid loss of soil fertility, and siltation of water courses. Climate change is exacerbating this situation. In the plains, agricultural intensification has taken place primarily along riverbanks and in wetlands. This has devastated natural habitats, exacerbated downstream flooding, and increased the exposure to weather shocks. It is estimated that average annual asset losses due to floods amount to US\$46 million. Southern Malawi, including Nsanje and Chikwawa Districts, has suffered multiple years of acute food insecurity in the past five years due to flooding in 2016, 2019, and 2022 and dry spells in the 2019-20 and 2020-2021 production seasons. Past climatic shocks, such as Cyclones Idai (2019) and Ana (2022), increased the depth of poverty in Chikwawa and Nsanje Districts. A recent analysis of country risk from floods and drought also shows these same two districts to be the most vulnerable in terms of asset and wellbeing risks. Chikwawa and Nsanje Districts are also very vulnerable to droughts. Mostly drought tolerant crops, such as millet and sorghum, are grown, but even these crops often fail and many people in the two districts rely on food handouts. Climate change scenarios indicate increasing climate variability, higher temperatures, longer dry periods, and more erratic and intense rainfall events. Increased flood events will



exacerbate soil erosion and land degradation. Floods and droughts will negatively impact food production and cause food insecurity and increased poverty, which in turn adds pressure on the natural resources base. The current and expected shocks coupled with limited irrigation, weak land tenure security, limited access to farm inputs and finance, and weak linkages to markets contribute to low productivity and high vulnerability and limit agricultural intensification.

**12. Scaling up access to irrigation services for enhanced agricultural production, crop diversification, and resilience to climate change is a core government priority.** In 2015, the Government adopted an Irrigation Master Plan (IMP), which provides priorities for different business lines in irrigated agriculture. Agricultural intensification and diversification through irrigation development is an integral part of the IMP as irrigation is known to support food security, rural income generation, and rural poverty reduction. To date, about 145,000 ha or less than 36 percent of the 408,000 ha of potential irrigable land identified in the IMP have been developed for irrigation, with the developed area about equally divided between public schemes for smallholders and private estates. Most of the potentially irrigable land in the IMP lies in the plains along the shores of Lake Malawi and the Lower Shire Valley, as these are the areas with particularly fertile soils and adequate water resources for the development of irrigated agriculture. Malawi has also launched a long-term 2063 Vision, which promotes increased agricultural productivity and commercialization.

**13. The agronomic potential in the Shire Valley is enormous with abundant water resources and fertile soils, but government has struggled to unlock this potential.** There is a young and abundant workforce and good proximity to internal and regional markets, with the center of the valley area about 1.5 hour travel time to Blantyre. Connectivity with Mozambique and the Indian Ocean is mainly by road, and the Governments of Malawi and Mozambique are constructing new tarmac roads to link the two countries. It is expected that railroad connections from Blantyre to Nacala and Beira will become fully functional in the next few years. There are positive experiences with smallholder outgrowers, in particular for sugarcane cultivation on consolidated blocks of land, which could be replicated for other crops. Despite these promises as an attractive development area, the challenge for the government has been that development at scale would be expensive and technically difficult and require substantial longer term capital investments. Intensive and commercial agriculture would require land consolidation to deliver benefits and would have to utilize modern irrigation and climate-smart agriculture technologies, while ensuring the conservation of the forests, landscapes, and unique biodiversity in the Valley, including protected areas, forest reserves, and the Elephant Marsh (Ramsar site).<sup>2</sup>

**14. Malawi has established the regulatory environment for customary land registration, piloted implementation, and is now preparing for nation-wide rollout.** The way land tenure systems are defined and governed and how smallholders perceive tenure security guide their investment decisions. Greater security of tenure encourages better land management and investment in carbon capture, e.g., through better soil management and planting of woodlots. In 2016, the government passed ten new land-related acts that fundamentally modify the status and registration of land rights in the country, provide for the formalization and registration of customary rights (Customary Land Act or CLA), introduce decentralized land administration, and strengthen the position of women.<sup>3</sup> Some of these have undergone amendments in April 2022 to address shortfalls observed during the pilot phase. The

<sup>2</sup> The Ramsar Convention on Wetlands of International Importance is an international treaty for the conservation and sustainable use of wetlands. The convention was signed in 1971 in the city of Ramsar in Iran.

<sup>3</sup> The Land Act; Customary Land Act; Physical Planning Act; Land Survey Act; Registered Land (Amendment) Act; and Land Acquisition and Compensation (Amendment) Act. In addition, the Local Government (Amendment) Act; Forestry (Amendment) Act; and Public Roads (Amendment) Act are important for the transformation of the Shire Valley.



“Customary Estates Certificate” has become a formal land tenure document available to individuals, groups, and corporate entities. Since 2017, the Ministry of Lands (MoL) has prepared subsidiary legislation, established the Land Reform Implementation Unit (LRIU), and developed detailed guidance for systematic registration of customary land in a highly participatory and gender sensitive way, which includes conflict prevention and dispute resolution, and conforms to global good practice.<sup>4</sup> Following extensive piloting, MoL is now rolling out the approach all over Malawi.

**15. SVTP-1 is investing in the adjudication, demarcation, and registration of smallholders' customary rights and tenure security, facilitating investment in commercial agriculture, and mitigating risks of land speculation and disputes.** The MoL has completed smallholders' customary land registration process for over 43,000 parcels totalling 20,732 ha in the Phase 1 area and will complete this work under SVTP-1 in 2023 for the Phase 2 area.<sup>5</sup> SVTP-1 has not encountered problems with implementation of the 2016 land acts. The physical land use plan for Chikwawa District is complete and the one for Nsanje District will be prepared by the end of 2022 (also under SVTP-1). All group village land use plans for the Phase 1 area in five traditional land management areas (TLMA) are already in place, while village land use planning for Phase 2 area will also be completed in 2022. Village land use planning facilitates sustainable management of the village commons (forest, grazing areas, dryland agricultural reserves), contributes to enhancing resilience of terrestrial and aquatic ecosystems, and reduces the risk of environmental degradation and pollution.

**16. Gender is a core element in the Customary Land Act and the land registration approach.** The CLA ensures that women are part of decision-making and determines that women should constitute at least 50 percent of the Customary Land Committee (CLC) members. The application of a systematic approach for land demarcation ensures that all women-owned parcels are included. The procedure used also informs explicitly on the option of joint titling (adding partner and children) although a woman is free to register a parcel in her own name or only add her children. Recruitment of staff, communication and training programs are gender sensitive, focusing on issues relevant to women. An important characteristic of Malawi's land tenure system is the co-existence of matrilineal and patrilineal inheritance systems. Despite this, there are distinct gender inequalities in agricultural work. While females are found to be most active in agricultural work and decision making, males typically continue to oversee all financial undertakings for both farm produce and livestock. While irrigation has the potential to benefit women through improving access to disposable incomes and services such as water provision, it can also impact them adversely by increasing their workload as irrigated agriculture is more time-consuming, especially when there is double cropping.

**17. Access to irrigation services will not improve productivity in the Shire Valley without simultaneously enhancing access to improved agricultural practices, including mechanization, that create the necessary incentives for farmers to shift to commercial agriculture.** To achieve that, several sector issues and bottlenecks have to be addressed, including vulnerability to poor management of land, water, and soils; low access to finance and quality farm inputs; limited farm organization; and weak linkages to markets. Increasing productivity calls for diversified systems that are more resilient and, therefore, can avert and recover from frequent extreme weather events. It is important to support climate adaptation by building resilience against adverse climatic conditions among the farming community through irrigation and climate smart agriculture, including sustainable land management practices that enhance carbon and moisture retention in soils, zero tilling, where feasible, and integrated pest management.

<sup>4</sup> With financial support from the Agricultural Commercialization Project (AgCom – P158434), which also supported six pilots and the development of the Land Information Management System (LIMS).

<sup>5</sup> Phase 1 area is the Program area between the intake at Kapichira Dam and the northern boundary of Lengwe National Park. Irrigation will be supplied from the main canal with a length of 52 km. Phase 2 area is the area from the northern boundary of Lengwe National Park to Bangula. Irrigation will be supplied from the main canal with a length of about 70 km. See map at the end of the document.



**18. Agricultural commercialization has to benefit from improved access to local, national, and regional markets.**

Improving access to markets can incentivize farmers and increase agricultural productivity. Agricultural rural markets in the Shire Valley are under-developed and there is inadequate infrastructure for efficient agricultural marketing that have inhibited farmers' efficiency and competitiveness in both local and international markets. Value addition in the agricultural sector is also constrained by a weak business and investment climate. There are opportunities to address these issues as a well-functioning irrigation scheme should attract agri-businesses and private finance and there exist transport linkages with Blantyre, neighboring countries, and ports in Mozambique.

**19. Loss of forest cover and land degradation in Malawi's most important watersheds has reached alarming levels, with significant impacts on water security, agricultural productivity, and hydropower generation.**

Land degradation in the region is driven in large part by small-scale agriculture expansion, biomass energy use, unsustainable forest management, land tenure insecurity, and demographic pressures. Second only to the energy sector, change in land use, particularly deforestation, was the second largest contributor to greenhouse gas (GHG) emissions (8.5 of 26.9 CO<sub>2</sub>e in 2018).<sup>6</sup> The resultant soil loss and nutrient depletion reduces the productivity of agriculture by increasing the necessity for fertilizers, among other inputs. An average of 20 tons of soil per hectare every year is estimated to be lost in Malawi, as sediments move downstream into rivers and reservoirs, and altering the ecology of these receiving systems and often increasing the risk of destructive floods. Irrigation canals, fisheries, and hydropower generation are all affected by the high loads of sediment deposited in riverbeds, reservoirs, floodplains, and river wetlands. The recent damage at Kapichira demonstrated the sensitivity of the Shire River reservoirs to floods and sedimentation, as the high amount of sediment deposited in the reservoir contributed to limiting flood management capacity. Ensuring the sustainability and resilience of the natural resource base on which agriculture and forestry depend, particularly soil and water, is critical for resilient development. Investing in integrated watershed management is a key aspect of Malawi's development agenda, as outlined in the National Forest Landscape Restoration Strategy.

**20. The Shire River Basin is a prominent hotspot of land degradation and a high poverty area.** The expected population growth in Malawi will increase demand for agricultural land and wood fuels, while limited knowledge and insecure land tenure constrains the incentives for farmers to implement sustainable land and forest management practices. More than half of the forests and woodlands have vanished from Malawi over the last 40 years, however those remaining provide a substantial contribution to livelihoods and the economy. Forests provide a range of ecosystem services, such as GHG mitigation, watershed regulation, climate regulation, soil and water conservation, biodiversity support, and nutrient cycling. In addition, they also provide socio-economic services such as tourism, medicinal, and food and nutritional security. Weak institutional capacity for natural resource management, lack of funding in local government budgets, and poor monitoring and enforcement has constrained efforts to reverse the concerning land and forest degradation trends. Furthermore, an expected increase in climate variability, higher temperatures, more extended dry periods, and more erratic and intense rainfall events, are likely to increase the severity of the problem in the coming years and decades.

**21. Integrated watershed management is critical to achieve the country's development goals.** The Government of Malawi developed the National Forest Landscape Restoration Strategy in 2017 to guide the investments in landscape restoration as a national priority and committed to restoring 4.5 million ha of the degraded landscapes by 2030 (Bonn Challenge). Measures such as conservation agriculture, farmer-managed natural regeneration, and

<sup>6</sup> <https://www.climatewatchdata.org/data-explorer/historical-emissions?historical-emissions-data-sources=cait&historical-emissions-gases=all-ghg&historical-emissions-regions>All%20Selected&historical-emissions-sectors=total-including-lucf&page=1>



natural forest management are all expected to contribute to the restoration goal. The World Bank supported "Shire River Basin Management Program – Phase 1" (P117617) demonstrated promising results by rehabilitating approximately 36,000 ha in the four degraded catchments. In 2020, the Malawi Watershed Services Improvement Project (MWASIP, P167860) was initiated to finance the restoration of approximately 95,000 ha in the Middle and Upper Shire Basin in support of the government's landscape restoration efforts. Furthermore, the Malawi Resilience and Disaster Risk Management Project (P161392) is supporting activities in agriculture production resilience, flood and drought risk management, and food security. There is a need to protect the remaining forests, protected areas, and biodiversity hotspots in the Lower Shire through strengthened management of natural resources.

**22. The Lower Shire Valley contains some of the most important natural resources in Malawi, which provide global public goods, such as biodiversity, climate stabilization, and nationally significant ecosystem services.** The natural resources in the area play a critical role in contributing to the resilience of local communities, by providing goods and ecosystem services to the local population, such as freshwater, food, construction material, medicinal products, and wood fuel. Despite their socioeconomic and environmental value, the protected areas and forest reserves face several challenges to their long-term integrity and sustainability and there is a need to strengthen existing management capacity and explore alternative management arrangements. The recent experiences of SVTP-1 have highlighted the significance of improving natural resource management to realize the long-term transformational ambition of the valley and protecting valuable forests and biodiversity will enable the landscape to remain productive for the long-term. SVTP-1 is assisting in the enhancement of management of protected areas, forest reserves, and the Elephant Marsh. SVTP-2 will build on this by encouraging long-term funding for the management of the Lower Shire's natural resource base and biodiversity, which will ensure the sustainability of community livelihoods and the ecosystem services on which they rely.

**23. Climate change will increase prominent environmental stressors and make reducing poverty and boosting inclusive growth in Malawi more difficult.** Natural disasters, such as extreme weather and recurring floods and droughts, put economic growth and people's livelihoods at risk, and add strain to environmental resources and ecosystem services. Deforestation and watershed degradation, related to widespread small-scale agriculture, demand for wood fuel and charcoal, land tenure insecurity, and demographic pressures, has reduced availability and quality of the water resources in Malawi and increased sedimentation in rivers and reservoirs. The damage to the SVTP-1 supported infrastructure caused by tropical storm Ana has brought the focus on building resilient infrastructure. All infrastructure designs will be reviewed to ensure resilience and to minimize the chance of damage when the irrigation and drainage system is under operation.

### C. Relevance to Higher Level Objectives

**24. The proposed project is aligned with the Malawi Country Partnership Framework for the period FY21-25 (Report No. 154505-MW) discussed by the Board on May 4, 2021.** The CPF focuses on bolstering foundations for growth and accountability, promoting private sector-led jobs and livelihoods, and strengthening human capital development. Considering that agricultural transformation is a central pillar of Malawi's 2063 Vision, greater agriculture diversification and commercialization is a key focus under the CPF and will contribute to growth and promote jobs and livelihoods. The proposed SVTP-2 is aligned with CPF Focus Area 2 – Promoting Private Sector-led Jobs and Livelihoods that targets key short- and long-term strategies for boosting job creation and fostering sustainable livelihoods. Focus Area 2 incorporates objectives for food security through climate-smart agriculture and environmental stability through integrated water and landscape management as laid out in the World Bank Group's



(WBG) Africa Climate Business Plan. In addition, the CPF will continue to assist Malawi to deliver on its commitments under the African Union's Malabo Declaration for agricultural transformation, in particular on open access to markets and promoting youth engagement in agriculture value chains. The proposed project responds to this by developing irrigation systems to support commercial agriculture and agribusiness and improving regional trade, while enhancing resilience to droughts and floods. The strengthening of commercial agriculture will in turn be a main driver for the job creation agenda. The CPF stresses that climate shock risks remain substantial and highlights the need for the CPF to further enhance WBG support to climate adaptation, prevention, and preparedness. There will be close cooperation and collaboration with relevant ongoing projects, such as the Agricultural Commercialization Project (AGCOM, P158434), Malawi Watershed Services improvement project (MWASIP, P167860), Financial Inclusion and Entrepreneurship Scaling Project (FInES, P168577), Southern Africa Trade and Connectivity Project (P164847), and Southern Africa Trade and Transport Facilitation project (P145566), as well as upcoming policy dialogue and analysis that will look at jobs and economic transformation, starting in agribusiness.<sup>7</sup>

**25. SVTP is a long-term development Program that follows the World Bank's Green, Resilient, and Inclusive Development (GRID) framework to bring development progress to Malawi, fueled by sustainable job creation and economic transformation, and supported by the private sector.** SVTP will play a role in resilient use of land and water resources as well as climate change mitigation and adaptation by increasing the access to gravity-based irrigation and reducing the dependency on pumping irrigation water. It will also support the World Bank's twin goals of reducing poverty and promoting shared prosperity in two of the poorest districts in Malawi by providing year-round employment opportunities to a large part of the population in the two Program districts and beyond. The Program unlocks opportunities for modern, efficient, and competitive irrigation and agriculture practices, which is also an important objective of GRID.

**26. MW2063 is the current government's vision and strategic path for an inclusively wealthy and self-reliant nation.** It is anchored on three key pillars, namely Agriculture Productivity and Commercialization, Industrialization, and Urbanization. The attainment of these three pillars will be catalyzed by seven enablers, namely Mindset Change, Effective Governance System, Public Sector Performance, Private Sector Dynamism, Human Capital Development, Economic Infrastructure, and Environmental Sustainability. MW2063's vision for agricultural transformation is a shift from low productivity and subsistence-oriented agriculture to a highly productive and commercialized agriculture system with manufacturing linkages through investments in value addition and agro-processing that will provide employment opportunities for the country's youthful population. Recent assessments show that about 22 percent of the nation's youth aged 15-24 are neither employed, studying, or training, and approximately 27 percent of those with a job are underemployed. MW2063 mentions that investment in sustainable irrigation systems and technologies as well as approaches to averting adverse climatic variability will be prioritized. New technologies and expertise will be required to ensure sustained and resilient crop diversification and productivity. MW2063 also recognizes that improving agricultural productivity and commercialization will require the strategic transformation of land tenure systems, including conducive laws and regulations governing land acquisition, ownership, and utilization, as well as a shift to climate smart agriculture technologies. Other policies with which the project is aligned by promoting climate resilience and increased irrigation and agricultural productivity are the first MW2063 Implementation Plan (MIP-1) (2021-2030), the National Resilience Strategy (NRS) (2018-2030), and National Climate Change Management Policy (2016). In particular, MIP-1's pillar one - agricultural productivity and commercialization and pillar two -

<sup>7</sup> Especially AGCOM Project is closely related to SVTP. It supports commercialization directly through the establishment of productive alliances of smallholder groups seeking to diversify production into high-value commercial crops and off-takers. It also supports land tenure activities.



industrialization aim at enhancing community resilience to climate change and increasing land under irrigation and productivity for improved livelihoods. Also, according to the updated National Determined Contributions (2021), Malawi aims to focus on soil conservation measures within agriculture, which includes conservation tillage and crop residue and rotation practices. Also, for forestry and other land use, afforestation (protective forests), agroforestry (wood, fruit and fodder) and sustainable forest management have been stated as key areas of intervention which have been incorporated in the project design. The project support will also align with the strategy outlined in the National Biodiversity Strategy and action plan (2015-2025) to build institutional capacity, manage biodiversity, and increase forest cover.

## II. PROJECT DESCRIPTION

### A. Project Development Objective

#### PDO Statement

27. The Project Development Objective (PDO) is to develop irrigated commercial agriculture and strengthen the management of natural resources in the Program area.

#### PDO Level Indicators

- Area that can be supplied with gravity-fed bulk irrigation water (ha, divided in existing and new),
- Membership of Smallholder Owned Commercial Farm Enterprises (SOCFE) (number of members, disaggregated by gender),
- Female representation in various committees, including SOCFEs and CLCs (percentage),
- Customary estates brought under irrigated commercial crops (ha),
- Annual sale value of crops that are cultivated by SOCFEs (US\$).
- Conservation areas under improved management, as measured by the Management Effectiveness Tracking Tool (METT), and
- Satisfaction with benefits of the Program (percentage).

### B. Project Components

28. **SVTP is a 14-year Program supported by a Series of Projects (SoP) with three sequential but partially overlapping projects (see Figure 1 on the next page).** The scale and complexity of the development challenges in the Shire Valley can only be effectively addressed through an integrated multi-sector approach. The Program is structured around four coordinated pillars: (i) providing reliable, professionally managed, and sustainably financed irrigation service to a number of irrigators in a phased construction of an irrigation and drainage scheme; (ii) supporting farmer organizations within a comprehensive land use plan, and supporting land tenure strengthening and voluntary consolidation; (iii) establishing and investing in smallholder-owned commercial farm enterprises transitioning into commercial agriculture from subsistence farming and integrating them into commercial value chains; and (iv) natural resources management in and around the Program area. These four pillars are expected to increase the beneficiaries' capacity to respond to ever-increasing drought and floods. The Program aims at providing irrigation to over 43,000 ha through the phased construction of a new gravity-fed irrigation scheme that will supply surface water to over

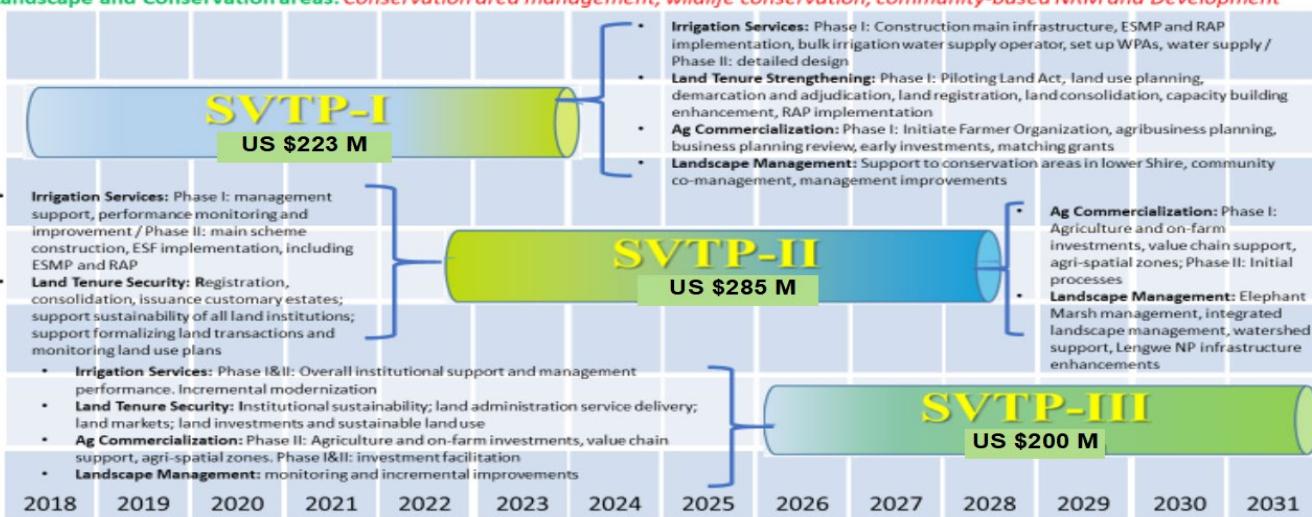


27,600 ha of agricultural land presently under rainfed cultivation, creating agricultural development opportunities in the fertile valley, as well as approximately 15,700 ha of existing irrigation areas that currently use electric pumps to abstract water from the Shire River (see Map at the end of this document). In case one or more existing irrigation schemes opt out from drawing water from SVTP's gravity canal, additional new lands can be developed, mostly on the right bank of the main canal in the Nsanje District.

FIGURE 1 - INVESTMENT PROGRAM PHASING

**Program Focus Areas:**

- **Irrigation Services:** Irrigation and drainage infrastructure, professional operation, environmental integration
- **Land Tenure Strengthening and Security:** Integrated land use planning, participatory land registration, consolidation and administration
- **Ag Commercialization:** Farmer organization, agriculture cluster and value chain development, investment facilitation, production support
- **Landscape and Conservation areas:** Conservation area management, wildlife conservation, community-based NRM and Development



29. The vision of the transformational impact of the Program incorporates the maintenance and strengthening of the vital natural capital in the Shire Valley for green growth and climate resilience. SVTP-2's adaption strategy is to continue the development of a large irrigation scheme with a reliable water source that will overcome the recurrent drought conditions in the valley. Particular attention will be paid under Components 1 and 3 to design resilient infrastructure that not only addresses drought issues, but also protects the irrigation scheme against flooding. Improved land tenure (Component 2) will be a precondition for project-intended outcomes to occur, such as resilience through irrigation development and adoption of CSA practices. In addition, the importance of the ecosystem services for the resource dependent vulnerable communities cannot be overstated, especially during periods of climate shocks and economic stress. The catchments of the surrounding Program area have been substantially degraded, with increased erosion and silt generation affecting downstream water flows. Although studies undertaken for SVTP have shown that the necessary water for the irrigation scheme can be obtained sustainably from the Kapichira Reservoir, maintaining a healthy ecosystem and related watershed services in the surrounding catchments requires initiatives to promote sustainable use of the remaining natural resources in the valley, including in the forest reserves and the protected areas. Global Environment Facility (GEF) funding under SVTP-1 is supporting the responsible government agencies in strengthening the management of these protected areas and forest reserves. SVTP-2 will, through Component 4, take a broader approach to support the rich ecosystem of the Shire Valley by reducing the harm and pollution that can come from cumulative risks related to the development of the target region, such as invasive



species, accumulation of waste products, and increased use of pesticides. Studies will be conducted to ascertain the financially sustainable and lasting management of these valuable resources. Project interventions will continue and expand ongoing efforts initiated under SVTP-1 to strengthen the management of the protected areas, forest reserves, and biodiversity hotspots, including Lengwe National Park, Matandwe Forest Reserve, Thambani Forest Reserve, Mwabvi Wildlife Reserve, and Elephant Marsh. Innovative options for sustainable financing instruments for natural resources management (NRM), including performance-based grants (PBG) and carbon credits, will leverage community and private sector engagement for improved management of the resources.

**30. The ongoing SVTP-1 is financed by US\$160 million from IDA, US\$50 million from the African Development Bank (AfDB, including grants from the OPEC Fund for International Development and the Nigeria Trust Fund), US\$5.59 million from the GEF, and about US\$7.4 million equivalent from the Government of Malawi.** SVTP-1 became effective on March 21, 2018, and the current closing date is December 31, 2023. SVTP-1 has initiated the process on all four pillars with a focus on irrigation scheme development to eventually serve about 22,000 ha (including about 10,000 ha new irrigation area), securing land tenure, farmer and agriculture block organization, and natural resources management. There is a careful sequencing of activities. Infrastructure development and land tenure activities (SVTP-1 Components 1 and 2) are prerequisite for the development of commercial agriculture (Component 3). The main canal infrastructure (intake and 52 km of main canal) is under construction, with a planned completion date at the end of December 2023. Secondary canal/pipeline systems in the Phase 1 area have been designed and will be contracted during quarter 3 of 2022.<sup>8</sup> While not investing heavily yet in areas of agricultural commercialization and investment promotion, SVTP-1 focuses on sensitization of landowners, district land use planning, village land use planning, registration of customary land in the irrigation blocks and establishment of district registries for both Phase 1 and 2 areas, identification of consolidated parcels of lands for Phase 1 area, and crop and irrigation method selection. It is expected that SVTP-1 will substantially complete the development of about five blocks in order for commercial agriculture to start towards the closing date of the project.

**31. The proposed focus of SVTP-2 will continue to be on infrastructure development, completing land tenure formalization and strengthening district land administration and planning institutions, and natural resources management, as well as development of agricultural modernization and commercialization, including private sector and value chain support.** SVTP-2 will have the following components, some of which are similar to SVTP-1: Component 1 - Irrigation Infrastructure Development and Service Provision; Component 2 - Land Tenure and Consolidation; Component 3 - Agriculture Development and Commercialization; Component 4 – Strengthening Landscape and Natural Resources Management; Component 5 – Project Management and Coordination; and Component 6 - Contingent Emergency Response. SVTP-2 will continue to work in the Phase 1 area, in particular with remaining secondary canal/pipeline construction and agriculture block development. SVTP-2 will also expand the geographical coverage further south into the Shire Valley where about 21,000 ha will benefit from new or improved irrigation and commercial agricultural practices, including 17,500 ha of newly developed irrigation area.

**32. The total SVTP-2 cost is estimated at US\$285 million, initially to be supported with an IDA credit of US\$134 million from IDA-19 (see Table 1 on next page).** The GoM has indicated its commitment to prioritize the mobilization of the balance of US\$91 million as counterpart financing in the first years of the Program, including with the support of development partners, in parallel with the processing of the proposed AfDB financing. GoM and the AfDB have agreed that the AfDB will support SVTP-2 with US\$50 million, to be used for the construction of the main irrigation infrastructure under Component 1, similar to the agreement under SVTP-1. The AfDB funds are likely to be approved

<sup>8</sup> Depending on the topography, secondaries can either be constructed as open canals or closed pipelines.



in 2023. Until such funds are approved and effective, IDA funds will be used for the construction of the section of the main canal in Lengwe National Park. In the event that AfDB funds do not get approved and/or the remaining balance is not filled, the tail-end portion of the main canal and some secondary canals/pipelines under Component 1 and some agricultural blocks at the tail end of the Program area under Component 3 would not be constructed and SVTP-2 would require a restructuring. The exact length of the main canal section and number of secondary canals and agricultural blocks that would in such case not be financed under SVTP-2 can only be determined during implementation when contracts have been awarded. Commercial financing for the development of marketing and processing facilities is estimated at US\$10 million.

**Table 1 - Project Cost and Financing (US\$ million)**

Component	Total costs	IDA	Private sector	GoM	AfDB
1. Irrigation Infrastructure Development and Service Provision	150	52		48	50
2. Land Tenure and Consolidation	15	15		0	
3. Agriculture Development and Commercialization	85	36	10	39	
4. Strengthening Landscape and Natural Resources Management	20	20		0	
5. Program Management and Coordination	15	11		4	
6. Contingent Emergency Response	0	0		0	
<b>Total Program Costs</b>	<b>285</b>	<b>134</b>	<b>10</b>	<b>91</b>	<b>50</b>

*Component 1 – Irrigation Infrastructure Development and Service Provision (US\$150 million, including US\$52 million IDA equivalent, with remaining funds expected from AfDB (US\$50 million) and other sources mobilized by GoM (US\$48 million))*

33. **SVTP-2 will expand on the infrastructure developed under SVTP-1.** SVTP-1 is developing the intake with a capacity of 50 cubic meters per second ( $m^3/sec$ ), 52 km of the main canal from Kapichira Reservoir to Lengwe National Park, and secondary canals/pipelines that will either serve newly developed agricultural blocks or connect existing irrigation estates/schemes with the main canal. In addition, drains, roads, flood protection bunds, and domestic water supply systems are developed. All these developments are led by the Department of Irrigation (DoI). SVTP-2 will continue the development of secondaries in the Phase 1 area so that all 14 consolidated agricultural blocks that have been identified with a total area of over 10,000 ha will be under full cultivation by the end of SVTP-2. Designs of secondaries in the Phase 1 Program area have been completed and tendering is planned for the 2<sup>nd</sup> half of 2022, so that construction of secondaries that cannot be financed under SVTP-1 can commence immediately after effectiveness of SVTP-2.

34. **SVTP-2 will finance the construction of the remaining 70 km of main canal, starting at the northern boundary of Lengwe National Park to the Bangula area in Nsanje District, and a number of secondary canals/pipelines.** This section of the main canal will eventually supply water to about 21,000 ha (including some 17,500 ha of new irrigation) in the Phase 2 area, which comprises the agricultural blocks south of Lengwe National Park. The development will be led by the DoI, but consultants have been hired under SVTP-1 to prepare the detailed designs and tender documents for the 70 km main canal section. The full design will be completed before the end of 2022 but designs of part of the canal system will be completed well before that. The first 14 km of this section of the main canal will pass through Lengwe National Park. The design and approach to construction will need careful consideration to ensure that the canal will not compound flooding and hamper the restoration of the park to favorable



conservation status and will minimize impacts to critical habitat. It is proposed that because of the construction of the canal in a sensitive nature area, a separate contract will be awarded for the construction of the canal in Lengwe. The component will finance the construction of a number of secondary canals/pipelines in the Phase 2 area, with the number depending on the available funds for development of agriculture blocks and secondary canals/pipelines, as well as drainage and flood protection works and service and access roads. The component will finance the implementation of safeguards measures as described in the Environmental and Social Impacts Assessment (ESIA) and Environmental and Social Management Plan (ESMP), in particular related to canal construction through Lengwe National Park. SVTP-2 will also finance up to US\$5 million for cash resettlement compensation for people affected by the construction of the canal system and related infrastructure (e.g. roads). The component will finance required consulting services for remaining detailed design services, including secondary canals/pipelines in the Phase 2 area, and construction supervision and quality assurance. Adequate office accommodation will be constructed in Lilongwe for DoI and the Special Purpose Vehicle (SPV). The SPV will on behalf of GoM own, regulate, and monitor the performance of the operator and the condition of the irrigation and drainage infrastructure. Options for the structure of the SPV are currently being developed and establishment is expected by the end of 2022.

**35. The outlet of Lake Malawi is controlled by Kamuzu Barrage at Liwonde, which makes the Shire River a very reliable all-year round river.** The barrage was recently refurbished under the Shire River Basin Management Project to better manage the flow in the Shire River. Maximum water use efficiency is aimed for by lining irrigation canals, where possible using pipes for the secondaries, having some form of autonomous control, the level of which will be decided in close cooperation with the system operator, and using efficient irrigation methods such as center pivots and sprinklers at block level. The fact that SOCFeS will be charged for water use is an added incentive for efficient water use. SVTP is not intended to develop irrigation for every farmer to use through water users associations (WUA), which often results in institutional issues and low water use efficiency in large irrigation schemes. Instead, there will be a limited number of water users as the agricultural blocks will be irrigated as one large unit and will be managed by qualified professional staff who will also manage the relationship with the private operator (for more details see description of Component 3). There are already successful examples of such professionally managed consolidated schemes in the Program area (e.g. Phata and Kasinthula) and almost all farmers that are within areas of future blocks would like to have a similar development and management structure.<sup>9</sup>

**36. The main and secondary irrigation system, drains, and roads will be operated and maintained by a private operator.** The Public Private Partnership Commission (PPPC) is leading the recruitment process of the operator, which is currently ongoing under SVTP-1, with support of the International Finance Corporation (IFC) as transaction advisor to the PPPC. A shortlist of qualified operators was developed, and the Request for Proposals (RfP) was issued in December 2021. Submission of technical and financial proposals was postponed due to the recent damages caused by Tropical Storm Ana and the need for adjustment to the technical description in the RfP. The tender is expected to restart in September 2022, when the design of the infrastructure will be completed, and a firm plan will be in place

<sup>9</sup> Different pathways are available, including the consolidated block with professional farm management; a combination of having part of the block as a consolidated block and part leased to outside individuals and/or agri-business companies to generate revenue; a Joint-Venture Enterprise where the entire block will be farmed by a corporate enterprise; or a smallholder irrigation scheme with WUAs. All interactions with farmers in potential blocks, going back to the preparation of SVTP-1, indicate that there is no interest in developing individual land parcels and the preferred model is the consolidated block with professional farm management. However, other pathways remain as options. Each pathway has the option that a small part of the block is used for specific small farmer operated household food production plots of about 0.1 ha. This is a good farmer risk reduction strategy while the commercial SOCFeS commence operations.



for the reconstruction of the intake. The operator is likely to be selected in early 2023. A lot of attention is paid to ensure the sustainability of scheme operation and maintenance (O&M) which requires sufficient funds to come in from the water users. It is expected that from the start of operation, existing estates and schemes will contribute sufficient O&M funds. A key anchor water user is expected to be Illovo, a private sugar company that currently pumps water from the Shire River to irrigate over 10,000 ha. Illovo supports the objectives of the SVTP and it is expected that an irrigation water purchase agreement (IWPA) will be agreed and signed before the end of 2022. Contractual arrangements will be discussed and agreed with all other future water users, including existing consolidated smallholder schemes such as Kasinthula and Phata that currently pump water from the Shire River, also to be confirmed through IWPA's. The operator will deliver bulk water into night storage reservoirs at the boundaries of agricultural blocks, where measurements will take place. Each water user will pay its proportional share of the O&M budget of the operator, as well as the cost of the SPV. Crop budgets show that O&M is not a large part of the variable costs to agriculture and are affordable by the commercial farms that will receive water from the irrigation system. O&M financing risks are assessed to be manageable, but in the event that one or more of the existing irrigators will not participate in the scheme, SVTP-2 could finance part of the private operator's O&M costs of the irrigation scheme during the first few years of operation until such time that enough existing irrigation areas and new agricultural blocks contribute to the O&M expenses. In order to utilize freed up water, additional areas could be developed on the right bank of the main canal. The ESMP requires the operator to implement Environment, Social, Health, and Safety (ESHS) systems in line with ISO14001 (Environmental Management) and ISO45001 (Occupational Health and Safety), and appropriate ESHS specifications will be included in the operator's agreement. Under SVTP-2 the performance of the private operator, including the performance standards, will be carefully monitored by the SPV and Dol, and as needed, mutually agreed changes may be made to ensure the long-term viable and sustainable operation of the scheme. The component will also support limited post-graduate training of irrigation engineers for advancement and sustainability of the irrigation sector. The O&M of the irrigation infrastructure in the agricultural blocks will be undertaken by the management team with the support of qualified skilled and unskilled labor, all of whom are employed by the SOCCE.

*Component 2 – Land Tenure and Consolidation (US\$15 million IDA equivalent)*

**37. All farmed agricultural land under customary tenure within the Program area will be formally registered using a gender sensitive approach, e.g. ensuring joint titling and training that include issues that are of concern to women.** Most agricultural land in Malawi farmed by smallholders is held under customary systems, either patrilineal, matrilineal, or mixed, and governed by traditional authorities (male or female). The chieftaincy hierarchy builds up from the village chief, via the Group Village Headman (GVH) to Traditional Authority who is in charge of a Traditional Land Management Area. Only in GVHs and TLMA's gazetted by the Ministry of Local government (MoLG) will land administration institutions be established. As already indicated, the CLA mandates that women constitute at least 50 percent of the members of the Customary Land Committee, a condition that was met in the Phase 1 area under SVTP-1. Recruitment of staff, communication, and training programs are also gender sensitive and are monitored by MoL. SVTP-1 results for the Phase 1 area show that 27,039 parcels (63 percent of the 43,000 registered parcels) are registered in the name of women (sole or co-owner), while 50 percent of the project staff involved in community land administration is female. The same gender sensitive approach to land registration will be pursued for the Phase 2 area. SVTP-2 will also focus on anchoring the gender sensitive approach in the institutional strengthening and gender disaggregated monitoring of land governance, including transactions, inheritance, and disputes. The project will also institutionalize gender sensitive training and capacity building of district staff, including land clerks and registrars.

**38. District land registries will keep the record of all registered land parcels and shares in consolidated customary estate, and register follow up transactions or updates.** SVTP-2 will complete any outstanding demarcation



and registration work that cannot be completed under SVTP-1, as well as on-demand issuance of consolidated customary estates. SVTP-2 will also continue to support the functioning and renewal of CLC and land tribunals and will institutionalize the land dispute monitoring system set up under SVTP-1. All land records (or “customary estate”) and cadastral maps produced under SVTP-1 and SVTP-2 will be kept and maintained in electronic format at the district land registry and in a national land information database (supported by AGCOM). In addition, hard copies of land records will be kept at district land registry offices. The land registry will also keep the cadastral map and record of all individual land parcel sizes forming a consolidated customary estate (equivalent to the size of the land parcel(s) contributed by a member to the consolidated customary estate).<sup>10</sup> Land records and shares can be printed upon request of landholders.

**39. Contribution of a parcel to the consolidated customary estate will not involve a legal transfer of property rights.** A share in a consolidated customary estate offers the same level of legal security to the holder as an individual customary estate (registered land parcel). The SOCCE will lease land from the consolidated customary estate, a decision that will be taken by the shareholders of the consolidated customary estate. This two-level process will ensure that land cannot be caught up in confiscation in case the SOCCE is unable to repay loans. Every share corresponds to the demarcated land parcel. Participation in a consolidated customary estate is voluntary. Those who do not want to participate can “opt out” and will be fully compensated with land of comparable value (using procedures already established as part of the Resettlement Policy Framework (RPF)). An individual customary estate as well as a share in a consolidated customary estate are transferable (e.g., inheritance, lease). The two district land registries for the overall SVTP area (Chikwawa and Nsanje) will be established under SVTP-1 and use the Land Information Management System being developed by MoL with support from AGCOM Project.

**40. SVTP-2 will support strengthening and capacity building of land administration and land use planning institutions within the Chikwawa and Nsanje Districts.** The sustainability of the district land registry and the land clerks is related to progress with the devolution process and transfer of the responsibility for land administration and planning to the MoLG, which will become responsible for budget and staffing. SVTP-2 will: (i) consolidate the two district land registries in collaboration with MoL and MoLG; (ii) train and mentor land registrars, land clerks and other staff engaged in land use planning, in land record maintenance and transactions, and support to land institutions (land tribunals, CLC); and (iii) support information and communication campaigns on formalizing land transactions and keeping information on land records and land shares updated. SVTP-2 will consolidate and institutionalize monitoring and accountability systems to track emerging land markets, including for shares in consolidated customary estates and based on gender disaggregated administrative and management data, which were started under SVTP-1. SVTP-2 will also continue and consolidate surveys to assess landholders’ awareness of rights and procedures; assess knowledge and accessibility and affordability of land administration and planning services, options for using e-governance; and assess sustainability (including financial). SVTP-2 will assist MoL and MoLG to draw lessons for national level rolling out of customary land registration and land use planning.

**41. SVTP-2 will complete any outstanding land use planning, support monitoring and updating land use management in response to the changes resulting from the operationalization of the irrigation scheme.** SVTP-1 will complete the Nsanje District Physical Development Plan, urbanization plans for both districts, and all group village land use plans in the Phase 2 area. The new irrigation scheme will become operational in 2024, which will bring land use changes with new opportunities. SVTP-2 will assist the districts and the villages to assess changes, update their land use plans, if needed, and monitor compliance. SVTP-2 will also support updating of district physical development

<sup>10</sup> Ownership of an “individual” share is equal to the rights recorded for each parcel (single or jointly owned).



plans and other emerging land use planning related activities in the two districts following the expansion of the agricultural development and commercialization. While updating the various plans, district and villages will be assisted to take climate change into consideration. Water availability in sections of planning areas will be taken into account to plan appropriate uses. Land use planning will also put special emphasis on measures to reduce deforestation, for example by introducing sustainable charcoal production.

*Component 3 – Agriculture Development and Commercialization (US\$85 million, including US\$36 million IDA equivalent and US\$10 million commercial financing, with remaining funds expected from other sources mobilized by GoM (US\$39 million))*

42. **This component will aim to improve productivity and agriculture commercialization for 30 Smallholder Owned Commercial Farm Enterprises cultivating roughly 21,000 ha of land in the Program area.** This will result in sustainable increases in the quantity and value of agricultural output from the area, as well as substantial increase in income for the smallholder farmers. Component 3 will have three closely related sub-components that will to a large extent be implemented in parallel: (i) agricultural cluster development and stakeholder coordination (US\$13 million) that will finance establishment of agriculture clusters to improve market access and coordination of actors; (ii) smallholder farmer mobilization and SOCFE capacity building (US\$14 million) which will finance the technical assistance, training and mentoring required to enable the smallholders to engage in commercial agricultural production; and (iii) agricultural block capital investment and operational support (US\$48 million IDA plus US\$10 million private finance) to finance the capital items and initial operational expenses of each SOCFE to enable irrigated agriculture to take place. The project will recruit service providers to build farmer capacity to run and manage the irrigated blocks and associated activities and set up of SOCFE management, as well as support the acquisition of equipment and implementation of matching grants.<sup>11</sup> The SVTP-2 will finance mainly downstream agribusiness activities and some elements of the upstream investments, but this will depend on private sector interest as identified in the cluster development plans.

43. **Agriculture blocks are a necessary pre-condition to enable both the physical investment in the land to transform it into irrigated land and for the development of the SOCFEs as viable businesses.** SVTP-1 has so far focused on sensitization meetings in 96 villages, involving 11,962 landowners, including 6,596 women, in the Phase 1 area. The implementation of the component under SVTP-1 is done by various departments in the Ministry of Agriculture (MoA), with close support of specialists of the Project Management Team (PMT). Fourteen consolidated agricultural blocks of land have been identified in the Phase 1 area, with size ranging from 300 to 1,600 ha and totaling about 11,000 ha. SVTP-1 has so far formed 14 SOCFEs, of which five have already been registered as cooperatives. Membership of the consolidated customary estates will be voluntary and opting out is possible and compensated. Dissolution of the enterprises will be possible, with a return of the share of the land that was brought in. The process of developing these blocks has been modest to date, but implementation of the agriculture development will accelerate in SVTP-2. There will be intensive professional support provided to SOCFEs to assist and support their transformation from consolidated blocks of land owned by smallholders to professionally operated and profitable commercial irrigation farms. It is expected that at least five SOCFEs will be able to commence production in 2024.

<sup>11</sup> An agriculture cluster is defined as a concentration of producers, agribusinesses and institutions that are engaged in the same agricultural or agro-industrial subsector, and interconnect and build value networks when addressing common challenges and pursuing common opportunities (FAO, 2010 -Agro-based clusters in developing countries – Staying Competitive in a globalized economy).



44. **Agriculture Cluster Development and Stakeholder coordination (US\$13 million). SVTP-2 will finance establishment of agriculture clusters to improve market access and coordination of actors.** The SVTP-2 will provide financial support for the establishment of the agriculture clusters. This approach will be adopted under the project to address several market failures, which include: (i) inadequate integration of actors; (ii) information asymmetries; (iii) inadequate rural infrastructure (e.g. roads and electricity); (iv) limited access to finance in agriculture value chain; and (v) coordination failures amongst stakeholders. The cluster approach will improve coordination amongst various actors working in the valley and promote joint action in value chain development using a market-oriented approach. The evidence gathered from Asia, Latin America and Africa shows that the introduction of the clusters has proven to assist cluster entrepreneurs to overcome barriers to growth by increasing their collective efficiency and helping. The project will engage a firm or individual consultant (with clear ToRs) to coordinate both internally and externally implementation of cluster activities and also act as a vehicle to lobby government to review and formulate policy incentives. The clusters will comprise members from the private and public sector, upstream and downstream actors, aggregators/traders, processors, academia, civil society organizations operating in the area, and farmer representatives from a farmer apex body that will be formed under the project. Although this approach is being implemented for the first time in Malawi, lessons learnt from the region (Zimbabwe, Tanzania), Asia, and Latin America will be key to implement a successful cluster approach.

45. **The project will finance the development of public-private stakeholder platforms for the clusters which will convene regularly, develop a vision, map out issues that foster development, set out priorities, and develop strategies for the development of value chains.** The introduction of public-private stakeholder platforms will assist the prospective entrepreneurs and producers to overcome barriers to growth by increasing their collective efficiency and helping them to access new markets. The platforms will be responsible for carrying out annual market demand studies to quantify the demand for the various value chains being promoted. The clusters will also be responsible for creating business platforms/meeting points for producers, off-takers, small and medium entrepreneurs and processors to establish a long-lasting relationship. Experience from the implementation of AGCOM has shown that the creation of platforms has helped to bring together producer organizations, off-takers, and financial institutions. The platforms will be managed by a cluster development consultant and the PMT.

46. **SVTP-2 will have diversification to commercially viable crops as a major priority in planning for agriculture block operation.** The project will start with crops that are not too perishable and have ready off-takers, such as soya bean, lentil, edible beans, sesame, cotton, mangoes, and onions and move to higher value perishable crops as SOCFEs gain experience and markets and processing facilities develop. The government will also take advantage of the extended market opportunities created by AfCFTA and SADC to expand the markets for value chains developed under the project.

47. **IFC will support the private sector to encourage greater participation in the SVTP.** Agribusiness remains a strategic focus sector for IFC in Malawi with the aim of supporting crop diversification and commercialization to create jobs and improve food security. The development of the agricultural value chains in the region is expected to attract companies looking to expand their farming operations as well as agro-processors who seek to integrate their supply chain by expanding into primary agriculture. IFC will support these companies across all stages of the process from feasibility studies and pilot projects (Upstream), provide access to financing facilities (Investment), and advice on best practices around agronomy, commercialization, and supply chain (Advisory).

48. **Smallholder Farmer Mobilization and SOCFE Capacity Building (US\$14 million). SVTP-2 will finance the capacity building of around 30 new (to be established during SVTP-2 implementation) and 14 SVTP-1 SOCFEs**



**through recruitment of service providers, consolidating and registering land into customary estates, preparation of business plans, and coordination of production.** SVTP-2 will support farmer mobilization in all identified farmed land that has been demarcated and registered, including women and youth, to participate in project activities and subsequently establish the SOCFEs. This will result in the formation and operation of professionally managed irrigated commercial farms owned by smallholders. The project will commence activities with five SOCFEs established and registered as cooperatives under SVTP-1 that are changing from subsistence to commercial farming. This will give an opportunity to the unregistered SOCFEs to learn from these SOCFEs. This approach worked very well for Phata Scheme in the area which started with a small group of farmers, but as slow adopters appreciated the successes, more farmers joined the scheme.

49. **The subcomponent will finance the recruitment of Specialist Service Providers (SP) for each SOCFE to link them to off-takers and agricultural clusters, assist the farmers to produce goods that satisfy market standards and value addition, and strengthen institutional capacity of SOCFEs through preparation of technically and financially viable SOCFE business plans.** The recruitment of Service Providers under AGCOM for each producer organization has proved effective in assisting farmers to prepare business plans and access matching grants in a timely manner. Under SVTP-2, business plans will be prepared within the first 12 months of the SOCFE formation. Service Providers will support SOCFEs with decisions on viable and preferred crops based on quantifiable market demand from cluster market studies, irrigation methods, capital and operational costs, etc., that will culminate in a business plan.

50. **The SPs will be responsible for the identification of commercial partners/off-takers to provide technical advice, training and mentoring on the essentials of farm business management such as agronomy, crop husbandry, value chain development services, and marketing to enable SOCFEs to function as viable and profitable commercial farms.** Further, the SPs will help the SOCFEs in the establishment of organizational and governance structures, obtaining a legal status and farm investment planning; financing for equipment and production costs; and identification and contact with possible markets/off-takers. All SOCFEs will receive training and capacity building to enhance their skills in basic accounting and financial management, governance, business plan management, procurement, and leadership training. Public sector entities, such as extension and training and research organizations, are expected to provide support to SOCFEs, as needed. It is also foreseen that there will be a need for study of the induced demand for specialist personal technical services (farm management, agricultural engineering, mechanics, agronomy, etc.) and methods to ensure this demand can be met.

51. ***Agricultural Block Capital Investments and Operational Support (US\$48 million plus US\$10 million private financing).* The project will provide funds to support SOCFEs with the implementation of business plans.** The investments will be enabled through access to matching grants by the SOCFEs. This will include irrigation systems (including surface, sprinkler, center pivot, drip, or microjet), farm equipment (fixed and moveable), buildings, basic infrastructure, including roads and electricity connections, and initial production and management support at SOCFE level. Matching grants will be made available to lower the investment costs to be paid by SOCFEs, while private finance leveraged in value chain development is expected to be available as well. The SOCFEs will be connected to the Malawi Agricultural and Industrial Investment Corporation that works with existing commercial banks and financial institutions to access working capital at affordable interest rates.<sup>12</sup> Discussions with several commercial banks and other financial institutions have shown serious interest in providing finance to SOCFEs, similar to successful loans to Phata and Kasinthula. SOCFEs will receive a 90 percent grant for irrigation development and roads, 70 percent for

<sup>12</sup> Malawi Agricultural and Industrial Investment Corporation is a Government of Malawi, autonomous, sustainable and private sector development finance entity established in March 2018 to act as a source of capital for underserved sectors, including agriculture.



fixed farm assets, 50 percent for moveable assets and production and management support. The balance will be provided by the SOCFEs through cash contributions from bank loans or own savings to instill a sense of ownership. This approach has worked very well under the AGCOM project with 151 productive alliances that mobilized over US\$2.1 million to cover their own cash requirements. To assist SOCFEs access financing to match their cash requirement, the SOCFEs will also be linked with the World Bank financed FInEs project which has a Partial Credit Guarantee Fund to allow them access loans at reduced interest rates.<sup>13</sup> FInES project can link the SOCFEs to the banking system to access loans with more favorable terms. The project, through the SPs, will also help the SOCFEs to sign formal purchase contracts with buyers, which will be used to serve as collateral against which commercial banks will provide operating capital in subsequent years to sustain implementation of the SOCFE activities.

52. **The Southern Africa Trade and Transport Facilitation Project provides financing to support improvements to some of Malawi's road infrastructure, border posts, and border management systems to enhance access to seaports and ultimately to reduce trade and transport costs for agricultural exports and regional imports.** Similarly, Southern Africa Trade and Connectivity Project aims at reducing trade costs and time, improve road safety, and increase value chain development in targeted corridors of Malawi and Mozambique. SVTP will collaborate with these projects to ensure that expected increased volume of products can be transported to markets in the country and abroad.

53. **The project will finance the recruitment of an expert team of independent evaluators to assess business plans prepared by SOCFEs.** The Investment Assessment Panel (IAP) will consist of a commercial financier, at least two private agribusiness representatives, an irrigation agronomist, and a project representative (Project's Agribusiness Specialist or an alternate). This approach has been tested under the AGCOM project and has been successfully implemented. The IAP will be responsible for evaluating the business proposals, which will be the basis on which the project grants will be awarded.

54. **The project will finance the development of agricultural farming models that will adopt climate resilient technologies and promote alternate crops to protect farmers from frequent extreme weather (floods and droughts) and market shocks.** The project will promote adoption of climate smart agriculture technologies, cultivation of crops with lower GHG emission, feed improvement practices for livestock sector (mainly feeding livestock in animal houses), improved soil health management, and reduced postharvest losses. Climate resilient technologies would not only include irrigation systems with greater water use efficiency, but also application of conservation agriculture. This would provide greater soil carbon capture and reduced energy use. There is also potential to use solar energy for required irrigation water pressurization. There is need for investment in research in areas such as soil management, pests and diseases management, improved seed varieties, and development of climate smart technologies. The lessons that will be gained from successfully implementing these models will be scaled up in SVTP-3 to increase agriculture productivity, improve farmer income, and enhance food security in the Program area.

55. **Key natural resources are under threat from overexploitation, habitat encroachment, as well as pollution and solid waste mismanagement practices in the Program area, with a lot of unregulated waste dumping and burning, including hazardous waste disposal.** As the Lower Shire transforms and the generation of waste increases, there is a necessity to prepare the services for the communities and private enterprises to manage pollution and comply with environmental regulations. Studies will be conducted to determine mechanisms and strategies for management of the threats to biodiversity and ecological values posed by invasive species, increased generation of

<sup>13</sup> Financial Inclusion and Entrepreneurship Scaling Project.



waste, and increased demand for natural resources that is expected to occur throughout the transformation of the valley.

**56. According to ILO, the agricultural sector presents key challenges for safety and health of farmers and communities.** Measures to safeguard community health, for example through providing the necessary infrastructure to identify and prepare for an increase in the number of waterborne diseases, will be included in SVTP-2. Resource efficiency and safety considerations will be considered as part of the advice provided to the SOCFEs by SPs, and measures to ensure the training, personal protective equipment (PPE) and processes for the safe transport, storage, use and disposal of farm chemicals in accordance with the principles established in the Pesticide Management Plan (PMP) will be incorporated into commercialisation of the farm management processes, and provided by commercial farm managers.

*Component 4 – Strengthening Landscape and Natural Resources Management (US\$20 million IDA equivalent)*

**57. The Shire Valley includes ecological regions, protected areas, forest reserves, and biodiversity hotspots, which are essential to the maintenance and functioning of the Lower Shire watershed.** However, critical aspects of the watersheds are becoming degraded, leading to reduced water availability, deteriorating water quality, increasing sedimentation and vulnerability to droughts and floods, and reducing agricultural productivity. Part of the damage caused by floods and droughts can be reduced by improved land management practices that increase the water holding capacity of soils, reduce runoff, reduce the siltation of rivers and streams, and protect natural catchments such as wetlands. SVTP-1 is assisting in the enhancement of management of protected areas, forest reserves, and the Elephant Marsh. SVTP-2 will build on this by encouraging long-term funding for the management of the Lower Shire's natural resource base, ensuring the sustainability of community livelihoods and the ecosystem services on which they rely. Project activities will contribute to increasing vegetation cover, improving or preserving existing carbon pools in the watershed, and mitigating the impacts of floods. The planned project activities will strengthen the management and sustainability of key protected areas (Lengwe, Mwabvi), the Elephant Marsh, and forest reserves (Matandwe, Thambani). Despite the investments under SVTP-1, there remains an infrastructure deficit in the protected areas and forest reserves to ensure effective management, monitoring, and enforcement. Development of nature trails/roads, ranger camps, fences, water holes, and utilities are among the proposed works to be financed under SVTP-2. Accompanying these proposed investments will be community livelihoods interventions in the areas around the protected areas and forest reserves to strengthen co-management and reduce direct threats to aquatic and terrestrial biodiversity, such as overfishing, invasive species, waste, and habitat destruction. Importantly, SVTP-2 will continue strengthening the management of the Elephant Marsh, which provides a unique habitat sanctuary to flora and fauna, through the implementation of its Community Conservation Area Management Plan (developed under SVTP-1), including through further promoting ecosystem-based fisheries management.

**58. Deforestation has had a tremendous impact on the landscape of the Lower Shire.** The proposed activities will provide support to the GoM's 2016 commitment to place 4.5 million hectares of degraded and deforested land under restoration by 2030 in support of the Bonn Challenge. Proposed activities will promote private sector engagement and investment in the sustainable management of the remaining forest reserves and degraded forest areas through awareness raising and capacity building, as well as performance-based grants and payments (carbon credits), in order to shift toward ensuring sustainable financing of the management of the remaining forests. These activities are expected to result in the establishment of approximately 10,000 ha of forests by project closing. The activities will raise awareness and capacity also of the SOCFEs to engage in forestry management, natural regeneration, restoration of plantations, and commercialization of forest products to promote sustainable value



chains and forest management practices. As a key climate change mitigation action, the rehabilitation of degraded forests and planting of new forests will increase the rate and quantity of carbon sequestration.

*Component 5 – Project Management and Coordination (US\$15 million, including US\$11 million IDA equivalent, with remaining funds expected from other sources mobilized by GoM (US\$4 million))*

59. **SVTP-2 will provide funding for the PMT that was established during Program preparation and also managed and coordinated activities under SVTP-1.** Project funds will provide for consulting and technical advisory services, training, acquisition of goods and vehicles, and financing of the operating costs. This will allow the PMT to provide day-to-day management and coordination, monitoring and evaluation, communication, and management of safeguard related issues, including the grievance redress mechanism. The PMT is already staffed with qualified and competent specialists. It will be strengthened for SVTP-2 with a Gender Specialist and an Irrigation Engineer with construction supervision experience. One Forest Specialist will be recruited to support enhancements to the project's work in forest restoration, conservation, and plantation establishment under Component 4. Regular reviews of the staffing will be conducted, and additional staff will be added, as needed, for a satisfactory implementation of the project. The PMT will also participate in relevant meetings to discuss broader Shire watershed issues and disseminate relevant project information.

*Component 6 – Contingent Emergency Response (US\$0)*

60. **Following an eligible crisis or emergency, the Recipient may request IDA to re-allocate project funds to support emergency response and reconstruction.** This component would draw from the uncommitted credit resources under the project from other project components to cover emergency response. For the Contingent Emergency Response Component (CERC) to be activated, and financing to be provided, the Government will need to: (i) submit a request letter for CERC activation and the evidence required to determine eligibility of the emergency, as defined in the CERC Annex to the Project Implementation Manual (PIM); (ii) prepare an Emergency Action Plan, including the emergency expenditures to be financed; and (iii) meet the environmental and social requirements as agreed in the Environmental and Social Commitment Plan and CERC Annex.

## C. Project Beneficiaries

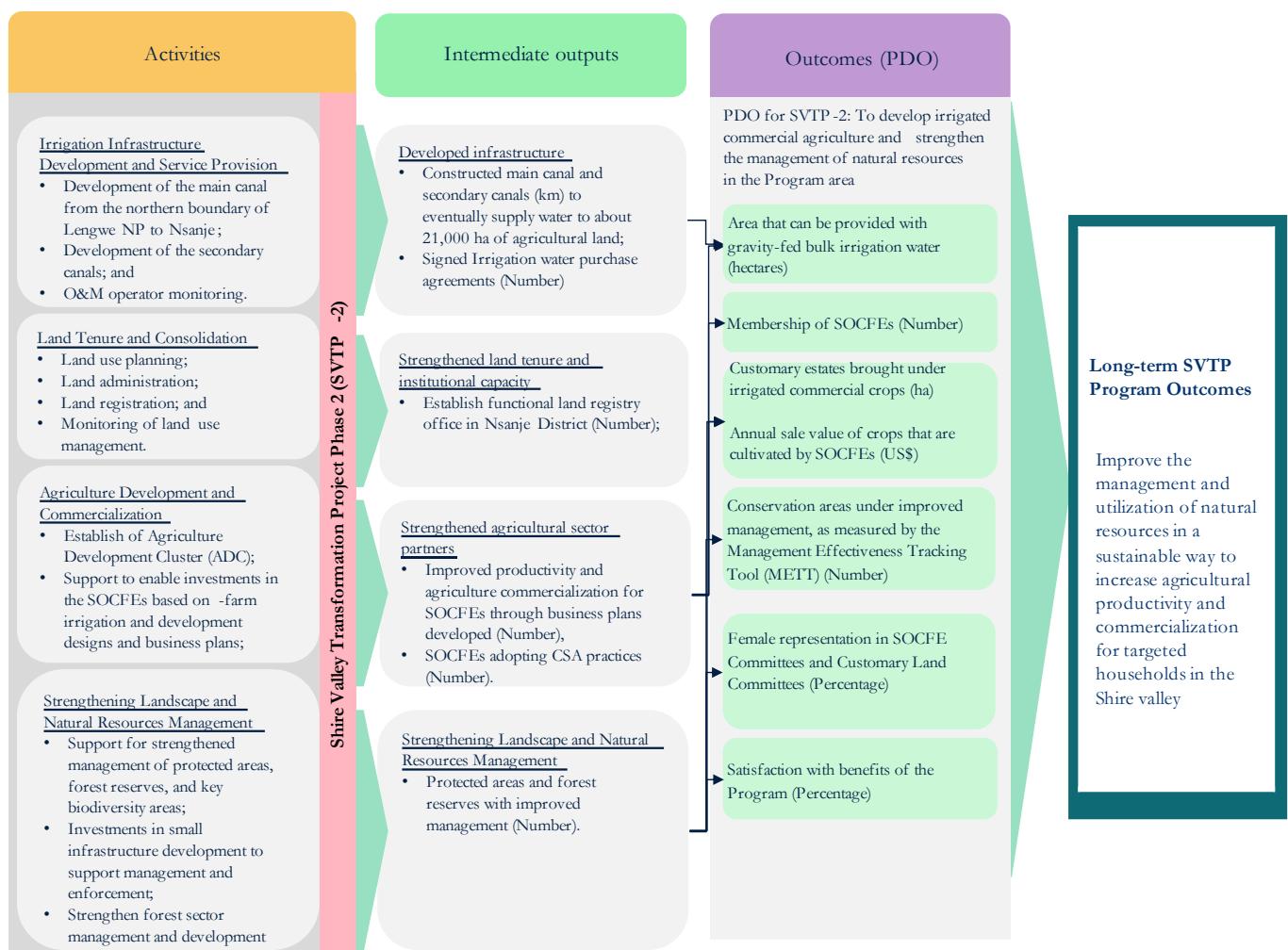
61. **The primary beneficiaries of the SVTP were identified at the start of SVTP-1 implementation. They are smallholder farmers in the targeted districts of Chikwawa and Nsanje.** The estimated population in the Program area is 223,000 people in 48,400 households. Of these, 95,000 people are residing in 21,000 households in the Phase 1 area and 128,000 people in 27,400 households in the Phase 2 area. Seventy percent of farmers own less than 2 ha, and the average is around 0.8 ha/farmer. Farming communities have been extensively consulted on the Program and have expressed strong interest. However, farmers living in the footprint of the SVTP will have the chance to opt in or out of the Program in a participatory approach that provides detailed information on Program benefits and requirements. There will be particular focus on the participation of women and female-headed households who comprise about 24 percent of total households. Smallholders will benefit through access to irrigated agriculture, secure land and water tenure, farm organization, agriculture (including aquaculture and livestock) production and marketing support, through improved public and private advisory services, and access to financial services and value chain enhancement through support to value-chain enterprises. Formalized farmer groups will become clients to the irrigation services and partner with service providers and off-takers in commercial agricultural production. Given that



the project will seek to promote diversification to crops other than sugar, additional beneficiaries include other commercial agro-processing enterprises, traders, and private advisory services. Support for community engagement in the management of forests, wetlands, and protected areas will also generate livelihood benefits for local communities. Interventions will benefit communities and key actors in protected area management and sustainable forest value chains. The project will benefit national, district, and community-level institutions by providing essential tools, knowledge, and strengthening their capacity to continue investing in sustainable landscape management beyond the project period.

## D. Results Chain

**FIGURE 2 – THEORY OF CHANGE**





## E. Rationale for Bank Involvement and Role of Partners

62. **The World Bank has been a long-standing and valued partner in Malawi's water, agriculture, and environment sectors, supporting vital investments in critical irrigation infrastructure, agriculture and development, natural resources management, and disaster risk management.** The proposed project will build upon and leverage the World Bank's deep familiarity and involvement in these sectors. Through its various resilience enhancing operations, the World Bank is taking a leading role to promote coherence and complementarity of support across agencies. This project will complement ongoing or proposed World Bank operations as follows: (i) AGCOM; (ii) Mpatamanga Hydropower Project (P165704, planned) – SVTP will support the strengthened management of the Elephant Marsh, a vital biodiversity hotspot; (iii) Emergency Power Restoration Project (P178914, planned) – SVTP will support the restoration of storage capacity; (iv) Malawi Watershed Services Improvement Project (P167860, ongoing) – SVTP will complement support for watershed management institutions at the project area level; and (v) Malawi Social Support for Resilient Livelihoods Project (P169198, ongoing) – SVTP will complement the livelihoods investments and enhanced public works activities under this project. Malawi's multiple investments in the Shire-based hydraulic infrastructures and landscape restoration and protection measures require initiatives on strengthening capacity, cross-sector coordination, and strategic planning. The World Bank will liaise with development partners, e.g., AfDB and GEF, that are interested in supporting project implementation. It will also use its convening power at the national and project level to engage the many local and international non-governmental organizations (NGOs) that are supporting forestry and agriculture interventions in Malawi.

## F. Lessons Learned and Reflected in the Project Design

63. **Land tenure activities under SVTP-1 focused mainly on setting up the institutions and finetuning the procedures for first-time, systematic registration of customary land and registration of 20,732 ha (43,000 parcels) up to end 2021, and another 20,000 ha planned for 2022.** The assistance of MoL's Land Reform Implementation Unit was crucial for achieving these impressive results under SVTP-1 and ensuring the legality of the process. It also confirmed that clarification of agricultural leaseholds, the location of public lands, and land use planning is necessary to prevent overlapping claims. The SVTP experience was useful for and provided lessons on better understanding of and ways for addressing sensitivities and fears at the community level (distrust in government intentions, fear of land grabs due to Illovo legacy, conflicts with and between traditional authorities, including TLMA boundary disputes), importance of a fully transparent registration process, and awareness that latent disputes will emerge and have to be addressed during the registration process and monitored afterwards.

64. **Key lessons from SVTP-1 and other projects attempting to enable smallholders involved in non-irrigated low input/low output agriculture to become successful commercial irrigation farm owners include:** (i) considerable time and effort is needed in the social formation process of developing clusters of farmers into enterprises; (ii) smallholders need sustained training and mentoring over an extended period to achieve the levels of knowledge and acumen to be successful farm business owners and operators; (iii) the process of forming viable clusters with trusted mutually beneficial agreements and operations requires sustained support over several years; (iv) continued viable operation of newly formed enterprises needs considerable support, including training and mentoring, especially in management and facilitating market linkages; (v) farmers will in many cases make significant modifications to their production systems as they gain experience with production and markets. The implication is that investment in irrigation systems needs to maintain sufficient flexibility to enable changes without large incremental costs; and (vi) loan servicing to commercial banks by smallholder owned commercial farms can be highly successful. The key to this



is the production of viable business plans that are fully understood and owned by the smallholders as well as being acceptable to the banks.

### **III. IMPLEMENTATION ARRANGEMENTS**

#### **A. Institutional and Implementation Arrangements**

**65. Implementation will be led by the Ministry of Agriculture, through the Department of Irrigation. A Project Management Team in MoA, based in Blantyre, will be responsible for all day-to-day management and coordination needs under the project, including fiduciary, safeguards, and monitoring and evaluation (M&E).** The PMT is already established and staffed with competitively recruited experts, including heads for each component. The environment and social heads will be provided with additional staff, as needed, to ensure that there is capacity to respond to the increased work under SVTP-2 that will for some time overlap with SVTP-1. PMT will be supported by technical assistance for design, construction supervision, and quality assurance, M&E, and other services, as needed. All project operational modalities are detailed in the project implementation manual, with Gantt charts, flow charts, responsibilities, etc. Component heads will be responsible for comprehensive management, liaison and coordination of the respective pillar, under the guidance of the project coordinator. The SVTP has four major complementary implementation modalities, all of which are coordinated by the PMT. This recognizes the unique and complementary nature of each pillar of the Program, on irrigation development, on land tenure, on agricultural development, and on NRM. The Program is designed to bring these together in one logical pathway and under one umbrella implementation and coordination mechanism at the Program level.

**66. Whereas project implementation arrangements are streamlined through the PMT, the Program has many inroads to various sectors and their respective government agencies.** Collaboration between the agencies is governed by a joint memorandum of understanding (MoU) that was prepared for SVTP-1, but will remain valid for SVTP-2 as well. This MoU spells out objectives, specific role of each stakeholder, and the requirement to mainstream and provide staff time for implementation, knowledge management, and overall support. A Project Steering Committee (PSC) (at principal secretary level) and a Project Technical Committee (PTC) (at director level) have been established for SVTP-1. These committees are meeting on a regular basis to guide and advise on SVTP-1 project implementation and will continue to do so for SVTP-2.

**67. For the land tenure component, the coordination arrangements developed between MoL and PMT under SVTP-1 functioned well and will be continued under SVTP-2.** A similar arrangement will be developed with the MoLG for the district land registries. SVTP-1 benefitted from the AGCOM Project, e.g., the development of software and workflows for recording land rights information and boundaries, the design of the Land Information Management System, and the piloting of the entire business process in six sites, which made it possible for SVTP-1 to go to scale in 2020. This support from the AGCOM project will not be available to SVTP-2 and may have to be procured if not available through MoL. SVTP-2 will also need support from highly qualified local TA to design and supervise the consolidation and institutionalization of the district land administration, land use management, capacity building, and monitoring tools. Under SVTP-1, this expertise was obtained through the LRIU. The current mandate of the LRIU will expire in May 2023. In case MoL decides to renew the LRIU, SVTP-2 will continue to work with the LRIU. The advantage of working through the LRIU is the direct link with MoL management. If the LRIU will not be continued and no alternative arrangement can be set up with MoL, PMT will have to recruit the required technical assistance, including



a Land Administration/Resettlement Action Plan Specialist, Land Survey/GIS Specialist, Land Information Management System Specialist, and Land Use Planning Specialist.

68. **Natural Resources Management.** A sub-committee was set up under SVTP-1 constituting members directly involved with biodiversity and management of natural habitats, including Department of National Parks and Wildlife (DNPW); Department of Forestry (DoF); Environmental Affairs Department (EAD), and Department of Fisheries (DoFi). The sub-committee will continue to coordinate and provide technical review to cross-agency tasks such as basin-wide ecological surveys, biodiversity knowledge products, and strengthening coordination of management and enforcement between protected areas within the Program area. DNPW will lead the project activities within the national parks and the Elephant Marsh, in close collaboration with EAD, DoF, and DoFi. DoF will lead the project activities in the forest areas and reserves. The implementation of the project activities will be supported by advisors as need arises and these will be managed by the PMT, focusing on protected area management and community participation.

## B. Results Monitoring and Evaluation Arrangements

69. **The project will expand on the existing M&E system developed under SVTP-1 to monitor results, as well as inputs and processes.** The PMT will participate in the data collection and evaluation to strengthen monitoring and verification of results throughout project implementation. Data collection of progress and results will be conducted at the field level, using a combination of field visits, mobile-based reporting with geo-tagged photos, unmanned aerial vehicle surveys, remote sensing, and satellite imagery. The project design includes detailed biophysical and ecological monitoring to assess the ecological status throughout project area, track impacts, and inform adaptive management and design. Furthermore, the project will build evidence for conservation and landscape management decision making by conducting impact evaluations of the effectiveness and impact of the community support in the Program area.

## C. Sustainability

70. **Institutional Sustainability.** Sustainability of public large-scale irrigation is a major concern, which has been an important focus from project identification onwards. This has been reflected in: (i) a phased modular approach; (ii) professional (private sector) management of the main infrastructure under a performance management contract; (iii) organization and engagement of farmers critical to long term financial and institutional sustainability; (iv) full management, operation and maintenance (MOM) cost recovery and accountability mechanisms; (v) an inclusive commercial agriculture approach; (vi) upfront securing of land tenure to ensure equity in benefit sharing for farming households; and (vii) recognizing and facilitating transitional processes from subsistence farming to commercial production in a longer-term program.

71. **Technical Sustainability** of the scheme is addressed by ensuring that the physical infrastructure is of good technical design, resilient to natural disasters, and good construction and operational standards, with a focus on low O&M cost requirements.

72. **Environmental Sustainability** is addressed through careful consideration of the water resources availability and mitigation of potentially harmful impacts, a focus on land use planning beyond the immediate irrigation area, and multiple uses of the water including addressing environmental sustainability needs in the conservation areas of the



Shire Valley.<sup>14</sup> In sensitive ecosystems, protected areas, and forest reserves, additional measures are incorporated to make the necessary infrastructure wildlife-friendly and where possible to restore ecosystem functions and services.

73. **Social Sustainability.** The project addresses a major social focus on poverty reduction and jobs, particularly in rural disaster-prone areas. It is expected that the investments provide livelihood opportunities for youth and the poor in the short term, during construction where focus is on local employment where possible, and obviously longer-term livelihoods improvements. The project has a gender and youth strategy and supports land tenure security and natural resources management, which are key for social sustainability. Special care will be taken to avoid elite and male capture of the land and productive assets.

74. **Financial and Economic Sustainability.** The economic and financial analysis demonstrates financial viability at farm and SOCFE level, as well as economic viability of the Program through its agriculture, energy and flood risk management benefits. The analysis also provides the evidence base to support the choice for commercially irrigated production and investments in tenure security. While irrigation projects have high upfront capital costs, and this one is no exception, the agriculture benefits are expected to transform agriculture and the regional economy over decades to come. Beyond the expected growth there is major benefit in averting shocks that trap people in poverty.

75. **Demonstrations of Borrower Commitment** include: (i) GoM's adoption of key principles for Program preparation at identification stage. Subsequent administrations have placed equal priority on development of the Program and allocated staff time and resources to its development; (ii) MoU between all implementing agencies spelling out mutual responsibilities and mandates; (iii) roll out of structured consultations with key stakeholders in the Valley; and (iv) movement toward a water purchase agreement and co-financing by private sector.

## IV. PROJECT APPRAISAL SUMMARY

### A. Technical, Economic and Financial Analysis (if applicable)

#### Technical Analysis

76. **SVTP-2 will contribute to the development of an area with high potential for agriculture.** The agro-ecological potential of the valley is high if water is brought to this area, as demonstrated by existing pumped irrigation in the valley. Any intensification for commercial agriculture in the Shire Valley requires investment in irrigation as it is the part of the country that suffers most from lack of rainfall, making even subsistence rainfed agriculture precarious. Finally, the area is close to Blantyre, the country's largest market and transportation hub and a main transit point for exports.

77. **As part of the irrigation infrastructure developments, SVTP-1 is constructing the intake with 50 m<sup>3</sup>/sec capacity.** The intake, main and secondary irrigation canals/pipelines, drains, and roads will be operated and maintained by a private operator. Full abstraction at the intake is not expected to start before 2030. The peak water requirement of 50 m<sup>3</sup>/sec, including about 32 m<sup>3</sup>/sec 'new' water, is expected to be required in September of each year, when the 80 percent dependable Shire River flow at Chikwawa is around 413 m<sup>3</sup>/sec. The net additional water abstraction from the Shire River will then be, at the most, about eight percent of the 80 percent dependable flow for

<sup>14</sup> These approaches are detailed in the ESIA, ESMP, and PMP.



the entire developed irrigation area during the peak abstraction in the month of September. River flows downstream of Chikwawa do not change much as during the dry season, and 95 percent of the total flow at Chiromo (where the Shire River starts running along the border with Mozambique) is controlled by the upstream basin at Kapichira. The contribution of the intermediary basin is close to nil and the inflow of the Ruo River brings about five percent.

78. **The proposed irrigation area is immediately upstream of the Elephant Marsh.** To avoid deterioration of the water quality in the Shire River, including in the Elephant Marsh, the GoM will require stringent management measures by the agricultural blocks. Such measures include the commercial management of blocks, measures to ensure the training, PPE, and processes for the safe transport, storage, use and disposal of farm chemicals, use of approved chemicals only, and use of biological pesticides. These requirements will be incorporated into farm management plans, in accordance with the principles established in the PMP. Water quality monitoring will take place and along with flora and fauna surveys will enable any changes to water quality at Elephant Marsh be identified. If changes are noted, the project PMP and farm management plans will be reviewed and updated to remove or reduce use of any problem chemicals. This process will be overseen by the Agricultural Development Division based in the districts, whose long-term role as described in the PMP is to supervise and educate farmers on the use of pesticides.

79. **The technical design studies have resulted in a robust design that will be able to supply expected farm models with efficient irrigation methods.** The design parameters include concrete canal lining and where possible pipelines to increase overall water use efficiency and reduce water losses and operation and maintenance costs.

80. **GHG accounting and climate co-benefits.** SVTP will deliver significant climate change mitigation co-benefits. The GHG accounting calculations are based on characteristics in the climatic conditions and the current and planned/predicted land use and crop management practices in the project area. Changes expected to result from SVTP include: (i) improved crop productivity and production with less GHG emissions on a total of 43,000 ha under different crops (resulting from improved agronomic practices, nutrient management and manure application, adoption of improved seeds, etc.); (ii) significant emission reduction benefits are due to more intensive land use and vegetation coverage in the irrigation command area, resulting in an increase in crop intensity from one to two, restoration of forests over approximately 10,000 ha, and the decrease of electricity use to pump water from the Shire River to be replaced by gravitation-led irrigation contributes to a reduction of GHG emissions. The project's economic analysis incorporates the estimates of the GHG emissions generated over the project's economic lifetime (20 years). The estimated net GHG emission attributed to activities under SVTP of the project is -2,451,124 tons of CO<sub>2</sub>e over 20 years, with net annual average emissions of 122,556 tons of CO<sub>2</sub>e. Furthermore, the project will deliver significant climate change adaptation co-benefits through Components 1, 2, 3, and 4 by strengthening the resilience of the farming community and the ecosystems in the Lower Shire to climate shocks (floods and droughts). Component 4 activities will also build the climate resilience of both people and ecosystems, through strengthening key institutions responsible for the management of the protected areas, forest reserves and forest areas, and key biodiversity areas.

### Economic and Financial Analysis

81. **The economic and financial analysis (EFA) confirms the economic justification of SVTP.** The EFA is calculated based on: (i) the incremental benefits generated from improving production and productivity of crops and livestock systems through the development of irrigation systems on an area of about 27,600 ha; (ii) the incremental benefits from sugar cane cultivation on 15,000 ha, mainly due to a shift from pump-based irrigation to more reliable gravity-based irrigation; (iii) environmental co-benefits from more intensive land use and vegetation coverage in the command area, agro-forestry, decreased use of electricity to pump water; these are partially compensated by higher



use of inputs; and (iv) additional economic benefits include flood protection, domestic water supply, national resources management, energy conservation, and economic multiplier benefits. The analysis used a standard cost-benefit methodology, based on estimates derived from with-project (WP) and without-project (WOP) crop or activity models in the target areas. Actual and estimated investment costs of SVTP-1 and SVTP-2 have been taken into account.

82. **A financial analysis of the underlying 12 models for crop and livestock production as well as SOCFE establishment indicate that these are commercially viable.** Regarding irrigation technology, the use of pivots or sprinklers is estimated at US\$2,800 per ha. It does not require land levelling and less investments in field structures. These costs will be financially interesting not only for high-value crops but also for maize.

83. **Overall, the SVTP interventions generate an indicative net present value (NPV) of US\$280.4 million and an economic rate of return (ERR) of 19.3 percent, not accounting for environmental externalities.** These economic results are satisfactory, given that several indirect benefits (such as better public services for the agricultural sector, improved nutrition, etc.) have not been quantified. In addition, these economic results are robust when testing several sensitivity scenarios, including reduced outreach or adoption, delays in implementation, and cost overruns. The valuation of environmental externalities further enhances the economic justification of SVTP. When evaluating environmental benefits using the social price of carbon estimates, the overall economic results of the Program increase to an NPV of US\$329.2 million and an ERR of 21.1 percent (assuming the low CO<sub>2</sub>eq pricing) and to an NPV of US\$378.0 million and an ERR of 22.7 percent (assuming the high CO<sub>2</sub>eq pricing).

84. **SVTP aims to increase exports of raw materials and processed goods resulting from improved production, such as surpluses of pulses, soybeans, soybean oil and cake, cotton lint, sugar, fruits, and vegetables.** Import substitution could include maize flour, fruits and vegetables, pulses, and tomato sauce. Increased exports and import substitution can generate and save the country much-needed foreign exchange. A conservative estimation of the value of the incremental exports and import substitution due to the incremental production, thanks to the SVTP, amounts to US\$95 million per annum.

## B. Fiduciary

85. **Financial Management (FM).** FM arrangements of SVTP-1 have consistently been assessed as Satisfactory with a Moderate risk. The project uses an acceptable accounting software for transaction processing and reporting. The existing designated account is properly managed. The account is reconciled monthly, and expenses from advances reported in the interim financial reports (IFR) and documented in Client Connection after clearance by the World Bank. The reporting covenants covering both IFRs and audited financial statements are being complied with. The quarterly IFRs are being submitted within 45 days from end of each calendar quarter and in agreed format and content. The project's audited financial statements are also submitted within six months from end of fiscal year as required by the both the Malawi Public Financial Management Act and the Financing Agreement. The accompanying management letters indicate that the project is in compliance with FM policies and procedures as detailed in the PIM. This compliance is further confirmed by regular project's transaction reviews conducted by the internal audit department of MoA. The existing arrangements have been assessed as adequate for the FM arrangements of SVTP-2. The software will be reconfigured to incorporate the accounting and reporting requirements for SVTP-2. The SVTP-2 will use the same funds flow arrangements as existing project, but will have a separate designated account. The funds flow for the performance and matching grants will be detailed in the matching grants manual which will be cleared by



the World Bank before the first use of project funds for matching grants. At the minimum: (i) the grantees will open exclusive bank accounts for the project related activities; (ii) have minimum FM arrangements as required by the performance and matching grant manual; and (iii) disbursement will only be done after the prescribed grantee contribution is satisfied. The PMT has FM staff with prerequisite qualifications and experience. The staffing includes qualified and experienced Financial Management Specialist and Assistant Financial Management Specialist, both competitively recruited under SVTP-1 and supported by several accounting staff assigned from government. The PIM will be updated to incorporate the FM requirements of SVTP-2. The proposed FM arrangements for SVTP meet World Bank's minimum requirements in accordance with the Bank Directives and Policy for Investment Project Financing (IPF) and the Bank Guidance on FM in World Bank IPF Operations issued on February 28, 2017.

86. **Procurement Procedures.** The Borrower will carry out procurement under the project in accordance with the World Bank's "Procurement Regulations for IPF Borrowers", dated November 2020 (Procurement Regulations), and the "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants", dated October 15, 2006, and revised in January 2011 and July 1, 2016, and other provisions stipulated in the Financing Agreement.

87. **Procurement implementation arrangements.** Procurement planning, procurement processing, contract management and the related decision-making authority under the project will be carried out by the MoA through the PMT.

88. **Procurement capacity assessment.** The capacity of MoA and PMT was reviewed during project preparation. The conclusion was that even though there are some deficiencies, the MoA and PMT have adequate organizational structures and qualified staff capable of managing and implementing the project. Key risks that could lead to delays in project implementation and/or non-compliance, if not properly mitigated, include: (i) limited knowledge and experience of PMT staff with respect to new features in the World Bank's Procurement Regulations, since SVTP-1 was implemented following Procurement Guidelines; (ii) limited contract management capability that may result in delays and cost overruns; (iii) inadequate record management and (iv) the impact of COVID-19 on supply chains. To mitigate these risks and strengthen the procurement capacity of MoA and PMT, the following measures will be undertaken: (i) maintain qualified and experienced procurement specialists; (ii) provide procurement and contract management training for MoA/PMT staff during project implementation (iii) prepare realistic budgets and cost estimates for procurement activities, which are informed by prevailing market conditions to minimize cost overruns; and (iv) the PIM will include a chapter on procurement consisting of clear rules, step-by-step procedures and responsibilities, timeline requirements for procurement activities, actions and decisions, sample documents and evaluation reports. Based on the findings of the assessment and corresponding mitigating measures laid out in the action plan, the actual procurement risk of the project is therefore rated as Substantial.

89. **Preparation of the Project Procurement Strategy for Development (PPSD).** As required by the Procurement Regulations, the MoA through the PMT has prepared a PPSD that was reviewed and concurred by the Bank. The PPSD sets out market approaches and selection methods to be followed during project implementation. The PPSD also identified optimum procurement strategies on how fit-for-purpose procurement of activities will support project operations for the achievement of project development objectives and deliver Value for Money. Based on the PPSD findings, the MoA has prepared a Procurement Plan for the first 18 months, setting the selection methods to be used in the procurement of goods, works, non-consulting services, and consulting services under the project. The Procurement Plans will be updated at least every 12 months, or as required, to reflect the actual project implementation needs. Each update shall require World Bank approval and will be publicly disclosed in accordance



with the World Bank disclosure policy. The project will use the World Bank's Systematic Tracking of Exchanges in Procurement (STEP) as a primary tool to submit, review, and clear all Procurement Plans; conduct all procurement transactions; monitor delays; and measure procurement performance. The PPSD will be regularly updated during project implementation to provide necessary justifications for procurement arrangements, plans, and updates.

### C. Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	Yes
Projects in Disputed Areas OP 7.60	No

90. **Transboundary Water.** At the request of the GoM, the World Bank sent riparian notification letters on January 24, 2022 to the Governments of all the other Zambezi River Basin countries (Angola, Botswana, Mozambique, Namibia, Tanzania, Zambia, and Zimbabwe), copied to the Zambezi Watercourse Commission (ZAMCOM) Technical Secretariat, since the Shire Basin forms part of the larger Zambezi Basin. This notification and request for comments was a follow up to an earlier notification about SVTP on January 30, 2017 and was done to support good information sharing among the riparian countries in compliance with OP 7.50 on Projects on International Waterways. The World Bank assessed that the project's impacts will not cause appreciable harm to any riparian. Responses were received from Botswana and Zambia, with the request to share the full ESIA, which has since been done, and the suggestion for GoM to use the ZAMCOM procedures for notification of planned measures. The complete Shire Valley Transformation Program was already notified by the GoM to ZAMCOM according to the ZAMCOM procedures on March 30, 2017. The requirements of the World Bank Policy OP/BP 7.50 of notifying the riparian states have therefore been met. The process has been approved by the Regional Vice President on May 4, 2022.

### D. Environmental and Social

91. **Environmental and Social Risk Classification.** The overall environmental and social risk is rated High. The potential environmental and social risks and impacts for SVTP-2 are expected to be in the same broad areas as those being managed as part of SVTP-1. These risks and impacts relate to labor, working conditions and labor influx management, health and safety of community and workers during construction and operation, land acquisition and titling, biodiversity and nature conservation (including in a national park and Ramsar site), chance finds, and pollution prevention (including from the use of agricultural chemicals and pesticides).

92. **Environmental Risks and Impacts.** **The first 14km of the main canal to be constructed under SVTP-2 will be through Lengwe National Park, which will require a contractor with experience in constructing infrastructure within sensitive areas.** Recent studies and surveys of the park identified the presence of a small number of critically endangered (White headed Vulture) or endangered (Lappet-faced Vulture, Bateleur, Steppe Eagle, and Secretary Bird) bird species, species which have also been recorded in Majete Wildlife Reserve (approximately 30 km away). Lengwe National Park is not considered to be in optimum condition and is devoid of large mammal species, although key habitat of the park includes the last significant block of thicket forest in the Lower Shire Valley which supports the most northerly endemic population of Nyala. This is the main reason cited for the designation of the park and the thicket is considered to be critical habitat. The detailed design for the canal infrastructure through the national park will be carefully considered to avoid and minimize impacts to this critical habitat, although the feasibility design



indicates that at worst approximately two percent of the thicket may be impacted directly. Other natural habitats of Lengwe National Park include mainly tree savanna (about 35 ha may be affected) and some areas of medium-short mixed open mopane woodland and tall-mixed closed alluvial riverine woodland (about 14 ha). If not well designed, the canal may form a barrier for the movement of species and hinder the movement of game rangers to safeguard animals and habitats throughout the national park. During the detailed design, measures will therefore be taken to avoid or minimize the loss of thicket and other natural habitats, and to ensure suitable connections are provided across the canal to minimize any barrier effects from the canal and cater to the different requirements of current and potential species.

**93. The Shire Valley floodplain contains Elephant Marsh, which provides flood attenuation, fisheries, a rich biodiversity of rooted and floating swamp vegetation, approximately 26 species of breeding waterbirds, and a number of fish and invertebrate species endemic to the area.** The impacts on the Program area from the accumulation of herbicides, pesticides, and fertilizers as a result of the agricultural intensification have been considered and will be monitored as part of SVTP-2, to allow farm management practices to be adapted as necessary in the future. Water volume arriving at Elephant Marsh is dependent almost entirely upon the flow of water from Kapichira Reservoir. The implications of abstraction of water for SVTP has been carefully considered, in combination with other abstractions and discharge projects from the Lower Shire and are not predicted to have a significant cumulative impact on the Elephant Marsh. The proposed Mpatamanga Hydropower project (in planning in the Middle Shire) has the potential to alter the sedimentation and hydrological flows reaching the Kapichira Reservoir. While the proposed Mpatamanga project will not affect the amount of water available for SVTP, the changes that it will cause to the hydrological regime in the Lower Shire River will be investigated and mitigation actions undertaken under that project.

**94. The rural population in the Shire Valley consists mainly of smallholder farmers in villages scattered across the valley.** According to the ILO, agriculture accounts for the greatest number of fatalities as a result of safety incidents and/or from exposure to chemicals including herbicides, pesticides, fertilizers, etc. The population will be exposed to new and increased risks as a result of the exposure to agricultural intensification. The construction of an open canal may bisect traditional routes and could attract the local population, and as such the canal could pose a risk to the safety of the rural population, for example from drowning. Measures have been incorporated into the design of the canal to provide escape in the event of a person or animal falling in, and to provide safe crossings at appropriate locations. In addition, SVTP-2 will undertake sensitization of local communities into the health and safety risks of canals and agricultural practices, as well as work with local health providers to ensure that they have the equipment necessary for waterborne disease detection and treatment. Safe agricultural practices will be considered as part of the support provided during the establishment of the commercial farms under Component 3.

**95. The project will advance a series of initiatives under Component 4 in protected areas, wildlife reserves, Lengwe National Park, and forest reserves, with the aim of strengthening biodiversity resources in the valley as a whole and providing improvements to the watershed.** These initiatives will include scaling up the implementation of the Community Conservation Area Management Plan in Elephant Marsh, including ecosystem-based fisheries management, integrated agriculture aquaculture, and post-harvest fish technologies as alternative income sources. Park trails and roads, ranger facilities (including utilities, vehicles and communications), fencing, and water holes or other activities will assist with achieving the management plan objectives for Lengwe National Park, Mwabvi wildlife reserve, and Matandwe and Thambani forest reserves. Each small-scale activity will be subject to screening and an ESMP will be prepared to manage the risks of the works, to mitigate any negative impacts that could arise during



construction, and to ensure the activities deliver the positive improvements to the remaining natural resources in the valley.

**96. Component 1 has environmental health and safety (EHS) risks relating to construction of canals and associated infrastructure, and these risks will be managed through careful selection of contractors and robust contract management.** Although the majority of the Lower Shire Valley is modified habitats, the creation of irrigated farmland has the potential to impact on remnants of natural habitats, for example surrounding graveyards. The finalization of the land use planning (Component 2) and the agricultural commercialization support (Component 3), taking into consideration the need to preserve these areas. The advisory services to be provided to SOCFEs as part of Component 3 will ensure the selection of energy and resource efficient equipment/machinery, and ensure that controls as set out in the Pesticide Management Plan for safe agricultural practices with respect to pesticides are integrated into day-to-day farm working practices. Recognizing that agricultural practices are also likely to change outside of the SOCFEs as a result of the project, the upskilling measures in agricultural health and safety will be extended throughout the valley. The increase in wastes that are predicted as a result of the transformation of the valley will be studied, and options explored for suitable mechanisms and strategies for waste management within the Lower Shire Valley.

**97. Social Risks and Impacts.** Overall, the project is expected to promote socio economic benefits and extend opportunities for transformation to the wider rural population in the valley through improved agricultural land and water productivity in the agriculture sector. The key potential social risks and impacts identified in the screening and ESIA of SVTP-2 relate to: (i) the loss of land holdings, assets and livelihoods on that land, resulting in physical and economic displacement; (ii) loss of communal resources and public property; (iii) loss of access to natural resources, e.g. from potential access restrictions to the parks and protected areas; (iv) risks and impacts associated with land tenure, land consolidation, and change of land use including food security risks, exclusion based on gender, ethnicity, age, socio-economic status, elite capture, and conflicts; (v) impacts on vulnerable populations/social categories who by virtue of gender, ethnicity, age, disability, economic disadvantage, or social status may be vulnerable to changes brought about by project activities such as land consolidation and change of land use or who may be excluded from its associated benefits; (vi) construction related health and safety risks to communities and workers; (vii) risks associated with labor management and demand for local employment; (viii) impacts to social networks and organizing as a result of physical relocation; and (ix) labour influx related risks including the spread of communicable diseases, exacerbation of GBV/SEA/SH and possible security and crime related risks.

**98. Environment and Social Impact Assessment and other instruments.** The ESIA for the Program (prepared under SVTP-1) has been reviewed and updated to reflect the current designs and baseline information. It was also updated to incorporate lessons learned from the implementation of the SVTP-1, and to align with the ESF/ESSs. An ESMP was prepared for SVTP-2 to describe how the mitigation measures will be delivered as part of SVTP-2. In addition, the PMP, RPF, and Process Framework (PF) have been updated to reflect SVTP-2. The Regional Vice President approved on May 16, 2022 the use of up to US\$5 million credit funds to pay cash compensation to Project Affected Persons (PAP). A Stakeholder engagement plan (SEP) and a labor management plan (LMP) that outlines relevant mitigation measures for risks associated with a large labor workforce, including guidance to address potential child and forced labor, GBV/SEA/SH, COVID-19, and a Grievance Mechanism for workers have been prepared. The ESMP, PMP, and LMP were disclosed on the SVTP website and Bank's external website on May 12, 2022, the RPF was disclosed on May 13, 2022, and the ESIA was disclosed on May 18, 2022.



99. The ESIA includes a cumulative impact assessment that explores the impacts of the SVTP-2 in the context of new (since 2017) and proposed future projects in the Shire Valley, building on the cumulative impact assessment work undertaken in 2017 for SVTP. Of the key receptors for SVTP-2, only Shire River and Elephant Marsh were identified as being likely to be affected by other projects as well. SVTP-2 may discharge water that may contain pesticides, herbicides, fertilizers or silt into the Shire River, although the amounts are likely to be small since the farms will be trained and set up to use water efficiently, and the land is flat reducing silt run-off. Two projects were identified that may have an impact on the Shire River and Elephant Marsh. The projects are the ongoing MWASIP and planned Mpatamanga Hydropower Project. MWASIP will be delivering improvements to the middle catchment of the Shire River, through measures to reduce erosion and flash flooding impacts, and as such is likely to result in beneficial impacts to downstream sections of Shire River and Elephant Marsh. Mpatamanga Hydropower Project may provide a regulating effect to water flows in the Shire River and may result in changes to the sediment flows within the river. The project is currently in the planning stage and studies are in progress to further understand the impacts of the project on the Shire River and Elephant Marsh. Mpatamanga will include a regulating basin downstream of the main dam to balance peak flows which will benefit Kapichira Reservoir and the Elephant Marsh. Silt accumulation at Elephant Marsh resulting from SVTP-2 is expected to be minor, but SVTP-2 will promote good agricultural practices to keep sediment wash and agricultural pollution to a minimum.

100. **Institutional Capacity to manage Environmental and Social Risks.** The PMT has substantial experience with the World Bank environment and social policies. However, this will be its first operation applying the World Bank ESF. The PMT safeguards specialists have managed environmental and social risks (including the successful implementation of a Resettlement Plan (RP) involving 1,305 PAPs of which 220 were physically relocated) for the SVTP-1. During the construction phase, supervision will be undertaken by a supervising engineer that will include adequate environmental, social, and health and safety specialists to supervise works.

101. **Gender and youth.** SVTP has a focus on the participation of women and female-headed households and youth. A Gender and Youth Strategy, developed for SVTP-1, will remain the guiding document for SVTP-2. It highlights that: (i) literacy and education rates of women are considerably lower than those of men, especially of the population above 35 years of age; (ii) access to and control over land and revenues from production is dominated by adult males over 35, also in matrilineal societies; (iii) women are less empowered to attain their rights in society; (iv) while access to finance is problematic for all poor, this is worse for female-headed households; and (v) participation of women and youths in institutions which govern the water sector is often limited, and women are underrepresented in decision-making roles. The strategy includes a number of activities to narrow these gender gaps, including ensuring that: (i) gender aspects are included in all ToRs; (ii) staff are sensitized to consider gender issues and considerations in all project activities; (iii) communication activities and consultation processes genuinely focus on issues relevant to women and youth; (iv) all M&E and other data collection instruments collect gender and youth disaggregated data; (v) women, youth and vulnerable groups are represented and actively participate in consultations and in management entities; (vi) all PAPs are gender, age and poverty defined; (vii) land tenure administration is safeguarded against male capture by encouraging joint registration of husband and wife and ensuring that women also enjoy equality in access to land and shares in farm enterprises; (viii) grievance redress mechanism provides gender safe space; (ix) safe multiple uses of irrigation water including for household uses are actively promoted; (x) young adult employment during construction and afterwards is encouraged; (xi) through social mobilization, women and youths are empowered to actively partake in various organizations, committees and institutions to be set up under the Program; and (xii) independently monitor gender impacts as well as vulnerability trends and adjust programs as necessary. SVTP-1 has made progress with implementation of these activities. For example, women are well represented in all committees, including SOCFE committees, land-related committees, and grievance redress mechanism (GRM)



committees, often with 50 percent representation. It will be important to build on these achievements and ensure that female involvement is meaningful rather than tokenistic. To this end, the project will include support for capacity building of women in leadership positions and will take steps to adapt scheduling of trainings and meetings to better fit women's preferences and availability. An indicator to monitor women in SOCFE's leadership bodies was added to the results framework, and furthermore, an assessment to measure female participation will be conducted at mid-term to review quality of participation and whether decision-making is equally shared and meaningful. Contractors employed under SVTP-1 are also encouraged to employ people from Chikwawa District, youth, and women. For example, the contractor for the intake and 6 km of main canal employs around 400 staff, including 365 Malawians and 32 international staff. A total of 262 staff are from Chikwawa District, mostly unskilled, and 103 from elsewhere in the country, mostly skilled, for which there is a limited pool of people in Chikwawa. The contractor employs 39 female staff, including several engineers and inspectors.

**102. Labor Influx Management and Gender Based Violence.** Given the nature of construction works, the potential number of contractors, the presence of a significant number of external and local workers for the duration of construction works, and prevalence of drivers such as high levels of poverty, rural context with low absorption capacity, the screening considers the labor influx profile as High. Subsequently, the World Bank GBV risk assessment tool applied deems GBV risk Substantial for the Program, taking into consideration both the context and project related risk factors. The SVTP-1 has in place GBV mitigation measures, including a full-time external GBV Service Provider to facilitate access to timely, safe and confidential services for survivors, assessment of GBV risks in the project's Environmental and Social instruments, sensitizations on GBV risks as part of stakeholder consultations, mapping out of GBV prevention and response services in project area of influence, GBV champions selected and trained from the community, availability of an effective GRM with multiple channels to initiate complaints including GBV related, inclusion of GBV-related costs in contracts and other procurement documents, code of conducts signed and understood by all contractor and consultant staff among other measures. Implementation of SVTP-1 showed that the sensitivity and unpredictability of GBV issues requires alertness on the ground. There is need for constant sensitization and reinforcement of mitigation measures.

**103. The arrangement in SVTP-1 where a GBV Service Provider was engaged to manage GBV mitigation measures has proved to be vital in the fight against this.** These measures have been outlined in the updated ESIA (labour influx management and GBV/SEA/SH mitigation plan) and will be maintained in the SVTP-2. The GBV strategy includes the GBV pathway, the process through which survivors get the right assistance from designated institutions to handle GBV cases in the district. Through this strategy, SVTP-1 revamped the One Stop Center at the Chikwawa District Hospital, a center where all the required personnel (medical, police, and social welfare officers) to assist GBV survivors are located under one roof. SVTP-1 also identified GBV Champions in all the project communities who have been embedded in the Grievance Redress Committees so that they can specifically deal with GBV issues in their respective communities. SVTP-1 also implemented a GBV Code of Conduct, and every employee is mandated to sign this Code of Conduct as a commitment to ensuring that they will not engage in GBV/SEA/SH.

**104. SVTP-2 will continue building on the foundation of GBV mitigation measures established under the SVTP-1.** The project will continue to engage a GBV Service provider with responsibility for implementation of all GBV/SEA/SH mitigation measures and handling of cases whenever they occur. SVTP-2 will also continue to support the GBV mitigation structures established at local level (GBV Champions) as well as the One Stop Center to ensure that there is an effective coordination in the implementation of the mitigation measures. SVTP-2 will ensure that contractors have subscribed to the GBV Code of Conduct and also ensure that all employees have signed the Code of Conduct. The capacity of the service provider will periodically be reviewed to ensure that the entire catchment area is well



covered in terms of GBV mitigation measures such as sensitization meetings and monitoring visits. To be able to achieve this, SVTP-2 will budget for the needed resources to support the GBV Service provider and capacity building training for all staff to be involved in GBV mitigation measures, as well as update risk assessments as needed.

**105. Stakeholder/Citizen Engagement and Grievance Mechanism.** The ongoing SVTP-1 has in place a consultation, engagement and communication strategy, within which extensive consultations with the existing smallholders in the Shire Valley have been undertaken in relation to both the preparation/implementation of safeguard instruments as well as in the groundwork for irrigation service provision. The SVTP-1 also has a GRM that has been operating in relation to project affected persons, project workers, and the general public. Grievance Redress Committees have been established under the SVTP-1 and are operational. SVTP-1 has relied much on the various GRM committees to resolve grievances from the communities. The fact that community leaders have been involved in grievance resolution has been crucial as the leaders have used their knowledge of the people and the history of their respective areas to resolve issues. SVTP-2 will adopt this system and expand it into Nsanje District. The GRM has been designed, with support from the external GBV Service Provider, to also take on sensitive GBV related complaints and incidents. In addition, as part of the citizen engagement process, the project level GRM provides a framework for complaints tracking, response, resolution within the stipulated response times, thus closing the feedback loop. For the SVTP-2, an SEP has been developed to provide a detailed roadmap on the consultation and engagement of relevant stakeholders including affected persons and interested parties during project implementation. The SEP will undertake stakeholder identification to identify the nature of the anticipated stakeholders as well as their information requirements, timing, and methods of engagement throughout the lifecycle of the project. The agriculture cluster approach will improve coordination amongst various actors working in the valley and promote joint action in value chain development using a market-oriented approach. The SEP has also taken into account the existing Grievance Mechanism, which has been reviewed and updated to reflect lessons learned from SVTP-1, alignment to ESS10, and relevance to the context and scope of SVTP-2 and includes a Communication Strategy and Plan.

**106. During the implementation of SVTP-1, vulnerable PAPs were provided with farm inputs, maize seed, and fertilizer as a way of restoring their livelihoods.** It will be important that the inputs meet the needs of the PAPs. Under SVTP-1 some PAPs expressed preference for sorghum or millet instead of maize seeds. Under SVTP-2, livelihood restoration activities will be demand driven based on a proper assessment. As such, different people would demand interventions according to their various economic activities.

## V. GRIEVANCE REDRESS SERVICES

**107. Communities and individuals who believe that they are adversely affected by a World Bank supported project may submit complaints to existing project-level grievance redress mechanisms or the World Bank's Grievance Redress Service (GRS).** The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service>. For information on how to submit complaints to the World Bank Inspection Panel, please visit [www.inspectionpanel.org](http://www.inspectionpanel.org).



## VI. KEY RISKS

108. **Due to the large size and required investment of the Program, the multiple agencies involved, and the diverse nature of the challenges the residual risk of not achieving the project development objectives is Substantial.** Implementing agencies and PMT have shown good understanding of and commitment to the Program and most issues related to the slow implementation during the first years of implementation of SVTP-1 have been addressed. Most SORT ratings are substantial, and the overall risk has also been rated as Substantial. A few specific risks related to land tenure and agriculture commercialization with private sector engagement are described below as well.

109. **Macroeconomic risk - Substantial.** Despite improvements in macroeconomic management in the last few years, Malawi continues to face substantial risks from macroeconomic instability, related to: (i) continued vulnerability to weather shocks; (ii) COVID-19's exacerbation of recent fiscal slippages resulting in further increases in high-cost of domestic debt; and (iii) deterioration in the balance of payments due to increased import demand and fall in tobacco prices. SVTP seeks private sector involvement in management of the irrigation infrastructure and commercial agriculture. In general, private sector interest in a country is closely linked with macroeconomic performance. Since the Program developments are expected to be profitable and financially sustainable, private sector interest is expected to be considerable despite the country's macroeconomic risks.

110. **Technical design of project/program risk - Substantial.** The Program is large and complex, combining public investments in irrigation and agriculture with a flexible approach to farmer organization and commercialization at the irrigation block level, with the support of the private sector. The design incorporates or relies on relatively new approaches and processes, which do not yet have much of a track record in Malawi. This is particularly true for the agriculture cluster approach and development of commercial agriculture that were so far not part of SVTP-1. Despite the fact that the technical government agencies that are supporting the project are committed to the project design, have understood the project approaches, and are committed to implement these with the support of TA consultants, the technical design risk is substantial.

111. **Institutional capacity for implementation and sustainability risk – Substantial.** SVTP is a multi-sectoral development Program. The focus to date under SVTP-1 has mostly been on infrastructure development and land tenure and good progress has been made. The institutional capacity to deal with the complex agriculture commercialization developments is still under development and the lack of results so far poses risks. SVTP-2 will continue to include a strong focus on contractual approaches for scheme design and management with private participation, specialized technical assistance as well as support to project management. Support to SOCFEs, including training and capacity building, will also be provided by service providers and commercial farm managers. As capacity to ensure the management and sustainability of the investments is still being sourced and developed there remains a substantial likelihood that performance of newly developed agriculture blocks and a newly appointed private O&M operator may adversely impact the early operation of the irrigation scheme.

112. **Environment and Social Risk – High. There are potential impacts on conservation areas and the Elephant Marsh. Required safeguards documents were prepared for SVTP-1, using safeguards policies.** SVTP-2 applies the World Bank's Environmental and Social Framework (ESF) to guide the preparation of environment and social risk management documents. The Environmental and Social Risk Classification (ESRC) is High. Several documents prepared under SVTP-1 have been updated and made ESF-compliant, while additional documents as required under the ESF were prepared before appraisal. The main impacts are associated with the construction of the main canal through



Lengwe National Park, the ancillary/associated facilities including secondary canals/pipelines, access roads, night storage reservoirs, and irrigation blocks, and land that is being consolidated for management and administration purposes in the running of the scheme. In addition, there are issues related to labor influx, possible increase in GBV cases, etc. The PMT will retain competent environmental and social specialists throughout implementation of SVTP-2 as well as maintain an external GBV service provider during implementation.

**113. No major issues have surfaced so far with the implementation of the new land laws and land demarcation and adjudication in the Phase 1 area except for agricultural leaseholds and the risk of land speculation.** An issue of potential concern in the project area is the presence of agricultural leaseholds and the risk that the MoL or the district will issue additional leases in the project area. This risk is mitigated by making an inventory of existing leaseholds in the archives of MoL, determine lease status and land use and agreement on boundaries, and then decide on a case-by-case basis whether and how these leases will be included. To illustrate, MoL identified seven leaseholds in the phase 1 area. Regarding land speculation, MoL has issued in 2021 a moratorium on issuance of new agricultural leaseholds for the SVTP area, and instructions were sent to the regional office of MoL and the districts. Compliance with this moratorium is being monitored by PMT.

**114. The ultimate success of the Program will depend on economically viable and sustainable development of commercial agriculture with private sector participation.** The Program will mobilize and engage communities in commercial value chain production with prospective investors. There are successful models on sugar outgrowers in the Shire Valley, but the scope for expansion of sugar cane cultivation is very limited as Illovo's sugar mill is at capacity and there are no plans to expand milling capacity. Hence the key to success will be for the project to identify other value chains that will be of interest to agricultural investors and processors. Malawi has little experience with this, certainly not in communal areas with smallholders, and there is a risk that not enough viable commercial agricultural value chains can be developed. While there have been consistent signals of interest from the private sector, modalities for attracting investment need to be fully supported and facilitated by government and the World Bank Group, including close cooperation between the World Bank and IFC.

**115. Exogenous climate risks are a general concern.** Malawi is rated as "highly exposed" to climate change as climate and geophysical hazards are expected to persist in the future with high intensity, frequency, and duration. Climate and geophysical hazards that are relevant to the project include extreme temperature and droughts, along with extreme precipitation and floods. Unexpectedly high rainfall intensity may damage some built structures and crop land could be flooded. The mitigation of these risks is embedded in the resilient technical design of the project infrastructure, which aims to reduce drought and climate change impacts. The climate change and disaster risk screening concluded that the related risk to the outcome and service delivery of the project is Moderate.

**VII. RESULTS FRAMEWORK AND MONITORING****Results Framework****COUNTRY:** Malawi**Shire Valley Transformation Program - Phase 2****Project Development Objectives(s)**

To develop irrigated commercial agriculture and strengthen the management of natural resources in the Program area.

**Project Development Objective Indicators**

Indicator Name	PBC	Baseline	End Target
<b>To develop irrigated commercial agriculture and to strengthen the management of natural resources.</b>			
Area that can be supplied with gravity-fed bulk irrigation water (Hectare(Ha))		0.00	21,000.00
New irrigation area (Hectare(Ha))		0.00	17,500.00
Existing irrigation area currently using water pumped from Shire River (Hectare(Ha))		0.00	3,500.00
Membership (households) of SOCFFEs (Number)		0.00	20,000.00
With registered customary estate (land record) registered in name of woman only or with joined title (Number)		0.00	5,000.00
Female representation in various Committees, including SOCFFEs		0.00	30.00



Indicator Name	PBC	Baseline	End Target
(measured here) and Customary Land Committees (Percentage)			
Female representation in newly established CLCs (Percentage)	0.00		50.00
Customary estates brought under irrigated commercial crops (Hectare(Ha))	0.00		15,000.00
Annual sale value of crops that are cultivated by SOCFEs (Amount(USD))	0.00		15,000,000.00
Conservation areas under improved management, as measured by the Management Effectiveness Tracking Tool (METT) (Number)	377.00		400.00
Satisfaction with benefits of the Program (Percentage)	0.00		75.00

#### Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	End Target
<b>Irrigation Infrastructure Development and Service Provision</b>			
Length of main canal constructed, resilient against extreme climate events (Kilometers)	0.00		70.00
Signed Irrigation water purchase agreements (Number)	0.00		14.00
<b>Land Tenure and Consolidation</b>			
Functional land registry office in Chikwawa and Nsanje Districts	0.00		2.00



Indicator Name (Number)	PBC	Baseline	End Target
<b>Agriculture Development and Commercialization</b>			
SOCFE business plans developed (Number)	0.00		20.00
SOCFEs adopting CSA practices (Number)	0.00		8.00
<b>Strengthening Landscape and Natural Resources Management in the Lower Shire Valley</b>			
Forest area restored under improved management (Hectare(Ha))	0.00		10,000.00
People participating in income-generating activities supported by the project (Number)	0.00		5,000.00
Of which are female beneficiaries (Number)	0.00		2,000.00
<b>Project Management and Coordination</b>			
Grievances responded to and satisfactorily resolved within one month of filing (Percentage)	0.00		80.00

#### Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Area that can be supplied with gravity-fed bulk irrigation water	Lands that can be served under gravity from the main and secondary irrigation canal system that will be	Measured once per year.	Project progress reports and technical	Field surveys, drones, satellite imagery.	Project Management Team.



	constructed under the project. It includes 17,500 ha of new irrigated area and 3,500 ha that is currently receiving water pumped from the Shire River.		reports.		
New irrigation area					
Existing irrigation area currently using water pumped from Shire River					
Membership (households) of SOCFEs	The number of households with land in the Program area that become member of a SOCFE, with a share equal to the area of land under customary estate that is contributed to the SOCFE.	Measured once per year.	MoL data, project progress report, and SOCFE Business Plans.	Administrative data in district registries on (consolidated) customary estates (land records), field surveys, questionnaires, and interviews.	Project Management Team
With registered customary estate (land record) registered in name of woman only or with joined title					
Female representation in various Committees, including SOCFEs (measured here) and Customary Land Committees	The percentage of female members in various SOCFE committees and CLCs.	Measured once per year.	Project progress reports.	Gender disaggregated data on ownership shares contributed to SOCFEs, field surveys, and Interviews. Two specific field surveys will take place at the	Project Management Team.



				end of project year two and three to specifically focus on whether women are empowered and can make decisions in SOCFFEs and CLCs.	
Female representation in newly established CLCs					
Customary estates brought under irrigated commercial crops	Agricultural lands that have been registered as customary estates that have agricultural crops under irrigation destined for sale.	Measured once per year.	Project progress reports.	Field Surveys, drones, satellite imagery.	Project Management Team and Agriculture Block Managers.
Annual sale value of crops that are cultivated by SOCFFEs	The annual output of agriculture commercialization that is sold on the market, measured in USD.	Measured once per year.	SOCFE annual reports and Project progress reports.	Interviews with SOCFE agriculture block management and Executive Committees, field surveys, drones, satellite imagery.	SOCFE management and Project Management Team.
Conservation areas under improved management, as measured by the Management Effectiveness Tracking Tool (METT)	Conservation area brought under improved management regime measured through METT scores. The Management Effectiveness Tracking Tool tracks and monitors	Before the mid-term review and during the last year of project implementation	Project progress reports.	Field Surveys and Interviews.	Department of National Parks and Wildlife and Project Management Team.



	progress towards protected area management effectiveness. It is a rapid assessment based on a scorecard questionnaire that includes various elements of management	on			
Satisfaction with benefits of the Program	Citizen engagement indicator related to satisfaction with benefits of the program in SOCFE areas where agriculture cultivation has started at least one year before the first survey in a particular SOCFE. Satisfaction is measured through access to water, income generation, and food security.	Measure once per year, starting one year after cultivation in a SOCFE started.	Project progress reports.	Perception surveys and specific interviews with a sample of SOCFE members.	Project Management Team.

**Monitoring & Evaluation Plan: Intermediate Results Indicators**

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Length of main canal constructed, resilient against extreme climate events	Progress with the construction of the 70 km main canal.	Measured once per year.	Project progress reports and	Field surveys and satellite imagery.	Project Management Team and Construction



			construction supervision consultants.		Supervision Consultants.
Signed Irrigation water purchase agreements	Each SOCFE has to sign an irrigation water purchase agreement that will stipulate the payments to be made for the O&M of the main irrigation infrastructure.	Measured once per year.	Project progress reports and SPV annual reports.	IWPAs received and compiled by SPV, with copies to Project Management Team.	Special Purpose Vehicle (SPV) and Project Management Team
Functional land registry office in Chikwawa and Nsanje Districts	Each district needs a land registry office that is adequately equipped and staffed, regularly reports on land information status in district (gender disaggregated coverage, record updates, registered transactions).	Measured once per year.	MoL reports and project progress reports.	Data from MoL, LIMS, and field surveys, including user satisfaction.	Ministry of Lands and Project Management Team.
SOCFE business plans developed	Each SOFCE has to develop a business plan that describes the agricultural and irrigation developments, crop choices, funding needs, etc.	Measured once per year.	Project progress reports.	Collection of business plans.	Project Management Team.
SOCFEs adopting CSA practices	SOCFEs will be encouraged to apply CSA practices, the	Measured once per	SOCFE annual	Field Surveys and Interviews with SOCFE	Project Management



	extent of which will depend on selected crops.	year.	reports and project progress reports.	Managers.	Team.
Forest area restored under improved management	Degraded forest areas or other degraded areas that are reforested and brought under improved management that will provide adequate upkeep of the forested areas.	Measured once per year.	Project progress reports.	Field surveys and areal surveys, including drones and remote sensing.	Department of Forestry and Project Management Team.
People participating in income-generating activities supported by the project	Measures number of individuals engaged in income generating activities promoted by the project. The associated activities increases opportunities for diversifying livelihood and increasing resilience as a result by developing adaptive capacity as well as having a transformative impact through greater access to non-traditional livelihood strategies.	Measured once per year.	Project progress reports.	Based on information collected as part of stakeholder/beneficiary survey and household surveys and interviews.	Project Management Team.
Of which are female beneficiaries					



Grievances responded to and satisfactorily resolved within one month of filing	Grievances are addressed at different levels, starting at Group-Village Headman level. They have to be resolved as soon as possible and the time taken to do that will be monitored.	Every six months.	Central Grievance Registry and project progress reports.	Review of Grievance Registry and field checks.	Project Management Team.
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**ANNEX 1: Implementation Arrangements and Support Plan**

**1. Implementation will be led by the Ministry of Agriculture, through the Department of Irrigation. A Project Management Team in MoA, based in Blantyre about one hour from the Program area, will be responsible for all day-to-day management and coordination needs under the project, including fiduciary, safeguards, and M&E.** The PMT is already established and staffed with competitively recruited experts, including heads for each component. The Environment and Social heads will be provided with additional staff to ensure that they have capacity to respond to the increased work from this next and overlapping phase of the SVTP. PMT will be supported by technical assistance for design, construction supervision and quality assurance, M&E, and other services, as needed. All project operational modalities are detailed in the Project Implementation Manual (PIM), with Gantt charts, flow charts and responsibilities. A component Lead will be responsible for comprehensive management, liaison and coordination of the respective pillar, under the guidance of the project coordinator. The SVTP has four major complementary implementation modalities, all of which are coordinated by the PMT. This recognizes the unique and complimentary nature of each pillar of the Program, on irrigation development, on land tenure, on agricultural development, and on NRM. The Program is designed to bring these together in one logical pathway and under one umbrella implementation and coordination mechanism at the Program level.

**2. Implementation arrangements are streamlined through the PMT, but the Project has many inroads to various sectors and their respective government agencies.** Collaboration between the agencies is governed by a joint MoU that was prepared for SVTP-1, but will remain valid for SVTP-2 as well. This MoU spells out objectives, specific role of each stakeholder, the requirement to mainstream and provide staff time for implementation, knowledge management and overall support. A Project Steering Committee (PSC) (at principal secretary level) and a Project Technical Committee (PTC) (at director level) have been established for SVTP-1. These committees are meeting on a regular basis to guide and advise on SVTP-1 project implementation and will continue to do so for SVTP-2.

**3. For the land tenure component, the coordination arrangements developed between MoL and PMT under SVTP-1 functioned well and will be continued under SVTP-2.** A similar arrangement will be developed with the MoLG for the district land registries. SVTP-1 benefitted from AGCOM such as for the development of software and workflows for recording land rights information and boundaries, the design of the Land Information Management System, the piloting of the entire business process in six sites, which made it possible for SVTP-1 to go to scale in 2020. This IT support from AGCOM will not be available to SVTP-2 and may have to be procured if not available through MoL. SVTP-2 will also need support from highly qualified local TA to design and supervise the consolidation and institutionalization of the district land administration, land use management, capacity building, and monitoring tools. Under SVTP-1 this expertise was obtained through the LRIU. The current mandate of the LRIU will expire in May 2023. In case MoL decides to renew the LRIU, SVTP-2 will continue to work with the LRIU for TA support. The advantage of working through the LRIU is the direct link with MoL management. If the LRIU will not be continued and no alternative arrangement can be set up with MoL, PMT will have to recruit the required TA expertise.

**4. A Sub-Committee was set up under SVTP-1 to coordinate natural resources management activities constituting members directly involved with biodiversity and management of natural habitats, including DNPW, DoF, EAD and DoFi.** The sub-committee will continue to coordinate and provide technical review to cross-agency tasks such as project area-wide ecological surveys, biodiversity knowledge products, and strengthening coordination of management and enforcement between protected areas within the project area. DNPW will lead the project activities within the national parks and the Elephant Marshes, in close collaboration with DoF and Department of Fisheries. DoF will lead the project activities in the forest areas and reserves. The implementation of the project



activities will be supported by a long-term advisor focused on protected area management and community participation, as well as a range of specific Technical Assistance inputs. The PMT and the NRM sub-committee will facilitate synergies and collaboration, where possible, with the agriculture development component (component 3), so that natural habitat area management is merged into land use planning where appropriate and that flood risk management activities in and around the Elephant Marshes and ecosystem management continue to be planned in unison. This shall be arranged at district and PMT level, through regular project monitoring.

**5. The Implementation Support Plan (ISP) describes how the World Bank and other DPs will support the implementation of the risk mitigation measures and provide the technical advice necessary to facilitate achieving the PDO (linked to results/outcomes identified in the result framework).** The ISP will be reviewed periodically to ensure that it continues to meet the implementation support needs of the project. The World Bank's semi-annual missions will review overall implementation and advise on and address issues that emerge during implementation.

**6. The below ISP reflects estimates of skill requirements, timing, and resource requirements over the life of the project.** All these estimates are flexible and open to modifications over the project implementation. A significant part of the required expertise will be mobilized locally in the Country Office. A mission-based approach will not suffice in being able to adequately and timely respond to coordination and implementation issues. In addition to missions and on-call support, the World Bank proposes proactive quarterly implementation support meetings, including with team members/experts based outside of Malawi connected by audio/video connection.

**TABLE A.1.1 – IMPLEMENTATION SUPPORT PLAN, INCLUDING SKILLS AND RESOURCE REQUIREMENTS**

Time	Focus	Skills Needed	Resource Estimate
First twelve months	Building additional PMT capacity Initiating critical procurements Detailed design processes Continue farmer organization Update M&E and reporting systems FM, Procurement, Safeguards implementation Liaise with Development Partners	A variety of technical skills such as engineering, land management, environment, project management, fiduciary, M&E	US\$200,000
12-60 months	ESIA, RAP implementation Construction works Systematic training programs, farmer organization SOCFE development and Land consolidation Business Plan development and implementation	A variety of technical skills such as engineering, land management, environment, project management, fiduciary, M&E	US\$150,000/yr



<b>Skills Mix Required</b>			
<b>Skills Needed</b>	<b>Staff Weeks per Year</b>	<b>Trips to Project site per Year</b>	<b>Comments</b>
Team leader	8	3	TTL, overall implementation support.
Engineer	6	3	Technical design review and construction supervision support.
Economist/Private Sector Development Specialist	4	2	Agribusiness, investment climate support, policy dialogue.
Land Tenure Specialist	4	2	Land organization, land registration
Agriculture Specialist	6	2	Farmer organization, SOCFE development
Agribusiness Specialist	4	2	agribusiness investments.
NRM specialist	6	2	Protected area management, safeguards support.
M&E Specialist	3	2	M&E indicator tracking, refinement, use.
Environmental Specialist	5	2	Environmental aspects and safeguards.
Health and Safety Specialist	3	2	Health and safety aspects of ESF.
Social Development Specialist	4	2	Social aspects and safeguards.
Gender Specialist	3	2	Gender issues, GBV
Procurement Specialist	4	2	Procurement aspects, procurement plan revision and implementation monitoring, procurement audits.
Financial Management Specialist	3	2	FM aspects, fund flow, FM audits.
Team Assistance	2 HQ+5 Malawi	1	Team support

**ANNEX 2: Description of the Program (SVTP)****The Program and Project Area**

1. The Shire Valley Transformation Program (SVTP) tackles the goals of ending extreme poverty and promoting shared prosperity in a sustainable manner in a comprehensive approach, capitalizing the unique circumstances in the Shire Valley where the predominant situation is of extreme poverty and risk, and recurrent need for urgent recovery assistance. There are also examples of pockets of relative wealth where the underlying problems of the region have already been resolved. Through productivity increase, risk mitigation, job creation, value addition, and resource optimization, SVTP addresses many of the challenges Malawi faces, and aims to do so in the agriculture-water-energy nexus. The Program addresses key development questions in the water and agriculture sectors on optimizing water productivity and water use efficiency to grow the economy faced with increasing climate risk. Improvements in agricultural sector productivity and profitability are crucial for reducing the number of people living in absolute poverty, of which 96 percent are dependent on agriculture for their livelihood. Energy availability is constraining Malawi's economy and the Program contributes to shifts in energy use. SVTP addresses agricultural development using a cluster development approach by scaling up irrigation investment and development to enable productivity growth and high-return agriculture. This will be complemented by investments at the landscape level that strengthen sustainable management of natural resources, specifically to address critical land degradation, build climate resilience and support sustainable management of forests, wetlands and protected areas in the lower Shire Valley.
2. The irrigation infrastructure under SVTP-2 will be developed in Chikwawa and Nsanje Districts on the right (i.e. west) bank of the Shire River. This area contains the highest incidence of extreme poverty in Malawi. Droughts and floods are increasingly frequent in particularly this part of the country and pose a persistent threat of famine. The Shire Valley is largely occupied by smallholder farmers who engage in the production of both crops and livestock. There are limited economic activities taking place, apart from the activities of commercial sugar cane production and processing. Sugarcane is grown on a commercial basis under irrigation, including successfully by outgrowers. Illovo produces cane on a total of 13,805 ha and operates the only sugar factory in the area. Beyond this, most agriculture is characterized by opportunistic sowing of drought resilient crops, failing to produce on a regular basis, and by recession agriculture in the immediate floodplain of Shire River. Maize dominates cropping patterns, but cotton, sorghum and millet are also grown by smallholder farmers. Other crops are grown in the area, but in smaller amounts. These include rice, pigeon peas, cow peas, sesame, beans sweet potatoes, bananas, vegetables, and fruit. Livestock plays a major role in the farming systems practiced in the Lower Shire Valley, providing food, income, and social security.
3. Even during periods of normal rainfall, the farming families in this area harvest food sufficient to last only part of the year. The Shire Valley is characterized by a generally low elevation where the relief profile ranges from 60 to 150 meters above sea level. Temperatures in summer months range from 28°C to 35°C and in winter from 20°C to 35°C. The hottest period is in October - November when temperatures can reach 40°C. The average rainfall is 652 mm, with the rainy season from November to March. The Shire Valley is one of the most fertile areas in Malawi with a relatively reliable source of water from the Shire River. The agronomic potential is enormous with generally fertile soils, good temperatures, phytosanitary conditions, etc., as is demonstrated by the very high sugar yields obtained in the area under irrigation. The least as well as most productive agriculture systems in Malawi have been co-existing in the Shire Valley, and the challenge for the Government has been to unlock the development potential of this area.
4. Realizing that lack of water is the main constraint, the Government of Malawi has for many years intended to develop irrigated agriculture in the Lower Shire Valley, which has now started under SVTP-1, the first of three Series



of Projects under SVTP. The SVTP is a 14-year Program (2018-2031) structured around three coordinated pillars: (i) providing reliable, professionally managed and sustainably financed irrigation service to a large number of irrigators in a phased construction of the SVTP scheme and providing multiple services including water supply; (ii) supporting farmer organization within a comprehensive land use plan; supporting land tenure strengthening and consolidation; as well as natural resources management; and (iii) establishing smallholder owned commercial farm enterprises transitioning into commercial agriculture from subsistence farming and integrating them into commercial value chains. The Tables below shows the indicative investments in each phase and the main activities under SVTP-1 and SVTP-2.

**TABLE A.2.1 - INDICATIVE INVESTMENTS UNDER SHIRE VALLEY TRANSFORMATION PROGRAM PHASES**

	SVTP-1	SVTP-2	SVTP-3
Tentative budget (US\$ million)	234	285	150
Timeframe	2018-2023	2022-2028	2026-2031
Program Focus Areas	Initiate process, bulk infrastructure, farmer organization, land tenure, agriculture investment preparation, landscape and conservation	Scale up of investments in Phase 2 area. Agricultural investment, private sector and value chain support	Overall institutional support, incremental modernization, Phase 2 Agriculture support. Value chains
Irrigation Service Provision	Detailed designs, construction of first 52 km of main canal and related infrastructure, RAP and ESMP implementation, selection of private operator for bulk infrastructure. Prepare SVTP-2 irrigation investments	Construction of 70 km of main canal and related infrastructure, RAP and ESMP implementation. Monitor MOM, support block level irrigation management. Review performance standards, water use efficiency support	Private investment in expansion, further modernization, water use efficiency support, performance monitoring
Agricultural Commercialization	Initiate Farmer Organization, Farm investment and operation support (initial), productive alliances; scoping of agro-spatial zones and growth options	Mechanization, operation and value chain support, agricultural services provision, agronomy support. Investment promotion, support agro-spatial activity, SMEs, access to finance.	Expanded Value chain support, agricultural services provision, agronomy support. Continued private sector investment and trade facilitation
Land Tenure	Land registration, land consolidation. Technical Assistance in land act operationalization (pilot)	Continued support to transactions, consolidations, Phase 2 roll out.	Land administration support, monitoring.
Sustainable Natural Resources Management	Protected area management to address land degradation, sustainable management of forests, wetlands and rangelands, support to Majete, Lengwe and Elephant Marshes, community engagement in management of protected areas	Implementation of management plans for all protected areas and forest reserves, wetland/fisheries monitoring, land plan phase 2. Scale-up of measures to combat land degradation.	Continued monitoring, eco-tourism support, wildlife conservation, etc.
Water supply	Bulk water supply drinking water	Demand-driven provision of water supply to different off-takers - domestic, livestock,	



	SVTP-1	SVTP-2	SVTP-3
		fisheries, with an exception of water points for wildlife in Lengwe National Park.	
Financing	IDA, GEF, ADB, GoM, early private. Prepare financing package for private finance existing water users	Leverage private finance for agriculture and Phase 2 expansion/operator. Fund for agri development. Additional financiers, public and private	Continued, commercial finance increased.
Social inclusion and citizen engagement	Communication, community outreach, implementation of gender and youth strategy, Grievance Redress Mechanism. Specific agricultural support to vulnerable groups. Monitoring of non-agricultural livelihoods support. Integration of resettlement with overall land strategy.		
Institutional support and coordination	Project coordination, communication, grievance redress, inter-sector coordination		

TABLE A.2.2 - MAIN ACTIVITIES UNDER SVTP-1 AND SVTP-2

MAIN ACTIVITIES COMPONENT 1: Irrigation Infrastructure Development and Service Provision	Responsibility	SVTP-1	SVTP-2
		2018-2023	2022-2028
<b>Infrastructure Development</b>			
Intake and 52 km of main canal	Dol, PMT	x	
70 km of main canal	Dol, PMT		x
Secondary canals/pipelines in Phase 1 area	Dol, PMT	x	x
Secondary canals/pipelines in Phase 2 area	Dol, PMT		x
Additional infrastructure, e.g. roads and flood embankments	Dol, PMT	x	x
<b>Operation and Maintenance (O&amp;M)</b>			
Selection of private O&M operator	PPPC, Dol, PMT	x	x
Signing of IWPA with water users	PPPC, Dol, PMT	x	x
Initial O&M of completed infrastructure	Dol, SPV		x
MAIN ACTIVITIES COMPONENT 2: Land Tenure and Consolidation	Responsibility	SVTP-1	SVTP-2
<b>Land demarcation/registration – customary estates</b>			
Phase 1 area (Chikwawa) demarcation and registration	MoL, PMT	x	
Phase 2 area (Nsanje) demarcation and registration	MoL, PMT	x	x
Village land use plans - annual monitoring and updates	Chikwawa and Nsanje Districts, MoL, PMT		x
<b>District physical planning</b>			
Chikwawa and Nsanje district physical plans and urban structure plans	Districts, MoL, PMT	x	
Chikwawa and Nsanje district physical plan and urban structure plans monitoring and updates	Districts, MoL, PMT		x
<b>District land registries</b>			
Establishment of district land registries (DLR) in Chikwawa and Nsanje and investment in LIMS establishment	MoL, PMT	x	
Functionality DLR: Implementation of LIMS in 2 DLRs	MoL, MoLG, PMT		x
Functionality DLR: Capacity building of DLR staff, land clerks, CLCs, tribunals in registry maintenance; transactions, service delivery, land use planning, etc.	MoL, MoLG, PMT		x



MAIN ACTIVITIES COMPONENT 1: Irrigation Infrastructure Development and Service Provision	Responsibility	SVTP-1	SVTP-2
Functionality DLR: Community information/support on land record, land use, and land administration service delivery	MoL, MoLG, PMT		x
Gender strategy updates and implementation	MoL, MoLG, PMT	x	x
<b>Monitoring, lessons learned, policy dialogue</b>			
Gender disaggregated monitoring of land admin, land use, other service delivery); monitoring DLR sustainability (financial, capacity)	MoL, PMT	x	x
Land dispute monitoring system and reporting	MoL, PMT	x	x
Surveys legal awareness, perception of tenure security, satisfaction of services	MoL, PMT	x	x
Drawing lessons for policy dialogue and nation-wide land reform scaling-up	MoL, PMT	x	x
MAIN ACTIVITIES COMPONENT 3: Agriculture Development and Commercialization	Responsibility	SVTP-1	SVTP-2
<b>Agricultural cluster development and stakeholder coordination</b>			
Establishment of an agriculture cluster	MoA/MoIT/PMT		x
Recruit a consultant to manage cluster secretariat	MoA/PMT		x
Develop/establish public-private stakeholder platform	MoIT/PMT		x
Carryout annual market demand studies	MoIT/PMT		x
Strengthen collaboration with IFC to support upstream investment and advisory activities	MoA/MoIT/PMT		x
<b>Smallholder farmer mobilization and SOCFE capacity building</b>			
Establish SOCFEs and build their capacities	MoA/MoIT/PMT	x	x
Recruit specialized Service Providers to enhance SOCFE capacities	MoA/PMT	x	x
Sensitize and mobilize potential farmers in the identified irrigation blocks	MoA/PMT	x	x
Initiate commencement of project activities in few SOCFEs and expand to the rest at a later stage	MoA/PMT	x	x
Prepare business plans in the first 12 months of SOCFE establishment	MoA/PMT	x	x
Training and capacity building in accounting, financial management, governance, business plan management, procurement and leadership	MoA/MoIT/PMT	x	x
<b>On-farm capital investment and operational support</b>			
SOCFE access to Matching Grants for farm investments (equipment, land development, and operational costs)	MoA/PMT	x	x
Recruit Independent Evaluators to evaluate business plans	MoA/PMT	x	x
Link SOCFEs to commercial/financial institutions, other World Bank Projects to access affordable loans for matching grant contribution and operation costs	MoA/PMT	x	x
MAIN ACTIVITIES COMPONENT 4: Strengthening Landscape and Natural Resources Management	Responsibility	SVTP-1	SVTP-2
<b>Improvement of infrastructure and equipment for strengthened management of protected area and forest reserves</b>			
Protected Areas and Forest Reserve Infrastructure development	PMT/DNPW/DOF	x	x
Equipment to enable strengthened protected area and forest management	PMT	x	x



MAIN ACTIVITIES COMPONENT 1: Irrigation Infrastructure Development and Service Provision	Responsibility	SVTP-1	SVTP-2
Preparation activities for development of key sector resources, including tourism development studies and infrastructure preparatory studies, as well as private sector engagement	PMT		x
<b>Strengthened management, monitoring, and enforcement</b>			
Conduct law enforcement activities to reduce illegal wildlife crime and illegal logging	DNPW/DOF/DOFI	x	x
Strengthened Management through developed/updated management plans and implementation of law enforcement performance appraisal systems	DNPW/DOF/DOFI	x	x
Develop roadmap for sustainable fisheries, draft a wetland policy, and prepare habitat management strategies (including invasive species)	PMT/DNPW/DOFI /EAD		x
Develop/update, and implement, a monitoring framework which covers biodiversity values, forest assessments, enforcement tracking, and resource use, among other issues	DNPW/DOF/DOFI /EAD	x	x
Capacity building program for gov/institution staff to strengthen NRM outcomes in the project area, including issues relating to wildlife crime, poaching, disrupting/emerging technologies, and habitat management	PMT/DNPW/DOFI /DOF/EAD	x	x
<b>Community Based Natural Resource Management</b>			
Develop effective regulatory and administrative frameworks for implementation of Access and Benefit Sharing (ABS)	PMT/EAD/DOF	x	
Sustainable habitat management through community-based activities, including habitat restoration measures, tree planting, sanctuaries for key habitats, and development/strengthening of Village Forest Areas (VFAs) within the project area	PMT/DNPW/DOFI /DOF	x	x
Implementation, monitoring, and evaluation of a community support and income generating activities (IGA) program, including impact tracking on resource use, poverty reduction, and gender-related disparities	PMT/DNPW/DOFI /DOF	x	x
Program on Environmental Education (EE) focused on lower Shire wildlife, wetland, and biodiversity conservation	PMT/DNPW/DOFI /DOF		x
Targeted support for specific resource value chains development in the lower Shire, including development of key studies and management plans, support facilitated access to climate financing, and targeted interventions along the forest product value chains	PMT/DOF/DoFi		x
Support for forest restoration and conservation, including through performance-based grants (PBG) for the establishment of woodlots to strengthen sustainable management of forest resources	PMT/DOF		x

5. Agricultural intensification and modernization will be pursued in a market-led irrigated agriculture development project that will, at the same time be inclusive of smallholders in private sector-led value chains to help them move from subsistence farming to commercial agriculture. The overall area for the project is about 800 km<sup>2</sup> (including villages, non-irrigable and non-agricultural land, but excluding the conservation areas which add another 2,800 km<sup>2</sup>). Irrigation will be provided on about 50,000 ha gross and up to 43,370 ha net area in two phases over time through the phased construction of the new gravity-fed irrigation scheme which will supply over 27,600 ha (net area)



of agricultural land presently under rainfed cultivation, creating agricultural development opportunities in this fertile valley, away from the risk-prone floodplain, and the existing Illovo and outgrower estates (approximately 15,700 ha), making part of their electricity requirements available for other uses in the country. The overall project area is mostly under traditional (customary) tenure. The proposed irrigation area is based on technical feasibility and is roughly equally divided between customary land and private. The customary land will be consolidated into irrigated blocks that will be exploited by the smallholder farmers with the support from selected private agribusiness enterprises in various value chains and organizational structures, with SOCCE as the basic building block. A performance contract arrangement will be used for the management of the bulk water infrastructure. This concentrated growth pole investment will enable significant improvement in rural livelihoods, agricultural outputs and value addition, and will both benefit farmers as well as have regional economic impact.

6. The Program will include land development and development of the tertiary irrigation system within the SOCCEs, based on their readiness, balancing a top-down approach on main infrastructure with a more flexible and demand-driven approach on distribution network to allow early adopters to test models of engagement and provide learning spaces. The phased introduction of over 43,370 ha of net irrigated land will have profound impacts on land use, accessibility, service demands, environment and social organization.

