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# Combined Project Information Documents / Integrated Safeguards Datasheet (PID/ISDS)

Appraisal Stage | Date Prepared/Updated: 15-Aug-2017 | Report No: PIDISDSA20783

**BASIC INFORMATION****A. Basic Project Data**

Country Malawi	Project ID P158805	Project Name Shire Valley Transformation Program - I	Parent Project ID (if any)
Region AFRICA	Estimated Appraisal Date 17-Jul-2017	Estimated Board Date 28-Sep-2017	Practice Area (Lead) Water
Financing Instrument Investment Project Financing	Borrower(s) Ministry of Finance, Economic Planning & Development	Implementing Agency Ministry of Agriculture, Irrigation and Water Development	

## Proposed Development Objective(s)

The program development objective for the longer-term Shire Valley Transformation Program would be to improve the management and utilization of natural resources in a sustainable way to increase agricultural productivity and commercialization for targeted households in the Shire Valley.

The SVTP-I Project Development Objective is to provide access to reliable gravity fed irrigation and drainage services, secure land tenure for smallholder farmers, and strengthen management of wetlands and protected areas in the Shire Valley.

## Components

Irrigation Service Provision  
 Preparing land-based investments and natural resources management support  
 Agriculture Development and Commercialization  
 Project Management and Coordination  
 PPA repayment

**Financing (in USD Million)**

Financing Source	Amount
African Development Fund	50.00
Borrower	7.20
Global Environment Facility (GEF)	5.59
International Development Association (IDA)	160.00



Foreign Private Commercial Sources (identified)	11.80
<b>Total Project Cost</b>	<b>234.59</b>

Environmental Assessment Category

A - Full Assessment

Decision

The review did authorize the preparation to continue

**Note to Task Teams:** End of system generated content, document is editable from here.

Other Decision (as needed)

## B. Introduction and Context

### Country Context

1. Malawi, nicknamed “the Warm Heart of Africa”, is a landlocked country in southeastern Africa, is defined by its topography of highlands split by the Great Rift Valley and enormous Lake Malawi feeding the Shire River, the largest tributary of the Zambezi. As one of Southern Africa’s most densely populated countries, with a population growth rate of 3.1 percent per annum (2016), Malawi’s young and growing population estimated at 17.6 million - out of which 45% is under 14 years old - (2016) is expected to reach 22.8 million by 2025, living on an area of 118,484 square kilometers. Malawi is one of the world’s poorest countries. It is ranked 173 out of 188 countries on the United Nations Human Development Index (UNDP, 2015). Gross National Income (GNI) per capita<sup>1</sup> was estimated at US\$340 in 2015 and Malawi’s real per capita Gross Domestic Product (GDP) has grown at an average of little more than 1.5 percent per year between 1995 and 2014. Absolute poverty levels are not declining significantly and are still above 50 percent, and in particular the rural population saw a decline in per capita consumption in the last decade.

2. Approximately 85 percent of Malawi’s population lives in rural areas with the majority engaged in low productivity rain-fed subsistence agriculture. Malawi’s recent years have been difficult with a number of government changes, weak fiscal policy, low investor confidence and importantly significant weather shocks with late arrival and early cessation of rains and major flooding having detrimental effects on agricultural output and food security. Drawdown of natural capital (e.g. soil fertility and forests) in recent years has been substantial. As measured by Adjusted Net Savings<sup>2</sup> as a percentage of GNI, data for Malawi shows negative values for most of the period since 1995. Changes in wealth *per*

<sup>1</sup> GNI *per capita* - atlas method (current US\$)

<sup>2</sup> Adjusted Net Savings takes drawdown of natural capital as well as health damaging air pollution into account, alongside the standard measures of physical and financial savings. Human capital formation (spending on education) is added as an investment in the ANS calculation so that, overall, it provides a holistic measure of national wealth.



*capita* also show a strongly negative trend throughout the same period – reflecting a degrading underlying resource base and a rapidly expanding population.

3. Malawi's inflation rates were second highest in Africa in 2015 and its economic growth is closely correlated with hydrological variability. The country has highly variable economic growth, which often directly reflects the variability of rainfall. In recent years Malawi has suffered from weather shocks at an increasing frequency, including simultaneous floods and droughts in early 2015, followed by another major drought in 2016. The twin crises of vulnerability to climate shocks and fiscal management challenges are unrelated but have a combined impact on poverty levels and declining growth rates (Malawi Economic Monitor, World Bank 2015).

4. A multi-pronged response is required to overcome both climate shocks and the challenge of weak fiscal space. A more climate-smart, diversified and connected agriculture sector is required. Malawi is well endowed with agricultural and water resources and its neighbors are experiencing growth, creating an enlarged demand base for its produce. Major new infrastructure, such as the Nacala Rail Line, connecting Malawi to the Indian Ocean and to Northern Mozambique have the potential to result in better regional integration of Malawi in the wider economy. Overcoming the economic impacts of weather shocks on the agriculture-based economy will be important, especially in disaster prone districts (particularly in the south) where over 80 percent of the population lives below the national poverty line and communities are frequently affected by both floods and droughts. It is clear that Malawi's natural assets, including forests, wetlands, and agricultural land, comprise more than 50 percent of its wealth and the challenge will be to ensure that any further transformation of this capital into human and social capital is done efficiently and in a sustainable manner to avoid further depletion of the country's resources.

#### Sectoral and Institutional Context

5. 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 decade. It is a priority sector for Malawi and public and private spending in the sector is significant. Total cultivated land in Malawi is approximately 5.3 million hectares (ha), the vast majority (over 97 percent) of which 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). The predominantly subsistence smallholder farming system relies heavily on rainfall during the one short rainy season from November to March and is vulnerable to unreliable weather. More than 90 percent of the rural population are subsistence farmers on approximately 4.2 million hectares, cultivating small and fragmented pieces of land held under customary land tenure, from which they produce 75 percent of the agricultural output of the country, predominantly maize. Over 70 percent of all the farmers cultivate less than one hectare and a significant number struggle to produce enough food to meet their basic consumption requirements.

6. Agricultural expansion has reached its limits as more and more fragile upper catchments are cultivated, resulting in high erosion, rapid loss of soil fertility and siltation of water courses. In the plains, agricultural intensification has taken place primarily along river banks and in wetlands. This has devastated natural habitats, exacerbated downstream flooding and exposure to weather shocks. These 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. Degradation of agricultural land and of forests poses a major constraint to productivity and economic development: estimated at a cost equivalent to 5.3 percent of GDP each year<sup>3</sup> with soil degradation being the main factor contributing to reduction in agricultural yields estimated over the years between 4 and 25 percent<sup>4,5</sup>. The government and partners are joining in an effort to reverse these trends through better natural resources and integrated water resources management. Agricultural intensification through irrigation development is an integral part of this strategy. In 2015, the Government adopted an Irrigation Master Plan and Investment Framework, which provides priorities for different business lines in irrigated agriculture and proposes specific investments based on multi-criteria analysis.

7. Water resources and their variability play a critical role in Malawi's economy. While overall availability of water resources is quite satisfactory, per capita water availability has been declining. Malawi has one rainy season, and rainfall in the South does not allow for stable agricultural production. Despite the noticeable surface water bodies in the country, in particular Lake Malawi, the second largest lake in Africa, the availability and reliability of surface water in Malawi is highly variable between wet and dry seasons and from year to year, and water storage infrastructure is very low even by regional standards. Water resources are also increasingly becoming degraded through sedimentation, biological contamination and effluents, and due to inadequate catchment/watershed management. Future irrigation development particularly upstream of the hydropower cascades may result in water use trade-offs and investments need to be made selectively to minimize impacts and favoring high-return investments in irrigation.

8. A major binding constraint to stable commercial agriculture development in Malawi is the limited area equipped for irrigation. Only about 4 percent of crop land is currently irrigated. The total area of irrigated land stood at 104,000 ha in 2014 of which about 54 percent was smallholder and 46 percent was estates (GoM, 2015). Almost all irrigation is from surface water. Because of its high productivity, the contribution of irrigated agriculture to agricultural sector GDP is around 10 percent and importantly supports food security, rural income generation and rural poverty reduction. The irrigated area has been growing steadily since 2006 at the rate of around 5 percent per annum. Overall there are around 56,600 household beneficiaries of smallholder irrigation schemes, but these represent only around 3.3 percent of all rural households. Water resources are sufficient to more than double the irrigation area. Most of the potentially irrigable land lies in the plains along the shores of Lake Malawi and the Lower Shire Valley. These areas have fertile soils and adequate water resources for the development of irrigated agriculture.

9. Insecure land tenure is also a major constraint to agriculture development. Fear of loss of land is a major impediment to productivity - perceived risk of loss of land is estimated to reduce productivity by up to 12 percent (Deininger and Fang, 2016) - and inability to enter into productive alliance with current land entitlement further blocks private investments in land productivity improvement. This lack of investment also translates into less sustainable approaches to land management. By the end of 2016,

<sup>3</sup> Ministry of Finance and Development Planning (2011). *Economic Valuation of Sustainable Natural Resource Use in Malawi*. Poverty and Environment Initiative. UNDP/UNEP.

<sup>4</sup> World Bank (1992), *Malawi Economic Report on Environmental Policy*, World Bank, Lilongwe

<sup>5</sup> Bishop J. (1995), *The Economics of Soil Degradation: An Illustration of the Change in Productivity Approach to Valuation in Mali and Malawi*, LEEC Paper 95-02, IIED, London.



the Malawian Parliament had passed 10 new laws<sup>6</sup> that fundamentally modify the status and registration of land rights in the country. In particular, the new framework introduces a decentralized land administration and registration system and provides for the formalization and registration of customary rights. This new framework presents both opportunities and challenges for transformation in agriculture. The new legal framework significantly improves options for strengthening land tenure security and allows more productive alliances to form, both of which are key to agricultural commercialization proposed under the program. In the short term, arrangements will be needed to address weaknesses in institutional arrangements for land registration, the devolution of decision making, and the lack of regulatory details, all of which comprise challenges for the implementation of the new framework.

10. Agricultural commercialization is constrained by poor market systems and limited farmer organization. Agricultural rural markets in Malawi are undeveloped, there is inadequate infrastructure for efficient agricultural marketing, limited access to and poor quality of marketing service provision, and policy incoherencies that negatively affect marketing. Agricultural sector policies have distorted farm incentives and hampered private sector growth in the past; and still require rationalization and modernization. Limited public and private investments in transport, storage, electricity, financial products, and quality standards have inhibited farmers' efficiency and competitiveness in both local and international markets. Increasing domestic demand of the various products is making horticultural production popular among farmers. However, value addition in agricultural sector is constrained by a weak business and investment climate. Malawi continues to perform poorly in critical areas of economic recovery and competitiveness such as trading across borders, access to electricity, starting a business, and others. The country is poorly ranked at number 133 in the 2017 Malawi Doing Business Report. Access to Finance is the top most business obstacle. The country's interest rates are very high at around 40 percent per annum in the commercial banks and ranging between 50 and 80 percent per annum in the microfinance and informal banking systems. The financial sector is small and focuses on a narrow range of products. National electrification rate stands at less than 10 percent with electrification in the rural areas being much lower at 2 percent. Weak institutional and regulatory framework poses a challenge to agricultural enterprise development. Regulatory barriers, high transaction costs and non-transparent procedures hamper new entrants. Malawi generally faces high costs of trade, coming from high tariffs and non-tariff barriers, regulatory costs, border challenges as well as high transportation costs.

11. Under the Comprehensive Africa Agriculture Development Program (CAADP) process, Government of Malawi (GoM) has developed and adopted the Agricultural Sector Wide Approach (ASWAp) and the National Export Strategy, advocating for strategic investment towards programs and initiatives for the transformation of smallholder agriculture, the expansion of irrigation infrastructure, expansion and diversification of exports and expansion of commercial agriculture. The National Agricultural Policy (NAP, 2016) identifies agricultural market development, agro-processing and value addition as policy priority areas. Public spending in agriculture has been high to match ambitions and supporting strategies, such as the Irrigation Masterplan and Investment Framework, and the Contract Farming Strategy, the Land Policy, guide investments to create an efficient, fair and competitive

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<sup>6</sup> The Land Bill, 2016; Customary Land Bill, 2016; Physical Planning Bill, 2016; Land Survey Bill, 2016; Registered Land (Amendment) Bill, 2016; Land Acquisitions (Amendment) Bill, 2016; Local Government (Amendment) Bill, 2016; Malawi Housing Corporation (Amendment) Bill, 2016; Forestry (Amendment) Bill, 2016; and Public Roads (Amendment) Bill, 2016.



environment for commercial agriculture. Support to a thriving irrigated agriculture sector is predicated on a demand-driven, service oriented approach with the full participation of farmers and commercial interests, as spelled out in the National Irrigation Policy and Development Strategy (NIPDS, 2016) and as implemented in the recent generation of irrigation projects. The GoM has made significant strides in strengthening the capacity of the irrigation sector institutional framework and its staffing at national and district level, development of appropriate bylaws and management transfer mechanisms, and has developed support structures for Water User Associations (WUA). The Ministry of Agriculture, Water Development and Irrigation is the key agency in this space, along with the Ministry of Natural Resources, Energy and the Environment, the Ministry of Lands, Housing and Urban Development, the Ministry of Industry and Trade and the Malawi Investment and Trade Center. These and other agencies are collaborating in sector wide approaches and multi-sectoral programs in the agriculture, irrigation, natural resources management and land agendas.

12. The proposed Shire Valley Transformation Program (SVTP)<sup>7</sup> builds on these experiences and addresses the natural resources, agriculture, energy and water nexus through an integrated approach at the landscape level in the most promising yet most at risk area in the country. The program would be developed in the Shire Valley in the south of Malawi. This area contains the highest incidence (above 80 percent) of extreme poverty in Malawi (Integrated Household Survey, 2013). Droughts and floods are increasingly frequent, particularly in this part of the country and pose a persistent threat of famine. Natural resources, such as forests, biodiversity and fisheries are under severe threat and the loss and degradation of these resources threaten to exacerbate vulnerability, reduce resilience to climate shocks and diminish the provision of environmental services (such as watershed protection) at the local and global levels. In terms of agricultural production and value chains, there are currently limited economic activities taking place, precisely for lack of water. Yet, the agronomic potential is enormous with generally fertile soils, as is demonstrated by the very high sugar yields already obtained in the area under commercial irrigation. There is also a young and abundant workforce, and there are positive experiences with smallholder outgrowers, and a strong support for agricultural intensification. The least as well as most productive agriculture systems in Malawi have been co-existing in the Shire Valley, and the challenge for government has been to unlock the development potential of this area. The long-term presence of private sector (primarily commercial sugar estates) and good market linkages make this a highly attractive development that addresses the multiple and intertwined constraints to transformation in the agricultural economy. With its multi-pronged approach targeting transformation in customary land tenure, in agricultural systems, and in sustainable optimization of natural resource use (land, water, energy), in a highly demand-driven process, the SVTP has been carefully designed to address the most pertinent risks and unlock the areas potential in income generation, food production, long-term sustainable resource use and conservation, economic gains and self-determination for smallholder farmers.

13. The rewards are multiple and transformational at the regional level, and also combines benefits for smallholder farm households with benefits for agribusinesses, promising long-term viability: The economic net benefits from intensive agriculture in phase 1 in this area alone is about US\$56 Million, while the overall program benefit is estimated at US\$314 Million. Many households will be lifted out of

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<sup>7</sup> The PAD refers to the actual irrigation scheme as the “Shire Valley Irrigation Project” (SVIP), which will be developed in two parts, called SVIP Phase I and SVIP Phase II; and to the proposed integrated program that supports its development as the “Shire Valley Transformation Program” (SVTP), with the three phases named SVTP-I, SVTP-II and SVTP-III.



poverty due to significant improvements in their disposable income and livelihoods. The project also entails considerable foreign exchange earning benefits due to possible increase in exports and import substitutions. The program has a number of specificities catering to Malawian smallholder realities, including a transitional and adaptable pathway from current subsistence to commercial agriculture while enhancing household land rights and nutrition status. Through improved land management, diversified cropping for market and consumption, and access to water, multiple income, nutritional and health benefits are expected. The potential to provide gravity irrigation to a large expanse, and provide for livelihoods away from the hazardous floodplain people currently depend on will have strong resilience impacts. It will also have a significant net positive energy impact – since gravity irrigation will displace the need for energy-intensive pumping from the river, which in turn will free-up substantial and much-needed energy to the national grid - and make optimum use of the country's natural resources.

14. The inclusion of a strong focus on sustainable natural resources management at the landscape level is designed to complement investments in irrigation and agricultural development by protecting environmental services, increasing the generation and sharing of revenues with local communities around conservation areas and reducing human wildlife conflicts (e.g. with elephants, buffalos and crocodiles) in productive landscapes adjacent to conservation areas and within the Elephant marsh. Conversely, it is expected that higher agricultural productivity will help alleviate poverty-driven pressures on conservation areas. Finally, the program makes a sizeable contribution to net GHG emissions reduction through reduced pumping, introduction of sustainable land use management approaches, and improved carbon storage in protected areas.

15. Participation of the World Bank Group (WBG) is key to the Program, and helps catalyzing financial commitments from other development partners to downstream/on-farm developments, as well as the private sector. The Bank has a long history of engagement with the GoM supporting investments in the resilience, natural resources, water, agriculture, land tenure and irrigation sectors, and the Bank supported programs have supported preparatory work and ongoing feasibility studies for the proposed Shire Valley Irrigation Project (SVIP). The ongoing Agricultural Sector Wide Approach – Support Project (ASWAp-SP), the recently satisfactorily completed Irrigation, Rural Livelihoods and Agricultural Development Project (IRLADP) and Community Based Land Reform Project have increased capacity for planning and implementing agriculture and land tenure and registry interventions, and supported a shift in thinking about diversification and modernization.

16. The Bank is currently supporting GoM to adopt a comprehensive and integrated planning and development approach for the Shire River Basin through the Shire River Basin Management Program, which will help ensure the long-term environmental sustainability of GoM's ambitious investment plans in the Basin. The Shire Valley Transformation Program (SVTP) is developed in close alignment with the Agricultural Commercialization Project (AGCOM) and the recently approved Agricultural Support and Fiscal Management DPO, which aims to improve incentives for private sector participation in agricultural markets and to strengthen fiscal management through more effective expenditure controls and greater transparency. The integration is especially relevant in areas of policy dialogue on business environment and promotion of investments; as well as in operationalizing land act and modern forms of productive alliances between smallholder and the commercial farming sector.

17. The GEF support to this project forms part of the World Bank-led Global Wildlife Program (GWP)





approved by the GEF Council in June 2015. The GWP supports participating countries including Malawi to address the growing challenge posed by wildlife crimes, and strives to enhance efforts by individual countries to combat such crimes at a regional and international level. National level interventions will complement site level support in the Lower Shire Valley (see Figure 3- Theory of Change).

### C. Proposed Development Objective(s)

**Note to Task Teams:** The PDO has been pre-populated from the datasheet for the first time for your convenience. Please keep it up to date whenever it is changed in the datasheet.

#### Development Objective(s) (From PAD)

The program development objective for the Shire Valley Transformation Program would be to improve the management and utilization of natural resources in a sustainable way to increase agricultural productivity and commercialization for targeted households in the Shire Valley.

The SVTP-I Project Development Objective is to provide access to reliable gravity fed irrigation and drainage services, secure land tenure for smallholder farmers, and strengthen management of wetlands and protected areas in the Shire Valley.

The first project under the program (SVTP-I) will initiate the process of transformation of the Shire Valley and pave the way for agricultural commercialization and improved natural resource management at the landscape level. The indicative objectives for the second and third phases would be to increase agricultural productivity in targeted smallholder-owned commercial farm enterprises; support value chain and value addition; extend area supported with irrigation and farm development; and continue and expand efforts to address land degradation and sustainable management of forests, wetlands and protected areas.

#### Key Results

The Program contributes to the WBG's twin goals of ending extreme poverty and promoting shared prosperity in a sustainable manner, especially given the unique circumstances in the Valley where the predominant situation is of extreme poverty and risk, and recurrent need for urgent recovery assistance; but also with the 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, the proposed project addresses many of the challenges identified under the WBG Country Assistance Strategy (CAS) for Malawi for the period FY13-FY17 and is aligned with theme (1) Promoting Sustainable, Diversified and Inclusive Growth; while also supporting theme (2) Enhancing Human Capital and Reducing Vulnerabilities. The Project addresses key development questions in the water and agriculture agenda on optimizing water productivity and water use efficiency to feed a growing population with increasing climate risk.

The Program is also consistent with the Government's priorities, as described above. The Program is directly aligned with Malawi's policy commitments to address climate change and build resilience, as set-out in Malawi's Nationally Determined Contribution (NDC) document submitted to the United Nations Framework Convention on Climate Change in 2015. NDC's top adaptation priorities are to address land and watershed degradation and specifically the loss and degradation of forests, improve the resilience of the agriculture sector to climate change through development of irrigation and climate smart agriculture and improved management of fisheries and natural ecosystems.



#### **D. Project Description**

The SVTP is a 14-year program (2017-2031) 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 Shire Valley Irrigation Project scheme and providing multiple services including water supply; (ii) Support farmer organization within a comprehensive land use plan; supporting land tenure strengthening and consolidation; as well as natural resources management; and (iii) Establishment of smallholder owned commercial farm enterprises transitioning into commercial agriculture from subsistence farming and integrating them into commercial value chains. These pillars all contribute to the overarching goals of the program, and build on each other in a phased approach. This programmatic approach, supported by the Bank and other development partners through a Series-of-Projects reflects: a) the size and complexity of the scheme and the time needed to develop irrigated and supporting infrastructure that would in turn allow for agricultural transformation; b) high overall development costs that require the development of the program in phases; and c) the recognition that investment requirements evolve during program lifetime with an initial focus on infrastructure and a gradual shift to agricultural production, value addition and investment support. The programmatic approach allows flexibility not only for catalytic investments in infrastructure early on in the program, but also for modifications in downstream agricultural development and the second phase of scheme development as agricultural and water challenges are progressively managed.

This project is the first of three sequential but partially overlapping phases (with different financiers entering at different times and in parallel financing arrangements). In general terms, SVTP-I initiates the process on all pillars with a major focus on irrigation service provision to the SVIP-I area, land tenure, farmer organization and natural resource management as these precede any downstream development. While not investing heavily yet in areas of agricultural commercialization and investment promotion, it incorporates the vision and principles of agricultural modernization and commercialization and prepares for downstream investments under SVTP-II, which shifts investment focus to agricultural investment, private sector and value chain support, as well as the investments in bulk infrastructure for the SVIP-II area. Finally, SVTP-III is the massive scale up phase of investments to the SVIP-II area. Additionally, the government of Malawi has allocated GEF-6 resources to support investments from the Biodiversity, Climate Change, and Sustainable Forest Management focal areas. Designed as a fully blended operation, GEF funds will provide support to Components 2 (natural resources management) and 4 (program management) of the Shire Valley Transformation Project (SVTP-1). Under SVTP-I there are four components:

##### **Component 1: Irrigation Service Provision**

This component will finance the works, goods and services necessary to develop irrigation and drainage infrastructure in the SVIP-I area. This includes preparation of detailed designs and construction supervision and quality assurance, construction of the physical bulk water conveyance and main distribution system, major drainage and service and access roads. Provisions will be made for SVIP-II area in terms of canal dimensions, right of way, and preparatory studies. In parallel, the component will support spatial planning in the wider project area to ensure the irrigation scheme is well integrated with other land uses and natural resources. Subcomponent 1.2 will support the establishment of a professional management, operation and maintenance system for the scheme.

##### **Component 2: Preparing land-based investments and natural resources management support**

Sub-component 2.1 will finance the works, goods and services in support of addressing security of land tenure and organizing farmers for commercial production – as a first step in developing commercially oriented agriculture. This subcomponent supports coordinated pilot implementation of the new legal framework for land administration.



Subcomponent 2.2 is GEF funded and supports natural resources management to broaden the multi-sectoral benefits of the program and enhance environmental sustainability within the modernization program. Key activities focus upon national level strengthening of frameworks for biodiversity conservation, sustainable landscape management and building capacity for field level monitoring and management of information for enforcement. The program will invest in protected areas, the Elephant Marshes and associated activities that will support improved natural resource management and the development of a broader land use plan for the Shire Valley.

### **Component 3: Agriculture Development and Commercialization**

This component will finance the works, goods and service in support of a program of activities to support inclusive commercialization in agriculture through smallholder owned commercial farm enterprises. Financial sustainability of the SVIP irrigation investment can only be achieved through profitable agricultural production. Farms will need to be linked to Commercial Value Chains for production and sale of their produce. Development of commercial value chains will be needed to enable farmers to gain access to markets and commercial services; this is essential to enable viable commercial agriculture. The process of identifying and capacitating farmers for commercial production will begin immediately after the project is commenced so that farmers will be ready for commercial operation when the irrigation infrastructure is completed. This component will pave the way for major scale up in SVTP-II.

### **Component 4: Project Management and Coordination**

This component will finance the multiple coordination and management needs of a project of this scale and focus on the roll out of the communications strategy and manage grievance redress mechanisms, as well as day-to-day management, monitoring and evaluation of the project. The GRMs will provide a responsive ongoing mechanism to address PAP and other stakeholder concerns raised throughout the life of the project, including those arising from resettlement and compensation initiatives, and construction and operations phases. The sub-component will finance project management structures that have been established and in place throughout project preparation. Fiduciary management will be with the Project Management Team (PMT), and procurement and Financial Management (FM) staff have been recruited and the positions need to be maintained and expanded. The project will provide funding for professional and support staff to strengthen the PMT and facilitate its operations, coordination and communication, including procurement, financial management, environmental and social safeguards specialists, as well as a diverse range of short term expertise and annual external audits.

**Incremental reasoning:** GEF-6 funding will promote an inter-sectoral approach to the management of the Lower Shire landscape by addressing biodiversity conservation, protecting and enhancing the role that forests, woodlands, rangelands and wetlands play in mitigating climate change; and promoting sustainable approaches to forest management that protect forest resources and deliver benefits to local communities. These activities should also contribute to building resilience to short term weather shocks and longer-term climate variability for local stakeholders in a region considered highly exposed and vulnerable to climate change. As designed the project will contribute to achieve the Convention on Biological Diversity's (CBD) 'Aichi Targets' (specifically, numbers 11<sup>8</sup> and 12<sup>9</sup>) which call for efforts to improve management of protected areas and conserve threatened species respectively. The program is supportive of Malawi's obligations under the CITES to protect priority species such as elephants and rhinos. Progress for meeting these targets will be addressed by improving ecological connectivity between woodlands, forests, and

<sup>8</sup> By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative, and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.

<sup>9</sup> By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.



wetlands ecosystems within key biodiverse landscapes with a strong focus of engagement with local communities, to reduce fragmentation of natural ecosystems within the landscape and to create a more integrated, ecologically representative, and well-connected systems of protected areas.

## E. Implementation

### Institutional and Implementation Arrangements

The Program has three major implementation modalities. There is need for a robust implementation mechanism for infrastructure development, secondly, there is need for meaningful community engagement processes on land tenure and initial farmer organization, and lastly project implementation and its success will primarily rely on its market and agri-business orientation and its ability to secure land tenure for its smallholders. For irrigation development, a strong project management team and monitoring will be set up. Many implementation responsibilities in terms of agricultural development and marketing will be given to private investors and farmers organizations. The approach will be based on successes in Malawi and in other countries in developing value chains based on promoting coordination among private stakeholders and on delivering well targeted services to help farmers comply with markets' requirements.

By nature, this Project will be multi-sectoral and will involve a number of key government agencies, and consultation and coordination mechanisms. The main implementing agency is the Ministry of Agriculture, Water Development and Irrigation, and it coordinates overall implementation together with the Ministry of Finance, Economic Planning and Development (MoFEPD). Other agencies involved in the program are the Ministry of Natural Resources, Energy and Mining (MNREM); the Department of National Relief and Disaster Management (DNRDM); the Ministry of Lands and Housing (MLH); Ministry of Local Government and Rural Development (MLGRD); the Ministry of Transport and Public Works (MTPW); the Ministry of Tourism and Culture (MTC); Malawi Investment and Trade Center (MITC), EGENCO; the PPP Commission; the Southern Region Water Board (SRWB); and the Shire River Basin Agency/National Water Resources Authority.

The Program will have a steering and technical committee at national level, a consultative committee and a technical team at local level. The Project Management Team (PMT) comprises of civil servants and recruited professionals for project management, coordination and monitoring. This team will be based in the Shire Valley (Chikwawa) and nearby Blantyre.

The Ministry has experience in implementing safeguards instruments and documenting compliance. It has regularly trained staff in ministry and districts on safeguards compliance, with support of MoNREM. The PMT assumes responsibility for overall implementation including safeguards. The safeguards coordinators will lead all implementation, monitoring and compliance documentation of the safeguards instruments and will liaise frequently with the service providers on issues related to safeguards, health and safety, etc. The same applies to the M&E, Communications and GRM officer, who will be responsible for maintaining the project Management Information System, lead communications and manage the Grievance Redress Mechanism with relevant committees. Contractors will be required to prepare CESMPs and Labor Influx Management Plans.

**Note to Task Teams:** The following sections are system generated and can only be edited online in the Portal.



#### **F. Project location and Salient physical characteristics relevant to the safeguard analysis (if known)**

The project area encompasses portions of the lower Shire River Valley in the Chikwawa and Nsanje Districts of southern Malawi. The total area of the two districts is approximately 6,700 km<sup>2</sup>. The project's civil works would extend from north to south, beginning with the irrigation water intake just upstream of the existing Kapichira Dam on the Shire River and continuing south to the cultivation areas on the right bank of the Shire River. This is low lying terrain with a hot and dry climate with frequent dry spells and droughts. The project's area of influence includes two major protected areas, Majete Wildlife Reserve and Lengwe National Park; portions of both would be crossed by the main irrigation canal. The project's net irrigable area (both Phases I and II) would encompass up to 43,000 hectares (ha), of which some 12,000 ha are already under irrigation, and the balance is currently under a combination of rain-fed crops, fallow, and remnant natural or modified woodland and savanna vegetation (none within existing or proposed protected areas). The floodplain of the Shire is intensively cultivated with a recurrent risk of flooding. Droughts and floods pose a persistent threat of famine. Yet, the floodplain also harbors the Elephant Marsh, which has important ecological and flood attenuation functions. The scheme will be constructed and provide livelihood opportunities away from the frequently flooded areas. The population of Chikwawa is 461,705 and that of Nsanje 250,159 people. Nsanje District has the highest incidence (76 percent) of extreme poverty of all 28 districts in Malawi, followed closely by Chikwawa (65.8 percent). Like elsewhere in the country, the vast majority of the rural population (90 percent) consists of smallholder farmers, cultivating small and fragmented pieces of land held under customary land tenure. Despite the size of the rural population, settlement in the Valley is scattered. Small villages are generally concentrated on higher grounds along the river bank or beside the roads. Maize is the staple food in the area, but sorghum and millet are also important. Yields and cropped areas are often insufficient to meet household demand. Illovo is the largest employer in the area and the most productive as well as least productive agriculture in the country are found alongside each other. An integrated approach will be required to tackle the multiple social and environmental challenges that residents and the valley as a whole face.

#### **G. Environmental and Social Safeguards Specialists on the Team**

George Campos Ledec, Environmental Safeguards Specialist

Helen Z. Shahriari, Social Safeguards Specialist

Richard Everett, Social Safeguards Specialist

Ekaterina Romanova, Social Safeguards Specialist



**SAFEGUARD POLICIES THAT MIGHT APPLY**

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	<p><b>ENVIRONMENTAL ASSESSMENT:</b> The project involves a number of interventions and investments that range from large-scale irrigation infrastructure to agricultural intensification and associated services. This Category A project has involved the preparation of an independent Environmental and Social Impact Assessment (ESIA), including an Environmental and Social Management Plan (ESMP) and Pest Management Plan (PMP). ESIA preparation has included extensive stakeholder consultations, which will continue after the ESIA report is publicly disclosed and during project implementation. The ESMP includes environmental rules for contractors that cover site-specific Technical Specifications, a Code of Conduct for all construction personnel, special precautions for all construction work within the Majete Wildlife Reserve, and recommended penalties for non-compliance. The ESIA and ESMP demonstrate how the project would comply with all applicable rules and guidelines, including (i) all triggered World Bank Safeguard Policies; (ii) relevant World Bank Group Environmental, Health and Safety Guidelines; (iii) World Bank guidance on Managing the Risks of Adverse Impacts on Communities from Temporary Project Induced Labor Influx; (iv) World Bank Africa Region’s Interim Guidelines for Safeguards Application in Agricultural Water Management Projects; (v) African Development Bank’s environmental and social standards; and (vi) the Malawi Environmental Affairs Department’s Guidelines for Environmental Impact Assessment and Guidelines for Environmental Management System and Environmental Auditing for Irrigation and Drainage Operations. Government (specifically the Ministry of Agriculture, Irrigation, and Water Development) will update the ESIA and ESMP once detailed design is available for the different construction phases, and consult and disclose future versions as they become available. The ESMP includes an annex with an Environmental and Social Screening form for sub-project activities under components 2.2 and 3.</p>



Natural Habitats OP/BP 4.04

Yes

**NATURAL HABITATS:** The project is designed to minimize any adverse impacts upon natural habitats as a result of irrigation development, while strengthening the management of project-supported protected areas.

**Invasive Fish Barrier:** A tall weir will be located near the upper end of the Main Canal to prevent any fish that might enter the canal system from moving upstream and bypassing Kapichira Falls (a natural barrier to upstream fish movements); this will prevent non-native fish from entering the upper Shire River and Lake Malawi. For added security, this weir will be located within the Majete Wildlife Reserve, where human access is strictly controlled. The World Bank will contract a special Panel of Experts to carefully review the fish barrier's preliminary design and recommend any needed improvements. This panel of specialists on invasive fish species, fish barrier design, and irrigation canal engineering is expected to make a site visit and provide their recommendations prior to finalizing detailed design of SVTP-I. This Panel will then be retained as well during the canal construction process involving the fish barrier.

**Majete Wildlife Reserve:** The project's canal infrastructure footprint within the Majete Wildlife Reserve has been greatly reduced by locating the irrigation canal intake at Kapichira Dam (rather than Hamilton Rapids, which would have cut off a large part of the park from the Shire River). Other mitigation measures will minimize or compensate for any other adverse impacts upon the Reserve. For the 2-3 km of Main Canal that will still run through the Majete Reserve, all of it will be either underground (in siphons) or walled off on both sides to prevent wildlife from falling into the canal, getting stuck, and drowning. The approximately 1 km of this canal that will be on community lands between two portions of the Majete Reserve will have a wildlife-friendly (non-slippery) surface. A very small portion of water from the Main Canal (negligible in terms of irrigation water availability) will be provided to wildlife watering areas and an expanded tree nursery at Majete. Water supply for the Majete staff



village will also be improved. To minimize the disturbance to wildlife, rock blasting will be restricted to the hottest few hours of the day and mobile noise barriers will be used. Disruption to Majete's tourism will be minimized by restricting construction to the main work week, Mondays through Thursdays; on the other days of the week plus holidays, the contractor will work on a portion of the canal that lies outside the Reserve. The project will also support the dissemination of tourism promotion materials following the end of construction at Majete. To ensure that SVTP-I does not undermine the Majete Wildlife Reserve's financial sustainability, the project will provide compensatory support to the Reserve, particularly through investments in long-needed wildlife fence upgrades. During the project baseline flows over Kapichira Falls will be monitored and environmental considerations of project induced impacts will be included in the Reservoir Management Plan to be adopted prior to start of canal operation.

Lengwe National Park: A planned future phase of the SVTP (beyond this project) would extend the main irrigation canal through the Lengwe National Park for about 14 km. The ESIA provides recommendations regarding how this future project should minimize the adverse impacts and produce a net gain from a conservation standpoint, by increasing water availability for Lengwe's wildlife and supporting improved Park protection and management. The ESMP for Phase 2 is proposed to be developed in year 4 of the Project in parallel with and informing the detailed design for Phase 2 and this will be reviewed and approved separately. This ESMP will provide more details on impacts and measures related to Lengwe National Park.

Elephant Marsh: The project will reduce water flows to the Elephant Marsh, a large wetland along the lower Shire River, to a measurable but not highly significant degree. The water intake will be dimensioned to abstract up to 50 m<sup>3</sup>/s from the Shire River. However, since some of the canal water will simply substitute for irrigation water that is currently pumped from the river, the maximum net





abstraction will be 32 m<sup>3</sup>/s at full development and only 12 m<sup>3</sup>/s for SVTP-I. This translates to a net abstraction at full SVTP development of not more than about 10 percent of the Shire River’s flow during September, the dry season month of peak irrigation water demand. The project will support hydrological and biological monitoring of the Elephant Marsh, building on the baseline data obtained through the ongoing Shire River Basin Management Project (SRBMP). The project will also support the designation of Elephant Marsh as a Ramsar Wetland of International Importance, along with the establishment of Malawi’s first Community Conservation Wetland Area under the administration of the Department of National Parks and Wildlife (DNPW). This management category will enable the establishment of different use zones and the community-based regulation of fishing and other traditional livelihood activities, without requiring any resettlement of current residents away from the Marsh.

Other Conservation Areas: Under the Natural Resources Management Subcomponent, the project will support targeted investments to improve the protection and management of the Elephant Marsh (noted above), Lengwe National Park (beyond the area of influence of the future irrigation canal), Mwabvi Wildlife Reserve, and Matandwe Forest Reserve.

Set-aside Lands: Under the project, the layout of new irrigation blocks would take into account Set-aside Lands that should not be irrigated. These include (i) pre-identified areas comprising the remaining natural habitats (riverine forests, thickets, dambo wetlands, etc.), frequently flooded areas, soils unsuited for irrigation, cultural heritage sites, and a 100+ meter non-irrigated buffer zone around Lengwe National Park and (ii) woodlots, grazing lands, and other special-use areas that will be identified during the participatory land use planning process that will be part of irrigation block establishment.

Forests OP/BP 4.36

Yes

FORESTS: Native project-area woodlands (mostly within the project-supported protected areas) fall



		within the definition of “forests” under OP 4.36. However, since SVTP-I is not a forestry project, OP 4.36 imposes no additional requirements beyond those of OP 4.04.
Pest Management OP 4.09	Yes	PEST MANAGEMENT: The project’s Pest Management Plan (PMP) provides criteria and procedures for the: (i) promotion of Integrated Pest Management for the crops to be irrigated as a result of the project; (ii) safe handling, storage, transport, and disposal of pesticides, including technical assistance (TA) to farmers; and (iii) criteria and procedures for safer pesticide selection. The PMP is intended to be a “living document”, with procedures for periodic revision, as the crop mix changes over time and new pest issues might emerge.
Physical Cultural Resources OP/BP 4.11	Yes	PHYSICAL CULTURAL RESOURCES: The proposed scheme is located in an area of known historic habitation and trade, and has landscape elements of cultural value. ESIA preparation included a systematic survey of the main canal right-of-way and other planned civil works sites, checking for archaeological relics, fossils, human graves, shrines, sacred trees or groves, and other physical cultural resources (PCR). Based on this survey, the ESMP specifies 9 sites of archaeological interest where pre-construction salvage of pottery fragments and other items should take place, led by Malawi’s Department of Antiquities. The ESMP also specifies Chance Finds Procedures for the civil works contractors to follow during irrigation canal construction, along with pre-construction training and awareness for contractor personnel. The canal alignment will be selected so as to minimize interference with physical cultural resources. No graveyards are expected to be affected by the project. Items of cultural interest will be systematically catalogued and stored or displayed, in accordance with guidance to be provided by the Department of Antiquities.
Indigenous Peoples OP/BP 4.10	No	INDIGENOUS PEOPLES: None of the people within the project area (or in Malawi more broadly) meet the specific criteria under which indigenous peoples are defined in OP 4.10.
Involuntary Resettlement OP/BP 4.12	Yes	INVOLUNTARY RESETTLEMENT: The detailed design of the irrigation canals is not yet completed and will only become available during Year 1 of project



implementation. The detailed design of the project-supported irrigation blocks will be the result of an extensive participatory approach that is expected to take 2-3 years. While the general footprint of the project's irrigation canals and command areas is mostly already known, the specific people to be compensated or otherwise assisted under the project will only be known when the final design is completed of the canal and other irrigation works. Accordingly, a detailed Resettlement Policy Framework (RPF) has been prepared in advance of project appraisal. The RPF sets out the procedures for the development of more detailed RAPs for those investments and associated facilities that have a known, specific impact on land, assets, and livelihoods. The RPF seeks to ensure that any possible adverse impacts will be addressed through appropriate social mitigation measures, particularly to avoid any potential impoverishment of Project-affected people. Preparation of this RPF included carrying out a variety of socioeconomic studies, including one on land tenure. For planning and budgeting purposes, the RPF made estimates on anticipated number of PAPs, types of losses, based on preliminary designs and anticipated project activities. These will need to be confirmed and updated during RAP formulation.

It is likely that several RAPs will be produced, including one that focuses primarily on the canals and other infrastructure, and one or several RAPs that focus on the impacts within the agricultural blocks once it becomes clear how the land consolidation will affect specific locations and groups of PAPs.

PAPs: Specifically, the RPF identifies different categories of PAPs, here simplified and with details in the RPF: (i) People losing agricultural land to the canals, who will be given replacement land or (where sufficient land is not available) cash based on the irrigated land value; (ii) People who are losing residential land or commercial establishments due to the infrastructure will be given alternative land in adjoining villages, in addition to cash for improvements and resettlement assistance (at replacement value); (iii) People in the future irrigation blocks who are giving up land for shares in



a company that are estimated to be of considerable greater value than the land they are contributing, and for whom a land tenure bundle of rights in a fall-back position, must be strong in legal terms in case the company dissolves; (iv) Livestock owners who will lose access to grazing and migration routes, where provisions have been made in the design to accommodate these persons; and (v) Communities who may be split by the canal or otherwise affected, who will be supported with investments linked to community-based mitigation plans to reduce adverse impacts of the canal.

**Labor Influx:** While the majority of those employed during the works phase of the project can and should be hired locally, there is still likely to be a significant temporary influx of semi-skilled and skilled workers brought in by contractors from outside the local communities. As part of the preparation of the RAP, further social assessments will be undertaken to the assessments carried out for ESIA and RPF in order to, among others, understand in detail the social, economic, and cultural aspects of these rural communities and the impact that the labor influx will have on the safety, security, economy, customs, and cohesion of these communities. The communications strategy developed as part of project preparation will serve as a tool for having an open and continuous communication with the affected communities. The communications strategy will be updated to include measures to address specific issues related to labor influx that will be explored by the social assessment, such as child labor, harassment of any sort, safety and security, gender-based violence (GBV), HIV/AIDS and other STDs. The updated communication strategy will provide concrete measures on working with the affected communities to prepare them for such influx and to deal with the impacts of such influx during the project implementation. One of the tasks of the service provider that will be hired to assist with the implementation of the RAP is to work throughout the project life with the affected communities on these issues and be a liaison between the communities and the implementing agency. All contractors with anticipated labor influx will be required to submit to the PMT for approval a



Labor Influx Management Plan prior to commencing civil works.

Process Framework: SVTP will support the establishment of a new conservation area in the Elephant Marsh and the improved management of existing protected areas (Lengwe National Park, Majete and Mwabvi Wildlife Reserves, and Matandwe Forest Reserve). To address any potential adverse impacts upon local livelihoods through new restrictions of access to natural resources within these conservation areas, the Government has prepared a Process Framework. This document outlines the participatory process through which decisions would be made during project implementation to help restore and improve the livelihoods of people potentially affected by new restrictions on natural resource use.

Safety of Dams OP/BP 4.37

Yes

SAFETY OF DAMS: Although the SVTP will not build any dams, it depends upon the existing Kapichira Dam on the Shire River for its effective functioning. SVTP will also depend upon the operation of Kamuzu Barrage and the Nkula and Tedzani run-of-the river hydropower plants (further up-river) for its effective functioning. The Kamuzu Barrage is being upgraded under the ongoing SRBMP; a Dam Safety Panel of Experts is closely involved with this undertaking. Accordingly, SVIP includes a Dam Safety Assessment for the Kapichira dam by independent specialists, consistent with OP 4.37. The POE carried out site visits, reviewed documentation and discussed with dam managers and concluded that the dam is in sound condition. The principal comments of the POE are that independent inspections should be carried out every 5 years and that the owner should produce annual inspection reports, and recommended items to be inspected by the time of next independent inspection. Dam managers committed to the implementation of the recommendations.

Projects on International Waterways  
OP/BP 7.50

Yes

INTERNATIONAL WATERWAYS: As per OP 7.50, the Shire River is an international waterway (a tributary of the Zambezi River). Accordingly, a standard legal notification has been provided to the other Zambezi Basin riparian states as part of project preparation. No responses were obtained by the end of the



notification period on May 31, 2017. To a separate notification, carried out through ZAMCOM Secretariat, responses were received from Angola, Botswana, Mozambique and Namibia, which were shared with the Bank. None of these letters are objections, and riparians encourage continued sharing of information on the project.

Projects in Disputed Areas OP/BP 7.60 No

DISPUTED AREAS: All of the territory within the SVTP program area is undisputedly within Malawi.

KEY SAFEGUARD POLICY ISSUES AND THEIR MANAGEMENT

A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

The environmental and social impacts (positive and negative) attributable to this project are mainly linked to (i) the major new irrigation canal network; (ii) the extensive agricultural lands to be irrigated under the project; (iii) water abstraction from the Shire River; and (iv) conservation-oriented activities under the Natural Resources Subcomponent. The SVTP-I project (and the overall SVTP program of which it is the first part) is expected to have an irreversible but economically positive effect on the Shire Valley by transforming substantial areas of rain-fed, subsistence agriculture land to irrigated, mainly commercial agriculture. The project has been designed so that all of its potentially significant, adverse environmental and social impacts would be well mitigated, with overall net gains expected from an environmental as well as social standpoint. The construction of irrigation canals and other project infrastructure will be carefully supervised to minimize adverse environmental impacts and to help ensure a high standard of community and worker health and safety.

Potential Environmental Impacts: The project involves a number of interventions and investments that range from large-scale irrigation infrastructure to agricultural intensification and associated services. The intake and initial portion of the feeder canal are located within Majete Wildlife Reserve and in Phase II the Bangula Canal will cross through a portion of Lengwe National Park, with associated risks during construction and operation. The project is designed to minimize any adverse impacts upon natural habitats as a result of irrigation development, while strengthening the management of project-supported protected areas. There is also a risk that the canals may serve as a passage for invasive fish species bypassing the Kapichira Falls, which would potentially have serious consequences for upstream fish populations. Reduced flow due to abstraction may have negative impacts downstream, from Kapichira Falls until Elephant Marsh, and intensive agriculture, though not located in environmentally sensitive areas, has impacts in increased use of anorganic fertilizers and pesticides and possibly reducing wildlife and biodiversity corridors and set aside areas. There are health and safety risks associated with large scale civil works and long term operation of the canal system. The program is addressing these potential risks in an integrated landscape approach, and at the larger Basin level it is considered in conjunction with other developments and climate change scenarios for cumulative impacts. The Shire River Basin Management Program (SRBMP) is a long-term program with the objective of increasing sustainable social, economic and environmental benefits by effectively and collaboratively planning, developing, and managing the Shire River Basin's natural resources. As such, the SRBMP is the Government of Malawi's chief tool for managing the cumulative impacts of multiple investments within the Shire River Basin, as well as the multiple



demands upon the Shire River's water resources. Within this context, SVTP is considered both sustainable resource use as well as a development priority.

**Infrastructure Land Take:** With respect to the land needed for the infrastructure, it is estimated that around 450 hectares of land will be acquired for the main and branch canals in phase 1, and a similar amount in phase 2. For planning purposes only, the affected houses are estimated at 127 within 10 settlements. In addition, about 95 hectares will be required for the branch canals and night storage basins in Phase 1. Main canals will have a combined length of about 65 kms in Phase I area, and another 70 kms in Phase II area.

**Farmer Land Consolidation:** Farmers who will participate in the irrigation schemes will undergo a process of land consolidation in which they relinquish individually held plots of land for inclusion in a cooperative company. They will have the option to opt out, either individually or as a group, and block development will be based on expressed demand. The farmer groups forming the company will be given land tenure security and will be assisted with the preparation of their farms and be provided with capacity building. If in the process of land preparation for the farms it is unavoidable that they lose a cropping cycle due to ongoing land leveling or other reasons, they will be compensated. Those who decide to opt out when the block is formed on their land will be provided with alternative land of equal value in their vicinity.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

The project-supported increase in commercial, irrigated agriculture is expected to lead to the future establishment of new businesses (such as agro-industrial processing) within the Shire Valley, along with an overall increase in economic activity and reduced poverty. Beyond the planned increase in irrigated land (up to about 43,000 ha from the current 12,000 ha), this project (and the overall SVTP program) is not expected to lead to any major further expansion of cultivated areas, because much of the rest of the Shire Valley is within protected areas and irrigation expansion is limited by physical design of the infrastructure; SVTP-I will in fact strengthen the protection and management of these important conservation areas. The project will enable the abstraction of up to 50 m<sup>3</sup>/s from the Shire River (with total net abstraction equivalent to not more than about 10% of the river's dry season flow). It is likely that further abstraction from the Shire River by any future water-intensive projects will be constrained by the non-consumptive water demands of the Kapichira and other hydroelectric power stations on the Shire River (which currently generate the bulk of Malawi's electricity).

The Shire Valley Transformation Program has been designed within the parameters of the overall Shire Basin Plan that plans for multi-sector development based on environmental and hydrological analysis of future investment and climate scenarios, ranking possible investment and management scenarios comprehensively, based on long-term sustainable water resource utilization. The Shire River Basin Agency and the Shire River Basin Management Program provide the overall institutional framework for managing the risks of disconnected sector planning and any possible cumulative impacts from future development projects.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

**No Pumping:** Some of the project design alternatives considered (such as locating the canal intake below Kapichira Falls) would have required water pumping, which would increase electricity consumption and the operating costs borne by farmers. Gravity-fed irrigation is a key element of project design because it is considered to be more financially sustainable from the farmers' standpoint.

**Water Intake Location.** By locating the irrigation canal intake at Kapichira Dam rather than at Hamilton Rapids, the project's canal infrastructure footprint within the Majete Wildlife Reserve has been greatly reduced. As a result, access by wildlife to the Shire River will remain mostly unimpeded.

**Canal Alignment:** The team that prepared the RPF as well as the land tenure study worked closely with the design



consultant for the main canals to reduce impact. As a result, the project design was done with the input from the social and land tenure consultant, resulting in the re-routing of part of the main canals to avoid most population centers, and impact the least number of people. A number of wooded cemeteries lying along the original path of the canal were also avoided by rerouting the canal path.

Land Tenure and Farming support: By integrating land tenure governance strengthening and land consolidation in an overall participatory approach to irrigation development, a number of risks associated with resettlement, displacement and infrastructure development are addressed. Integrating safeguards instruments in this overall land process should enable a holistic approach to address the situation of those opting in and out, and protect the bundle of rights that people will hold in the transition.

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

The borrower prepared an ESIA (including ESMP and PMP), an advanced RPF, a Process Framework, a Land Tenure Study, a Capacity Assessment, Communications Strategy, and a Gender and Youth Strategy to address the environmental and social safeguards issues related to the project. Malawi's Environmental Affairs Department (EAD) will participate in the supervision of civil works construction. The Department of National Parks and Wildlife and African Parks (the concessionaire that manages Majete) will also participate in the supervision of canal construction and operation within the Majete Wildlife Reserve.

Nonetheless, the institutional capacity of the borrower, especially at the district and village level, for the implementation of the safeguards instruments and different strategies is limited, posing a risk. The RPF notes that there are serious capacity gaps both in human resource and technical competencies that were identified in the Capacity Assessment and Development Plan. To address the human resource capacity, the Government will deploy appropriate staff to the local authority and/or employ professionals to implement the Resettlement Action Plan(s) and other safeguard requirements. In addition, social and environmental safeguards staff will be hired into the Project Management Team for the life of the project to assist with the implementation of the project. The PMT will also include communications and GRM personnel. These staff will work closely with local authorities, local leaders and NGOs during safeguards implementation, ensuring continuous communication and consultation with the communities during the project life on issue such as their rights, compensation, inclusion, labor, and gender. There are also provisions for workshops, meetings and training courses. Contractors will be required to prepare and submit a Contractor's ESMP (CESMP) prior to beginning any construction, and to hire an Environmental Specialist, a Social Safeguard Specialist, and a Health and Safety Officer. The project will establish a strong, robust and proactive Grievance Redress Mechanisms (GRM) that includes community engagement and participatory monitoring as well as strong oversight on safeguards.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

Preparation of the ESIA (including ESMP and PMP) involved extensive consultation with a broad range of stakeholders, including district and local officials, farmer and community organizations, and environmental and other NGOs. During project preparation, multiple stakeholder meetings were convened by Government (MoAIWD and other agencies at the national, district, and local levels) and attended by the ESIA consultants in Chikwawa, Nsanje, and other locations. In accordance with World Bank and Government of Malawi policies, the ESIA (including ESMP and PMP), RPF, and Process Framework have been publicly disclosed prior to World Bank appraisal of SVTP-I.





**B. Disclosure Requirements**

**Environmental Assessment/Audit/Management Plan/Other**

Date of receipt by the Bank	Date of submission for disclosure	For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors
11-May-2017	26-May-2017	10-Aug-2017

**"In country" Disclosure**

Malawi  
24-May-2017

Comments

Date of disclosure is initial disclosure. The document was updated and redisclosed in-country and by World Bank on August 8, 2017. This refers to ESIA and ESMP. Executive Summary was disclosed on August 8 in country. Disclosed on Ministry Website, Ministry and District Office, Newspaper Adverts.

**Resettlement Action Plan/Framework/Policy Process**

Date of receipt by the Bank	Date of submission for disclosure
01-Aug-2017	10-Aug-2017

**"In country" Disclosure**

Malawi  
10-Aug-2017

Comments

Both Resettlement Policy Framework and Process Framework were disclosed on this date. Ministry Website, Ministry and District Office, Newspaper Adverts

**Pest Management Plan**

Was the document disclosed prior to appraisal?	Date of receipt by the Bank	Date of submission for disclosure
Yes	27-Apr-2017	26-May-2017

**"In country" Disclosure**

Malawi  
26-May-2017

Comments

Date of disclosure is initial disclosure. The document was updated and redisclosed in-country and by World Bank on August 8, 2017. Ministry Website, Ministry and District Office, Newspaper Adverts



If the project triggers the Pest Management and/or Physical Cultural Resources policies, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.

If in-country disclosure of any of the above documents is not expected, please explain why:

**C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting)**

**OP/BP/GP 4.01 - Environment Assessment**

Does the project require a stand-alone EA (including EMP) report?

Yes

If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?

Yes

Are the cost and the accountabilities for the EMP incorporated in the credit/loan?

Yes

**OP/BP 4.04 - Natural Habitats**

Would the project result in any significant conversion or degradation of critical natural habitats?

No

If the project would result in significant conversion or degradation of other (non-critical) natural habitats, does the project include mitigation measures acceptable to the Bank?

Yes

**OP 4.09 - Pest Management**

Does the EA adequately address the pest management issues?

Yes

Is a separate PMP required?

Yes

If yes, has the PMP been reviewed and approved by a safeguards specialist or PM? Are PMP requirements included in project design? If yes, does the project team include a Pest Management Specialist?

Yes

**OP/BP 4.11 - Physical Cultural Resources**

Does the EA include adequate measures related to cultural property?

Yes

Does the credit/loan incorporate mechanisms to mitigate the potential adverse impacts on cultural property?

Yes



**OP/BP 4.12 - Involuntary Resettlement**

Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?

Yes

If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?

Yes

**OP/BP 4.36 - Forests**

Has the sector-wide analysis of policy and institutional issues and constraints been carried out?

NA

Does the project design include satisfactory measures to overcome these constraints?

NA

Does the project finance commercial harvesting, and if so, does it include provisions for certification system?

No

**OP/BP 4.37 - Safety of Dams**

Have dam safety plans been prepared?

NA

Have the TORs as well as composition for the independent Panel of Experts (POE) been reviewed and approved by the Bank?

Yes

Has an Emergency Preparedness Plan (EPP) been prepared and arrangements been made for public awareness and training?

NA

**OP 7.50 - Projects on International Waterways**

Have the other riparians been notified of the project?

Yes

If the project falls under one of the exceptions to the notification requirement, has this been cleared with the Legal Department, and the memo to the RVP prepared and sent?

NA

Has the RVP approved such an exception?

NA

**The World Bank Policy on Disclosure of Information**

Have relevant safeguard policies documents been sent to the World Bank for disclosure?

Yes



Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?

Yes

**All Safeguard Policies**

Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?

Yes

Have costs related to safeguard policy measures been included in the project cost?

Yes

Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?

Yes

Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?

Yes

**CONTACT POINT**

**World Bank**

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**Borrower/Client/Recipient**

Ministry of Finance, Economic Planning & Development  
Mr. Ronald Mangani  
Secretary to the Treasury

**Implementing Agencies**



Ministry of Agriculture, Irrigation and Water Development  
Erica Maganga  
Permanent Secretary

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**APPROVAL**

Task Team Leader(s):	Pieter Waalewijn Efrem Zephnath Chilima Valens Mwumvaneza
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**Approved By**

Safeguards Advisor:	Agnes I. Kiss	14-Aug-2017
Practice Manager/Manager:	Alexander E. Bakalian	14-Aug-2017
Country Director:	R. Gregory Toulmin	17-Aug-2017

**Note to Task Teams:** End of system generated content, document is editable from here.