PROJECT INFORMATION DOCUMENT (PID)
CONCEPT STAGE

Report No.: PIDC1060

Project Name	Shire Valley Irrigation Project (P125473)
Region	AFRICA
Country	Malawi
Sector(s)	Irrigation and drainage (70%), Agro-industry, marketing, and trade (15%), Agricultural extension and research (15%)
Theme(s)	Water resource management (40%), Infrastructure services for private sector development (20%), Rural services and infrastructure (20 %), Land administration and management (15%), Natural disaster management (5%)
Lending Instrument	Specific Investment Loan
Project ID	P125473
Borrower(s)	Republic of Malawi
Implementing Agency	Ministry of Agriculture and Food Security (MoAFS), Ministry of Water Development and Irrigation (MoWDI)
Environmental Category	A-Full Assessment
Date PID Prepared/ Updated	18-Jul-2013
Date PID Approved/ Disclosed	09-Oct-2013
Estimated Date of Appraisal Completion	30-Oct-2015
Estimated Date of Board Approval	15-Dec-2015
Concept Review Decision	Track II - The review did authorize the preparation to continue

I. Introduction and Context

Country Context

Malawi is one of the world's poorest countries with a Gross National Income (GNI) per capita of US$350. It is ranked 170 out of 187 countries on the United Nations Human Development Index (UNDP, 2013). As one of southern Africa's most densely populated countries, with a population growth rate of 2.8%, Malawi's young and growing population of 15 million is expected to reach 22.8 million by 2025. Approximately 85 percent of Malawi's population lives in rural areas with the majority engaged in smallholder, rain-fed agriculture production. According to the recent report of Malawi's Third Integrated Household Survey (IHS3 2010/11), absolute poverty at the country level has declined by less than 2 percent since 2004/05, to 50.7 percent. Although poverty in urban areas reduced from 25.4 percent in 2005 to 17.3 percent in 2011, this gain was counterbalanced by a

worsening in rural poverty from 55.9 percent to 56.6 percent.

Malawi experienced uninterrupted solid economic growth from 2006-2010 with real GDP growth averaging about 7.4 percent. This robust growth was largely supported by sound economic policies. Good weather and a farm input subsidy program significantly enhanced the food security situation during these years. Persistent external imbalances compounded by the reduced donor inflows, low tobacco proceeds together with other supply-side bottlenecks contributed to the severe weakening of macroeconomic performance in 2011/2012 and the slowdown in real economic activities. From mid-2012, however, the new Government has taken urgent steps to restore macro stability, and support economic growth, with some encouraging early signs of a recovery.

Sectoral and Institutional Context

Agriculture is the backbone of Malawi's economy. Agriculture is the main source of Malawi's economic activity, representing about 30 percent of GDP and over 80 percent of total export earnings. The sector is crucial for reducing the number of people living in absolute poverty, of which 96% are dependent on agriculture for their livelihood. The agricultural sector experienced a severe decline by 2.9% in 2012, on account of underperformance in the production of tobacco and maize attributed to poor and erratic rains in the southern part of the country. Growth in agriculture is however expected to recover in 2013 and could reach up to 5% in 2013. Total cultivated land in Malawi is approximately 5.3 million hectares, the vast majority (over 95%) of which is rainfed. 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 and is vulnerable to unreliable weather. More than 90 percent of the rural population are smallholder 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. 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. In contrast, the estate farming subsector is characterized as a high input/high output sector. Estate land covers 1.1 million hectares and is mainly under freehold or leasehold tenure and farming is concentrated on tobacco, tea, sugar cane and coffee – which are the main export crops.

The private sector remains underdeveloped in rural areas and smallholders are poorly integrated in the marketing system for agricultural inputs, produce and value addition. The situation is compounded by lack of reliable irrigation water availability, weak agriculture extension and support services, limited market infrastructure, poor quality feeder roads, inadequate market information, and a lack of skills and facilities in post-harvest storage and agro-processing. Meanwhile, well-intentioned but market-distorting Government of Malawi's (GoM) interventions in commodity chains have in the past challenged private sector agribusinesses and value chain development. Critical concerns are resilience and productivity of smallholder livelihoods, and their linkages to markets in concentrated value chains.

A major binding constraint to stable commercial agriculture development in Malawi is irrigation and water management. Addressing this constraint is key, especially in view of the prevailing climate risk for Malawian agriculture, with only one short rainy season per year, and periodic weather shocks. Currently, total national irrigated perimeters in Malawi are low. While the preparation of an irrigation inventory is currently on-going as part of the development of an irrigation investment framework for the country, and estimates of the current irrigated area differ, an

estimated 72,000 ha is equipped for full or partial control irrigation, of which 48,000 ha are under estates cultivating sugar cane, tea and coffee, mostly using overhead irrigation and the remaining 24,000 ha are under various forms of smallholder irrigation. In addition, informal water management in cultivated wetlands is practiced on a comparatively large area (62,000 ha) which far exceeds the combined total of public and 'self-help' irrigation schemes. Although future development upstream of hydropower plants may result in water use trade-offs, the current consumptive use of water for irrigation in Malawi is low and there is still scope for further expansion, especially for high-return investments in irrigation.

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, 2011). This transformation has to take place in the context of ongoing economic and civil administrative reform and an over-arching need to shift from a centralized (top-down, supply-driven) system to a de-centralized (bottom-up, demand-driven) planning, development and management system in the irrigation sub-sector. Under the World Bank supported Irrigation Project (IRLADP), 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. The GoM and Development Partners are supporting a number of initiatives for irrigation financing and development, including the development of a national investment framework, setting up of an irrigation fund and the preparation of an investment pipeline and M&E framework. The irrigation sector in Malawi is supported through several government agencies. The Ministry of Water Development and Irrigation (MoWDI) houses the irrigation department, and as such is mandated on all government-supported irrigation infrastructure development. The Ministry of Agriculture and Food Security supports agricultural development, research and extension, and as irrigation is an integral part of this, has been a strong advocate of irrigation and is collaborating closely with MoWDI on irrigation matters.

Expanding and diversifying agricultural exports and expanding commercial agriculture are high priorities of the GoM's Growth and Development Strategy II (MGDS-II, 2011-2016). While reliable supply of irrigation water, crop production, value adding, agro-processing and agricultural marketing services are critical for sustained growth of the agriculture sector, investments in these areas have been minimal in the past years. Agriculture development is still mainly focusing on food security and the country's economic growth still relies heavily on tobacco production. Under these circumstances, the GoM gives high priority to diversifying agriculture towards market-oriented production for smallholder farmers, while developing irrigation infrastructure to boost productivity and reduce dependence on weather conditions. Under the Comprehensive Africa Agriculture Development Program (CAADP) process, GoM has developed and adopted the Agricultural Sector Wide Approach (ASWAp), an investment framework which prioritizes the transformation of smallholder agriculture and the expansion of irrigation infrastructure. Similarly, the Water Sector Investment Plan guides infrastructure investments in irrigation.

The Shire Valley irrigation Project (SVIP) would be located in the south of Malawi on the right (i.e. West) bank of the Shire River. The population of the Shire Valley, according to the 2010/11 census, is approximately 711,000. Depending on the final footprint, approximately 55,000 households live in the project area. The area contains the highest incidence (75 percent) of extreme poverty in Malawi. Droughts and floods pose a persistent threat of famine. Eighty-eight percent of the project area is held under customary tenure and administered by traditional authorities. Approximately 10

percent is under private lease or freehold and the remainder is public land. The most important developments in the area are the estates of Illovo and its outgrower schemes. Illovo produces cane on a total of 13,805 ha and also operates the only sugar factory in the area.

The GoM has for many years intended to develop irrigated agriculture in the Lower Shire Valley which is the poorest region in the country and is most severely affected by weather shocks due to its lower altitude resulting in a warmer and drier climate. A number of studies and partial reports have been prepared in the past, but the project never advanced beyond preliminary studies due to its cost and complexity, and generally disengagement of financiers from large-scale irrigation in the region in the 1980s. Over the past few years, following renewed interest in the scheme, and realization of the need to comprehensively address the critical constraints to agriculture of improved irrigation as well as concentrated value chain development, a number of the complex challenges have been addressed upfront at prefeasibility level, such as water availability; the optimum site for the intake structure; management of the bulk water and infield irrigation infrastructure; the choice of irrigated crops and marketing; land tenure issues; cost recovery; sustainability; and the role of the private sector.

The Government requested support from both the WB and the AfDB to provide assistance for the implementation of the SVIP. The WB and AfDB responded to this request with a joint AfDB/World Bank/IFC project identification mission in January 2011. The mission established several key principles to guide the design and implementation, including that: the project would focus on commercial production, including smallholders in high value chains; professional management and PPPs would be pursued; land and water management need careful and transparent attention; communities should be fully engaged in a participatory process; and the Government would competitively recruit a full time team for the preparation of the project. The GoM responded favorably to these principles in January 2012. The WB and AfDB further supported the project preparation with: a) a Public-Private Infrastructure Advisory Facility (PPIAF) funded/WB executed study on the prefeasibility options for PPPs; b) African Water Facility (AWF) financed prefeasibility studies, which produced a Prefeasibility Report on the proposed project and support to GoM in the development of detailed ToRs for undertaking a comprehensive set of feasibility level studies; c) a political economy assessment of the major stakeholders and political economy drivers/ constraints to development; and d) a study on water availability assessment for the scheme was also completed recently considering the impacts of the bulk irrigation water upstream of the last hydropower plant (Kapichira) in the cascade. The study shows that there is a minor trade-off with energy production in average and dry years once the scheme is fully established and the proposed expansion of the hydropower station is on-line. After a long gestation period, the GoM recently adopted a new Land Bill and a new Water Resources Act, which provide a supportive legal framework. The land bill will help clarify the overall land tenure and regulation system in Malawi. It will contribute to foster economic growth through better land use planning leading to more efficient land utilization. It will also provide an updated and more transparent framework of land tenure and taxation for private investments.

The Bank has a long history of engagement with the GoM supporting investments in the agriculture and irrigation sectors, and Bank supported programs in the sector are supporting preparatory work for the Shire Valley Irrigation Project. The ongoing IRLADP and ASWAp-SP as well as the recently completed community lands project have increased capacity for planning and implementing agriculture interventions, and supported a shift in thinking about diversification and modernization. There is close coordination and alignment between the major development partners active in the

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sector. In addition to the World Bank, the EU and AfDB support strategic work and investments in the large scale irrigation sector, and both have supported projects in the sugar sector and in the lower Shire. JICA supports with technical assistance to the GoM and mini-scale irrigation development. Important for the long term sustainability of these investments, the Bank is 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 sustainability of GoM's ambitious investment plans in the Basin.

Relationship to CAS

The proposed project addresses many of the challenges identified under the WBG Country Assistance Strategy (CAS) for Malawi for the period FY13-FY16 and is aligned with theme (1) Promoting Sustainable, Diversified and Inclusive Growth; while also supporting theme (2) Enhancing Human Capital and Reducing Vulnerabilities. The proposed project addresses agricultural development using a growth pole approach by scaling up irrigation investment and development to enable productivity growth and high-return agriculture. The CAS recognizes the transformative potential of the proposed project in turning a poor and disaster-prone area into a high productive growth pole with regional significance, and highlights the potential ability of the project to support commercialization and draw in much needed foreign investment. From identification in 2011, World Bank (WB), IFC, and MIGA, have collaborated on this project, along with African Development Bank (AfDB), which also highlights it in its Country Partnership Strategy for Malawi.

II. Proposed Development Objective(s)

Proposed Development Objective(s) (From PCN)

To sustainably increase agricultural productivity and incomes for targeted households in the districts of Chikwawa and Nsanje in the Shire Valley by establishing market-linked smallholder farming ventures and professionally operated irrigation services.

Key Results (From PCN)

Agricultural intensification and modernization will be pursued in a market-led irrigated agriculture development project. Irrigation will be provided through the construction of the new gravity-fed Shire Valley Irrigation System which will supply the existing Illovo and outgrower estates (~14,000 ha, removing their current huge power requirements) and to an additional 28,000 ha of agricultural land presently under rainfed cultivation, creating agricultural development opportunities in this fertile valley, away from the risk-prone floodplain.

This land is mostly under traditional (customary) tenure and will be consolidated into irrigated blocks that will be exploited by the smallholder farmers with the support from selected private agribusiness enterprises. A specific Public Private Partnership (PPP) arrangement will be used for the development and 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.

Provisional PDO indicators:

- Household incomes increased (comparing baseline incomes with project incomes (changes in crop yields, cropping intensity and profitability; $)
- Wage labor increase in production and agro-processing ($)
- Number of beneficiaries including smallholder farmers holding land in the project area and

employees of agribusiness enterprises (No.) [core indicator]
- New area of production under forms of joint private-smallholder farming ventures (ha)
- Share of sustainable O&M costs billed and received from water users by professional Irrigation Service (%)

Other indicators would be considered as Interim Outcomes, including:
- Area provided with new irrigation and drainage services (ha) [core indicator – relates to the new approx.. 28,000 ha]
- Area provided with improved irrigation services (ha) [core indicator – relates to the existing approx.. 14,000 ha]
- Operational water user associations and farmers' organizations created (No.) [core indicator]
- Yields for major crops (MT/ha)
- Cropping intensity increase (%)
- Project beneficiaries adopting improved technologies in conjunction with irrigation (No.)
- Contribution to import substitution and exports ($ - it will have to be further evaluated if the attribution to the project can be adequately captured)

Actual baseline and project targets will need to be confirmed during project preparation. Income increased will be measured with detailed household surveys, and will be based on livelihood typologies in without/with project situation, thereby being able to show income increase as well as changes in livelihood activities in households within the project area against the baseline. This would capture incomes from both agricultural productivity increase as well as wage labor increase. This would also enable tracking livelihoods of migrants (in- and out). as relevant.

III. Preliminary Description

Concept Description

Following a holistic growth-pole approach that combines infrastructure development with, from the very beginning, delivery of technical, institutional and marketing support services, the proposed project will include three intertwined components:

Component 1 - Irrigation Development and Management

This component will finance the phased development of up to 42,500 ha of irrigation and drainage with associated irrigation services in the Lower Shire Valley as a necessary precondition for agricultural development. The pre-feasibility study has recommended two phases:

Phase I - covering about 21,000 ha currently irrigated with water directly pumped from the Shire river consisting of about a) 10,750 ha already developed and directly cultivated with Sugar cane under commercial production by Illovo plus b) about 750 ha developed by out-growers operationally and commercially linked with Illovo; and c) another 9,300 ha of rainfed agricultural lands proposed to be developed for irrigated agriculture;

Phase II – covering about another 21,000 ha of which: a) about 2,850 ha have already been developed by Illovo for irrigated sugar cane with pumped water from Shire river; and b) the remaining area of about 18, 150 ha of currently rainfed agricultural lands to developed for irrigated agriculture.

The project would finance the feasibility level studies and engineering designs for both the Phase I and Phase II and the construction of the physical bulk water conveyance and distribution system and the tertiary irrigation system and associated drainage infrastructure and facilities of the first phase of the Project. The currently irrigated areas would be converted to a gravity water supply, thus saving significant pumping costs (the Nchalo estate is currently the largest electricity consumer in the country because of its pumped irrigation system). The new bulk water supply system would be governed by a membership-based apex organization of water users' associations with strong representation from the Government in an unprecedented institutional set-up in the country, of which the form, nature and legal and operational modalities will have to be further defined during project preparation. The project will also include provisions for ensuring capacity is maintained beyond the project and that clear contracting and operating arrangements are in place that reflect the farmers' as well as the public interests. The scheme would be operated and maintained by a private partner in a PPP arrangement, either as a concession, a lease or as a management contract, depending on the partner's interest in project financing, as well as further assessment of the 'willingness to pay' and 'ability to pay' the water tariffs.

Component 2 – Smallholder-based Agricultural Modernization and Commercialization

Agricultural development would be based on promoting development of productive and competitive ventures between agribusiness and producer's organizations and through the provision of demand-driven agricultural services as extension, applied research, mechanization, training, input/output marketing, value adding and storage, etc. These services could be provided through a range of approaches including promoting service delivery within farmer organizations, contracting out to services providers, organizing joint services between private agribusiness investors and farmer groups, and PPPs in agriculture service delivery. Smallholder farmers would be assisted to organize themselves, through a participatory planning and development process, into consolidated blocks of irrigable land. Commodity-based producer organizations will be organized in partnerships with profitable value chains that also provide commodity specific support services – on similar lines to the current sugar outgrower schemes that have developed partnerships with Illovo. Initial scoping showed private sector interest in irrigated agriculture in the lower Shire, as it is relatively close to transport links and markets, and has very favorable agro-ecological circumstances.

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Long term presence of Illovo with their knowledge, experience and interactions with the local farming community is seen as an opportunity for the project: as both a producer and processor, the company has ventured into sustainable ventures with smallholder growers and would be strongly committed to the success of the infrastructure development as well as to smallholder outgrowers on whom they would rely for throughput for their factory. In addition, other value chains will be actively explored and investors attracted to develop profitable and viable agriculture production systems and to promote a modernized smallholder-based farming system.

Component 3 – Investment climate support and coordination

This component would finance activities related to the coordination and actual implementation of the activities in the Shire Valley as well as activities supporting the investment climate in which the scheme will operate. This includes both costs for project management and the transition from project based support to a sustainable institutional set-up with a contracting authority for the scheme; as well as sector and cross-sector coordination with the agriculture, water, industry, trade,

environment sector plans and frameworks, and facilitate interministerial collaboration on tackling implementation challenges.

IV. Safeguard Policies that might apply

Safeguard Policies Triggered by the Project	Yes	No	TBD
Environmental Assessment OP/BP 4.01	×		
Natural Habitats OP/BP 4.04	×		
Forests OP/BP 4.36	×		
Pest Management OP 4.09	×		
Physical Cultural Resources OP/BP 4.11	×		
Indigenous Peoples OP/BP 4.10		×	
Involuntary Resettlement OP/BP 4.12	×		
Safety of Dams OP/BP 4.37	×		
Projects on International Waterways OP/BP 7.50	×		
Projects in Disputed Areas OP/BP 7.60		×	

V. Financing (in USD Million)

Total Project Cost:	340.00	Total Bank Financing:	100.00
Financing Gap:	240.00		

Financing Source	Amount
BORROWER/RECIPIENT	0.00
International Development Association (IDA)	100.00
Total	100.00

VI. Contact point

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