Shire Valley Transformation Programme (SVTP) Photobook

TRANSFORMING AGRICULTURE THROUGH IRRIGATION









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About the Photobook

This photobook provides some pictorial highlights on the progress the Shire Valley Transformation Programme (SVTP) has made since commencement of construction works.

The SVTP has achieved some milestones which will be highlighted and celebrated in this edition of the photobook. Areas covered include progress of construction works, land tenure and governance issues, community engagement and safeguards among others.

We invite you to take this journey with us as we showcase our work through this photobook.

Dr. Stanley Chakhumbila Khaila

Acting Project Coordinator, SVTP



Project Overview

Approximately 85% of the population in Malawi live in rural areas; with the majority engaged in rain-fed subsistence agriculture and livestock raising. Agricultural land is scarce in Malawi with 70% of small-scale farmers farming less than one hectare of land. Over the years, rains in Malawi have become erratic and less predictable leading to low productivity. This, in addition to adverse effects of climate change including drought, floods, and declining soil fertility have negatively affected the agriculture sector in Malawi.

Irrigation helps farmers to better livelihoods as efficient water management can enhance yields, crop quality and cultivation of cash crops. This leads to increased and sustainable incomes and food security at individual, household and community levels.

In that context, the Government of Malawi through the Ministry of Agriculture is implementing the Shire Valley Transformation Programme (SVTP) in Chikwawa and Nsanje Districts. The objective of the SVTP is to increase agricultural productivity and commercialisation for targeted households in the Shire Valley and to improve the sustainable management and utilization of natural resources.

The SVTP will irrigate 43,370 hectares of land by abstracting water (50 cubic metres per second at peak times) from the Shire River at Kapichira Dam and conveying it by gravity to the irrigable area in Chikwawa and Nsanje districts through canals. This will ensure a more consistent supply of water to farm lands throughout the year.



Project Implementation Location

Construction of the irrigation scheme will be done in two phases. Phase I covers the area from Chikwawa in the north to the edge of the Lengwe National Park. Phase II covers the area from south of Lengwe National Park along the Main Road to Bangula in the South.



Irrigation Service Provision

Major works to be constructed will include the Intake, Main and secondary canals, emergency spillways, an invasive fish barrier, cross and head regulators, inverted siphons, sediment basins/ejectors, night storage reservoirs, wildlife and other crossings and bridges, a road network and a water supply system for Chikwawa Township among others. All hydraulic structures have been designed to accommodate the peak design requirements for both Phase 1 and 2 project areas.

Construction of the Shire Valley Irrigation Scheme commenced in April, 2020 with the contractor Conduril Engenheria SA mobilizing equipment and staff and construction of a camp. Conduril is responsible for the construction of the Intake and the first 6kms of the Main Canal.





Top: The batching plant under construction *Bottom:* The batching plant in operation (Left), offices at the camp site (Right)



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A. Construction of the Intake

The intake is the starting point of the irrigation scheme. It is located at the Kapichira Dam and is designed to serve both Phase 1 and 2 of the SVTP. It has been designed to abstract the maximum water demand of 50 cumecs which is enough for both Phase 1 and 2. The abstraction sill level of (143.5 m.a.m.s.l) is well positioned to ensure abstraction of the required irrigation water at all times and in a way that will not interfere with flushing and operations of the hydro power station.

The Intake comprises of 12 sluice gates, each 3m wide, and is divided into two portions, with one portion composed of 8 gates, and another 4 gates. This will translate into maximum flow into each partition of 32 and 18 cumecs respectively. Operation of the gates will depend on water demand from the scheme.

HERE IS OUR JOURNEY IN PICTURES:



Site of the Intake at Kapichira Dam before construction works:



Top-An aerial view of the intake before construction *Bottom:* Site of the intake before construction

2)

Construction of the Coffer Dam at the Intake:



Top-The coffer dam under construction *Bottom:* A completed coffer dam



Top-Middle: Sheet piling at the intake *Bottom:* Excavation at the intake in progress





Top-Bottom: Construction of the coffer dam completed



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B. Construction of the Canal

The Main Canal 1 stretches 33 km from Intake before it bifurcates into Main Canal 2 and 3. Main Canal 2 will supply Zone A of Phase 1 area and extend 80kms to the entire Phase 2 area while Canal 3 will supply water to small holder farmers and other farmers including Illovo.

The Main Canal has a bottom width of 12.6m, top width of 19.2m and water depth of 2.2m excluding free board which is 0.8 m. This is designed to convey a maximum of 50 cumecs. However, the cross section keeps on reducing in size with subsequent withdraw of water by secondary canals.

HERE IS OUR JOURNEY IN PICTURES:



Chainage 6.0km at the beginning of excavation:

Top: First dig at chainage 6km before clearance commenced *Bottom:* Chainage 6km after clearance

Excavation of the canal:

2



Top-Bottom: Excavation of the canal in progress



Top: Excavation of the canal in progress *Bottom:* Birds-eye view of the excavated part of the canal



Top-Bottom: Excavation of the canal in progress



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C. Construction of Hydraulic Structures

Major hydraulic structures on Main Canal 1 include siphons, invasive fish barrier (drop structure) bridges, culverts, sediment ejector etc. These structures have been appropriately designed using internationally recognized equations.

Construction of a bridge across the canal:



Top-Bottom: Construction of a bridge across the canal in progress

Construction of drainage works:







Top-Bottom: Construction of box culverts in progress



Top-Bottom: Box culvert under construction (T), Completed box culvert (B)

Land Tenure

Here are pictorial highlights of land tenure related activities under the SVTP:





- 1: Verification of compensations in progress
- 2: Verification of Chikwawa Physical Development and local land use maps
- 3: Display of Chikwawa Physical Development and local land use maps
- **4-5:** Land demarcation exercise (4), adjudication/registration of land (5)

Community Engagement

Community and stakeholder engagement are at the heart of all activities at the SVTP.









A grievance redress meeting in session at T/A Ndakwera
2-3: A community focus group discussion (2), a community meeting in progress
4: Training on financial management for compensations at Tomali
5: PMT engaging with the District Stakeholder Consultative Committee on site

Natural Resources Management

The Shire Valley Transformation Programme realizes the importance of environmental conservation in the implementation of all its activities. The Government of Malawi with support from the Global Environment Facility (GEF) is implementing a Natural Resources Management sub-component to the tune of \$5.59 million. Some initiatives being implemented are new while others are part of consolidation of gains made by the Shire River Basin Management Programme as part of sustainability.

1. Environmental Management

Malawi is party to the Nagoya Protocol on Access and Benefit Sharing (ABS). Through the ABS Protocol, the Government of Malawi through the Environmental Affairs Department is ensuring that there is fair and equitable sharing of benefits arising from the utilization of genetic resources. Mwanda Thabalaba Club in Senior Group Mwanda, T/A Mbenje in Nsanje district co-manages the Matandwe Forest Reserve and sells Thabalaba (Corombo roots) from the Reserve using ABS Protocol.



Left-Right: Club members digging Thabalaba at Matandwe (L), Chairlady with Thabalaba (R)

2. Forestry Management

The largest remaining block of woodlands and forest reserves in the Shire Valley are being protected through the development of forest co-management plans in and around Matandwe Forest Reserve. Several initiatives are being undertaken including beekeeping, commercial tree planting and management of Village Forest Areas.



Left-Right: Beekeeping at Stayilo Village, T/A Tengani, Nsanje (L), a new commercial tree nursery at Tiyanjane Club in Mpaso Village, T/A Tengani Nsanje (R)

3. Parks and Wildlife

The Department of Parks and Wildlife is working with communities around Mwabvi and Majete Wildlife Reserves and Lengwe National Park on issues of wildlife conservation and law enforcement. The three protected areas have been affected by poaching, illegal logging, tree cutting and charcoal burning which has led to a decline in animal population and trees.



Left-Right: Rangers at Lengwe NP in new uniforms and tents (L), drama by Mbowe NRC in GVH Chithumba, T/A Mbenje, Nsanje on community law enforcement around Mwabvi Wildlife Reserve (R)

4. Fisheries

The Elephant Marsh is home to significant rare and threatened biodiversity which includes freshwater fisheries and birdlife. The Fisheries Department is working with communities in the implementation of wetland management plans and measures for protecting the remaining fish biodiversity and wildlife population in the Elephant Marsh.





Top Left-Right: Newly constructed fish ponds at Kashoni Village in Chikwawa (L), fish harvesting at Nambozi Fish Club, Mafuwa Village, T/A Maseya, Chikwawa (R) **Bottom:** A new fish kiln being constructed at Chimvuli beach, Ntchenyera Village, T/A Mbenje, Nsanje

Women On-site

Here are some pictures of women at the SVTP construction site:



Top Left-Right: Conduril Engineers Darcia Thindwa and Mercy Nangoma (L), the lady responsible for social safeguards, Hanna Mandalasi (M), the Human Resources Officer, Chrissie Katunga (R) **Middle Left-Right:** The only female dumper track driver/plant operator on-site Ethel Kalolokesya (L), Rose working with steel at the drainage works **Bottom Left-Right:** Ketiness Chizumila (on top the culvert) and Stivelia (R) working on box culverts

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