

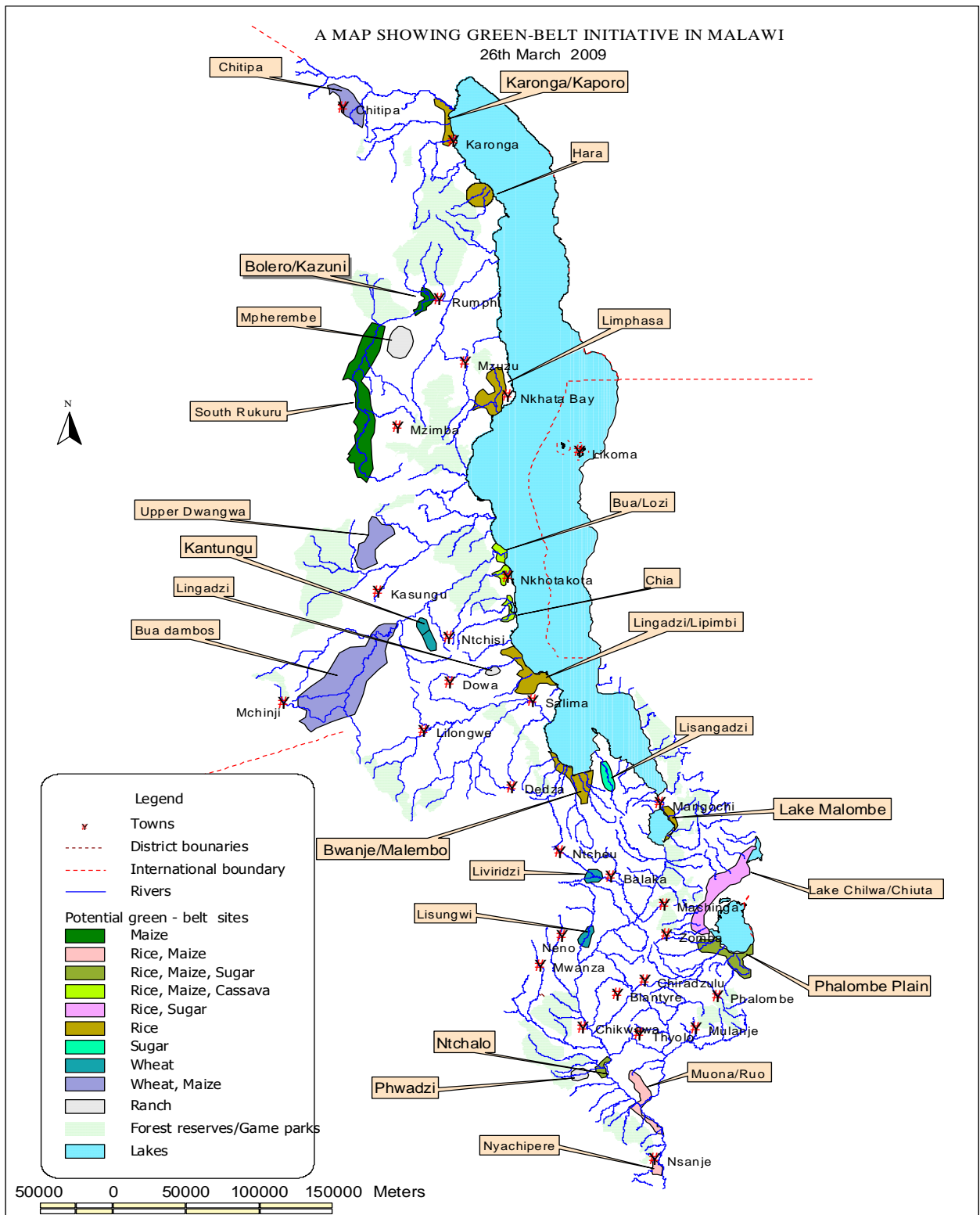


## GOVERNMENT OF MALAWI GREENBELT INITIATIVE



January 2011

A MAP SHOWING GREEN-BELT INITIATIVE IN MALAWI  
26th March 2009





**His Excellency the State President of the Republic of Malawi**  
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## ***EXECUTIVE SUMMARY***

### **Introduction**

Malawi's economy remains agro-based which accounts for more than 80 percent of export earnings, contributes 36 percent of gross domestic product (GDP), and provides a livelihood for 85 percent of the population. Smallholder farmers contribute about three-quarters of agricultural production with cropping systems dominated by a maize-based rain-fed cropping system. Agriculture growth accelerated from around 4% in 2004/05 to around 14% in 2006/07 and to around 13% in 2008/09. Within the same period the economy grew by 8.6% in 2007, 9.7% in 2008 and 7.6% in 2009.

Malawi has depended on rain-fed agriculture to achieve food security, increased income and ensure sustainable socio-economic growth and development. Over-dependence on rain fed agriculture has led to low agricultural production and productivity due to weather shocks and natural disasters (unreliable rainfall patterns, erratic rains, dry spells, pest and diseases, droughts, floods etc). Malawi is endowed with a variety of natural resources which include vast expanses of water systems and soils. The water systems cover over 21% of the country's territorial area.

The Government of Malawi has therefore formulated the Greenbelt Initiative (GBI) aimed at using the available water resources to increase production, productivity, incomes and food security at both household and national levels for economic growth and development. The initiative has the potential to transform Malawi from a predominantly consuming and importing country to a producing and exporting country.

**Rationale for Greenbelt Initiative:** The Malawi Government has been implementing various policies and interventions aimed at improving agricultural production, productivity and food and nutrition security. One such intervention is the Farm Input Subsidy Programme which has been very successful. The Greenbelt Initiative therefore aims at consolidating the gains made from these interventions by intensifying irrigation farming, livestock development and fisheries development among others. The Initiative aims at using the available abundant water resources for irrigation farming thereby hedge against the effects of climate change on food and nutrition security.

**Programme Description and Scope:** The GBI will be implemented throughout the country where exists vast arable land and perennial sources of water suitable for irrigation development targeting coverage of about One Million hectares of land against 90,000 ha currently under irrigation. Concentration will be along Lake Malawi and the perennial rivers right from Chitipa to the Shire Valley offering connection of already existing interventions (irrigation schemes). Specifically, the target is to have a radius of 20 kilometers along the banks of water bodies under irrigation. In the initial stage, the programme will target the following areas: Shire Valley in Chikhwawa and Nsanje; Lake Malombe area in Mangochi; Nthola-Iloro-Ngosi in Karonga; and Mnema in Salima.

**Objectives of the Greenbelt Initiative:** The overall goal for GBI creation of wealth through increased agricultural production and productivity, enterprise development and increased exports. The specific objectives of the GBI are to: Increase production and productivity of crops, livestock and fisheries; Increased access to social infrastructure and support services; Increase agricultural exports and foreign exchange earnings; Promote diversification of crop and livestock enterprises; Increase household incomes; Improve value chain linkages and operations; Increase private sector participation in agricultural production; Add value through processing of raw materials; Reduce rural-urban migration; and Improve people's access to water for various uses.

**Programme Outputs:** The programme will achieve the following outputs: Increased area under sustainable irrigation farming using the available abundant water resources in the country from 90, 000 ha to 1,000, 000 ha; Increased productivity of crops (from the current 25% to 50%), livestock and fisheries; Increased agricultural exports and foreign exchange earnings; Increased crop, livestock and fisheries diversification; Improved value chain linkages and operations; Increased private sector participation in agricultural production; Improved access to social infrastructure and support services; Increased smallholder income levels and employment opportunities; Improved access to water for various uses; and Existing rural growth centres rehabilitated and new ones established.

**Programme Outcomes:** The intended Initiative outcomes include: reduction in poverty levels among the farming communities; improved export led economic growth; improved social development; increased employment opportunities; improved food and nutritional security; and reduced rural - urban migration.

**Components of the GBI:** The Greenbelt Initiative will have seven major components: Crops, Livestock and Fisheries Development, Infrastructure Development and Rehabilitation; Land Administration; Environmental Management; Technology Development and Dissemination; Institutional Development and Capacity Building; and Agro-Processing and Marketing Development.

**Implementation arrangement:** The Green Belt Initiative is a multi-sectoral Initiative requiring a cross section of expertise and various players in the implementation of the Initiative activities. The programme will be implemented with the participation of the beneficiaries to ensure that there is ownership which will contribute to make the programme sustainable. The programme will have two implementation arrangements focusing on smallholder and commercial farmers.

For proper implementation of the Initiative activities, different structures will be put in place to coordinate activities at various levels. These include: National Steering Committee (NSC), National Consultative Group (NCG), National Technical Committee, National GBI Secretariat, District Assembly Steering Committee and District Assembly Technical Committee. Under the Initiative, smallholder farmers, private investment and public private partnerships will be promoted.

**Financing Of the Initiative:** Financing of the Greenbelt Initiative will be from government, development partners and private sector. Government will engage development partners to support the GBI in line with principles of the Paris Declaration. Development partners will be free to choose components of the Initiative that they wish to support. Private sectors' financing will constitute direct investment in the selected GBI sites and through Public Private Partnerships.



## **CHAPTER ONE: INTRODUCTION**

### **1.0 Background**

Malawi's economy remains agro-based which accounts for more than 80 percent of export earnings, contributes 36 percent of gross domestic product (GDP), and provides a livelihood for 85 percent of the population. Smallholder farmers contribute about three-quarters of agricultural production with cropping systems dominated by a maize-based rain-fed cropping system. It is, therefore, very apparent that good performance of the economy is directly linked to performance of the agriculture sector. Agriculture growth accelerated from around 4% in 2004/05 to around 14% in 2006/07 and to around 13% in 2008/09. Within the same period the economy grew by 8.6% in 2007, 9.7% in 2008 and 7.6% in 2009. The availability of food crops from increased agricultural production has contributed to the inflation drop from 22% in 2006 to 7.6 % in 2009/10.

Malawi has depended on rain-fed agriculture to achieve food security, increased income and ensure sustainable socio-economic growth and development. Over-dependence on rain fed agriculture has led to low agricultural production and productivity due to weather shocks and natural disasters (unreliable rainfall patterns, erratic rains, dry spells, pest and diseases, droughts, floods e.t.c). This has led to low socio-economic growth and development in the country.

Malawi is endowed with a variety of natural resources which include vast expanses of water systems and soils. The water systems include Lake Malawi (28750 Km<sup>2</sup>) Africa's third largest freshwater lake; Lake Malombe (303 Km<sup>2</sup>) an inflation of the Shire River, which forms part of the great East African Rift Valley; and Lake Chilwa (683 Km<sup>2</sup>) an inland basin lake and a dense network of perennial rivers. These water systems cover over 21% of the country's territorial area. The country has a number of perennial rivers, which include Shire and Ruo rivers in the Southern, North and South Rukuru rivers in the North and Lilongwe, Linthipe, Bwanje, Bua and Dwangwa rivers in Centre, among others.

### **1.1 The Greenbelt Development Programme**

Despite the country having abundant fresh water resources in forms of lakes, perennial rivers and ground water, there has been low utilization of these water resources for irrigation. This has led to low agricultural production and productivity resulting in food insecurity especially in times of weather shocks as a result of climate change. The Initiative aims at using the available abundant

water resources for irrigation farming thereby hedge against the effects of climate change on food and nutrition security. The Greenbelt programme seeks to contribute towards the **green revolution** of Malawi as it has the potential to transform Malawi from a predominantly consuming and importing country to a producing and exporting country.

The Malawi Government has been implementing various policies and interventions aimed at improving agricultural production, productivity and food and nutrition security. One such intervention is the Farm Input Subsidy Programme which has been very successful. The Greenbelt Development program therefore aims at consolidating the gains made from these interventions by intensifying irrigation farming, livestock, fisheries, infrastructure development, agro-processing and market development among others.

## **1.2 Policy and Institutional Framework**

Due to the experience in food insecurity both at national and household level Government has put in place several sectoral and national policies and strategies to avert the food insecurity problem. In 2006 the Government of Malawi (GoM) in conjunction with its development partners developed the Malawi Growth and Development Strategy (MGDS) as a medium term development strategy for achieving Malawi's long term goals. MGDS aspires to attain the Malawi Vision 2020 which was formulated in the late 1990s and the Millennium Development Goals (MGDs) especially Goal Number One, of halving extreme poverty and hunger by 2015. The MGDS recognizes that 'the prospects for economic growth in the medium- term will continue to be driven by the agriculture sector. The main thrust of the MGDS is to create wealth through sustainable economic growth and infrastructure development as a means of achieving poverty reduction. The MGDS is expected to transform the country from being a predominantly importing and consuming economy to a predominantly producing and exporting economy. Sectors have thus aligned sectoral activities to the MGDS framework and have also adopted program-based Sector Wide Approaches (SWAps).

In the MGDS, Agriculture and Food Security and Greenbelt Irrigation and Water Development have been ranked the top key priority areas to improve agricultural production and productivity at both household and national levels; and improve irrigation and water infrastructure development and provision of services for sustainable economic growth and development of the country. The other key priority areas include; Transport infrastructure development and Nsanje

inland port; Education Science and Technology; Public health sanitation and HIV/AIDS management; Youth development and empowerment; Integrated Rural Development; Energy Mining and Industrial Development; and Climate Change and Natural Resources and Environmental Management;

The Sector Wide Approach (ASWAp) framework which is a sector strategy aligned to both the national and international development frameworks like Comprehensive African Agriculture Development Programme (CAADP) pillars and the MGDS. The SWAPs in irrigation and agricultural sectors aim at achieving (i) improved food security and risk management; (ii) commercialize agriculture, agro-processing and market development; (iii) achieve sustainable agricultural land and water management; (iv) water resources and water supply, sanitation and hygiene; (v) technology generation and dissemination; and (vi) institutional strengthening and capacity building. Cross-cutting areas of Gender and HIV and AIDS will be mainstreamed in all the programmes.

### **1.3 Program Objectives**

#### **1.3.1 Overall goal**

The Greenbelt programme aims at creating wealth through increased agricultural production and productivity, enterprise development and increased exports.

#### **1.3.2 Specific objectives**

1. Increase production and productivity of crops, livestock and fisheries
2. Increased access to social infrastructure and support services
3. Increase agricultural exports and foreign exchange earnings
4. Promote diversification of crop and livestock enterprises
5. Increase household incomes
6. Improve value chain linkages and operations
7. Increase private sector participation in agricultural production
8. Add value through processing of raw materials
9. Reduce rural-urban migration
10. Improve people's access to water for various uses

## **CHAPTER TWO: PROGRAM DESCRIPTION AND SCOPE**

### **2.0 Scope**

The Greenbelt program will be implemented throughout the country where exists vast arable land and perennial sources of water suitable for irrigation development. The program is targeting a coverage of about One Million hectares of land against 90,000 ha currently under irrigation. Concentration will be along Lake Malawi and Malombe; Shire River and the perennial rivers right from Chitipa to the Shire Valley offering connection of already existing interventions (irrigation schemes). Specifically, the target is to have a radius of 20 kilometers along the banks of water bodies under by irrigation.

The program will be implemented in phases and under phase one the following sites have been prioritized for construction of four irrigation schemes: Shire Valley in Chikhwawa and Nsanje in the south, around Lake Malombe in Mangochi in eastern region, Nthola-Iloro-Ngosi in Karonga in the north and Mnema in Salima in the center. These sites were chosen on the basis of equity (one site in each region) as well as irrigation potential. In addition, the Shire valley is a potential food basket area but a rain shadow area. The development of the Shire/Zambezi Waterway and Nsanje World Inland Port will open up access routes for input supplies and export marketing opportunities for the agricultural produce from the Program.

### **2.1 Program Components**

The Greenbelt programme will have seven major components: Crops, Livestock and Fisheries Development, Infrastructure Development and Rehabilitation; Land Administration; Environmental Management; Technology Development and Dissemination; Institutional Development and Capacity Building; and Agro-Processing and Marketing Development. Details for interventions under each of the programme components are as follows:

#### **2.1.1 Crop, Livestock and Fisheries Development**

##### **2.1.1.1 *Crop development***

Under the Program crop production will be intensified through irrigation farming in order to supplement rain-fed crop production for both national and export requirements. The targeted food crops will include maize, rice, cassava, potatoes, pulses, millet and sorghum whilst the cash crops will include cotton, sugarcane and wheat. Diversification under the programme will be promoted to meet the demand for both the domestic and export market. Deliberate efforts will be

made to promote horticulture for improved nutrition, import substitution and exports. Specific horticultural crops to be promoted under the program include fruits like citrus fruits, mangoes and bananas; vegetables and tomatoes; and Spices.

Under farm mechanization, the Greenbelt development program will ensure that machinery and implements for both land preparation, pest control, irrigation and agro-processing will be made accessible to the farming communities for sale or hiring out schemes. The programme will establish a machine tools industry in order to provide back-up services in form of spare parts, servicing and repairs.

To improve the availability of farm inputs, Government introduced Agricultural Targeted Input Subsidies Programme in 2005 targeting the poor and low income households that could not afford to buy inputs (fertilizers, hybrid maize seed and legume seed). The programme aims at increasing food security at household and national levels. Specifically, the programme aims at increasing the smallholder farmer access to improved farm inputs and adoption of improved technologies in maize production systems. Natural disasters, high input prices due to high transport costs, high levels of poverty and low output prices among other factors often times limit the smallholder farmer's capacity to access inputs for increasing production. Before the introduction of FISP in 2005/06, this situation led to persistent severe food insecurity in the country. The country depended on food imports to sustain its food requirements. Due to this, food importation used to have negative impacts on the availability of foreign currency among others. Thus the programme will enhance the crop development through improved production and exports.

To minimize the post-harvest loses a number of strategies will be promoted. This will include use of improved storage structures such as metallic silos and integrated pest control measures. Furthermore, agro-processing activities will be promoted in the sites for value addition and increased shelf life.

#### **2.1.1.2        *Livestock development***

The Program seeks to promote sound livestock development strategies to improve numbers, productivity and quality of livestock. Currently, the numbers, productivity of livestock and per capita consumption of livestock products are low. This is due to low productive breeds,

inadequate feed availability and accessibility, low income, ineffective disease control and poor husbandry practices. The increase in ruminant livestock in Malawi will depend on improved productivity in arable agriculture, utilization of agro by-products and crop residues, grazing areas and breeding technologies.

Production and preventive disease control measures for poultry, pigs, goats, beef and dairy cattle and other livestock classes will be promoted. The program is expected to increase the numbers, improve quality and availability of various livestock and livestock products for domestic and external market.

### **2.1.1.3        *Fisheries development***

The Programme will promote aquaculture as a means of effectively using the available water resources for fish production. Intensive and semi-intensive production of indigenous fish species will be conducted using fish cages and ponds where appropriate. The establishment of fish hatcheries and feed mills in the sites will ensure the availability of quality fingerlings and feed which are currently the major constraints for the aquaculture enterprises.

## **2.1.2    Infrastructure Development**

### **2.1.2.1        *Irrigation infrastructure development***

This will involve the development of appropriate irrigation systems which will include the provision of water abstraction, conveyance and management infrastructures for supplying and delivery of water to irrigated fields. The infrastructure will be new in most of the sites but rehabilitation to improve efficiency will also be done to existing infrastructure that lie within the Greenbelt.

### **2.1.2.2        *Water resources development***

The Initiative will promote integrated water resource management to ensure availability of water for irrigation and other uses such as aquaculture, mini-hydro power generation and recreation among others which will support the initiative. Rehabilitation of available dams and construction of multipurpose dams will also aid in recharging the ground water hence regenerating plant growth which will assist in reducing surface run-off. The programme will also establish water monitoring stations to monitor the quality and quantity of water in the GBI areas, and improve flood monitoring and warning systems in the flood prone areas.

### **2.1.2.3**            *Water supply and sanitation*

Apart from the water being used for agricultural development activities, the sites will be provided with potable water for domestic use to avoid occurrence of water borne diseases. This entails improved water supply and sanitation facilities to control water borne and water related diseases. This will assist in reducing the cost of providing curative services and ensure that communities are healthy and have more time to participate in national development activities.

### **2.1.2.4**            *Development of other ancillary infrastructure*

Other ancillary infrastructure will be developed to promote commodity value chain linkages for each site. These include office buildings/residential areas for on-site technicians; rehabilitation of dip-tanks; provision of tractors and tractor accessories, transport vehicles, warehousing, cold rooms, value addition equipment, and market facilities among others. Use of electricity and other sustainable energy sources will be promoted in all the sites.

### **2.1.2.5**            *Energy Development*

The demand for electricity has risen over the past few years without corresponding expansion at the power generation system. Thus the poor and unreliable supply of electricity remains a major challenge to investment. There is therefore need to improve on the reliability of electricity supply through upgrading the existing schemes and construction of new ones. The current demand for electricity is 350 wats whilst the current generation capacity is 285 wats. It is expected that the increase in industrial activity which will be projected by increase in agricultural investment through the GBI will attract increased demand for electricity.

### **2.1.2.6**            *Transport Development*

The government considers transport infrastructure development as key economic development. As such, the government is currently developing the transport sector investment program to improve the efficiency of transport services. Critically for agriculture development, the government has a comprehensive programme to rehabilitate the railway lines which will in turn reduce transport costs for main agricultural imports such as fertiliser and implements among others. There are so many areas of potential investment in the whole railway sector.

The shire-Zambezi waterway project which has just been launched provides an access to the Indian Ocean for the imports and exports of the country's products. The project is envisaged to reduce transport cost for Malawi up to 60 percent and the private sector has already shown interest. Among these, the government has prioritised the Nsanje – Limbe section (US\$ 307,046), Limbe – Salima section (US\$ 132,292), Nkaya – Nayuchi (US\$ 15,742) and Salima – Lilongwe (US\$ 72,132).

Feeder roads have also been earmarked for improvement more especially in the programme areas to all weather road conditions to facilitate movement of both people and goods. The rural growth centres will also have improved road network in the GBI sites.

#### **2.1.2.7            *Promotion of rural growth centers***

Rural growth centres will be promoted in the program areas. Land Use plans shall be prepared to guide all developments in the Greenbelt programme sites. Such centres will comprise health facilities, education, road networks, recreation, banking, electricity and telecommunication facilities, security facilities among others. This will generate employment opportunities in the country thereby mitigating rural-urban migration.

Under this program, government will ensure that both commercial and smallholder farmers access electricity and energy for the motorized pumps and other machinery cheaply within the irrigation areas. This program will effectively reduce the production costs and farm gate prices.

#### **2.1.3            Land Administration**

The Program will ensure that all social and economic development activities do not occur in an isolated, haphazard fashion outside a formal planning and development in line with the National Land Policy of 2002 which declares the whole country a planning area. The Program will consider such matters as the delivery of land rights, Land Use planning, surveying of land parcels and the registration and maintenance of land information. It also includes conveyancing policies to facilitate decisions on mortgages and investment, development management, property valuation. Where necessary, resettlement and compensation of those affected will be considered under this component.

#### **2.1.4    Environmental Management**

The Program recognizes that natural resources such as land and water are critical to agricultural production and food security for the present and future generations. If not sustainably managed,



the results are land degradation, diminishing water resources and declining biodiversity. Interventions such as irrigation scheme catchment conservation, river-bank and lake shore conservation, pollution prevention, land degradation prevention, among others will be integrated in the programme. All major projects under the program shall be subjected to Environmental Impact Assessment and Audits (EIA) to ensure compliance with the Environmental Management Act (EMA) and other related legislations.

#### **2.1.4.1            *Land degradation prevention***

The Program will promote Sustainable Land Management (SLM) as the most appropriate means of land degradation prevention. This will include reduction of soil erosion, siltation and improvement of soil fertility through appropriate land use practices such as afforestation, protection of marginal and fragile areas.

#### **2.1.4.2            *Catchment management***

For continued supply of water for the Program, management of water catchment areas will be promoted. Environmental and social impact assessments will be conducted for all developments and Environmental and Social Management Plan (ESMP) will be formulated for all areas under the initiative.

#### **2.1.4.3            *Pollution control***

The Initiative will seek to minimize pollution resulting from the effects of land use on the environment and mitigate its impact through the promotion of best practices. The Initiative will ensure that existing legislation on pollution is adhered to.

#### **2.1.4.4            *Fisheries resource management***

The capture fisheries sector in the country has been in great decline since the turn of the 1990s mainly due to over-fishing, habitat destruction and illegal fishing in shallow water areas. In order to address these challenges, participatory fisheries management will be promoted in the Greenbelt sites, specifically in the areas with water bodies where capture fisheries activities occur.

#### **2.1.4.5**      *Climate change mitigation and adaptation*

In the past decades over reliance on rain-fed agriculture and droughts resulted in poor crop yields or total crop failure, leading to serious food shortages, hunger and malnutrition. Flooding also severely disrupted food production in several districts especially the lower shire of the country. The most vulnerable groups are rural communities, especially women, children, female-headed households and the elderly. Furthermore, droughts and floods are the major climatic hazards affecting the fisheries sector and have been responsible for the declining or even drying of water bodies resulting in low fish production due to loss of fish stocks and biodiversity.

The possible interventions to mitigate the effects of climate change include the following:

- Improvement of early warning systems and weather insurance;
- Increased use of irrigation;
- Protection of catchment areas and other fragile areas such as dambos and river banks;
- Developing and implementing strategies for drought preparedness;
- Developing small dams to harvest water;
- Use of recommended improved crop varieties that are resistant to drought;
- Use of recommended improved livestock breeds;
- Improved crop and livestock management practices;
- Improved knowledge and understanding on how temperature profiles in the lake disrupt fish breeding and survival;
- Ensuring sustainable management of agricultural land including reducing land degradation through a range of better land husbandry practices;
- Ensuring community-based initiatives such as afforestation to mitigate the negative effects of climate change

#### **2.1.5 Technology Development and Dissemination**

Demand-driven, market-oriented, evidence-based, gender sensitive, labour and time saving technologies will be developed and disseminated under the Initiative to ensure successful adoption. Research will be undertaken to ensure that technology packages are tailored to respond to both demand and supply needs regarding the execution of this Program. These will ensure increased agricultural productivity, improved food security, diversified production, value addition, and increased rural incomes.

#### **2.1.5.1            *Research activities***

Under the Program, agricultural research will be demand-driven, market oriented to generate appropriate and environment-friendly technologies to meet the needs of beneficiaries. Technical and specialist regulatory services will be provided in the following areas: Crop, Livestock and Aquaculture development. These include seed, fertilizer quality control; sanitary and phyto-sanitary services; plant genetic resource conservation; and disease and pest management among others.

#### **2.1.5.2            *Irrigation engineering and agronomy***

The Program will seek to match the current irrigation potential with available irrigation technologies thus ensuring use of appropriate technologies for improved crop water use efficiency. Emphasis will be placed on the improvement of water management technologies currently in use as well as development and dissemination of new technologies where appropriate.

#### **2.1.5.3            *Extension services***

The Program will support farmers of all gender categories with integrated packages of extension services that address their needs. This will involve supporting all stakeholders along various commodity value chains by providing technical information from relevant institutions through front line staff, lead and peer farmers. Communication activities will be implemented for visibility of the Program. In addition, the program will mainstream crosscutting issues such nutrition, gender, HIV and AIDS and environment in the planning and implementation of all activities. The program will implement actions to mitigate the negative impact of HIV, AIDs and gender imbalance on agricultural productivity. This will ensure quality participation, access and control to resources and benefits by all gender categories. Deliberate efforts will be made to comply to domestic laws, international conventions and treaties.

### **2.1.6 Institutional Development and Capacity Building**

Institutional development and capacity building are critical factors in creating and fostering an enabling environment for sustainable growth and development of the agricultural sector. Under

this Program, different institutions and human capacity will be strengthened to ensure smooth execution of the program activities.

The existence of institutional structures with clear roles, responsibilities, linkages, capacities, and skills is a very essential pre-requisite in achieving the overall goals and objectives of the program. There is need for availability of human resource, knowledge and skills in various disciplines for sustainability of the program activities for all stakeholders. In addition, there is also need to sensitize communities about the program, and assist farmers to get organized to take agriculture as an enterprise.

### **2.1.7 Agro-Processing and Marketing Development**

The Program seeks to improve agriculture market outlets and also promote the processing of the produce to add value thereby increasing its shelf life. In this regard, the program will promote market infrastructure and financing.

#### **2.1.7.1 *Market linkages and infrastructure***

On the part of market development, government will work in partnership with private sector through the Ministries responsible for industry, trade, transport, public works, buildings, energy and environment to provide for large-scale infrastructure development to ensure a conducive environment to sustain the operations of the program. These might include good transport systems, good road networks, energy, processing plants, storage and handling facilities, among others. Operational modalities in areas of ownership, utilization, maintenance and contractual arrangements for the facilities will be properly outlined.

The programme will utilise the value chain approach to ensure market development. Market information systems as well as market extension programmes will be promoted for maximizing benefits for the farmers. Established farmer organisations will either venture into activities within the value chain or utilise contractual arrangements with established entities within the value chain to ensure value addition and commercialization. The relevant agriculture market information systems such as Malawi Agricultural Commodity Exchange (MACE) centre will actively be involved in disseminating market information to farmers linking them to markets.

### **2.1.7.2            *Agricultural financing***

To ensure availability of finance to both smallholder and commercial farmers, the Government will engage commercial banks to earmark loans for agricultural production in this greenbelt at a reasonable interest rate. Furthermore, the program will utilise innovative approaches such as matching grants and concession loans to ensure financial availability and accessibility.

The loans will be utilised for purchase of various farm inputs such as machinery like tractors, ploughs, combine-harvesters, ridgers and other farm implements; labour; other farm inputs like fertilizers, seeds, pesticides; livestock; and fingerlings; and storage facilities such as silos.

### **2.1.7.3            *Government Investment Window***

The Initiative will encourage participation of Malawians in venturing into the GBI by among other things setting up an empowerment window. Under this window Government will set aside some funds to assist Malawians who are under- capitalised but have a viable bankable greenbelt project. This facility will have preferential interest rates and could partly or fully finance a viable bankable project. The facility will also assist those wishing to go into partnerships with outside investors.

### **2.1.7.3            *Agro-processing***

Most of Malawi's agricultural exports are relatively low grade, undifferentiated primary commodities although others such as coffee and tea are gaining their own brand recognition at the international market. In order to offset the high transport costs associated with Malawi's position as a landlocked country, efforts are needed to produce higher quality products targeting higher value export markets. This requires the adoption of better technologies such as quality seeds and planting materials, access to appropriate inputs, and the pursuit of higher quality standards in production and grading systems including packaging and presentation.

To compete on international markets, Malawi will ensure that the quality of export commodities meets international standards. Government will also pursue niche markets for commodities such as cotton, vegetables, paprika, chillies and fruits for which it has a comparative advantage. This will require a significantly enhanced research and development programme, closely linked to emerging and changing market needs. There are also opportunities for import substitution by promoting local agro-processing industries oriented towards food and feed production such as

cassava starch, poultry feed, canned fruits and vegetables, fruit juices, dried fish, milk and milk products, meat and meat products, and potato crisps.

In order to increase commercial farming revenues at national and household levels and to contribute further to the targeted sectoral growth, the programme will focus its priorities on the following;

- Enhancing contract farming and out-grower schemes, and improved cooperation between value-chain stakeholders.
- Promoting higher unit values of export crops by improved product quality, processing, and compliance with market demand and standards.
- Promoting high value crops, livestock and fish production, leveraging agro-processing investments, (mainly addressed at the best opportunities for import substitution), and improved access to input markets.
- Providing financial and non-financial services to increase the unit value of commodities through vertical (agro-processing) and horizontal (market information, infrastructure) market integration, and facilitating access to credit for small and medium agro-processors through assistance with credit/grant application, business plan preparation and matching grant schemes.
- Promoting producer organizations such as cooperatives, associations, and clubs

## **CHAPTER THREE: EXPECTED OUTPUTS AND OUTCOMES**

### **3.1 Outputs**

The programme will achieve the following outputs;

1. Increased area under sustainable irrigation farming using the available abundant water resources in the country from 90, 000 ha to 1,000, 000 ha
2. Increased productivity of crops (from the current 25% to 50%), livestock and fisheries.
3. Increased agricultural exports and foreign exchange earnings;
4. Increased crop, livestock and fisheries diversification;
5. Improved value chain linkages and operations;
6. Increased private sector participation in agricultural production;
7. Improved access to social infrastructure and support services;
8. Increased smallholder income levels and employment opportunities;
9. Improved access to water for various uses;
10. Existing rural growth centres rehabilitated and new ones established

### **3.2 Outcomes**

The program outcomes include

- 1 Reduction in poverty levels among the farming communities
- 2 Improved export led economic growth
- 3 Improved socio-economic development
- 4 Increased employment opportunities
- 5 Improved food and nutritional security
- 6 Reduced rural - urban migration

### **3.3 Government Commitments**

The existing interventions include;

1. Construction of new schemes such as Lweya in Nkhata-bay and Nkopola in Mangochi covering 800 ha.
2. Rehabilitation of existing schemes e.g. Limphasa in Nkhata-bay, Hara rice scheme in Karonga and Muona in Nsanje and Nkhate in Chikhwawa.
3. Government financial commitment of MK2 billion towards the initial construction of the Shire Valley site
4. Establishment of a green revolution coordinating unit in OPC

## **CHAPTER FOUR: IMPLEMENTATION ARRANGEMENT**

### **4.1 Use of a programme approach as opposed to project implementation units**

The Program will be implemented through the program-based approach using the existing government structures and where necessary technical assistance will be used. This will help ensure sustainability and contribute to building capacity. The program is multi-sectoral requiring a cross section of expertise and various players in the implementation of the program activities. Details of roles for various institutions to be involved in the implementation of the Initiative are indicated in Annex 3.

### **4.2 Implementation structures**

The programme will be implemented with the participation of the beneficiaries to ensure that there is ownership which will contribute to make the programme sustainable. The programme will have two implementation arrangements focusing on smallholder and commercial farmers. Programme activities under this Initiative will be coordinated and supervised by Office of the President and Cabinet (OPC).

For proper implementation of the initiative activities, different structures will be put in place to coordinate activities at various levels. These include: National Steering Committee (NSC) chaired by the OPC while members are Principal Secretaries from the key ministries; National Technical Committee comprising of two relevant Directors from each of the Key Ministries. In addition to the above structures, there will also be a National Consultative Group.

#### **i. National Steering Committee (NSC) ,**

This will be chaired by the OPC and will comprise Principal Secretaries from the key ministries as outlined in Table 1. The broad functions of the NSC committee are:

- To provide policy guidance
- Review initiative progress and
- Endorse annual workplans and budgets

#### **ii. National Technical Committee**

The National Technical Committee will comprise directors from each of the key ministries. The chairperson of this committee will be nominated by the National Steering Committee. The functions of the committee are as follows:



- To screen project proposals from district assemblies and other investors
- To provide technical guidance on different components of the Initiative
- To provide advice to the NSC
- Review and recommend periodic work plans and budgets to the NSC
- Review and advise on the communication strategy

### **iii. National GBI Secretariat**

The secretariat will be headed by a fulltime Coordinator and will be supported by component heads, and support staff. The functions of the secretariat are:

- To coordinate implementation of GBI activities
- To build the capacity of different stakeholders on different components of the Initiative
- To prepare and consolidate budgets and work plans
- To review project proposals from stakeholders including district assemblies and investors
- To review implementation progress of the Initiative
- To mobilize financial and technical resources for the GBI
- To provide secretarial services to steering committee, consultative group and technical committee
- To promote Public Private Partnerships (PPPs) within the GBI

### **iv. National GBI Consultative Group**

The Consultative Group shall include representative of the following: Development and Cooperating partners, Consultative Group on International Agricultural Research (CGIAR) centres, farmers, private sector, non-governmental organization, faith and community based organizations, academic institutions and civil society groups. The functions of this group are:

- To provide advice to the NSC
- To mobilize technical and financial support
- To share experiences relevant to GBI activities

#### **v. District Assembly Technical Committee**

The role of this committee will be undertaken by the District Executive Committee under the leadership of the District commissioner. The functions of this group are:

- To identify GBI sites
- To develop and submit project proposals to the national secretariat
- To undertake and coordinate implementation of GBI activities
- To review implementation progress

#### **4.3 Criteria for selection of GBI sites at the District level**

- ✓ Irrigation potential
- ✓ Willingness of the community to participate in the GB Initiative
- ✓ Stable land tenure security including access
- ✓ Soil characteristics like soil salinity

#### **4.4 Implementation Approach**

##### **4.4.1 Private Investment**

The private investors will mainly use their own resources; however government will facilitate acquisition of land (lease or sublease) for the purpose and providing a conducive environment for investments. Where opportunity arises, out grower schemes will be pursued where inputs will be provided to the smallholder farmers. The commercial farms will be models to smallholder farmers.

##### **4.4.2 Smallholder Farmers**

Government will be responsible for the implementation of components under the Initiative for smallholder farmers. Smallholder farmers will however, be responsible for communal management of systems or minor operations and maintenance of the infrastructure. The farmers will be organized into groups such as Farmer Clubs or Cooperatives and Water Users Associations which will empower them to effectively manage the water and to negotiate for better prices for inputs and their produce. Relevant technical staff at all levels will be assisting these farmers at all times.

#### **4.4.3 Public Private Partnerships (PPPs)**

The Initiative will promote public private partnerships (PPPs) investment in the GBI sites. This will be applicable to major investment in the different sites. It is envisaged that PPPs investments will ease pressure on financing endeavors of both parties while promoting the various Initiative components.

#### **4.4.4 Initial Targeted Sites**

The GBI will be implemented throughout the country where exist vast arable land and perennial sources of water suitable for irrigation development targeting a coverage of 1 million hectares of land. The initial plan under this Initiative is to develop four irrigation sites (one in each region) namely: Shire Valley in Chikhwawa and Nsanje districts in the south, Nthola-Ilorra-Ngosi in Karonga district in the north, Mnema in Salima district in the centre, and area around Lake Malombe in Mangochi district in the eastern region.

### **CHAPTER FIVE: COSTING AND FINANCING**

Costing for the program will require specific site details in the program phases. This will be done upon assessment of 1million hectares in the country. Government in partnership with development and cooperating partners and the private sector will collaborate in financing the program. In terms of government financing, different sectoral ministries will develop their annual work plans and budgets which will be consolidated by the secretariat. Management of the funds will follow the public finance management procedures.

The government will engage development partners to support the GBI in line with principles of the Paris Declaration. Development partners will be free to choose components of the Initiative that they wish to support. Private sectors' financing will constitute direct investment in the selected GBI sites and through Public Private Partnerships.

### **CHAPTER SIX: MONITORING AND EVALUATION**

The program will use the national monitoring and evaluation framework developed by the Government. Specific indicators for different components of the program will be developed in line with the framework. District assemblies will submit quarterly reports to the national secretariat which will consolidate and submit to the Technical Committee and subsequently to the National Steering Committee.

The Technical Committee will be meeting quarterly while the National Steering Committee and the national Consultative Group will have biannual meetings. Annually, the program will hold a review meeting of all key stakeholders. Ministries will undertake sectoral as well as joint supervisory field visits to the program sites. Within the implementation phases, the program will also have mid-term reviews. This will provide an opportunity for reviewing the design and scope of the program if necessary.

## CHAPTER SEVEN: CRITICAL ASSUMPTIONS AND RISKS

### 7.1 Assumptions

- Availability of potential investors
- Willingness of the communities to participate in the Initiative
- Availability of financial and human resources
- Availability of domestic and export markets
- Participation of development partners
- Full involvement of local decentralized structures at district level

### 7.2 Risks

Implementation of Initiative is liable to risks which may directly affect all stakeholders. These risks may include:

**Institutional Arrangements:** Lack of proper coordination among various players in the sector may lead to duplication of efforts and sectoral conflicts, hence the need for a harmonized approach.

**Conflicting sectoral policies:** Since this Initiative is multi-faceted different sectoral policies need to be harmonized for its success.

**Land Tenure Security:** Land tenure conflicts and associated delays may affect the implementation of the programme. This will be minimized by ensuring an all-inclusive mobilization and sensitization programme to be headed by respective district assemblies. There is need to sensitize farmers to understand that the programme is for their own benefit.

**Inadequate access to Credit:** For increased production and productivity, farmers and inventors need to have access to credit for investments.

## **CHAPTER EIGHT:           PROGRAMME SUSTAINABILITY**

### **8.1       Economic and Social Sustainability**

The Initiative is expected to generate sustainable economic benefits for the different participating stakeholders. The Initiative will promote investments that will optimize national economic growth and income distribution besides financial profitability through introduction of new technologies, investment, partnerships and networks.

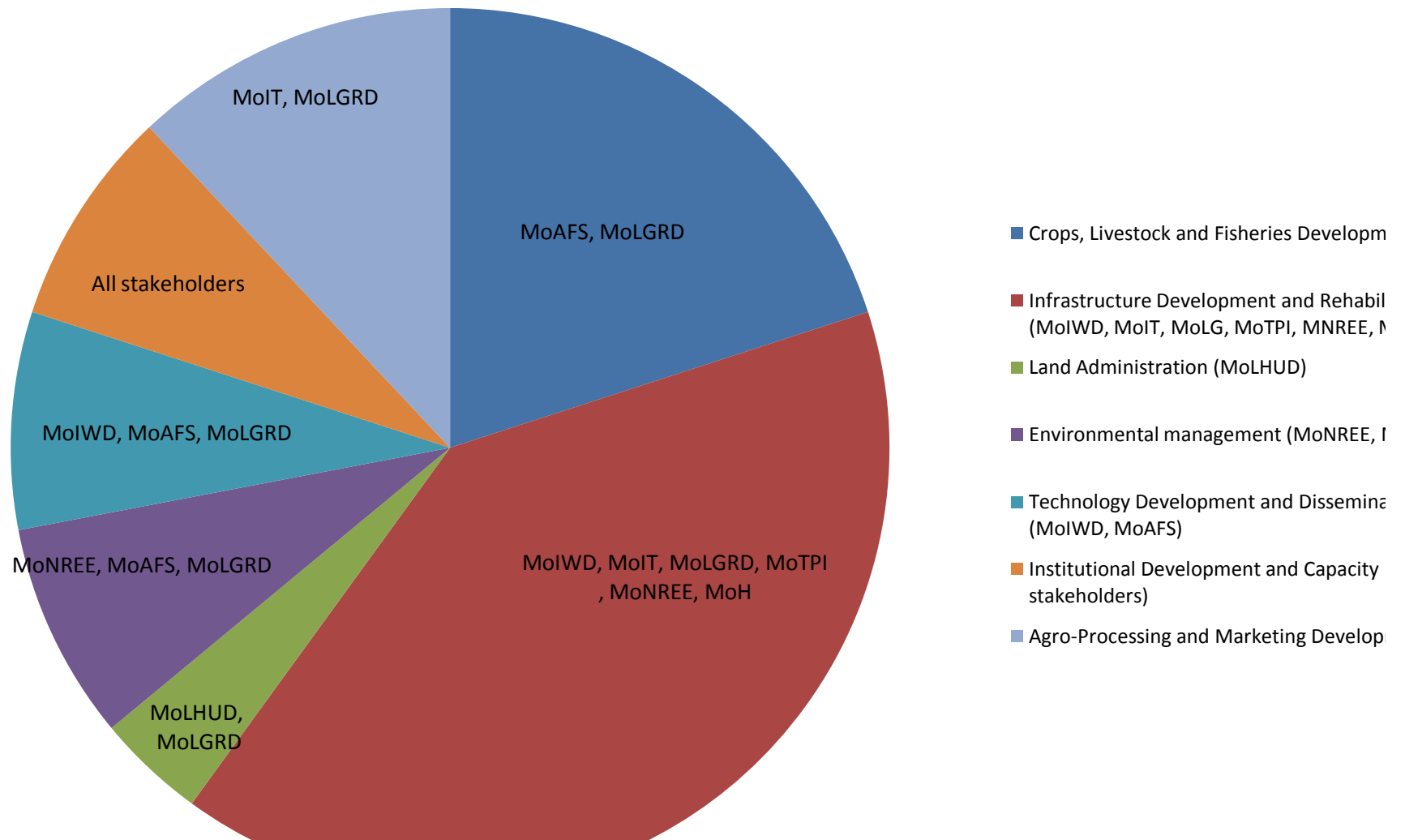
### **8.2       Environmental sustainability**

The Initiative will provide remedies to environmental stress by promoting sustainable land and natural resource management practices in line with the Environmental and Social Management Plans to be developed. The investments under the Initiative will minimize negative externalities while optimizing the positives through careful consideration at the design of each project/investment.

### **8.3       Institutional sustainability**

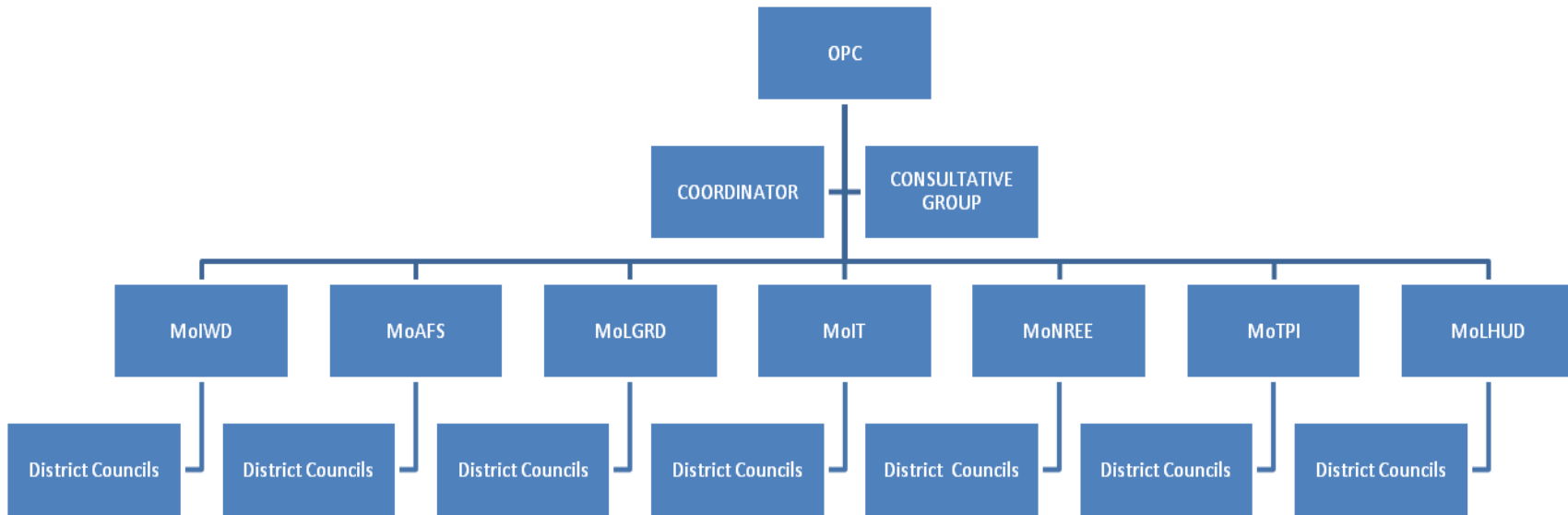
Deliberate efforts will be put in place to minimize staff turnover at all levels in the GBI implementation structures. In addition, strong emphasis will be put on capacity building of all stakeholders involved in GBI activities.

The Initiative will have mid-term reviews in each implementation phase. This will provide an opportunity for reviewing the design and scope of the Initiative if necessary.



**ANNEX 1: COMPONENTS FOR GREENBELT INITIATIVE**

**ANNEX 2: ORGANOGRAM FOR THE MALAWI GREENBELT DEVELOPMENT PROGRAMME**





**ANNEX 3: ROLES OF INSTITUTIONS IN THE IMPLEMENTATION OF THE GREEN BELT INITIATIVE**

<b>Organisation</b>	<b>Sector</b>	<b>Responsibilities</b>
1.0 Ministry of Agriculture and Food Security	Public	<ul style="list-style-type: none"> <li>• Farmer sensitisation and mobilization</li> <li>• Inputs mobilization</li> <li>• Promotion of livestock and aquaculture production</li> <li>• Promotion of crop production</li> <li>• Agro-processing and Agri-business Development</li> <li>• Farmer Training</li> <li>• Land Resource Management</li> <li>• Technology Development</li> <li>• Staff Training</li> </ul>
2.0 Ministry of Irrigation and Water Development	Public	<ul style="list-style-type: none"> <li>• Project design and construction</li> <li>• Water resources development and management including construction of dams and catchment management.</li> <li>• Water supply, sanitation and hygiene.</li> <li>• Farmer training in operation and maintenance of irrigation infrastructure,</li> </ul>

		<p>water management and irrigation agronomy</p> <ul style="list-style-type: none"><li>• Production quantification under irrigation</li><li>• Monitoring and evaluation of performance of the technologies</li><li>• Issuance of water rights</li></ul>
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