

**THE REPUBLIC OF MALAWI**

**Ministry of Agriculture and Irrigation**

**NATIONAL IRRIGATION POLICY AND  
DEVELOPMENT STRATEGY**

June 2000

## **A. LIST OF ABBREVIATIONS**

|         |   |
|---------|---|
| ADD     | Agricultural Development Division                         |
| CONGOMA | Council for Non-Government Organizations in Malawi        |
| DITF    | District Irrigation Task Force                            |
| EPA     | Extension Planning Area                                   |
| ha      | Hectares  |
| MASIP   | Malawi Agriculture and Investment Program                 |
| MoFFEA  | Ministry of Forestry, Fisheries and Environmental Affairs |
| MoAI    | Ministry of Agriculture and Irrigation                    |
| NEC     | National Economic Council                                 |
| NIB     | National Irrigation Board                                 |
| MoWD    | Ministry of Water Development                             |
| MoLV    | Ministry of Lands and Valuation                           |
| MWS     | Ministry of Works and Supplies                            |
| NGO     | Non-Government Organization                               |
| O&M     | Operations and Maintenance                                |
| RDP     | Rural Development Project                                 |
| SACCO   | Savings and Credit Cooperative                            |
| USAID   | United States Agency for International Development        |
| WRB     | Water Resources Board                                     |

# TABLE OF CONTENTS

|  |           |
|--|-----------|
| <b>A. LIST OF ABBREVIATIONS .....</b>  | <b>2</b>  |
| <b>TABLE OF CONTENTS .....</b>   | <b>3</b>  |
| <b>1 VISION .....</b>  | <b>4</b>  |
| <b>2 MISSION STATEMENT .....</b>   | <b>4</b>  |
| <b>3 NEED FOR AN IRRIGATION POLICY.....</b>  | <b>4</b>  |
| <b>4 BROAD POLICY OBJECTIVES .....</b>   | <b>5</b>  |
| <b>5 POLICY STATEMENTS .....</b>   | <b>5</b>  |
| <b>6 BROAD DEVELOPMENT STRATEGIES .....</b>  | <b>6</b>  |
| <b>7 DETAILS OF DEVELOPMENT STRATEGIES .....</b>   | <b>7</b>  |
| 7.1 IDENTIFICATION OF AREAS WITH IRRIGATION POTENTIAL .....                                    | 7         |
| 7.2 CAPACITY BUILDING IN DOI, PRIVATE SECTOR AND INSTITUTIONS.....                             | 7         |
| 7.3 PROCEDURES FOR IRRIGATION DEVELOPMENT.....   | 9         |
| 7.3.1 <i>Farmer Participation and Ownership.....</i>   | 9         |
| 7.3.2 <i>Environmental Protection.....</i>   | 9         |
| 7.3.3 <i>Scheme financing .....</i>  | 10        |
| 7.3.5 <i>Women's participation in irrigation .....</i>   | 10        |
| 7.3.6 <i>New Technologies and Research in Irrigated Agriculture.....</i>                       | 11        |
| 7.3.7 <i>Marketing and Crop Diversification.....</i>   | 12        |
| 7.3.8 <i>Private Sector and NGO Participation in Irrigation Development .....</i>              | 12        |
| 7.4 SMALLHOLDER IRRIGATION DEVELOPMENT AND MANAGEMENT .....                                    | 13        |
| 7.4.1 <i>Scheme Development .....</i>  | 13        |
| 7.4.2 <i>Transfer of management of existing government schemes to their beneficiaries.....</i> | 14        |
| 7.4.3 <i>Rehabilitation of old Earth dams and Construction of New Ones .....</i>               | 15        |
| 7.4.4 <i>Assistance to Informal Irrigation Sector.....</i>                                     | 15        |
| <b>8 EXPECTED OUTPUTS.....</b>   | <b>15</b> |
| <b>9 INSTITUTIONAL FRAMEWORK .....</b>   | <b>18</b> |
| 9.1 LEGISLATION .....  | 19        |
| 9.2 THE IRRIGATION DEPARTMENT .....  | 19        |
| 9.3 ROLE OF GOVERNMENT .....   | 20        |
| 9.4 OTHER INSTITUTIONS .....   | 23        |
| 9.5 WOMEN IN IRRIGATED AGRICULTURE .....   | 25        |
| 9.6 PRIVATE SECTOR.....  | 26        |
| 9.6.1 <i>Consultancies.....</i>  | 26        |
| 9.6.2 <i>Farming Communities .....</i>   | 26        |
| 9.6.3 <i>Private Estate and Commercial Farming sub-sector.....</i>                             | 27        |
| 9.6.4 <i>Private sector equipment and spare parts suppliers.....</i>                           | 27        |
| 9.6.5 <i>Credit and Banking Institutions .....</i>   | 28        |
| 9.7 NON GOVERNMENTAL ORGANIZATIONS.....  | 28        |
| 9.8 DONORS .....   | 28        |

# **1 VISION**

The Vision of the Department of Irrigation is “ Prosperity Through Irrigation By The Year 2020”

# **2 MISSION STATEMENT**

The mission of the Department of Irrigation is "To manage and develop water and land resources for diversified, economically sound and sustainable irrigation and drainage systems under organized small holder and estate management institutions and to maintain an effective advisory service”.

The Irrigation Department is mandated to facilitate, the increase and stabilization of agricultural production, through mobilization of small and large scale irrigation projects with human and financial resources provision from beneficiaries, the private sector, NGOs and the public sector; with full participation of the beneficiaries and ample observance of environmental aspects to ensure sustained productivity and, equitable involvement across all gender lines, for food security, effective poverty alleviation, and national economic development.

# **3 NEED FOR AN IRRIGATION POLICY**

The Government of Malawi has produced this National Irrigation Policy and Development Strategy, to provide a clear statement of the Government's aspirations for the irrigation sector and to highlight the strategy for attaining irrigation development objectives.

The occurrence of droughts and their effect on crop production have resulted in increased emphasis on irrigation development. However, prospects for development have fundamentally changed in the context of the process of structural adjustment of the national economy which began in the 1980's. The role of the government has been changed from that of the main entity in the centrally regulated economy to that of a facilitator of development in a market oriented economy.

Current high population growth rates demand much more of agriculture than in the past and Malawi needs to realize a major growth in both agricultural production and export earnings to meet the needs of the expanding population at the same time as provide for some improvement in per capita food consumption. Considering the abundant land and water resources in the country, irrigation could provide a significant technical means to increase agricultural output.

There is a need for a clear and comprehensive policy to guide irrigation development in Malawi. There are a number of existing irrigation schemes in the country, and the potential for further development can only be maximised within a policy framework which reflects national development policy. In particular, there is a need for irrigation policy to reflect the shift away from public sector irrigation development towards private sector agricultural development which is a cornerstone of the new economic policy. There is also a need to view irrigation in the broad context of regional development, such that new schemes contribute to the socio-economic advancement of the local populations in addition to meeting specific economic criteria. Irrigation must also fit into a strategy of sustainable and environmentally appropriate natural resource development.

There is a need for careful coordination with other disciplines to ensure that proposals for development are not contradictory or overlapping, but are mutually supporting and form a coherent policy framework. Irrigation policy therefore needs to be linked with policies covering other sectors.

## **4 BROAD POLICY OBJECTIVES**

The broad policy objectives of the irrigation sector are:

- 4.1** Contribute to poverty alleviation by targeting resource poor small holder farmers for irrigation development to enhance farm income and by supplementing the recommended strategies for rain fed agriculture outlined in Malawi's "The Agricultural and Livestock Development Strategy and Action Plan".
- 4.2** Increase agriculture production and enhance food security through irrigation, which will ensure some production during droughts, and the dry season, and this will supplement rain fed agriculture.
- 4.3** Extend cropping opportunities and provide a wider variety of crops in both wet and dry seasons to improve nutritional status, especially of children and women.
- 4.4** Create an enabling environment for irrigated agriculture; by facilitating and encouraging the private sector to invest in irrigation development, and encourage rural communities to manage irrigation projects in order to fully utilize irrigable land in Malawi.
- 4.5** Optimize government investment in irrigation development by applying principles of cost sharing and cost recovery.
- 4.6** Enhance human capacity for irrigated agriculture in the public, parastatal and private sector in order to facilitate effective research in irrigation technology and marketing of irrigated produce.
- 4.7** Create the spirit of business culture in the small scale irrigated agriculture sector, to promote and provide competitive financing of irrigation projects and improve the marketing system at national and international levels.

## **5 POLICY STATEMENTS**

All irrigation development will be coordinated by the National Irrigation Board

The Department of Irrigation will act as a facilitator in the development process to create an environment that encourages the private sector, smallholder farmers, estates and commercial farms to invest in irrigation development and manage their own operations

Irrigation development will be promoted and facilitated to increase income generation and commercialisation of the sector. Although priority will be given to the development of smallholder agriculture, private investment in irrigated agriculture will also be promoted and facilitated.

Development of irrigation schemes will ensure full participation of the farmer beneficiaries from the identification through planning, design to implementation and operation and maintenance. This strategy will ensure that beneficiaries have full ownership of the developed schemes.

An Environmental Impact Assessment (EIA) will be undertaken for all medium and large scale irrigation development. Any detrimental environmental impacts associated

with irrigated agriculture should be avoided or minimised. Areas of national importance in terms of their cultural, biological or environmental significance should be protected. Soils which are subject to irrigation development shall be properly managed with a view to ensuring their sustainable productivity and soil conservation measures to reduce the degradation of the catchments will be promoted.

Health aspects will be thoroughly addressed in the planning, design, financing, construction and operation of all irrigation schemes.

The overall policy for financing irrigation development is that it occurs with minimum government subsidy. Government will optimize its investment in irrigation development by applying principles of cost sharing and cost recovery.

The government will undertake the task of improving the quality of irrigation education at all levels. The extension service for irrigated agriculture will be strengthened to reflect the growing importance of the smallholder farmer to agriculture.

International cooperation in irrigation research will be actively promoted in order to provide more opportunities for acquisition of information from active centres of research in the world.

Research into the development of appropriate technical inputs which focus upon the needs of the small-scale farmer and which take into account the local situation and problems will be promoted. Innovations must be attractive to farmers and relevant to their circumstances.

## **6 BROAD DEVELOPMENT STRATEGIES**

- 6.1** Identify areas with irrigation potential in order to increase land put under irrigation based on the existing irrigation potential.
- 6.2** Enhance technical and administrative Capacity in irrigated agriculture in the Irrigation Department, together with improved technical capacity in the private sector and training institutions so that in the next ten years, the private sector can take on irrigation/dam design and construction, and the training institutions can offer Diplomas/Degrees and short courses in irrigation.
- 6.3** Assist small holder farmers, to develop and manage new and existing irrigation schemes through establishment of local farmer organizations that can assume full ownership of existing irrigation schemes and the new pilot schemes.
- 6.4** Transfer ownership of existing government schemes to the beneficiaries, through participatory methods that will enhance farmers responsibility and obligations towards the management of the schemes.
- 6.5** Assist the informal irrigation sector, through greater presence of the Irrigation Department in Regional, District and Rural Communities to provide irrigation technology advice where it is needed most.

- 6.6** Conduct research in irrigation technology in order to promote the use of appropriate advanced and simple technologies in irrigated agriculture with due attention to efficient utilization of water resources.
- 6.7** Facilitate the establishment of a well coordinated marketing system with considerable local processing and better storage/transportation of farm produce.
- 6.8** Address specific problems that women face in irrigated agriculture in order to achieve greater participation of women in the small scale irrigation sector.

These Broad Development Strategies are further elaborated in section 8 below.

## **7 DETAILS OF DEVELOPMENT STRATEGIES**

### **7.1 Identification of areas with irrigation potential**

- The government will identify areas with the physical potential for irrigated agriculture by reviewing existing studies and conducting additional studies.
- Additional studies of groundwater resources are necessary to define potential for irrigation from this source. After completion of groundwater studies, areas with the potential for irrigation development using groundwater will be identified. Examination of other existing water uses and future additional studies of groundwater will be made to ensure that sufficient water exists for newly planned irrigation developments.
- Available information concerning the economics of water use as a scarce resource will be updated to assist in rational irrigation development.
- For the areas with the potential for irrigation development, the role of irrigation in the agro-ecological production pattern will be established to determine the location, timing and conditions for irrigation. Priority will be given to development of those areas with the best chance of success taking into account social factors, cost effectiveness and financial viability.

### **7.2 Capacity Building in DoI, Private Sector and Institutions**

- The key to sustainable capacity building lies in the development of existing local expertise and training institutions to offer courses in irrigation technology and management. The training needs and capacity shortfalls in the Department of Irrigation were identified in a separate study (Dam and Dambo “Institutions”), which will form a basis of a training program including on-the-job training, short courses (local and overseas).
- Government will implement a program to improve irrigation training at all levels, and enhance national capacities for developing irrigation and providing support to

small holder farmers. This will be carried out in line with the training proposal deriving from the Institutional and Training Needs Assessment Study, and will be tailored to meet the actual demands of the public and the private sector. A continuous assessment of training needs will be carried out, to ensure that training programs keep track of demands and changes in irrigation development in the country.

- Different levels of support will be provided from the retraining of existing staff to the improvement of graduate and undergraduate courses. The curriculum of the appropriate Colleges in Malawi will be revised to include courses in irrigation agronomy; irrigation engineering and associated development planning which will complement agricultural modules for existing courses.
- The previous study established that there is limited capacity in existing training institutions, efforts are already underway to develop appropriate curriculum for degree, diploma and certificate courses. What still remains, though, is provision of scholarships to improve the capacity of local staff in irrigation technology. There is need for resources to be set aside, so that staff in existing training institutions can access for short courses, study visits, and academic degrees.
- Irrigation extension training will be provided to MoAI to complement rainfed extension training agents in irrigation technology and day-to-day system operation and maintenance to enable them to advise farmers in irrigation schemes. An effort will be made to place extension agents trained in irrigation technology in EPAs where irrigation exists and where irrigation development is planned.
- Training programs for farmers interested in irrigation will be developed and included in the government assistance programmes for irrigation development. Demonstration of proper irrigation technology at the farm level will be part of this training program. Farmer training will also include instruction in leadership skills to enhance management of farmer organizations.
- To ensure quality and sustainability, the short courses aimed at improving staff in Irrigation Department and the Ministry of Agriculture in general, should be carefully monitored and evaluated in order to develop archives of training materials for future short courses. The Local Materials and Training Evaluation Expert who is currently evaluating and monitoring short courses may have to incorporate other experts and the service extended beyond the two man months.
- As the Irrigation Department plans and offers the short courses for its staff, efforts should be made to include staff from relevant Departments (Extension, Crops, Water etc) together with staff from relevant Private Sectors and NGOs. There may be need in future, once the Private Sector realizes benefits of this training, to develop cost sharing.

## **7.3 Procedures for Irrigation Development**

### **7.3.1 Farmer Participation and Ownership**

- A participatory approach will be used to assist farmers to improve and develop their schemes. This will be designed to ensure participation of farmers in the planning and decision-making process as well as appreciating the nature and role of the different stakeholders. The fundamental principle for this approach is a respect for farmer's autonomy and freedom of choice.
- The governing principle in irrigation management will be the full ownership of irrigation schemes by the beneficiaries through their legally constituted local organizations that will oversee all matters related to operation and maintenance of these schemes, hence formation of farmer organizations will be the necessary condition for scheme development.
- Informal and formal group formation will be an integral part of ensuring community involvement in the schemes and the sustainability of interventions. Assistance will be provided to the farmers and communities in forming farmer organizations and common interest groups for development, management, operation and maintenance of the schemes and also in the marketing of crops and supply of inputs. Farmer organizations will be the main focus of attention with guidance and training provided including the role and operating procedures of an association, structure and responsibilities of farmer organizations officers, procedures for their election, internal rules and regulations and the rights and obligations of the members. Government will facilitate farmer organizations in obtaining credit, enter into contracts or agreements with the Government or any financial organization and in support of this will legalize farmer organizations under the Cooperative Act. Farmer organizations will have to have legal recognition.
- Farmer Organizations will be empowered to enter into negotiations with Government on land related issues. As far as Government schemes are concerned, the details of future ownership will ensure transfer of the land and assets to local farmers' organizations. The FAO supported pilot studies into handing over of the schemes will further contribute to modalities of scheme hand over once these studies finalized and approved. The ownership of existing small earth dams, once they have been rehabilitated, will be formally handed over to the local organization which should be granted Water rights by the Water Resources Board.

### **7.3.2 Environmental Protection**

- All irrigation development will be integrated with other natural resource management activities such as catchment management in order to protect the environment.

- For all irrigation development an assessment will be made to ensure that unacceptable environmental impacts are avoided and that features such as high water tables, salinity and erosion are monitored.
- The impact of irrigation development on health will be closely monitored.

### **7.3.3 Scheme financing**

- Costs for rehabilitation of the government schemes prior to turnover will be borne by the government. All operation, maintenance and replacement costs are to be borne by the farmers in the irrigation schemes. Assistance in securing credit availability for scheme beneficiaries will be similar to that for self-help schemes.
- The overall policy for financing irrigation development is that it occurs with minimum government subsidy. All operation, maintenance and replacement costs are to be borne by the beneficiaries of irrigation schemes. The government will develop a program of cost sharing for capital costs of irrigation development. In developing this program, consideration will be given to matching grants, in-kind contributions from beneficiaries, food-for-work programs and cost sharing for materials, equipment and labor. In developing the cost sharing program, the farmer's ability to pay will be taken into consideration.
- The government will also explore ways of securing credit availability to the irrigated agriculture sector. The following strategies will be used to improve the availability of credit:
  - ◆ Promote the establishment and growth of farmer-oriented financial intermediaries such as Savings and Credit Cooperatives (SACCOs), Village Banks etc. This will require examining the potential role of farmer owned intermediaries, identifying constraints to their formal establishment and operation, and developing and implementing policies that will actively promote establishment and growth of the organizations.
  - ◆ Encourage other existing organizations/associations which have a vested interest in providing suitable services to their members to act as channels for credit.
  - ◆ Encourage financial institutions to recycle savings and invest in irrigated agriculture production, which will help enhance productivity of small holder farmers.

### **7.3.5 Women's participation in irrigation**

- Rural communities will be sensitized through participatory methods to encourage them to incorporate female members in their local organizations management committees, and ownership of land by women will be encouraged within the realm of socio-cultural constraints.
- Women will be encouraged to participate in small scale irrigation projects through public awareness campaigns that can allow women to go through exchange visits and seminars.
- Recognize the importance of gender roles in irrigation in all training programs. Tailor made public awareness campaigns and extension services in irrigation programs to the different roles and priorities of men and women, and ensure that women have equal access to extension messages on irrigated agriculture.

- Government will promote the greater involvement of women in community organizations and irrigation developments. This will include:
  - ◆ Ensure that public awareness campaigns concerning irrigation programs include women;
  - ◆ Facilitate women's participation in irrigation decision making, plot ownership and management;
  - ◆ Recognize the importance of gender roles in irrigation in all training programs;
  - ◆ Tailor public awareness campaigns and extension services in irrigation programs to the different roles and priorities of men and women;
  - ◆ Ensure that irrigation extension service is provided to female headed households;
  - ◆ Encourage the development of women's organizations in rural areas in collaboration with concerned Ministries and no-government organizations (NGOs);
  - ◆ Remove barriers against women in accessing credit and land.
- Evaluation criteria for local organizations should include level of participation by women in terms of office bearers in the organization and women farmers in the scheme.
- In order to encourage women participation in irrigated agriculture, there should be a special programme that can fund women exchange visits in various schemes within the country and some visits within the region to countries with a tradition of irrigated agriculture.

#### **7.3.6 New Technologies and Research in Irrigated Agriculture**

- To enhance production and efficiency in irrigated agriculture, suitable technologies to small holder farmers that take cognizance of women farmers and income levels will be developed, while some technologies will be imported and adapted for Malawian conditions. Technology acquisition will be coordinated through the Irrigation Department which will be a clearing house for locally developed technologies and those adapted from other countries.
- Government will act as a catalyst for the introduction, development and testing of irrigation technologies appropriate for small holder irrigation. These will comprehend the financial and technological limitations of the resource poor farmers and may include simple water harvesting techniques, hand dug wells, manual or fuel operated small pumps and simple diversion and water control structures. The intention of this support is raise awareness of the farmers to the options available to them together with cost and benefits of operating them.
- A research and development programme, will be established for the testing and further development of small water lifting devices small scale processing and labour saving technologies, that are affordable to resources poor farmers. This program will include promotion of local manufacturing of these devices. To avoid duplication of research efforts among all stake holders, research in irrigation

technology will be coordinated by the Machinery Unit in the Department of Research so that all research efforts are documented and monitored.

- Dissemination of research results will be through the existing networks of libraries and presentation of papers at seminars and work shops.
- Among the research needs in the Irrigation Sub-sector are:
  - ◆ Technical issues (e.g. the development of appropriate technology);
  - ◆ Agronomic issues (e.g. interaction between water and fertilizer);
  - ◆ Environmental issues (e.g. impact on health, bio-diversity, wildlife);
  - ◆ Social issues (e.g. appropriate management structures);
  - ◆ Land and water issues (e.g. soil degradation, salinity control, water use efficiencies);
  - ◆ Financial issues (e.g. financial viability from a farmers perspective);
  - ◆ Economic issues (e.g. the interest in irrigation development from a national perspective);
  - ◆ Policy issues (e.g research to support policy decisions)
  - ◆ Dissemination of research results to farmers through extension services will be improved.

#### **7.3.7 Marketing and Crop Diversification**

- The Government will explore alternatives to handling and marketing of farmers produce in order to realize the maximum possible gross margins from irrigated agriculture. Experiences from other countries in the region, in terms of Marketing and Processing Boards will have to be evaluated for possible adoption in Malawi. These Boards could initially be established by Government but later sold for privatization.
- The Department of Irrigation will play a catalytic role in influencing market intelligence among the farmer organizations, and provide guidance through farmer training in effective negotiations on pricing of agricultural commodities.
- The Department of Irrigation will support the promotion of crop diversification in irrigation development.
- Estate farms should be encouraged to take up a coordinating role of storage, processing and marketing of farm produce, so that they are a nuclei of Marketing and Processing Boards.

#### **7.3.8 Private Sector and NGO Participation in Irrigation Development**

- The government will create an enabling environment which will encourage the private sector to invest in the development of irrigation systems. The government will promote crop diversification through irrigation by encouraging its use on crops which will give a high return to irrigation. Government policies and legislation concerning agriculture, imports of agricultural inputs and equipment and commodity exports will be reviewed to determine if changes in these policies and law are warranted to enhance irrigated agriculture on estates and commercial farms.

- Extension services are currently concentrate on rainfed agriculture. Government will provide some services for irrigated agriculture, but these will be aimed at the poorest farmers with limited resources. To meet the demands of all small holder farmers, Government will encourage private sector involvement in irrigation support and extension services and in the improvement of equipment and spare parts supply and repair service;
- The purpose of the privatized extension services will be too give advice on wide ranging issues related to irrigated agriculture to promote sustainable use of land and water resources within an irrigation scheme. These services will include such aspects as irrigation techniques, water use efficiencies, irrigation management, land leveling and scheme operation and maintenance.

## **7.4 Smallholder Irrigation Development and Management**

### **7.4.1 Scheme Development**

- Government will develop an awareness programme to inform farmers of the potential for improvement of irrigation in all potential areas, irrespective of the type of system and stage of development. This will be achieved through dialogue to identify the agricultural, technical and social problems of areas of interest, as well as the interest and attitudes of beneficiaries, community capacity and aspirations in irrigated agriculture. Technical guidance will be provided by government to communities and individual farmers in planning, designing, construction and management of schemes, through, the ADDs and RDPs.
- A participatory approach will be used to assist farmers to develop these schemes. The fundamental principle for this approach is a respect for farmer's autonomy and right of free choice. Procedures will be developed to ensure participation of farmers in the planning and decision-making process. The participation process will be designed to appreciate the nature and role of different interests, identify areas of common interest and compromise, and identify and resolve problems.
- To support the expressed demand in irrigation by the communities, the Government will identify areas with the physical potential for irrigated agriculture by reviewing existing studies and commissioning additional studies. The focus for irrigation development will be food security and poverty alleviation. Information on existing water users and requirements will be included, together with projections for abstractions to ensure that conflicting demands for the same water resources are not created, and that sufficient water exists for planned irrigation developments.
- The self-help schemes will be planned to ensure that irrigation will be part of a comprehensive effort to remove constraints in agriculture production, and be sustainable over time. Planning of self-help schemes will include economic and financial analyses. The level and detail of these analyses will depend on the size and complexity of the development.
- For schemes to be developed in dambo areas, an analysis will be made to ensure that unacceptable

environmental impacts and high water table and salinity problems are minimized. Development of dambo areas via government assisted self-help schemes will require review and possible amendment of national law concerning the use of these areas.

- Schemes will be designed to be manageable and sustainable over time. Cost optimization, as opposed to cost minimization, will be the principle adopted for system design. The government will honor the existing customary land tenure system in the development of self-help schemes.
- Catchment wide development plans will be prepared so that irrigation schemes and project programmes within the same river basin are coordinated. They will also be connected with related plans such as rural road developments to enhance marketing opportunities, or rural electrification programmes for those sites requiring pumping and complement other relevant studies such as those conducted on water use by the Minister of Water Development. River Authorities, once established will play a major role in ensuring this coordination within the stipulated environmental regulations from the Environmental Affairs Department.

#### **7.4.2 Transfer of management of existing government schemes to their beneficiaries**

- The intention of Government is to transfer ownership, management, operation and maintenance of existing government irrigation schemes to those farmers who are currently in these schemes. These schemes are located on public land, as government developed the schemes, and because of this, they can only be handed over to an organization that has recognized legal status. Government will thus introduce legislation that will enable the formation and registration of small holder irrigation farmers' groups, to which the Government would then hand over the ownership of the schemes. The most appropriate organizations for the schemes are either associations or cooperatives .
- Assistance will be provided to the beneficiary farmers to establish the most suitable groups for the schemes in question, and to complete the necessary formalities to meet the requirements of the Cooperatives Act under which the organizations will be legalized. Transferring management of schemes to the organizations will be based upon a participatory approach and will be formalized on the basis of an agreement. This agreement will specify tenure and operation and maintenance responsibilities. Land tenure arrangements and allocation procedures will be developed after an evaluation of this issue. However, there will be formal hand-over of schemes to farmers organizations, preferably on lease basis so that its members will be given title deeds that are able to pass the land onto family members and encourage investments.
- The schemes will be rehabilitated prior to transferring scheme management to these organizations to ensure that they are suitable for beneficiary management and are within their capabilities. Capital investments will be made by Government to compensate for past deferred maintenance, and the rehabilitation of the schemes will be implemented in consultation with the local organizations.
- After transfer, all operation, maintenance and replacement costs will be the responsibility of the local organizations and hence the farmers on each of the irrigation scheme. As with the other small holder schemes, assistance will be

provided for facilitating credit availability for the scheme beneficiaries. This will be similar to that for self-help schemes.

#### **7.4.3 Rehabilitation of old Earth dams and Construction of New Ones**

- Existing earth dams in areas with potential for irrigation development will be surveyed with the intention of establishing both technical and social needs of the area. The Dam Dambo study has developed guidelines for such assessment and this will be adhered to for future rehabilitation exercises. Emphasis in the evaluation will be, the willingness of the farmers to organize themselves and be ready to take full responsibility in the operation and maintenance of the water works at the dam.
- Construction of new dams will follow a similar approach as the rehabilitation, there should be a strong potential for irrigated agriculture and willingness from farmers to form organizations and contribute towards the capital expenses.
- In both rehabilitation and construction of new dams, construction work which is beyond the capacity of the beneficiaries will be contracted to the private sector. In the interim period until the private sector develops capacity, the Department of Irrigation will take up some of these construction works. The Department will subcontract certain activities to the private sector during the interim period, but will supervise the subcontracted works and this should expose the private sector to procedures for tendering and executing public works.

#### **7.4.4 Assistance to Informal Irrigation Sector**

- A survey will be made to assess the extent of the area under informal irrigation (traditional rice and dimbas), and to assess its problems and constraints.
- Based upon this survey, the government will act as a catalyst for developing informal irrigation by providing information about and access to simple irrigation technologies. These technologies may include simple water harvesting techniques, hand dug wells, manual or fuel operated small pumps and simple diversion and water control structures. This program will be part of the agriculture development options at the RDP/EPA levels.
- A research and development program will be established for the testing and further development of small lifting devices that are affordable to resource poor farmers. This program will include promotion of local manufacturing of these devices.
- Existing regulations concerning excise taxes will be reviewed to determine whether changes would make simple imported irrigation equipment more readily available to farmers. Legislation concerning use of dambo areas will be reviewed and changes proposed, as needed, to allow appropriate irrigation development.

## **8 EXPECTED OUTPUTS**

The developed policy and strategy is expected to address key constraints in the Irrigation Sector, and achieve results that can be interpreted in overall welfare uplifting of the rural masses with subsequent poverty alleviation and increased food security. Paramount to these achievements is the need to adhere to sustainable operations that pay due respect to factors of environmental preservation and conservation.

The following is a summary of expected outputs:

**8.1 Increase of land put under irrigation based on the existing irrigation potential**

- Up to 15% of irrigable land is utilized in the next 5 years and a further 20% is developed in the subsequent 5 years;
- Flood plains and dambos with irrigation potential are fully utilized in the next fifteen years, and all available waters impounded in small dams are exploited for irrigating the surrounding land, within the realm of the Water Resources Act, Part II Section 6 (Right to public water for domestic purposes).

**8.2 Production of crops from irrigated agriculture is increased and there is considerable diversification of crops**

- Farmers have greater reliance on irrigated crops as a primary source of food for the family rather than using irrigation as a secondary source as is the case presently;
- Yield per unit area of maize is increased from the current average of 10 bags per hectare to at least 15 bags per hectare due to high yields from irrigated maize;
- The crop variety from irrigated agriculture is diversified away from a predominantly rice base to other crops like green maize, vegetables and spices;
- Improved on-field water management research and technics are implemented in irrigated agriculture.

**8.3 Establishment of a well coordinated marketing system with considerable local processing and better storage/transportation of farm produce**

- Formation of local storage and processing centers which will also act as wholesale market points for irrigated farm produce;
- Introduction of small scale processing units with adequate capacity for local produce;

- Organization and management of communal transport arrangements to move farm produce to urban markets and other demand areas;
- Improved communication of market prices for agricultural produce.

#### **8.4 Greater participation of the Private Sector and NGOs in the planning, design and construction of irrigation projects**

- Up to 80% of small dams and small irrigation projects designed and constructed by the private Sector and NGO;
- At least 60% of medium to large scale projects designed in collaboration with the Private Sector and NGOs;
- Up to 100% of large dams and irrigation projects constructed by the Private Sector;
- Up to 70% of services in terms of maintenance, repairs and equipment supply provided by the Private Sector and NGOs.

#### **8.5 Establishment of local organizations for full ownership of existing irrigation schemes and the new pilot schemes**

- Formation of farmer organizations with legal status to acquire land and water rights;
- Handing over of existing irrigation schemes to the beneficiaries under a formal agreement with subsequent better management and increased production;
- Formation of Regional and National farmer organizations that can effectively bargain for better services and markets;
- Beneficiaries to pay full cost of operation and maintenance of irrigation schemes;
- Beneficiaries to enter into cost sharing negotiations with Government on the construction of major projects and such costs should range from 15% on big projects; to 30% on small projects payable by beneficiaries.

#### **8.6 Greater participation of women in irrigated agriculture**

- More women serving as members of committees on the local organizations;
- Increased number of women owning land in irrigation schemes;
- Greater interaction of women in irrigation schemes through exchange visits;
- Legal instruments for inheritance of irrigation plots by women.

#### **8.7 Greater presence of the Irrigation Department in Regional, District and communities (ADD, RDP and EPAs)**

- Establishment of Divisional Irrigation Officers and Technical Posts at RDP level;
- Limited staff positions at Headquarters and filling up of vacancies of Irrigation personnel at RDP level with subsequent training of front line staff at EPA level in irrigation technology;
- Links between front line extension personnel and the Irrigation Officers at ADD and RDP are well defined and strengthened.

**8.8 Technical and administrative Capacity in irrigated agriculture is improved in the Irrigation Department**

- The Department is able to translate policy into strategies and long term irrigation development;
- The Department has roles and procedures in place for monitoring and evaluation of irrigation projects;
- The Department is able to prepare contract documents for the planning and design of large scale dams, and has the capacity to supervise contractors for the construction of large dams;
- The Department is able to conduct on-the-job training for its junior staff and is able to supervise medium and small scale dams at ADD and RDP levels;
- The Department is able to prepare contract documents for large scale and medium scale irrigation and drainage projects and is also able to supervise contractors on these projects.

**8.9 Technical Capacity in the private Sector and Training Institutions is improved in the next ten years for the Private Sector to take on irrigation/dam design and construction and the Institutions to offer Degree, Diploma and Short Courses in irrigation**

- Curriculum in irrigated agriculture for Degree, Diploma and Certificate courses are developed and operational;
- Training materials in specific areas of irrigation are developed and fully tested;
- There are adequate members of staff to teach all aspects of irrigated agriculture;
- The private sector has competent staff to prepare documentation to bid for consultancy work and construction projects in irrigation;
- The Private Sector is able to provide irrigation services to Estate farms and small holder irrigation schemes.

## **9 INSTITUTIONAL FRAMEWORK**

Irrigation development will be under the mandate of the Irrigation Department. Other major participants in the institutional framework for irrigation development include:

- ◆ Sector Ministries
- ◆ Water Resources Board
- ◆ National Committee on Irrigation and Drainage
- ◆ Training Institutions
- ◆ Private Sector
- ◆ NGOs
- ◆ Farming Communities
- ◆ Donors
- ◆ National Irrigation Task Force
- ◆ District Irrigation Task Force

The Irrigation Department should always be given autonomy in consultation with the National Economic Council (NEC) to encourage innovation and local initiative to formulate project proposals, and allow direct negotiation with Donors in order to sustain existing capabilities the Department has developed in project formulation and sourcing of funds from Donors.

There should be flexibility within the controlling Ministry and Government Policy, to allow the Department of Irrigation direct access to other relevant Ministries and Departments to ensure continued close liaison with all stakeholders in the agriculture industry.

## **9.1 Legislation**

An Irrigation Act is to be formulated and instituted in order to guide irrigation development through its regulations and, also create avenues of operation among the Department of Irrigation, the Private Sector, the Donor Community, parastatals, rural communities and NGOs. The Irrigation Act so formed should be in harmony with all relevant sectoral legislation especially in agriculture, environment, water, mining, lands, forestry/wild life and fisheries.

All irrigation development will be coordinated with other disciplines by the National Irrigation Board to ensure that proposals for development are not contradictory or overlapping, but are mutually supporting and form a coherent policy framework.

## **9.2 The Irrigation Department**

- The Irrigation Department will promote integrated approach in the planning and design of irrigation projects and other irrigation infrastructures like dams and intake points in order to ensure adherence to designs and specifications of irrigation works.
- The Irrigation Department should have greater presence in the field at ADD, RDP, Districts and EPA with a thin Headquarters complement, so that the Department is

focused at implementation assessment, evaluation and monitoring using the locally available private sector contractors.

- The Department will gradually dispose some of its construction plant since it will no longer be directly involved in design and construction of earth works, but will rather supervise the private sector, which will in future take up these activities.
- Most of the irrigation planning, designing, and implementation will devolve to ADD, RDP and District levels, so that the Department of Irrigation will provide advisory and supervisory services to these centers, especially the preparation and administration of construction contracts and other consultancy services.
- The Department will formulate irrigation designs and specifications, which will be a basis for monitoring and evaluation of irrigation works, in order to adhere to building and environmental regulations in Malawi.
- The Department's irrigation development strategy will take cognizance of resource poor rural families and gender constraints in order to institute uniform participation of the whole rural community for effective poverty alleviation.

## **9.3 Role of Government**

### **Ministry of Agriculture and Irrigation**

- The Ministry of Agriculture and Irrigation will be at the centre of irrigated agriculture development. As such, the Ministry will be responsible for ensuring close coordination between the various Departments and sections; Agricultural Research, Extension, Crops, Mechanization, Agricultural Development Divisions, Rural Development Projects and the Extension Planning Areas. Ministry of Agriculture and Irrigation will also ensure coordination with other Ministries, Departments and relevant parastatals and NGOs. The main areas for coordination are:
  - ◆ Means of promotion of irrigation development in areas with irrigation potential;
  - ◆ Methods for initial identification of farmers' level of interest in irrigation and their needs and subsequent follow-up;
  - ◆ Training of staff to meet the demand of their new roles;
  - ◆ Irrigation extension and research;
  - ◆ Group formation and organization at community level;
  - ◆ Farmer training and motivation;
  - ◆ Gender issues and greater involvement of women in irrigation programmes;
  - ◆ Particular programs concerning self-help and government schemes;
  - ◆ Conservation of catchments, dambos and flood plain development areas.
  - ◆ On-field and catchment water conservation to ensure dependable and accessible water resources.

- Extension programmes will be the most important component in the promotion of irrigation development, as it is by this means that information on existing demand and resources is coupled with the provision of information and support to the interested farmers and communities. Training and retraining of field staff (ADD; RDP; EPA;) will be carried out on a regular basis to encompass all of the areas of coordination as outlined above. Longer-term institutional development programmes will be established not only for the Department of Irrigation but also for those Departments and Sections like the Private Sector, NGOs, and the University, which are directly linked with the promotion of irrigation.
- Existing databases on land classification, land use, development of potential and existing irrigation projects will be revised and integrated into a national database that can easily be accessed by all stake holders in land related activities including the Irrigation Department
- MoAI will ensure the full integration of research and extension services for both irrigated and rainfed agriculture to ensure that all staff are adequately equipped to meet the needs of all rural areas. They will also define clear responsibilities between Departments. The Ministry will have to fully orient Field assistants as change agents in all areas of agriculture ranging from livestock to irrigated agriculture.
- The Agricultural and Livestock Development Strategies and Action Plan (ALDSAP), established in 1995, will be updated to comprehend the additional resource needs and investment opportunities in the irrigation sub-sector, within the realm of MASIP, resulting from the adoption of the National Irrigation Policy and Development Strategy (NIPDS).
- In-house programmes will be established so that professional staff are given exposure and practical experience through on-the-job training. This will be supplemented with training in policy formulation and management as tools to assist staff in the implementation of irrigation projects. Other members of staff involved in irrigation activities (e.g. Land Husbandry Officers, etc.) will receive some formal training in irrigation according to structured training support programmes. These will also include administrative staff who will be trained to respond to the needs of the Department of Irrigation.
- MoAI will promote irrigated agriculture in accordance with the sectoral policy objectives, principles and strategies of the National Environmental Action Plan (NEAP) and the National Environmental Policy (NEP).
- Cooperation between Government, local communities, women's groups, non-governmental organizations and the private sector will be promoted by MoAI in the management and sustainable utilization of the natural resources and the environment.
- Crops grown in Government Irrigation Schemes will be deregularized, so that farmers are free to grow crops based on existing demand and expected returns in order to allow diversification of irrigated crops and competitive prices.

## **Ministry of Water Development**

Functions of this Ministry that relate to irrigation are:

- ◆ Water resource planning and development;
- ◆ Maintenance of water resource data bases;
- ◆ Review of applications for water rights;
- ◆ Monitoring of water abstractions;
- ◆ Water quality management;
- ◆ Protection of water resources and catchments management.

In this capacity, the Ministry will:

- ◆ Incorporate irrigation water requirements in national water resources planning and development;
  - ◆ Coordinate the establishment of criteria for water allocations and priorities with the water Resources Board;
  - ◆ Draft and propose legislation to implement the criteria for water allocation and priority;
  - ◆ Review, improve and update the water resources data base to include inputs on existing irrigation uses and demands provided by MoAI;
  - ◆ Protect the water rights of irrigation developments when reviewing applications for water rights;
  - ◆ Protect and promote conservation of catchment areas.
- The Ministry should consider establishment of River Authorities in order to streamline the conservation and management of water resources under competing users. These authorities would ensure equitable utilization of water resources based on local, regional, national and where applicable international needs.

### **Ministry of Forestry, Fisheries and Environmental Affairs (MoFFEA)**

- The Department of Environmental Affairs (EAD) within the Ministry of Forestry, Fisheries and Environmental Affairs (MoFFEA) will be responsible for administering environmental policy and legislation. It will also manage the process of environmental impact assessment for new developments.
- It will ensure that agricultural development will be promoted through environmentally sound crop production, consistent with the principles of sustainable development by including the relevant strategies and measures necessary for promoting conservation, management and sustainable utilization of the natural resources. This will include aspects such as, Environmental Impact Assessment which will be carried out for all new developments and, where appropriate, for existing projects.
- The Ministry will pay attention to Irrigated agriculture water needs as it implements forestry and fisheries development projects to ensure that there will be no conflict of interest, especially in the potential of irrigated agriculture in forest and game reserves.

### **Ministry of Lands and Valuation**

- Land reform and land tenure programmes for irrigation development will be implemented by the Ministry of Lands and Valuation, MoLV, in close coordination with MoAI and MoWD. They will utilize the land tenure data base maintained by MoLV, and this will be revised as necessary to assist the transfer of existing public lands to the beneficiaries, and also in the identification of areas with potential for irrigation.

### **National Economic Council**

- The National Economic Council will ensure that donor support will coordinate development cooperation, in terms of national policy guidance and programming, or that aid is in line with the objectives of irrigation development.
- Government policy is to place increased emphasis on irrigation development, but at the same time keep subsidies for the programme to a minimum. The National Economic Council (NEC) is responsible for approving all development projects and no programme is implemented without this approval. NEC will assess whether the programme or project complies with the relevant sector and national policies and strategies, as well as laws and guidelines set out by responsible Ministries. It will also assess whether the public sector expenditures comply with the Public Sector Investment Programme priorities and allocations.

### **Ministry of Tourism, Parks and Wildlife**

- The Ministry will promote conservation of catchment areas in Game Reserves and Parks to ensure acceptable water quality that can be used for irrigation downstream.
- In any review of the status of protected areas, irrigated agriculture should be included as one of the options for future development and utilization of such land.

## **9.4 Other Institutions**

### **National Irrigation Board**

- The National Irrigation Board will coordinate irrigation development and management in accordance with the National Irrigation Policy and Development Strategy and the Irrigation Act.
- The board will approve standards and guidelines for irrigation development and management.
- The board will coordinate private sector involvement in irrigation development and management
- The board will coordinate all donor activities in irrigation development and management

- The board will monitor the progress of irrigation development and management at the national level

#### **District Irrigation Task Forces**

Each district will have a District Irrigation Task Force (DITF) whose mandate is to coordinate irrigation development at the district level and to ensure that all activities in line with the NIPDS and the Irrigation Act.

The DITF shall advise the DDC on District Irrigation Development Plans and monitor implementation.

#### **Water Resources Board**

- Water Resources for irrigated agriculture will be developed in accordance with National Water Laws administered by the Water Resources Board who will enforce them. The Board will ensure that existing holders of water rights and allocations adhere to the law, and that these rights are not adversely affected by illegal water abstractions by others. It will cease granting additional rights to water extractions in those cases where basins are fully developed or areas where WRB feels that allocations are being exceeded.
- The board will monitor water use and quality in river and ground water basins and protect them from over exploitation and pollution. In conjunction with the Ministry of Forestry, Fisheries and Environmental Affairs (MoFFEA), an information program will be developed to make all water users aware of the requirements of laws concerning water regulation (water rights).
- The Board will oversee the pricing of water resources for irrigated agriculture, in order to safeguard against wastage due to underpricing, and at the same time protect farmers against overpricing by the local organizations and/or developers of water resources.
- The Board will oversee the water quality adherence of the irrigation sub-sector, to ensure that the quality regulations established in the Water Act are not violated, especially effluent from irrigated fields and ground water pollution resulting from irrigated fields.

#### **National Committee on Irrigation and Drainage**

- A National Committee on Irrigation and Drainage (NCID) will be established to provide a forum for exchange of ideas in irrigation development within Malawi, and also ensure high standards and quality of work. The National Irrigation Task Force and the Districts Task Irrigation Task Force will seek membership into the NCID, and so will individuals and organizations working in the irrigation sub-sector. They will also ensure that the training programmes are in line with National Demands and Priorities, and that companies and individuals involved in irrigation development are suitably qualified and registered to ensure the sustainability and accountability of services provided. This will be the international arm of irrigation

technologies in Malawi and it will seek affiliations with similar international associations.

### **Training Institutions**

- Training Institutions should be encouraged to formulate programs that can build and maintain capacity in the Irrigation Department at all levels; technical, professional and management.
- The curricula of the formal training institutions (NRC, Bunda College, Polytechnic etc) will be upgraded and improved to meet the demands of the private sector as well as the public sector. Future undergraduate and post-graduate courses will be based on modular system, allowing students to respond to the skill demands of the market place. The capacity of these institutions will be improved through recruitment of additional lectures with irrigation engineering experience, and also through links with appropriate Regional and International Institutions. This will cover formal post-graduate, graduate and technical level courses but also short-term refresher and skill improvement courses.
- In order to ensure a wide based training in irrigation, other institutions like Primary Schools, Secondary Schools and Vocational schools should include aspects of irrigation in their curriculum.
- All formal courses will be supplemented by on-the-job training that will take place at DoI and pilot development sites at ADD, RDP and EPAs. For technicians and engineering/agriculture graduates, this on-the-job training will form part of the professional development programme, and will also include attachment to organizations dealing with irrigated agriculture within the country and abroad.
- All projects in irrigation sub-sectors will include components for training and institutional building. These will be aimed at strengthening training institutions especially in the University of Malawi (Polytechnic and Bunda College) as well as providing funds for skill development and upgrading of staff engaged in irrigation projects.
- In order to prepare the curricula for both the formal and informal courses, a task force comprising of DoI, crops and Extension Departments of MoAI, Bunda College of Agriculture, Chancellor College, Ministry of Education and Polytechnic will be established. It will also co-opt members of private, estate and NGO sectors as well as Chamber of Commerce.

## **9.5 Women in Irrigated Agriculture**

- The smallholder sector has greater participation of women in agricultural activities than men, as such, irrigated agriculture will have to cater for the interest of women farmers based on socio-cultural norms of the rural areas. Specifically, the irrigation sub-sector will have to cater for the following areas:

- ◆ New technologies for water abstraction and crop processing should be evaluated on the basis of equal participation by both male and female farmers, this is true in those technologies that require extensive manual efforts;
  - ◆ Design of irrigation systems in terms of water conveyance channels should take cognizance of the ability of women to manage and work with such channels and also avoid the danger of children drowning in such systems;
  - ◆ Local communities should be assessed in their ability to encourage women farmers, especially, female headed households and the number of female farmers in their local committees.
- Women in irrigated agriculture will need special consideration in the acquisition of farm inputs since they are the most vulnerable group in terms of limited resource base and inadequate credibility to qualify for credit.

## 9.6 Private Sector

### 9.6.1 Consultancies

- The capacity in planning, designing and implementation of irrigation projects in the Private Sector will be improved in order to provide contractual services to the Department of Irrigation and the local communities.
- The private sector will become more involved in irrigation activities. To “Kick start” this process, they will be given greater access to contracts and opportunities for carrying out studies, surveys and design work that traditionally were done by the Government through the Department of Irrigation. This will require specific guidelines and standards that will be used to monitor and evaluate sub-contracted works.
- Short-term consultants (both National and International) will be engaged to carry out the consultancy work and they will be set clear targets for their assignment and unambiguous Terms or reference. They will work closely with DoI Staff and will be supervised by the Controller of Irrigation. Long term Technical Assistance to DoI will be discouraged unless clear needs are justified.
- All Technical Assistance and short-term consultants will be coordinated by the National Irrigation Board and will be required to provide inputs against clear achievable targets. The National Irrigation Board will be required to approve all counterparts, consultants and contractors (both National and International) and their performance will be reviewed every six months.

### 9.6.2 Farming Communities

- Smallholder farmers will form local, regional and national organizations, which will facilitate initial identification of irrigation schemes, liaise with technical officers in the planning and design of schemes, and participate in the implementation of schemes. They will be encouraged to take over greater responsibility for all stages of project development and especially the operation

and maintenance, O&M, of existing schemes/projects and proposed new irrigation schemes.

- The community shall undertake to meet the finance costs of the O&M of their schemes and also to re-organize their village operations to enable them to take over greater responsibilities. To this respect, the Department of Irrigation will initiate modalities for community organizations through which greater community participation and autonomy will be achieved.

#### **9.6.3 Private Estate and Commercial Farming sub-sector**

- The private and commercial estate sector will be encouraged to share their experience with irrigated agriculture for the benefit of the small holder farming communities. This will include planning, design and O&M, but also extension, construction and the supply and servicing of equipment. They will also be required to liaise with the training institutions, to ensure that staff undergoing training are well equipped to handle the works that they expect to undertake, and that sufficient graduates and technicians are trained to meet projected demands. Estates will be encouraged to diversify from traditional estate crops by using irrigation technology so that dry season crops can be grown to augment rainfed crops.
- As land pressure builds up in Malawi due to rapid population growth, there will be increasing demand for land and Contract Farming on estates land will be one of the alternatives to absorb the extra labour and also provide estates with alternative land management. It is necessary to implement measures that protect the farmer to avoid exploitation of farmers by estate owners.
- Estate owners should consider to take on the added responsibility of acting as centers where the surrounding community can access farm inputs, provide storage and/or processing facilities of farm produce, and as marketing outlets of farm produce.
- Estates should be considered for special incentives that will encourage them to invest in irrigated agriculture, aspects of tax incentives and preferential treatment will have to be explored.

#### **9.6.4 Private sector equipment and spare parts suppliers**

- There should be dialogue between the stake holders and the private sector equipment and spare parts suppliers as well as relevant NGOs, in order to create a conducive environment for the private sector to get fully involved in irrigated agriculture. They will be encouraged to increase stocks of new equipment and spare parts and provide training for farmers and communities who purchase equipment from them.
- There shall be need to establish pricing mechanism of equipment, spare parts and services that ensures affordability by the smallholder farmers in order to create an attractive gross margin for the farmers.

#### **9.6.5 Credit and Banking Institutions**

- Credit institutions will be encouraged to respond to the needs of small scale irrigation beneficiaries, by providing affordable credit facilities for agricultural inputs acquisition through their legal community organizations.
- The Banking institutions will be encouraged to recognize the local community organizations for purposes of providing credit for capital development using terms that are affordable to the small scale irrigation communities.

### **9.7 Non Governmental Organizations**

- The government will promote NGO-donor collaboration, and encourage the private sector and NGOs to provide services, equipment and materials for development of irrigated agriculture. Their involvement will encompass community level support including:
  - ◆ Group formation and capacity building;
  - ◆ Demonstration of irrigated agriculture;
  - ◆ Implementation of small scale irrigation projects;
  - ◆ Networking for the transfer of irrigation technology;
  - ◆ Promotion and management of labour saving technologies;
  - ◆ Assist in the distribution of agricultural inputs.
- Government will establish a dialogue with NGOs and create a favourable environment through which they will be able to operate effectively through their involvement in irrigated agriculture programmes. Government will also establish liaison with NGOs to avoid duplication of effort and to encourage them to participate in the implementation of the national program for irrigation development.
- The Council for Non Government Organizations in Malawi (CONGOMA), will be encouraged to support the Pilot Programmes and will encourage greater support to NGOs through Government and Donor funding. All NGOs embarking in the development of irrigation projects will have to pass their plans through the Department of Irrigation, to ensure adherence to standards and specifications, and their work will be subject to monitoring and evaluation by the Department.

### **9.8 Donors**

- Donor support for development of irrigation will be directed by the policies and strategies outlined in this National Irrigation Policy and Development Strategy.
- The Government of Malawi will indicate to Donors areas of priority for funding, at the same time Donors will have to outline their areas of interest in order to harmonize national needs and Donor preferred areas of support.

- Donors will have to coordinate among themselves support rendered to the Irrigation Sub-sector, and to this effect there will be need to elect a coordinator for purposes of irrigation funding in Malawi.