



REPUBLIC OF ZAMBIA

MINISTRY OF AGRICULTURE AND CO-OPERATIVES

**NATIONAL AGRICULTURAL POLICY
(2004 – 2015)**

OCTOBER 2004

FOREWORD

I am pleased to inform all stakeholders in the agricultural sector that the “New Deal MMD” Administration under the able leadership of His Excellency, President Levy Patrick Mwanawasa, SC has this year 2004 approved the National Agricultural Policy (NAP). As most people may know, stakeholders in the sector have, for some time now, been requesting for a single comprehensive document on the National Agricultural Policy. The approved Policy is aimed at providing a conducive environment for the growth of the agricultural sector up to 2015.

Any public policy pronouncements on agriculture will have to be within the context of the approved Policy. The policy encompasses all facets of the agricultural sector namely; food and cash crop production, inputs, agro-processing, agricultural marketing including exports, sustainable resource use, livestock and fisheries development, irrigation, agricultural research and extension services, institutional and legislative arrangements, co-operatives and farmer organisations, biodiversity, emergency preparedness and cross-cutting issues i.e. HIV/AIDS, gender and the environment.

The future of our country lies in the development of a vibrant, competitive and efficient agricultural sector which assures food security, significantly contributing to: income and employment generation, increased industrial development, export earnings and to overall economic growth and poverty reduction.

I am optimistic that with the Policy in place, we will see increased investment in the sector from both local and foreign sources as well as enhanced co-operating partners’ support.

The Policy may be refined from time to time, taking into account the dynamics of the domestic, regional and global economic environment. However, it is this Government’s desire that the National Agricultural Policy will stand the test of time.

Finally, I would like to sincerely applaud the tireless efforts of all stakeholders: public, private, co-operating partners and NGOs who, through a consultative process contributed to the formulation of this National Agricultural Policy.

Mundia F. Sikatana, M.P.
Minister of Agriculture and Co-operatives

Lusaka,
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ACRONYMS

ACP/EU	African, Caribbean and Pacific/European Union
ATI	Agricultural Training Institute
CAADP	Comprehensive Africa Agriculture Development Programme
CBO	Community-Based Organisation
CBU	Copperbelt University
COMESA	Common Market for Eastern and Southern Africa
CSO	Central Statistical Office
ECZ	Environmental Council of Zambia
GDP	Gross Domestic Product
GMO	Genetically Modified Organism
HIV/AIDS	Human Immunodeficiency Virus/ Acquired Immune-Deficiency Syndrome
MACO	Ministry of Agriculture and Cooperatives
NAP	National Agricultural Policy
NEPAD	New Partnership for Agricultural Development
NGO	Non-Governmental Organisation
NISIR	National Institute for Scientific and Industrial Research
NRDC	Natural Resources Development College
NSTC	National Science and Technology Council
PRSP	Poverty Reduction Strategy Paper
SADC	Southern Africa Development Community
SCCI	Seed Control and Certification Institute
TSB	Technical Services Branch
UNZA	University of Zambia
WTO	World Trade Organisation
ZCA	Zambia College of Agriculture

EXECUTIVE SUMMARY

This document highlights the Vision, Policies, and detailed Strategies for the development of the Zambian Agricultural Sector during the period 2004-2015.

Zambia has high agricultural potential, which has not been fully exploited due to a number of factors such as unfavourable weather patterns, macro-economic environment and sectoral policies. This high potential if fully exploited could significantly contribute to food security and economic growth.

Past agricultural policies were restrictive and constraining with strong government intervention and participation. In addition, the strategies pursued were not sustainable because of their heavy reliance on subsidies. Consequently, these policies and strategies failed to stimulate growth in the sector. Up to early 1990s, the sector was poorly developed and dominated by a single crop-maize. The sector also lacked private sector participation in the areas of agricultural marketing, input supply and processing.

In 1992, the government embarked on agricultural sector policy reforms, which were part of the overall economic reforms pursued under the Structural Adjustment Programme. The main policy thrust of the reforms were liberalization of the agricultural sector and promotion of private sector participation in production, marketing, input supply, processing and credit provision.

Government recognizes the dual nature of the agricultural sector in which the vast majority of small-scale farmers is resource poor, have low production and productivity and are usually food insecure.

The main thrust of the National Agricultural Policy are increased production, sector liberalization, commercialization, promotion of public and private sector partnerships and provision of effective services that will ensure sustainable agricultural growth. In doing so, the Government will not ordinarily intervene in inputs distribution or crop marketing in a way that will undermine or undercut private sector participation especially if the private sector has the will or capacity to do so.

The *vision* for the agricultural sector is “**to promote development of an efficient, competitive and sustainable agricultural sector, which assures food security and increased income**”. It recognizes the need to strengthen and expand the emerging opportunities and to also deal with the challenges facing the agricultural sector. This vision also strives to contribute to the overall goal of the Poverty Reduction Strategy Paper (PRSP), which is to achieve “**poverty reduction and economic growth**”.

In line with this vision, the specific objectives of the agricultural sector are:

- To assure national and household food security
- To ensure that the existing agricultural resource base is maintained and improved upon
- To generate income and employment to maximum feasible levels
- To contribute to sustainable industrial development and
- To expand significantly the sector's contribution to the national balance of payments.

To achieve the above objectives, the strategies include:

- Strengthening and monitoring the liberalization of markets and facilitating private sector development.
- Strengthening the capacity of agencies handling agricultural products for export in ensuring that the products meet the standards and sanitary and phytosanitary requirements for export markets.
- Promoting and securing access of agricultural products to both local and international markets.
- Diversification of agricultural production and utilization.
- Strengthening and facilitating the provision of agricultural services.
- Reviewing and realigning institutional and legislative arrangements.
- Facilitating availability of and accessibility to land for agriculture and development of infrastructure in potentially productive agricultural areas.
- Development and promotion of appropriate technology.
- Promotion of gender equity in resource allocation and access to agricultural services focusing more on women and young farmers.
- Promotion of sustainable and environmentally sound agricultural practices.
- Prevention and control of pests, crop and livestock diseases of national economic importance.
- Promoting conservation of fisheries resources.
- Strengthening emergency preparedness through early warning and timely and efficient crop forecasting.
- Promoting irrigation development.
- Promoting and strengthening Cooperatives and Farmer Organizations as a vehicle for agricultural development.
- Facilitating provision of incentives for local and foreign agricultural investment.
- Strengthening information collection and dissemination.
- Re-enforcing the sector's regulatory functions; this will also include liaising or coordinating with the appropriate institutions or bodies responsible for the regulation of the use of biotechnology and the resulting products, particularly Genetically Modified Organisms (GMOs).
- Maintaining agro-biodiversity and promoting conservation of aquatic ecosystem and sustainable utilization of natural resources.

Under the agricultural vision and proposed policies, both food and cash crops will be targeted for increased production and productivity in order to attain and sustain food security and income generation, taking into account agro-ecological conditions. It is expected that an increased number of small-scale farmers will be fully integrated in commercial production through outgrower arrangements or as individuals.

Overall, crop production increases will come from expansion of area under cultivation; expansion of irrigable land; increased productivity through improved variety research releases and better research/extension linkages; increased use of better and sustainable farming practices including conservation farming, crop rotation, and low input agriculture; increased use of animal draught power. Appropriate post-harvest technologies will be put in place to improve post-harvest management and utilization.

Given Zambia's resource endowment, diversification of agriculture will be promoted taking into account the comparative advantage in crops, livestock and fisheries (including aquaculture) production.

The main thrust in the livestock sector will be to control livestock diseases, re-stocking, management and improved quality of marketable livestock and livestock products especially in the "traditional" sector. Breeding will also be enhanced.

For fisheries, the focus will be to promote community based resource management of capture fisheries thereby improving catches. Concerted efforts will also be made to promote aquaculture development. Better marketing and processing facilities will be promoted and the distribution network improved.

Notwithstanding the emphasis on the development of small-scale farmers, support and provision of a conducive environment will be provided for the growth of the large scale-farming sector in order to maximize the synergies between the two. Small-scale farmers will, through relevant legislation, be encouraged to form and register co-operatives and other farmers' organizations. Emphasis will be on primary and district level farmer organizations.

Government will focus on providing public goods that are needed for efficient sector growth such as rural infrastructure, basic research, epidemics and pest control. Agribusiness will be encouraged to strengthen linkages with smallholder farmers through increased private sector participation in agricultural service delivery with emphasis on decentralization of service provision.

Increasingly, the role of the public sector will be confined to policy formulation, enforcement of legislation, regulation and inspection, maintenance of the strategic food reserves, provision of market information,

financing the control of pests and diseases of national economic importance, provision of agricultural services i.e. research and extension in partnership with the private sector, provision of targeted support to outlying areas and underprivileged farmer groups, capacity building within public and private organizations, and monitoring and evaluation of overall sector performance including projects, programmes, and sector coordination.

The Ministry responsible for agriculture will also endeavour to increasingly commercialize some services it is currently providing including cost sharing. These services include research, extension, soil and seed testing and agricultural training. Emphasis will be on developing partnerships between government and farmers, the private sector, NGOs and cooperating partners.

All these measures are expected to result in the following: attainment of food security for the majority of households; agriculture's contribution to total foreign exchange earnings will increase from the current 3-5% to 10-20% by 2015; agriculture will grow at between 7-10% per annum from 2005 onwards; overall agricultural contribution to GDP will rise from the current 18-20% to over 30% by 2015; and agriculture will be the leading sector in terms of employment and income generation. Overall, these attainments will place agriculture as the leading sector in terms of food security, economic growth and poverty reduction.

In the implementation of the Policy a number of risks and assumptions have been noted.

It is recognized that factors outside the Ministry of Agriculture and Co-operatives or the Agricultural Sector in general, such as the state of the road network, land tenure and administration, energy, communication, HIV/AIDS and world markets, have a profound impact on the development of the Sector. There is, therefore, need to remove or minimize constraints in these key areas for the sector to develop and to encourage cross-sectoral dialogue and actions.

HIV/AIDS is rapidly becoming the number one constraint to economic development in general and the agricultural sector in particular. The disease has a negative impact on agricultural production. The problem requires attention by the Ministry in various ways including modification of extension and research priorities, incorporation of HIV/AIDS related information in extension messages and encouraging introduction of HIV/AIDS in the curricula of agricultural training institutions.

In addition, the successful implementation of the Policy assumes that:

- i) The Ministry, in particular and the Agricultural Sector, in general would be adequately funded and equipped.

- ii) Ministry staff would be provided with attractive remuneration and incentive packages.
- iii) There would be policy consistency and/or continuity.
- iv) Weather conditions would be favourable before irrigation is fully developed, especially among the small-scale farming community.

INTRODUCTION

This document highlights the vision for the sector, overall and specific policies and strategies the Government intends to follow in order to increase production and productivity of the agricultural sector thereby increasing food security and incomes and reducing poverty.

Zambia has potential to expand agricultural production given the vast resource endowment in terms of land, labour and water that the country possesses. Of Zambia's total land area of 75 million hectares (752,000 square Km), 58% (42 million hectares) is classified as medium to high potential for agricultural production, with rainfall ranging between 800mm to 1400mm annually and suitable for the production of a broad range of crops, fish, and livestock. It is estimated that only 14% of total agricultural land is currently being utilized.

Zambia has the best surface and underground water resources in Africa, with many rivers, lakes, and dams. This, with the addition of high potential underground water aquifers in many areas, offers excellent prospects for irrigation programmes. However, these water bodies are largely unexploited. Of the country's irrigation potential conservatively estimated at 423,000 hectares, only about 50,000 hectares are currently irrigated. Therefore, Zambia has a resource endowment for development of a wide range of crops, livestock, and fish given the diversity of its agro-ecological zones.

The country is divided into three major agro-ecological regions, namely Regions I, II and III. Rainfall as well as the quality of soils differ across these regions.

Region I: This region receives less than 800mm of rainfall annually and constitutes 12% of Zambia's total land area. It consists of loamy to clayey soils on the valley floor and coarse to fine loamy shallow soils on the escarpment. It covers the Southern province and parts of Eastern and Western provinces. The Region is suitable for production of drought resistant crops like Cotton, Sesame, Sorghum and Millet and has potential for production of irrigated crops, like Winter Maize. This Region is also suitable for extensive cattle production and has limited potential for Cassava cultivation. The valley part of the region is on a low altitude and is consequently hot and humid: these areas are not suitable for cattle rearing because of Tsetse Flies.

Region II: The Region receives between 800 to 1000mm of annual rainfall and constitutes 42% of the country. It is sub divided into two namely, Region **Ila** and **Ilb**. Region **Ila** covers the Central, Lusaka, Southern and Eastern fertile plateaux of the country and generally contain inherent fertile soils. Permanent settled systems of agriculture are practised. A variety of crops are

grown in this Region and these include Maize, Cotton, Tobacco, Sunflower, Soya beans, irrigated Wheat, Groundnuts and other arable crops. The area is also highly suitable for flowers, Paprika and vegetable production. Region **Ib** covers Western province and consists of sandy soils. It is suitable for production of Cashew nut, Rice, Cassava and Millet, including vegetable and timber production. The Region is also highly suitable for Beef, Dairy and Poultry production.

Region III: The region receives more than 1000mm up to 1500mm of rainfall annually and constitutes 46% of the country's total land area comprising the Copperbelt, Luapula, Northern and NorthWestern provinces. With the exception of the Copperbelt, the Zone is characterized by highly leached, acidic soils. It has good potential for the production of Millet, Cassava, Sorghum, Beans and Groundnuts. Coffee, Sugarcane, Rice and Pineapples are also grown in this area. The agricultural potential of the Region can be enhanced by application of lime and its perennial streams can be utilized for small-scale irrigation. Increased exploitation of the fisheries resources and introduction of fish farming, offer good opportunities for development.

The Agricultural Sector is key to the development of the Zambian economy and will be the engine of growth for the next decade and beyond. Agriculture generates between 18 - 20% of the Gross Domestic Product (GDP) and provides livelihood for more that 50% of the population. The sector absorbs about 67% of the labour force and remains the main source of income and employment for rural women who constitute 65% of the total rural population. Increase in rural incomes will therefore result in overall poverty reduction and increased food security.

Existing reports, such as the Living Conditions Monitoring Survey of 1998 by the Central Statistical Office (CSO), indicate that Zambia is faced with high levels of poverty, with overall poverty of 72.9% of the national population in 1998. Income levels have also drastically declined with low formal employment. Given the abundant natural resource base, agriculture offers the greatest potential for generating growth and increasing employment and incomes. Smallholder farming represents a large potential resource for increased agricultural production and poverty reduction. However, realizing this potential will require an enabling and conducive policy environment.

Concerted efforts have been made since 1992 to liberalize the agricultural sector. Notable policy measures undertaken include the liberalization of agricultural marketing for all inputs and products including exports, the privatization of all former agro parastatals and increased private sector participation in commodity marketing and input supply and restructuring of the Ministry of Agriculture and Cooperatives (MACO). There is however an unfinished policy agenda for the sector given existing major constraints and challenges. These include; poor service delivery particularly for small-scale farmers, marketing constraints especially in outlying areas as a result of poor infrastructure notably feeder roads, a void in agricultural finance and credit,

weak regulatory framework and poor enforcement of legal framework, unfavourable world and regional markets, and poor accessibility and administration of land in Zambia. These constraints need to be seriously and urgently addressed if agriculture is to develop.

Vision for the Agricultural Sector up to 2015

Given Zambia's resource endowment, agriculture will be promoted taking into account the comparative advantage in crops, livestock and fisheries production.

The long-term vision for the agricultural sector encompasses the following:

- To achieve food security for the majority of the Zambian population through increased yields and improved post-harvest management and utilization.
- To develop a commercial agriculture with most farmers (small and large) producing for the domestic and export markets.
- To promote a competitive and efficient agriculture based on regional comparative advantage.
- To develop a diversified agriculture linked to well developed agribusiness industry for value adding and exports.
- To facilitate the entry of co-operatives and farmer organizations into highly competitive and commercial agriculture.
- To facilitate development of Fisheries and Livestock sub-sectors.
- To have agriculture that utilizes natural resources on a sustainable basis for income and employment generation and economic growth.

Under this vision, the following food crops will be targeted for increased production and productivity: Maize, Cassava, Sorghum, Millet, Sweet Potatoes, Beans and Groundnuts. Others to be targeted for production, protection and research include indigenous horticultural crops i.e. fruits and vegetables. With regard to commercialization of the agricultural sector, it is expected that an increased number of small-scale farmers will be fully integrated in commercial production through outgrower arrangements or as individuals. Major cash and high value crops to be targeted include Cotton, Tobacco, Groundnuts, Paprika, Cashew nuts, Soya beans, Castor, Sesame, Marigold, herbs and spices in agro-ecological regions I and II; Coffee, Tea, and Sugar in region III. Large scale commercial farm production of cash and export crops like floriculture and horticultural products will also be promoted and it is expected that production of these products will double by 2015.

Overall, crop production increases will come from expansion of area under cultivation; expansion of land under irrigation from the current estimated 50,000 hectares to 90,000 hectares by 2015; increased productivity through improved variety research releases and better research/extension linkages; increased use of better and sustainable farming practices including conservation farming and low input agriculture and increased use of animal

draught power. Further, post harvest crop losses will be reduced from the current high of 30% to less than 10% by 2015.

In the livestock sector, the main thrust will be to control livestock diseases of national economic importance, that is, those diseases of an epidemic nature and have trans-boundary (regional/international) significance. The other area of emphasis will involve re-stocking and increasing overall production, productivity and management of marketable livestock and livestock products especially in the traditional sector.

For fisheries, the focus will be to promote community based resource management of capture fisheries thereby improving catches. Concerted efforts will also be made to promote aquaculture development. Better processing facilities will be promoted and the distribution network improved.

Notwithstanding the emphasis on the development of small-scale farmers, a conducive environment will be provided for the growth of the large-scale farming sector in order to maximize the synergies between the two. Focus will be on providing public goods that are needed for efficient growth such as rural infrastructure, basic research, disease epidemic and pest control. Agribusiness will be encouraged to strengthen linkages with small-scale farmers through increased private sector participation in agricultural service delivery.

The role of the public sector will increasingly be confined to policy formulation, enforcement of legislation, regulation and inspection, maintenance of the national strategic food reserves, provision of market information, financing the control of pests and diseases of national economic importance, provision of agricultural services i.e. research and extension in partnership with the private sector, provision of targeted support to outlying areas and underprivileged farmer groups, promoting capacity building within public and private organizations and monitoring and evaluation of overall sector performance including projects and programmes. Government will continue with the policy of liberalization of the agricultural sector and ensure that the private sector plays the leading role in input supply, output marketing and agro-processing.

The Ministry of Agriculture and Cooperatives will also endeavour to increasingly commercialize and cost-share some services it is currently providing. The role of government in agriculture will be based on partnership with farmers, the private sector, NGOs and Cooperating Partners.

All these measures are expected to result in the following:

- i) Attainment of food security for the majority of households with at least 90 percent of population being food secure by 2015.

- ii) Agriculture's contribution to total foreign exchange earnings will increase from the current 3-5% to 10-20% by 2015.
- iii) Agriculture will grow at between 7-10% per annum from 2005 onwards.
- iv) Overall agricultural contribution to GDP will rise from the current 18-20% to 30% by 2015. The share of crops, livestock and fisheries will thus increase.
- v) Increased incomes of those involved in the agricultural sector.

Overall, these attainments will place agriculture as the leading sector in terms of food security, economic growth and poverty reduction.

1.0 AGRICULTURAL SECTOR POLICY OBJECTIVES

The overall Agriculture Policy is to facilitate and support the development of a sustainable and competitive agricultural sector that assures food security at national and household levels and maximizes the sector's contribution to Gross Domestic Product (GDP).

The policy will be realized through the following specific priority objectives:

- 1) To ensure national and household food security through an all-year round production and post-harvest management of adequate supplies of basic foodstuffs at competitive costs.
- 2) To contribute to sustainable industrial development by providing locally produced agro-based raw materials.
- 3) To increase agricultural exports thereby enhancing the sector's contribution to the National Balance of Payments.
- 4) To generate income and employment through increased agriculture production and productivity and
- 5) To ensure that the existing agricultural resource base is maintained and improved upon.

1.1 Amplification of Objectives

1.1.1 Food Security

Food security, broadly defined, means access by all Zambians at all times to enough of the right food for an active and healthy life on a sustainable basis. This policy objective has a role to play in ensuring;

- (i) that dependable and efficient annual production of adequate supplies of cereals, legumes, roots and tubers, tree and plantation crops, horticultural crops, fisheries and animal products is maintained and sustained.
- (ii) that storage, building long-term strategic food reserves or off-season production and processing of food crops, bridges the hunger periods in rural areas.
- (iii) that markets and marketing incentives exist to channel food commodities from surplus to deficit areas and
- (iv) that farmers have a steady and reasonable income from their production.

1.1.2 Contribution to Industrial Development

Increased production of agricultural products as raw materials such as grains, sugarcane, cotton, oilseeds, livestock, and milk which when processed, provides an important share of Zambia's industrial and

commercial sectors will be promoted. There is need to ensure that there is value adding in agricultural products. With expanded and more diversified farm output, this part of the commercial and industrial sector can be substantially expanded, thereby creating increased incomes and employment throughout the country. As the economy improves, domestic demand for processed farm products should expand and the export of processed products should enhance the value-added component in the industrial sector.

1.1.3 Increasing Agricultural Exports

In the past, the contribution of the agricultural sector towards the balance of payments has been low despite its high potential. While Zambia is remote from world markets, it is situated close to good regional markets for many products. It is, therefore, possible for the country to supply selected export markets with high value products such as paprika, marigold, cut flowers, essential oils, spices, mushrooms, castor oil, specific varieties of groundnuts and beans and vegetables. The quality and competitiveness of some of the agricultural commodities such as groundnuts, tobacco, soya beans and cotton are well established. More recently, coffee, horticultural and floriculture products have been added. Livestock products and fisheries have potential for export if concerted efforts are made to eradicate diseases and ensure sustainable fishing practices. Full exploitation of all these varied export market opportunities will enable the agricultural sector to make a much greater contribution to the National Balance of Payments than has been the case in the past.

1.1.4 Incomes and Employment

Over half of the population of the country lives in rural areas where incomes are consistently lower than those in urban areas. The country has large areas of under-utilized arable land, while the productivity from existing land by many farmers is still very low. Thus, expanded farm output through schemes like outgrower schemes for domestic and export markets, offers the means in which the productivity and incomes of a large component of Zambian society can be significantly raised. Effort should also be made to promote agro-processing at farm level for income generation.

1.1.5 Sustaining the Resource Base

The important resource base for increased agricultural production and productivity comprises soils, water and air. Current environmental problems of major concern to the agricultural sector include:

- i) Rapid deforestation
- ii) Loss of agro-biodiversity
- iii) Land degradation and
- iv) Over-fishing

To ensure a sustainable agricultural sector, these problems must be addressed before serious damage is done. Special attention will be given to promoting sustainable farming practices.

2.0 SECTORAL STRATEGIES

The above stated objectives will be realized through the following strategies:

- i. Strengthening and monitoring the liberalization of markets and facilitating private sector development.
- ii. Strengthening the capacity of agencies handling agricultural products for export in ensuring that the products meet the standards and sanitary and phytosanitary requirements for export markets.
- iii. Promoting and securing access of agricultural products to both local and international markets.
- iv. Diversification of agricultural production and utilization.
- v. Strengthening and facilitating the provision of agricultural services in order to increase productivity particularly among smallholder farmers.
- vi. Reviewing and realigning institutional and legislative arrangements.
- vii. Facilitating availability of and accessibility to land for agriculture and development of infrastructure in potentially productive agricultural areas.
- viii. Development and promotion of appropriate technology.
- ix. Promotion of gender equity in resource allocation and access to agricultural services focusing more on women and young farmers.
- x. Promotion of sustainable and environmentally sound agricultural practices.
- xi. Prevention and control of pests, crop and livestock diseases of national economic importance.
- xii. Promoting conservation of fisheries resources.
- xiii. Strengthening emergency preparedness through early warning and timely and efficient crop forecasting and maintenance of strategic food reserves.

- xiv. Promoting and strengthening Cooperatives and Farmer Organizations as a vehicle for agricultural development.
- xv. Promoting irrigation development.
- xvi. Facilitating provision of incentives for local and foreign agricultural investment.
- xvii. Strengthening information collection and dissemination.
- xviii. Re-enforcing the sector's regulatory functions. This will also include liaison or coordination with the Ministry of Science, Technology and Vocational Training through its appropriate institutions or bodies responsible for the regulation of the use of biotechnology and the resulting products, in particular, Genetically Modified Organisms (GMOs).
- xix. Maintaining agro-biodiversity and promoting conservation of aquatic eco-system and sustainable utilization of natural resources.

2.1 Amplification of Sectoral Strategies

2.1.1 Strengthening and Monitoring the Liberalization of Markets and Facilitating Private Sector Development

Government has since the early 1990's liberalized the agricultural markets and emphasized the need for the private sector to take the lead in agricultural sector development. However, it is recognized that it will take time for markets to be fully liberalized and to function efficiently.

Government will therefore continue to play the role of providing market information, rehabilitation of infrastructure and facilitating private sector-led input and output marketing.

The vast majority of smallholder farmers are resource poor and credit is essential for their development. The policy of the Government is to encourage credit to resource poor farmers. However, due to the high transaction costs and risks involved, the private sector response is expected to be slow particularly to smallholder farmers.

Government will therefore remain engaged on transitional basis in providing credit to resource poor smallholder farmers. This will be done through government institutions or in collaboration with the private sector partners and non-governmental organizations (NGOs). Where possible, this credit will be monetized. Government will progressively disengage as private sector capacity in credit provision grows.

However, Government will not ordinarily intervene in inputs distribution or crop marketing in a way that will undermine or undercut private sector participation, especially where the private sector has the will or capacity to do so.

2.1.2 Certification for Sanitary and Phytosanitary Conditions and other Standards

One of the major constraints faced by those wishing to engage in export of agricultural products is the failure to meet the standard requirements for destined markets. In addition to negotiating for setting of standards that are not disguised forms of protection, the Government will focus on ensuring that the agencies charged with responsibility to test and issue certification in these areas, have their capacity built. Development of private certification agencies will also be encouraged.

2.1.3 Access to Domestic and Foreign Markets

Another major problem faced by producers in the agricultural sector is lack of access to markets. The Government will, therefore, address this inadequacy by ensuring that it negotiates and secures access for these products especially in the international markets. Relevant agencies will also be used to ensure that Zambian agricultural products are promoted in the various markets. At domestic level, the Government will ensure that farmers, especially small-scale farmers, in remote areas have access to markets by developing support infrastructure and providing the necessary market information.

2.1.4 Diversification of Agricultural Production and Utilization

This strategy aims at rationalizing the use of economic resources, thus encouraging the production of crops or products on the basis of agro-ecological zones or comparative advantage. Under this strategy emphasis will also be placed on promotion of high value products and expansion of crops, fisheries (especially aquaculture) and livestock spectrum especially among small and medium scale farmers. Small and medium scale farmers would be encouraged to process various agricultural products so as to add value and enhance nutrition.

2.1.5 Strengthening and Facilitating the Provision of Agricultural Services

While Government privatizes and commercializes some of the agricultural services, it will continue to provide such services as research, crop extension, and market information in order to raise the productivity in crops, livestock, and fisheries sub-sectors.

2.1.6 Reviewing and Realigning Institutional and Legislative Arrangements

This strategy will focus on among other things:

- i) Building the capacity of Ministry of Agriculture and Cooperatives to provide efficient services to farmers.

- ii) Building the capacity of farmer groups including cooperatives to service their members efficiently through the provision of education, training and other support services.
- iii) Strengthening a conducive legal foundation that will guide both private and public sector activities.
- iv) Making proposals to the Ministry responsible for biotechnology on the formulation of legislation and guidelines on the use of biotechnological products as they impact on agriculture.
- v) Initiating legislation and guidelines on the sustainable use of agrobiodiversity.

2.1.7 Facilitating Availability and Accessibility of Land for Agriculture and Development of Infrastructure in Potentially Productive Agricultural Areas

The Government recognizes the duality nature of agriculture in Zambia and the poor state of infrastructure especially in some of the potentially productive agricultural areas. Special measures including rehabilitation of feeder roads, bridges, storage sheds, dams, canals, dip tanks, on-farm storage and others are needed to help farmers in these areas.

New farm blocks would be opened up in each of the nine provinces and also provided with the necessary infrastructure such as feeder roads, bridges, storage sheds, electrification, dams and canals so as to attract both local and foreign investment in agriculture. The Ministry would liaise with the Ministry of Lands to facilitate availability and accessibility of land for agricultural development.

2.1.8 Development and Promotion of Appropriate Technology

The development and promotion of appropriate technology is critical to increased agricultural production and utilization. This strategy will therefore among other things, focus on the following:

- i) Development and promotion of appropriate farm machinery, implements, equipment and accessories and fishing methods.
- ii) Development and promotion of appropriate seed varieties and planting materials, livestock types and breeds.
- iii) Promotion of suitable fish species and aquaculture practices.
- iv) Development of control measures for pest and disease control.
- v) Development of sustainable yield enhancing farming methodologies.
- vi) Promotion of use of appropriate biotechnology.

2.1.9 Promotion of Gender Equity in Resource Allocation and Access to Agricultural Services, Focusing on Women and Young Farmers

Women and young farmers have in the past not benefited much from agricultural services such as credit, extension and labour saving technologies despite the vital role they play in agriculture. In order to change this situation, agricultural research, extension, credit, and land tenure services need to be refocused in order to address the needs of women and young farmers.

The strategy among other things focuses on:

- i) Creating gender awareness among policy makers and farmers.
- ii) Building capacity of MACO staff at national and field levels in gender analytical skills and techniques.
- iii) Facilitating the mainstreaming of gender in Agricultural Training Institutions' curriculum.

2.1.10 Promotion of Sustainable and Environmentally Sound Agricultural Practices

This strategy focuses among other things on:

- i) Improved use of available water resources, by greater utilization and adoption of irrigation where it is economically viable.
- ii) Promotion of sustainable and cost effective agricultural practices.
- iii) Promotion of environmental-friendly farming systems such as conservation farming, afforestation, and the use of green manure.
- iv) Agro-forestry.

These measures can make a major contribution to improving the performance of the agricultural sector and ensuring adequate food supplies by enhancing farmer productivity on a sustainable basis.

2.1.11 Prevention and Control of Pests, Crop and Livestock Diseases

Monitoring, regulation and facilitation of disease and vector control implementation programmes for diseases of economic importance will be intensified in priority areas.

The Ministry will collaborate with the farming community and the private sector in participating in disease and vector control programmes as well as in monitoring and regulating animal health related activities and ensuring that quarantine and stock movement control measures are enforced.

Development and promotion of the use of plant and herbal-based veterinary medicine (ethno) will be encouraged. The Ministry will ensure that efficient and sustainable diagnostic techniques in investigations of diseases of national importance are devised and veterinary vaccines are produced to meet the national demand.

Information on livestock production, diseases and vectors will be analyzed and made available to stakeholders.

2.1.12 Promoting Conservation of Fisheries Resources

To enhance fish productivity several measures will be put in place to conserve and maintain bio-diversity of aquatic resources through improved monitoring, creation of fish sanctuaries and restocking over-fished water bodies. Marketing, exploitation and movement of endangered and ornamental fish species and trading of fishing gears will be regulated and controlled.

Formation of community fishing groups or associations will be promoted and encouraged for effective dissemination of fisheries management information and appropriate fishing techniques. Research in the application of environmentally sound fishing methodologies and techniques would be intensified.

Legislation for sustainable exploitation of fisheries resources will be strengthened and the Government through MACO will collaborate with neighbouring countries in the management of aquatic resources in shared water bodies.

2.1.13 Strengthening Emergency Preparedness

Government has a role to help farmers mitigate against unstable weather conditions such as drought and the control of pests, crop and livestock diseases. Emergency preparedness will have to be strengthened through provision of timely early warning information and data, undertaking of timely crop forecasting and creation and maintenance of strategic food reserves.

2.1.14 Promoting and Strengthening Cooperatives and Farmer Organizations

The Cooperative Societies Act, Cap. 397 aims to promote and regulate cooperative development in the context of agricultural liberalization, which will involve rural and urban people operating and running cooperatives on sustainable, viable, commercial and business lines. Cooperative development is an avenue through which Government endeavours to realize its aim to pass on the benefits of market reforms to farmers, in particular small-scale farmers, as they have the highest potential for enhancing growth prospects in the sector. This will be achieved by developing a strong and vibrant small-scale enterprising sector both in rural and urban areas with special emphasis on production, marketing and processing.

2.1.15 Promoting Irrigation Development

Zambia has from time to time suffered severe droughts, resulting in reduced crop yields and livestock losses, despite the availability of abundant water resources. The Government would, therefore, embark on

full and efficient exploitation of the country's abundant water resources, both underground and surface, by promoting irrigation and ensuring all-year round agricultural production, especially among small-scale farmers so as to improve household food security and incomes.

2.1.16 Facilitating Provision of Incentives for Local and Foreign Agricultural Investment.

MACO will be lobbying the Ministry of Finance and National Planning and other stakeholders for budgetary provisions of incentives in agriculture such as tax breaks and agricultural import/export incentives. The Ministry would also play a role of a marketing agency in linking up potential agricultural investors with the Zambia Investment Centre and help in dissemination of information on investment opportunities and incentives.

2.1.17 Strengthening Information Collection and Dissemination

The Ministry will strengthen research-extension-farmer linkages through timely information collection and dissemination. Information collection and dissemination will not only be undertaken using physical personnel contact but also through the use of electronic and print media, to reach all stakeholders in the sector. Various farmer organizations, NGOs and the private sector, in general would be expected and encouraged to provide extension information services.

2.1.18 Re-enforcing the Sector's Regulatory Functions; including the Regulation on the use of Biotechnology and the Resulting Products

The Ministry would ensure that its various regulatory functions are re-enforced and amended from time to time to suit emerging sector challenges.

The positive contributions that modern biotechnology and in particular Genetically Modified Organisms (GMOs) can make to agricultural production cannot be over emphasized. However, Government is aware of the worldwide concerns with regard to the adverse effects of GMOs to human health and the environment. In this regard, Government will regulate the introduction and use of these products through appropriate legislation and enhancement of necessary handling and application capacity.

2.1.19 Maintaining Bio-diversity and Promoting Conservation of Aquatic Eco-system and Sustainable Utilization of Natural Resources

Government recognizes the role that agro-biodiversity, in particular, plant, fisheries and livestock genetic resources play as a basic resource in sustaining agricultural production. In maintaining and utilizing these resources, the strategy will focus on:

- (i) Regulating access (collection and exchange) to local plant, fisheries and livestock genetic materials.

- (ii) Developing measures to conserve and effectively utilize locally available agro-biodiversity.

3.0 SUB-SECTOR OBJECTIVES AND STRATEGIES

The following section highlights sub-sector objectives and strategies. The main sub-sectors are Crops, Irrigation, Land-husbandry, Farm Power and Mechanization, Livestock, Fisheries and Cooperatives Development. Other important areas namely, Marketing and Input Supply, Agricultural Credit and Finance, Agricultural Training and Agricultural Information dissemination are also outlined.

3.1 CROPS SUB-SECTOR

The Crops Sub-Sector covers the following: crops extension, seed development and crops and soils research.

3.1.1 Crops Extension

Crop extension and technical services provided to farmers include crop husbandry and farm management.

Crop production and productivity are low especially among the small-scale farmers, leading to high levels of poverty and food insecurity in most parts of the rural areas. The rural farming population is large and widespread making the provision of extension services rather difficult.

Most rural farmers lack the skills to exploit the prevailing market conditions to their advantage, under the liberalized market situation. Existence of an effective and efficient extension and information system is essential in influencing the development of agriculture in the country. It is, therefore, imperative to improve the quality of extension services and expand coverage among small-scale farmers including women and young farmers.

3.1.1.1 Overall Objective

To provide efficient and effective crops extension and technical services, especially through participatory approaches, to assist farmers increase agricultural production and productivity and diversify crop production and utilization.

3.1.1.2 Specific Objectives

- i) To extend proven technological messages and innovations to resource poor farmers including women and young farmers so as to increase agricultural production.
- ii) To provide liaison and links between farmers and farm support organizations responsible for credit, marketing and research.

- iii) To support farmers gain management and marketing skills in order to operate on a commercial basis.
- iv) To facilitate the transfer of and improvements in on-farm crop handling and storage technologies in order to minimize post-harvest losses.
- v) To promote and ensure availability of good quality food to enhance nutrition, especially among the poor and vulnerable communities.

3.1.1.3 Strategies

- i) Promote and strengthen farmer groups and farmer field schools as targets for technology transfer.
- ii) Create and strengthen the zoning of agricultural camps in order to improve service delivery and infrastructure development.
- iii) Use electronic and print media as communication tools to support extension information delivery.
- iv) Promote and encourage the involvement of the private sector and NGOs in the provision of extension services.
- v) Promote crop diversification and use of improved technologies.
- vi) Promote gender responsive agricultural extension services.
- vii) Facilitate delivery of skills training and technology transfer to small-scale farmers using Farmer Training Institutes at staff level and Farmer Training Centres at farmer level.
- viii) Promote food crop processing and utilization.

3.1.1.4 Institutional Framework

The Ministry of Agriculture and Co-operatives will provide extension and information through its network at national, provincial, district, block and camp levels. Farmer organizations, the private sector, Non-Governmental Organisations, and Community Based Organizations (CBOs) are expected and encouraged to provide extension services to farmers.

3.1.1.5 Legal Framework

Agricultural extension including irrigation, farm power and mechanization, and land husbandry are currently affected by the following legislation: the Cotton Act, Cap. 227, the Tobacco Act, Cap. 237 and 238, the Noxious Weeds Act, Cap. 231, the Plant Pests and Diseases Act, Cap. 233, the Environmental Protection and Pollution Control Act, Cap 204, the Water Rights Act, Cap. 198, the Lands Act, Cap. 184 and the Agricultural Lands

Act, Cap. 187. These Acts will be reviewed from time to time in line with the overall and changing policy environment.

3.1.2 Agricultural Seed

The seed sector in Zambia comprises both the formal and informal sectors. The formal sector comprises research institutions, the seed certification authority and its agencies, seed companies, NGOs and other seed outlets. The role of the private sector is mainly seed production, marketing and distribution and increasingly breeding and quality control by license. The public sector provides an environment conducive for fair seed business among players. In addition, the public sector is involved in extension and development and maintenance of varieties of crops for which the private sector has not found commercially attractive.

3.1.2.1 Overall Objective

The overall objective of the national seed policy is to ensure that quality seed of various crops is made available to farmers in an efficient and convenient manner to ensure increased agricultural production.

3.1.2.2 Specific Objective

The specific objective of the seed policy is to ensure the development of an effective, efficient and sustainable system of producing and supplying high quality seeds of crops to satisfy the national seed requirements.

3.1.2.3 Strategies

In order to achieve the above objective, the following measures and strategies will be applied:

- i) Regulate the seed sector through seed testing, seed crop inspection, variety registration, variety protection and enforcement of seed quality standards to facilitate seed trade, quarantine and other seed related issues.
- ii) Promote the development of the informal seed sector by providing accessibility to breeders/basic seed from research and co-ordinate the sector to build and create a sustainable cottage (rural) seed industry.
- iii) Regulate multiplication, trading and adoption of seeds of genetically modified crops.
- iv) Ensure protection of Plant Breeders', farmers' and community rights.

3.1.2.4 Institutional Framework

The seed sector encompasses various players which include the Seed Control and Certification Institute (SCCI) responsible for quality control, monitoring seed trade and providing coordination of the sector, the

National Plant Genetic Resource Centre for collection and preservation of genetic resources and Research Institutions responsible for variety development and improvement. Others are seed companies, NGOs and CBOs, which are responsible for production, marketing and distribution of seed.

3.1.2.5 Legal Framework

The seed sub-sector is controlled by the following legislation: the Plant Variety and Seeds Act, Cap. 236 and other related Acts such as the Cotton Act, Cap. 227, Coffee Act, Cap 288 and the Plant Pests and Diseases Act, Cap. 233. These Acts may be amended as need arises. In addition, there is need to enact the Plant Breeders, Farmers and Community Rights to ensure that farmers and breeders get recognition and reward for the efforts they have made in variety development.

3.1.3 Soils and Crops Research

The largest share of soils and crops research in Zambia is conducted by the public sector through the Soils and Crops Research Branch of the MACO. Following the liberalization of the economy and the need for cost sharing, soils and crops research will focus its research activities on long term research in crops such as Cassava, Sorghum and Millet, which the private sector consider uneconomical but are vital to agricultural development.

3.1.3.1 Overall Objective

The overall objective of the soils and crops research is to generate and adapt technologies for increased and sustainable agricultural production and to provide high quality, appropriate, cost-effective and efficient service to farmers.

3.1.3.2 Specific Objectives

- (i) To ensure that plant genetic resources of actual and potential economic value are collected, preserved, evaluated and utilized for crop development by the national research system.
- (ii) To develop suitable varieties and appropriate production technologies.
- (iii) To develop and adapt appropriate plant protection, crop storage, processing and utilization technologies in order to prevent and/or minimise crop losses due to pests and diseases.
- (iv) To develop appropriate soil and water management technologies and packages for sustainable agricultural production.
- (v) To adapt relevant and sustainable technologies, which are gender sensitive for adoption by small-scale farmers.

3.1.3.3 Strategies

- i) Improve the management of national research programme through appropriate planning, priority setting, programming and budgeting.
- ii) Breed for stable and high yielding and nutritional value varieties or cultivars of both food and cash crops including indigenous fruits and vegetables.
- iii) Breed food crops for storability, acceptability and resistance to and/or tolerance to pests, diseases and adverse soil conditions such as soil acidity and salinity.
- iv) Develop appropriate agronomic packages and technologies for sustained farming systems and overall agricultural production.
- v) Develop improved technologies for crop protection, crop storage, processing and utilization.
- vi) Develop taxonomic capacity and provide diagnostic services for pests and diseases of crops, soils, and plant analysis etc.
- vii) Develop alternative soil nutrient sources and the use of input technologies.
- viii) Develop and maintain an inventory of soil and agricultural land that can be used for planning purposes.
- ix) Strengthen research/extension/farmer linkages in order to have more farmers' input in research and technology transfer.
- x) Encourage farmer participation in research through participatory research methodologies.
- xi) Encourage cost sharing in research.
- xii) Control and coordinate the collection and conservation of available genetic resources and regulate their accessibility.
- xiii) Liaise with the Ministry responsible for Science and Technology and institutions or statutory bodies responsible for the regulation of biotechnology, for the purpose of the introduction and use of agro-biotechnology products, in particular, Genetically Modified Organisms (GMOs).
- xiv) Address the technological needs and priorities of women farmers and utilize local knowledge systems in technology development.

- xv) Provide services that prevent introduction of pests and diseases into the country and facilitate agricultural trade.

3.1.3.4 Institutional Framework

Soils and crops research is conducted by the Soil and Crops Research Branch of the MACO on the basis of crop comparative advantage in line with agro-ecological regions. Government also encourages research by the private sector to supplement its efforts. Other key players in crops research in Zambia are Research Trusts, the University of Zambia, the Ministry of Science, Technology and Vocational Training through the National Science and Technology Council (NSTC) and the National Institute of Scientific and Industrial Research (NISIR) and seed companies.

3.1.3.5 Legal Framework

Agricultural Crop research is guided by the legislation covering pests and diseases, the cotton industry, noxious weeds, and agricultural products. Legislation covering the Plant Breeder Rights will be put in place while others will be developed and revised from time to time.

3.2 IRRIGATION

Zambia has from time to time suffered severe droughts, resulting in greatly reduced yields and large losses of livestock. The country has abundant water resources. The greatest challenge is to find ways of utilizing the water resources more efficiently by promoting irrigation. Irrigation has a significant role to play in improving household food security especially among small-scale farmers. Irrigation, not only supplements rainfall in meeting crop water requirements in times of drought, but also allows the planting of crops to occur at times of the year when dry land planting could not occur. Apart from that, water-retaining structures constructed for irrigation also provides a source of water for domestic use, livestock and fish.

3.2.1 Overall Objective

To put in place a well-regulated and profitable irrigation sector that is attractive to both the private sector and other development partners.

3.2.2 Specific Objectives

- i) To design, develop and promote appropriate and sustainable irrigation technologies and techniques for small-scale farmers.
- ii) To establish accessible, efficient, transparent and service-oriented demand-driven institutions according to principles of subsidiarity.
- iii) To facilitate tradable, mortgageable and well regulated long term Water Rights.

- iv) To ensure equitable access to irrigation resources, goods and services by all irrigators through a transparent and well-enforced irrigation regulatory framework.
- v) To encourage and promote affordable and accessible credit mechanisms, which are consistent with irrigation needs.
- vi) To put in place an irrigation sector that is well served by accessible communications infrastructure.
- vii) To promote an environment for increased profitability of irrigated farming.

3.2.3 Strategies

- i) Development of small-scale irrigation schemes where these are socially and economically viable.
- ii) Facilitate irrigation infrastructure development for improved agricultural land productivity.
- iii) Establish a sustainable irrigation sector with particular emphasis on the need for efficient coordination of sectoral activities.
- iv) Provision of reliable information services and regulated access to resources necessary for production and marketing of irrigated produce.
- v) Establish stable, transparent, transferable and mortgageable Water Rights and ensure observance of regulations and use of rights productively and equitably.
- vi) Maintain, rehabilitate and construct rural feeder roads and other infrastructure in areas of high irrigation potential.
- vii) Review and revise the existing water tariff structure as it pertains to irrigation water users.

3.2.4 Institutional Framework

The MACO through its Technical Services Branch (TSB) will continue spearheading irrigation development. Other key institutions will include the Ministry of Energy and Water Development and the Environmental Council of Zambia (ECZ).

The private sector including NGOs will also play a complementary role in this developmental area.

3.2.5 Legal Framework

The current laws regarding water use and environmental conservation such as the Water Act, Cap. 198 and the Environmental Protection and Pollution Control Act, Cap 204, will govern this sub-sector. These laws are subject to revision from time to time.

3.3 LAND-HUSBANDRY

Land-husbandry is care, management and improvement of land and water resources benefiting man and the environment.

As already noted, only a small proportion of Zambia's agricultural land potential is currently cropped annually. One of the biggest challenges is how to sustainably maximize the productivity of agricultural land. The utilization of these lands to their fullest potential will require changing land tenure and farming practices combined with public investment in basic infrastructure such as feeder roads and bridges. Serious environmental problems currently facing the country are rapid deforestation, land degradation and poor institution coordination. Most of the small-scale farmers do not have access to appropriate soil and water conservation technologies and information. There is need therefore, to pay special attention to sustainable productivity of various farming systems especially amongst small- scale farmers.

3.3.1 Overall Objective

To promote improved and sustainable productivity of farms and agricultural lands.

3.3.2 Specific Objectives

- i) To increase farmer knowledge and skills in proper land utilization and soil and water conservation.
- ii) To promote the conservation of natural resources especially soil, vegetation and water in order to sustain agricultural production.
- iii) To monitor agricultural land use and carry out resource surveys and inventories.

3.3.3 Strategies

- i) Promotion of conservation farming and rainwater harvesting technologies.
- ii) Encouraging land use planning and land management of farms, agricultural lands and other lands.

- iii) Opening up new farm blocks and initiate basic infrastructure development and facilitating accessibility and availability of agricultural land.
- iv) Develop a land information system that will be tailored to meet the needs of the agriculture sector.

3.3.4 Institutional Framework

The MACO through its Technical Services Branch (TSB) will continue spearheading provision of land husbandry services. Other key institutions will include the Ministry of Lands, Ministry of Works and Supply and the Ministry of Tourism, Environment and Natural Resources, including the Environmental Council of Zambia (ECZ).

The private sector including NGOs will also play a complementary role in this developmental area.

3.3.5 Legal Framework

The current laws regarding land and environmental conservation applicable under the Ministry of Lands and the ECZ will govern this sub-sector. These laws are subject to revision from time to time.

3.4 FARM POWER AND MECHANIZATION

Inadequate farm power and mechanization is currently one of the limitations to increased agricultural production. With the majority of the farming units still dependent on hand labour for agricultural production operations, a few using animal draught power and even fewer applying tractor based mechanization, Zambia is unable to utilize much of its existing arable land. Application of mechanization technologies in the country is grossly inadequate and in some cases inappropriate.

Proper selection, utilization and management of farm power and mechanization resources are critical factors in the agricultural development process. Additional farm power and mechanization and/or an increase in its efficiency is required to eliminate the labour constraints and hence, contribute to increased cropped area, more timely and better quality operations and ultimately enhanced performance.

3.4.1 Overall Objective

To contribute to increased agricultural production through the sustained use of appropriate farm machinery and equipment, appropriate tillage techniques, farm structures, crop storage, processing and packaging techniques suitable for small-scale farmers.

3.4.2 Specific Objectives

- i) To improve the productivity of labour in the small-scale farming sector through the expanded use of animal draught power,

mechanical power and increased adoption of associated technologies.

- ii) To promote improved soil and water conservation tillage systems based on appropriate range of implements, in accordance with agro-ecological conditions.
- iii) To promote improved crop handling and storage facilities in order to minimize post harvest losses.
- iv) To promote improved livestock handling facilities in order to ensure proper management.

3.4.3 Strategies

- i) To design and develop appropriate farm machinery prototypes and facilitate private/NGO sector driven manufacturing, supply and distribution of the same.
- ii) Design and promote appropriate animal handling, housing and confinement structures for livestock and farm waste management.
- iii) Develop more private sector activity in the supply and distribution of farm power and mechanization implements and machinery.
- iv) Promote on-farm adaptive trials and technology demonstrations on mechanization technologies.
- v) Encourage and facilitate private sector manufacturing of quality agricultural implements and parts.
- vi) Promote private agricultural machinery-hire operators.
- vii) Design and promote appropriate on-farm transportation, processing and storage structures especially for small-scale farmers to minimize or prevent post harvest losses.

3.4.4 Institutional Framework

The MACO through the TSB will continue spearheading the undertaking of farm power and mechanization activities. Other key institutions will include the University of Zambia, the Soils and Crops Research Branch, Golden valley Agricultural Trust and all Agricultural Colleges under the Ministry.

The private sector including NGOs will also play a complementary role in this developmental area.

3.4.5 Legal Framework

The provision of high quality farm machinery services to meet agricultural engineering standards will be regulated as stipulated in the Standards Act, Cap. 416.

3.5 LIVESTOCK SUB-SECTOR

The livestock sub-sector contributes significantly to the agricultural industry in Zambia. It provides outputs such as meat, milk, eggs, hides, skins, manure and draught power. The livestock sector also generates employment opportunities and income among the rural people. Through animal draught power and manure, it contributes directly to increased and sustainable crop production, thus contributing to increased agricultural production.

The productivity of livestock, particularly in the traditional sector, is constrained by several factors including the prevalence of animal diseases; non availability of veterinary drugs; high cost of veterinary drugs; inadequate livestock nutrition and water; poor animal husbandry practices/management; inadequate marketing infrastructure; lack of appropriate livestock research; inadequate livestock extension and health services; lack of linkages between livestock research and livestock extension.

Environmental degradation, arising from animal production activities such as overgrazing; under ground water pollution as a result of effluents from abattoirs and processing plants; air pollution due gas emissions from production units (dairy, poultry, piggery etc) is a concern. Loss of indigenous livestock bio-diversity due to indiscriminate cross breeding with exotic breeds and diseases is also a major concern. There is need, therefore, to conserve the indigenous livestock species and breeds for sustainable livestock production.

3.5.1 Overall Objective

The overall objective is to improve the productive efficiency of the livestock sector in a sustainable manner and support the marketing of both livestock and livestock products and contribute to food security and income.

3.5.2 Specific Objectives

Animal Health

- i) To control diseases of national economic importance.
- ii) To facilitate sustainable community intervention/participation in disease and vector control programmes.
- iii) To strengthen the capacity of dealing with emerging and current public health issues as the industry develops.

- iv) To ensure safe and wholesome food of animal origin.
- v) To promote and facilitate private sector participation in disease and vector control programmes.

Animal Production and Extension

- (i) To enhance the productivity of livestock through prevention of livestock diseases, pests, parasite, and promotion of appropriate husbandry practices including sustainable range management.
- (ii) To provide and harmonize an efficient livestock extension system as a means of transferring proven technologies and empowering small scale farmers with better management skills.
- (iii) To promote the conservation of environment and indigenous farm animal genetic resources for sustainable livestock production.
- (iv) To promote, facilitate and enhance the participation of the private sector in the provision of livestock services.
- (v) To design, develop and transfer improved livestock housing and handling facilities.
- (vi) To monitor the quality of livestock products.

Livestock Research

- (i) To adapt relevant and sustainable diagnostic techniques to support the control and eradication of diseases and vectors of national importance.
- (ii) To develop and improve disease surveillance and outbreak investigation methodologies.
- (iii) To facilitate private sector involvement in providing complementary diagnostic services to farmers.
- (iv) To conduct investigations on the nutritional status of livestock in the traditional sector and recommend appropriate mitigation measures and use of crop residues/agro-industrial by-products for enhanced crop production.
- (v) To conduct range and pasture management surveys in agro-ecological zones of Zambia.
- (vi) To conduct characterization of indigenous livestock breeds and promote their conservation.

- (vii) To facilitate the development of private sector participation in livestock production and health research.

3.5.3 Strategies

Animal Health

- i) Facilitate the collection of baseline data on disease and vectors prior to intervention.
- ii) Facilitate implementation of disease and vector control programmes in priority areas.
- iii) Uphold quarantine and movement control policies.
- iv) Monitor and regulate the disease and vector control programmes in priority areas.
- v) Determine the capacity and levels of community interventions and private sector participation in disease and vector control programmes.
- vi) Monitor and regulate the animal health related activities of the private sector.
- vii) Regulate and enforce animal and animal welfare legislation.
- viii) Promote environmental awareness in the livestock sector.
- ix) Analyze and make available information on livestock production, diseases and vectors to stakeholders.
- x) Develop and promote the use of plant and herb based veterinary medicine (ethno).

Animal Production and Extension

- i) Train field staff in extension methodologies, which meet the farmers' needs.
- ii) Promote and identify farmer groups/associations for effective dissemination of technological innovations.
- iii) Produce and distribute livestock training and extension materials/manuals for both farmers and field staff.
- iv) Enforce the legislation on livestock production.
- v) Create and promote awareness in the conservation and enhancement of environment and farm animal genetic resources.

- vi) Regulate and control the use/importation of genetically modified organisms (GMOs) for sustainable livestock production.
- vii) Regulate and control the quality of livestock, livestock products and stock feeds.
- viii) Promote private sector participation in the provision of livestock and extension services, marketing of livestock and livestock products.
- ix) Promote the production of small livestock (chicken, sheep, goats, and pigs).
- x) Promote the development of dams, ponds and water points for livestock.

Livestock Research

- i) Devise efficient and sustainable diagnostic techniques in investigations of diseases of national importance.
- ii) Strengthen the mechanisms of the cost sharing of diagnostic services provided to farmers.
- iii) Produce veterinary vaccines to meet the national demands.
- iv) Conduct quality control and quality assurance for all the diagnostic procedures, biological and livestock products.
- v) Conduct demand driven livestock research.
- vi) Promote and facilitate private sector participation in livestock research.

3.5.4 Institutional Framework

The Ministry of Agriculture and Co-operatives through the Animal Production and Health Branch is mandated to control diseases of national importance. The Ministry's role in the liberalized market economy remains that of coordinating, facilitating, monitoring and regulating. Government will continue to encourage the private sector to provide livestock services to the farmers. In livestock research, the other key players include the NSTC and the NISIR.

3.5.5 Legal Framework

The livestock sector is currently governed by the following legislation: the Stock Diseases Act, Cap. 252, the Prevention of Cruelty to Animals Act, Cap. 245, the Veterinary Surgeons Act, Cap. 243, the Brands Act, Cap. 244, the Public Health Act, Cap. 295, the Tsetse Control Act, Cap. 249, the Dairies and Dairy Products Act, Cap. 320, the Pig Industry Act, Cap.

251, the Standards Act, Cap. 416, the Science and Technology Act, No. 26 of 1997 and the Technical Education Vocational and Entrepreneurship Training Act, No. 13 of 1998. These pieces of legislation will continue to be updated from time to time in accordance with the policy changes and production trends.

3.6 FISHERIES SUB-SECTOR

The fishing industry contributes significantly to the agricultural sector in Zambia. Sources of fish are capture fisheries and aquaculture. The demand for fish presently outstrips supply. The per capita consumption has decreased from 16kg in 1971 to 6.8 kg in 1998 due to declining yields in capture lakes which can be attributed to unsustainable fishing practices and increasing human population. The fisheries sub-sector is experiencing increasing fishing efforts while fish-farming potential has not been fully exploited. The strategy for fisheries development is dual approach aimed at substantially improving yields of capture fishing by promoting sustainable fishing methods and promoting aquaculture and consumption. Government, therefore, will ensure sustainable improvements in the management of capture fisheries resources and promote aquaculture in order to maximize the sub-sector's contribution to the national economy.

3.6.1 Overall Objective

To increase fish production and promote sustainable utilization of fisheries resources, thereby contributing to the economy through the generation of employment, income and improved availability of fish.

3.6.2 Specific Objectives

Capture Fisheries Management and Extension

- i) To contribute to increased food security and nutrition through increased production and consumption of fish.
- ii) To promote sustainable fisheries management through participatory approach by involving various stakeholders.
- iii) To ensure monitoring, control and surveillance of the country's fisheries and fish resources.
- iv) To strengthen management strategies and the dynamics of the aquatic resources.

Capture Fisheries Research

- i) To conduct and support research programmes of quality relevant to solve specific national problems, yield information on fish stock size and recommend appropriate harvesting level.

- ii) To ensure that appropriate methodologies and technologies are developed and applied for sustainable management and utilization of the fisheries resources.
- iii) To undertake limnological studies to assess the biomass of zooplankton and phytoplankton in order to determine the fish food levels in the natural aquatic environment.
- iv) To promote the understanding and application of research information that will form the basis of fisheries planning, management and development through participatory approach.

Aquaculture Extension

- i) To promote aquaculture production.
- ii) To promote conservation of the environment and indigenous fish species for sustainable aquaculture production.
- iii) To promote and facilitate private sector participation in the development of aquaculture and provision of aquaculture services.

Aquaculture Research

- i) To promote research to identify better performing indigenous and exotic fish species for aquaculture development.
- ii) To undertake appropriate environmental assessment and monitoring with the aim of minimizing adverse ecological changes related to economic and social consequences of water extraction, land use, discharge of effluent, use of drugs and chemicals and other aquaculture activities.
- iii) To develop appropriate methodologies and technologies in fish feed formulation and farming systems.

3.6.3 Strategies

Capture Fisheries Management and Extension

- i) Provide techniques that would add value to fish products, improve post-harvest management and the flow of marketing information to fish producers, processors and traders.
- ii) Provide the legal framework for community participation in sharing the responsibility for better management of aquatic resources.
- iii) Conserve and maintain bio-diversity of aquatic resources through improved monitoring, creation of fish sanctuaries and restocking over-fished water bodies.

- iv) Regulate and control the marketing and trading of fishing gears and fishing practices through appropriate legislation.
- v) Regulate and control the exploitation, movement and marketing of endangered and ornamental fish species.
- vi) Facilitate capacity building among stakeholders in the fisheries sub-sector.
- vii) Collaborate with neighbouring countries in the management of aquatic resources in shared watercourses or water bodies.
- viii) Strengthen legislation to provide for sustainable exploitation of the fisheries resources.
- ix) Promote the formation of fisher groups/associations for effective dissemination of capture fisheries management information and appropriate fishing techniques.

Capture Fisheries Research

- i) Identify priority needs for fisheries research in consultation with stakeholders.
- ii) Promote co-operation between research institutions within and outside the country.
- iii) Develop short, medium, and long-term fisheries research plans for the country.
- iv) Strengthen and improve fishery data collection, analysis and dissemination systems in order to maintain and regularly update the fisheries database.
- v) Strengthen institutional and scientific research capacity for effective implementation of research programmes.
- vi) Conduct research on post-harvest losses and quality assurance by applying methodologies and techniques that are environmentally friendly.

Aquaculture Extension

- i) Promote aquaculture by providing appropriate extension services and the production and distribution of quality fish seed.
- ii) Regulate and control fish escapees from fish farms, cages, fish pen or any other aquaculture facility into the natural fisheries.

- iii) Promote the formation and capacity building of fish farmers' groups/associations for effective dissemination of aquaculture information and techniques.
- iv) Regulate the introduction and use of exotic fish species and use of genetically improved fish species in aquaculture.
- v) Enforce the legislation on aquaculture.

Aquaculture Research

- i) Assess the ecological impact of exotic fish species on indigenous fish species in all aquatic systems.
- ii) Conduct fish feed trials to determine the suitable feeds for aquaculture using locally produced and available materials.
- iii) Strengthen and improve aquaculture data collection, analysis and dissemination systems.
- iv) Strengthen research-extension-farmer linkage through on-farm based research to increase understanding and dissemination of proven aquaculture techniques and information.

3.6.4 Institutional Framework

The Ministry of Agriculture and Co-operatives through the Fisheries Branch has a mandatory responsibility to implement capture and aquaculture fisheries programmes. Government will collaborate with all the stakeholders in the fishing industry.

3.6.5 Legal Framework

The Fisheries Act, Cap. 200, the Water Act, Cap. 198, the Environmental Protection and Pollution Control Act, Cap. 204 and other related Acts provide for, or impact on, the fishing industry. These Acts will however be reviewed from time to time, taking into account changes in the fishing industry.

3.7 AGRICULTURAL CO-OPERATIVES DEVELOPMENT

The Government is now more than ever before committed to spearheading agricultural development through co-operatives development. Co-operatives and other farmer organizations have been identified as strategic avenues through which socio-economic development programmes would be delivered to our people particularly small-scale producers in the rural agricultural sector.

In response to the evolving economic reforms, co-operative institutions and other farmer organizations in Zambia are in the process of adjusting to market liberalization. The input supply and market abilities of primary

co-operative societies and other farmer organizations will need to be correspondingly strengthened.

3.7.1 Overall Objective

The overall objective of the agricultural co-operatives development is to create an enabling institutional and legal environment for the development of autonomous, transparent, viable and demand-driven co-operatives and other farmer organizations that will contribute to poverty reduction.

3.7.2 Specific Objectives

The specific objectives will be:

- i) To create a framework for reforming and re-orienting the agricultural co-operative movement in the context of national development.
- ii) To facilitate the promotion and formation of genuine, autonomous, viable and sustainable co-operatives and other farmer organizations.
- iii) To promote the diversification of co-operative activities.
- iv) To create a conducive environment for creation of a co-operative structure.
- v) To provide a framework for efficient resource mobilization to enhance co-operative development.
- vi) To promote internal and external linkages with and outside co-operative movement.
- vii) To create a conducive environment for equal participation of women and youth in co-operative development.

3.7.3 Strategies

The strategies will include the following:

- i) Develop a legal and institutional framework to facilitate re-orientation and reformation of the co-operative organization.
- ii) Develop training and education materials that address the felt needs of co-operative members and are suited to the current socio-economic environment.
- iii) Promote development of business-oriented co-operatives and enhance their capacity to access financial resources.
- iv) Promote formation of pre-co-operative groups.

- v) Develop sensitization materials for women and youth participation in co-operatives.
- vi) Promote and facilitate identification of viable co-operative economic activities.
- vii) Promote partnerships between co-operatives and other sectors of the economy in co-operative development.

3.7.4 Institutional Framework

Due to the current weak and fragmented status of the co-operative movement in Zambia and the fact that the majority of co-operatives in the country are agricultural oriented, the Ministry of Agriculture and Co-operatives, through the Co-operative Development Branch or Department is, therefore, well placed to facilitate co-operative development in Zambia.

The co-operative movement will be organized under a three-tier structure comprising of primary co-operative societies, secondary or regional co-operatives and the national apex organization. In some cases, this structure may result into four tiers where a district level federation becomes necessary before the national specialized union. In such a case, it is the specialized secondary organization, which shall affiliate to the national apex organization. Direct primary level affiliation to the national apex shall be discouraged except in very exceptional circumstances.

Specifically, the Government shall undertake the following institutional functions:

- i) registration and liquidation of co-operative societies.
- ii) enforcement of the Co-operative Societies Act.
- iii) provide an environment for increased co-operatives business.
- iv) undertake co-operatives inspection and ensuring that co-operatives are audited.
- v) offer support in the provision of co-operatives education, training and information.
- vi) support co-operatives financing.
- vii) undertake research, monitoring and evaluation of co-operatives activities.

The private sector, NGOs and other departments within the Ministry will have a complementary role to ensure success of the co-operative development.

3.7.5 Legal Framework

The Cooperative Societies Act No. 20 of 1998 provides the legal framework for the development of co-operatives in Zambia. The Act may be amended from time to time to suit emerging challenges.

3.8 AGRICULTURAL MARKETING AND CREDIT

The marketing of agricultural produce and inputs in Zambia was in the past, heavily controlled by the state through the parastatal organizations and the co-operative movement and involved substantial government subsidies. With the worsening economic situation, Government was no longer able to sustain the open-ended subsidy system. Since 1991, Government liberalized the marketing of produce and inputs although it has played a significant role in fertilizer financing.

Zambia's agricultural credit system has since independence been dominated by a number of quasi-government institutions. These financial institutions were limited in scope as they were focused on maize production and marketing. From the Land Bank in 1964, through the African Farmers' Improvement Fund to the Agricultural Finance Company and later Lima Bank, little seems to have been achieved due to the inherent high transaction costs and risks associated with providing credit to farmers, low recoveries, poor management, lack of savings mobilization, political interference and inadequate legal framework.

There has been a vacuum in agricultural financing since 1996, when the last of these institutions was liquidated. This vacuum has created problems among small-scale farmers who have no access to credit and cannot borrow from commercial financial institutions. Since 1997, efforts that have been made have been concentrated on ad-hoc measures aimed at resuscitating the moribund financial institutions without success. The private sector has played a limited role in providing credit in form of inputs under outgrower arrangements. There is, therefore, need to have a broad-based rural credit and financial delivery system with increased private sector participation.

Poor rural infrastructure has created difficulties in agricultural inputs and produce marketing especially in the outlying areas of Zambia. Better-developed infrastructure and closer proximity of urban market centers puts line of rail provinces in a favourable position to take advantage of liberalized markets. Government recognizes that special measures are therefore needed to help farmers in less developed regions. Such measures will include development and improvement of rural infrastructure.

3.8.1 AGRICULTURAL MARKETING

3.8.1.1 Overall Objective

To promote the development of a competitive, efficient and transparent public and private sector driven marketing system for agricultural commodities and inputs.

3.8.1.2 Specific Objectives

- (i) To facilitate entrepreneurship in agricultural marketing and input distribution through cooperatives, farmer organizations, traders and other businessmen.
- (ii) To facilitate the development of farmer-driven marketing organizations.
- (iii) To enhance the provision of market support services to market participants.
- (iv) To enhance access to financing by the private sector for agricultural marketing (produce and input).
- (v) To regulate agricultural inputs and outputs marketing through appropriate legislation and institutions.

3.8.1.3 Strategies

- i) Facilitating market information flow among stakeholders in various regions.
- ii) Imparting of agro-business skills to market participants and farmers.
- iii) Promotion and enforcement of grades and standards of major agricultural commodities and inputs.
- iv) Facilitating the provision of rural infrastructure such as roads, rural storage infrastructure and developing market centers.
- v) Providing guaranteed agricultural input and output market especially to small-scale farmers in rural areas and maintaining national strategic food reserves.
- vi) Promotion of crops with both domestic and export markets.

3.8.1.4 Institutional Framework

Government will collaborate and co-ordinate with all relevant institutions involved in agricultural marketing and input supply. The private sector shall assume an increasingly leading role in the procurement, supply and distribution of agricultural inputs and outputs. Government's extent of

participation in agricultural marketing will be in response to growth in private sector capacity in agricultural marketing.

3.8.1.5 Legal Framework

The Food Reserve Agency Act No.12 of 1995 Cap. 225, the Co-operative Societies Act No.20 of 1998, the Control of Goods Act, the Zambia Bureau of Standards Act, Seeds Act and other related livestock, crops and fisheries sub-sector Acts govern agriculture marketing. The Co-operative Societies Act of 1998 provides for the formation, registration and regulation of agricultural cooperative societies and to provide for matters connected with or incidental to the foregoing. These Acts may be revised from time to time as need arises.

3.8.2 AGRICULTURAL CREDIT AND FINANCE

3.8.2.1 Overall Objective

To develop, in consultation with the Ministry responsible for finance, and regulate an efficient, effective, demand driven and sustainable credit and rural finance system.

3.8.2.2 Specific Objectives

- i) To develop and promote community owned and managed financial intermediaries, including micro-credit facilities.
- ii) To expand the provision of savings facilities.
- iii) To promote and encourage access to seasonal, medium and long term credit and financial services to female and male farmers.
- iv) To increase private sector participation in the provision of credit to farmers.
- v) To enhance access to financing by farmers for investments.

3.8.2.3 Strategies

- i) Develop and maintain a suitable institutional and legal framework, including prudential regulatory norms.
- ii) Create a fund for access by farmers through appropriate financial institutions and NGOs.
- iii) Encourage savings mobilization by credit institutions in order to ensure self-sustainability.
- iv) Encourage group lending to ensure good recovery rates.
- v) Promote private/public sector partnership in credit provision and savings mobilization.

3.8.2.4 Institutional Framework

Both the public and private sector will undertake provision of rural credit and finance. In addition, government will provide the regulatory framework. Institutional arrangements will be promoted at all levels including apex organizations, community-based organizations and rural finance intermediaries. Government will, where necessary, provide capacity building initiatives such as training to such organizations. Commercial banks and other financial institutions are expected to participate in the provision of agricultural finance to the agricultural sector where they deem it viable.

3.8.2.5 Legal Framework

Agricultural credit and finance is governed by the Bank of Zambia Act, Cap. 360, the Agricultural Credit Act, Cap 224, the Small Enterprise Development Act, Cap. 425 enacted as Act No. 29 of 1996, the Money Lenders Act, Cap. 398, the Banking and Financial Institutions Act, Cap. 387 and other relevant legislation.

The Co-operative Societies Act of 1998 provides for the formation, registration and regulation of savings and credit cooperative societies. This is aimed at promoting savings among members and creating a source of finance for its members. These Acts will be revisited from time to time to bring them in line with changing circumstances.

3.9 AGRICULTURAL AND CO-OPERATIVES TRAINING

Amongst the factors attributed to the unsatisfactory performance of agriculture in Zambia, is the limited number and loss of trained and experienced agricultural human resource.

Despite past and present investment in agricultural training, the present scenario indicates that supply from Agriculture Training Institution (ATIs) does not meet the critical mass of the human resource base required for sustainable agricultural development.

It is therefore important to ensure that training is relevant, systematic, coordinated and demand driven and that there is efficient and effective utilization of trained personnel in both the public and private sector.

3.9.1 Overall Objective

The overall objective of the agricultural training sub-sector is to ensure that a critical mass of suitable and adequately trained manpower is produced so as to meet the needs of both the public and private sectors in a liberalized agricultural sector.

3.9.2 Specific Objectives

- i) To strengthen institutional capacity of agricultural training institutions.

- ii) To ensure that quality and relevant agricultural training is provided through curriculum reform and development of teaching resources.
- iii) To commercialize or privatize some training institutions and enhance autonomy in some.
- iv) To institute a mechanism for monitoring and evaluation of agricultural training activities.

3.9.3 Strategies

- i) Undertake training needs assessment.
- ii) Carry out short and long-term training at technical and professional levels, including farmer training.
- iii) Strengthen and carry out a programme of In-Service training courses.
- iv) Promote agricultural education at both primary and secondary school levels.
- v) Establish income generating ventures as well as cost-sharing mechanisms in local institutions of learning.

3.9.4 Institutional Framework

Agricultural training in the country is offered at various institutions namely the University of Zambia (degree level), Natural Resources Development College (diploma level), Mpika and Monze Agricultural Colleges (certificate). Veterinary training is provided at the University of Zambia (degree level) and the Zambia Institute of Animal Health (certificate level). Others are Kalulushi, Chapula and Kasaka Farm Training Institutes, Palabana Livestock Development Trust and Farm Training Centers also provide short-term, demand driven courses. Some training institutions under the Ministry of Science, Technology and Vocational Training also offer courses in Agricultural Mechanics.

Co-operatives education and training is provided at the Co-operative College, Katete Centre of Marketing and Co-operatives and Kabulamwanda Co-operative Training Centre. Other training institutions such as the Natural Resources Development College (NRDC), Zambia College of Agriculture (ZCA-Mpika and Monze), the University of Zambia (UNZA) and Copperbelt University (CBU) would be encouraged to introduce the co-operatives concept in their training programmes.

3.9.5 Legal Framework

There may be need to establish legislation through enactment of an Agricultural Training Act.

4.0 RISKS AND ASSUMPTIONS

It is recognized that factors outside the Ministry of Agriculture and Co-operatives or the sector in general have a profound impact on the development of the Agricultural Sector. These include the state of the road network, land tenure and administration, energy, communication, HIV/AIDS, macro-economic factors and world markets.

Roads have to be in good condition to transport inputs and produce, energy and communication are essential for commercial production for both domestic and export markets. There has to be a favourable and stable macro-economic environment, such as low lending interest rates, stable exchange rates and low inflation, for economic and financial growth and development of the Sector. The above underscores the inter-sectoral character of agriculture and the need for cross-sectoral dialogue and actions. The MACO will, therefore, closely work and collaborate with other government and private ministries and institutions and NGOs in order to remove or minimize constraints in these key areas.

The problem of HIV/AIDS is rapidly becoming the number one constraint to economic development in general and the agricultural sector in particular. The disease has a negative impact on agricultural production in that it debilitates productive labour and time. The problem requires attention by the Ministry in various ways including modification of extension and research priorities. HIV/AIDS and related information would be incorporated in extension messages. Further, efforts would be encouraged to introduce HIV/AIDS in the curricula of agricultural training institutions.

In addition, the successful implementation of the Policy assumes that:

- i) The Ministry, in particular and the Agricultural Sector, in general would be adequately funded and equipped.
- ii) Ministry staff would be provided with attractive remuneration and incentive packages.
- iii) There would be policy consistency and/or continuity.
- iv) Weather conditions would be favourable before irrigation is fully developed, especially among the small-scale farming community.

5.0 CONCLUSION

To develop the Agricultural Sector, it is recognized that there is need for strong public-private partnerships. The public sector will focus on providing services and support to vulnerable small-scale farmers, particularly in the disadvantaged areas, taking into account the dual nature of the agricultural sector. Emphasis will be on such areas as

capacity building of farmer organizations, service delivery such as extension, research and well focused direct support in form of inputs/credit to vulnerable but viable small-scale farmers during the transitional period.

The issue of gender in technology dissemination, resource allocation and service provision will be emphasized. The problem of HIV/AIDS will also require various interventions by the Ministry.

The private sector is expected to play a leading role in direct investment in the sector's credit provision, marketing and input supply. It is expected that the private sector together with NGOs and the Ministry will build on the successes scored in the areas of contract farming, extension provision, marketing and seed multiplication and distribution during the initial phase of liberalization of the sector. Special attention will be given to quality control through promotion of grades and standards for inputs and products, high value crop production and technology adoption among small-scale farmers. This will lead to general empowerment of rural communities through income and employment generation.

Notwithstanding the emphasis on the development of the small-scale sector, focus will also be put on large-scale agriculture development. The Ministry will facilitate private investment in agriculture and link potential investors to the Zambia Investment Centre and other appropriate institutions. Government recognizes that expansion in commercial farming can attract additional investment in agro-processing, which can have positive, direct and indirect, benefits on the rural poor.

To encourage more investment in the sector, particular emphasis will be placed on facilitating efficient land administration by working closely with the Ministry of Lands. Other key players are the Ministries of Commerce, Trade and Industry, Energy and Water Development, Transport and Communications, Works and Supply, Tourism, Environment and Natural Resources and Finance and National Planning.

The importance of promoting agricultural trade both in the region and beyond cannot be over-emphasized. This is particularly so given developments in: the New Partnership for African Development (NEPAD) through the Comprehensive Africa Agriculture Development Programme (CAADP); the Common Market for Eastern and Southern Africa (COMESA); the Southern Africa Development Community (SADC); the African, Caribbean and Pacific/European Union (ACP/UE) Cotonou Agreement and the World Trade Organization (WTO). Zambia will have to ensure that it takes full advantage of these developments and put in place measures that promote fair and beneficial agricultural trade.