

# **Opportunities for Norwegian Support to Agricultural Development in Malawi**



By

Kjell Esser  
Ragnar Øygard  
Catherine Chibwana  
Malcolm Blackie

Noragric Report No .27  
June 2005

**Noragric**  
**Norwegian University of Life Sciences**

Noragric is the Department of International Environment and Development Studies at the Norwegian University of Life Sciences (UMB). Noragric's activities include research, education and assignments, focusing particularly, but not exclusively, on developing countries and countries with economies in transition. Besides Noragric's role as the international gateway for UMB, Noragric also acts on behalf of the Norwegian College of Veterinary Medicine (NVH) and of Norwegian Agricultural Research International (NARI), which form alliances with UMB.

Noragric Reports present findings from various studies and assignments, including programme appraisals and evaluations.

Extracts from this publication may only be reproduced after prior consultation with the employer of the assignment (NORAD) and with the consultant team leader (Noragric).

The findings, interpretations and conclusions expressed in this publication are entirely those of the author(s) and cannot be attributed directly to the Department of International Environment and Development Studies (UMB/Noragric) or to the Norwegian Government.

Kjell Esser: Associate Professor, Department of International Environment and Development Studies (Noragric), Norwegian University of Life Sciences, Norway (e-mail: [kjell.esser@umb.no](mailto:kjell.esser@umb.no))

Ragnar Øygard: Associate Professor, Department of Economics and Resource Management, Norwegian University of Life Sciences, Norway (e-mail: [ragnar.oygard@umb.no](mailto:ragnar.oygard@umb.no))

Catherine Chibwana: Lecturer, Department of Extension, Faculty of Development Studies, Bunda College of Agriculture, University of Malawi, P.O. Box 219, Lilongwe, Malawi (e-mail: [cmthinda@malawi.net](mailto:cmthinda@malawi.net))

Malcolm Blackie: Private Consultant (formerly Professor, Department of Agricultural Economics, University of Zimbabwe), The Farmhouse, 9 Meadow Farm Drive, Cringleford, Norwich NR4 6TR, UK (e-mail: [mblackie@netcom.co.uk](mailto:mblackie@netcom.co.uk))



Esser, K., Øygard, R., Chibwana, C. and Blackie, M., Opportunities for Norwegian Support to Agricultural Development in Malawi, Noragric Report No. 27 (June, 2005)

Noragric, Dept. of International Environment and Development Studies  
Norwegian University of Life Sciences (UMB)

P.O. Box 5003

N-1432 Aas

Norway

Tel.: +47 64 96 52 00

Fax: +47 64 96 52 01

Internet: <http://www.umb.no/noragric>

ISSN: 1502-8127

Photo credits: J.B. Aune, I. Bryceson, P. Wisborg

Cover design: Spekter Reklamebyrå as, Ås

Cover photo: Cleaning groundnuts (photo: K. Esser)

Printed at: Rotator, Ås

# TABLE OF CONTENTS

Abbreviations and acronyms	v	
Executive Summary	vi	
<b>1</b>	<b>INTRODUCTION</b>	<b>1</b>
<b>2</b>	<b>AGRICULTURE IN MALAWI</b>	<b>3</b>
2.1	Present characteristics	3
2.1.1	<i>Structure of the agricultural sector</i>	3
2.1.2	<i>Economic performance</i>	5
2.2	The Perennial Food Crisis	6
2.2.1	<i>Land, agricultural productivity, and land policy</i>	6
2.2.2	<i>The central role of moisture, soil fertility, and labour productivity</i>	7
2.2.3	<i>Climate change and food insecurity</i>	8
2.2.4	<i>The downward spiral into poverty</i>	9
2.2.5	<i>Land degradation</i>	11
2.2.6	<i>Structural adjustments</i>	14
2.2.7	<i>Credit collapse and fertiliser subsidy removal</i>	15
2.3	Breaking out of poverty and food crises	15
<b>3</b>	<b>OPTIONS FOR GROWTH</b>	<b>17</b>
3.1	Opportunities and Resources	17
3.2	Policies for the Private and Public Sectors to Realise the Potential	27
3.3	Present Constraints	29
<b>4</b>	<b>PRESENT POLICIES, PROGRAMMES AND ACTORS</b>	<b>32</b>
4.1	Relief and Development	32
4.2	Technology Development and Dissemination	34
4.2.1	<i>The World Bank Agricultural Services Project</i>	34
4.2.2	<i>International Agricultural Research Centres as change agents</i>	35
4.2.3	<i>International Agricultural Research Centres products in improving livelihoods in Malawi</i>	37
4.3	Lessons from the Agricultural Services Project for Norwegian support to technology development and dissemination	40
4.4	Input and Output Market Development and Access	44
4.5	Institutions and Decentralisation	46
4.5.1	Implications of Decentralisation Policies	48
4.5.2	Reforms and Restructuring of the Ministry of Agriculture	51
4.6	Overview of Past, Present and Pipeline Donor Programmes	52
<b>5</b>	<b>GENDER, HEALTH AND NUTRITION</b>	<b>60</b>
5.1	Gender Issues	60
5.1.1	<i>Role of Women in Agriculture</i>	60
5.1.2	<i>Access to Agricultural Resources for Women</i>	60
5.2	HIV/AIDS	63
5.2.1	<i>HIV/AIDS and Gender</i>	64
5.2.2	<i>Impact of HIV/AIDS</i>	65
5.2.3	<i>Response by Government and Civil Society Organisations</i>	66

5.3	Nutrition and Other Public Health Issues	66
<b>6</b>	<b>OPPORTUNITIES FOR ACTION AND SUPPORT</b>	<b>68</b>
6.1	Cross-cutting issues	68
6.2	Components of a proposed programme	72
	6.2.1 <i>Budget support to Government of Malawi and policy dialogue</i>	72
	6.2.2 <i>Agricultural education and enterprise promotion</i>	73
	6.2.3 <i>Agricultural research and development</i>	76
	6.2.4 <i>Farmer organisation and market development</i>	79
	6.2.5 <i>Agricultural infrastructure and productivity investments</i>	79
6.3	Short term hunger alleviation	83
<b>7</b>	<b>REFERENCES</b>	<b>84</b>
	<b>APPENDIX 1. Donor Activities in Agricultural, Food Security and Natural Resources Management</b>	<b>88</b>
	<b>APPENDIX 2. Institutions Visited and People Met</b>	<b>91</b>
	<b>APPENDIX 3. Literature Consulted</b>	<b>95</b>
	<b>APPENDIX 4. Terms of Reference</b>	<b>99</b>

## Abbreviations and Acronyms

ADD	agricultural development division
ADMARC	Agricultural Development and Marketing Corporation
AfDB	African Development Bank
ARDEF	Agricultural Research and Development Fund (a component of PRIMARO)
ASP	Agricultural Services Programme
CADECOM	Catholic Development Commission in Malawi
CIMMYT	International Maize and Wheat Improvement Center
CISANET	Civil Society Agriculture Network
CONGOMA	Council for NGOs in Malawi
CUMO	Concern Universal Micro-finance Operation
DAESS	District Agricultural Extension Services System
DAP	Development Assistance Programme
DEMAT	Development of Malawi Traders
DFID	The Department for International Development (UK)
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GDP	gross domestic product
GoM	Government of Malawi
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
IARC	international agricultural research center
ICRAF	International Center for Research in Agroforestry
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IDAF	Institutional Development across the Agri-food Sector
IDEAA	Initiative for Development and Equity in African Agriculture
IFAD	International Fund for Agricultural Development
IFDC	International Fertiliser Development Center
I-LIFE	Improving Livelihoods Through Increasing Food Security Programme
IMF	International Monetary Fund
JEFAP	Joint Emergency Food Aid Programme
MAISF	Ministry of Agriculture, Irrigation and Food Security
MASAF	Malawi Social Action Fund
MASIP	Malawi Agricultural Sector Investment Programme
MEPD	Ministry of Economic Planning and Development
MPRS	Malawi Poverty Reduction Strategy
MPTF	Maize Productivity Task Force
MUSCCO	Malawi Union of Savings and Credit Cooperative
NAC	National AIDS Commission
NASFAM	National Smallholder Farmers' Association of Malawi
NGO	nongovernmental organisation
NPK	nitrogen, phosphorus and potassium
NRC	Natural Resources College
PRIMARO	Poverty Reduction in Malawi Using Agricultural Research and Outreach
SADC	Southern African Development Community
SAP	Structural Adjustment Programme
TIP	Targeted Input Programme
UMB	Norwegian University of Life Sciences (Universitetet for miljø og biovitenskap)
UN-HABITAT	United Nations Human Settlements Programme
USAID	United States Agency for International Development
WB	World Bank
WFP	World Food Programme

## **Executive Summary**

The Government of Norway has decided to increase its support to agricultural development in Malawi to contribute to the reduction—and ultimately elimination—of poverty. As part of this process, the present report has been commissioned by the Royal Norwegian Embassy, Lilongwe, Malawi, to outline opportunities for Norwegian assistance to the people of Malawi. The facts and proposals presented are the results of discussions with a multitude of knowledgeable persons in Lilongwe and a thorough review of recent literature.

### **Status of agriculture**

Agriculture in Malawi consists largely of rainfed, single season and low input/low output cultivation and is vulnerable to shifting weather and policy conditions. Small farms, low yields and unpredictable policies result in widespread poverty and chronic food shortages. Nationally, about 40 % of the rural households produce less food than they need.

There has been a general decline in food production per capita in Malawi after 1975. Lowland area per family tends to encourage farmers to produce mainly maize to satisfy their calorie needs. As soil fertility declines, fertiliser becomes more expensive and drought spells appear more frequent, farmers' shift towards cassava. Land degradation is continuing in Malawi, and the efficiency of fertiliser is generally decreasing. Climate change models suggest a slight general drying in Malawi and more frequent droughts and floods in the future.

While there are technically sound solutions to many of the problems faced by smallholders, all too often they are practically or financially unsound. Access to fertiliser has been the cause of innumerable discussions on improving smallholder productivity in Malawi. Use of fertiliser obviously requires that some crop surplus is sold to cover the investment. Under good crop management conditions, investment in fertiliser has been shown to be profitable for smallholders. In the case of severe drought, however, farmers may lose most of their investment in fertiliser.

### **Options for growth**

Given its natural resources, Malawi could feed its people. Presently, low crop production per unit area requires that large parts of the landscape must be cultivated. Much of the food is produced on land that is not suitable for cultivation. Ideally, the best cropland could yield more than ten times the present average production per unit area. Assuming two cropping seasons on the best croplands based on irrigation, 80-90 % of the present hill slopes could be converted from eroding cropland to permanent vegetation without reduction in the total national food production.

Long-term planning should keep in mind that extensive land use changes will be necessary to stabilize the landscape while maintaining food production. Significant land use changes will not be possible without major investments in a science-based, productive agriculture located in the most suitable areas where the rate of erosion is low and water is available for dual cropping seasons. Investments will be needed to combine productivity with sustainability.

Within a more immediate planning horizon, Malawi agriculture holds a potential for creating broad-based poverty-reducing growth for a number of reasons:

- Its initial size and importance
- Large potential for productivity gains

- Increased productivity will bring down the cost of food for the poor and thereby improve food security
- Large local multiplier effect from increased agricultural incomes

Increasing the productivity of farming by adopting science-based agriculture requires a set of conducive conditions: stable and low inflation and interest rates, minimally distortive tax system, secure property rights, rule of law and peace. Developing agriculture also requires that a set of public goods is provided, as each smallholder is too small to provide for these by him/herself. Such public goods include:

- Research for developing more productive technologies suitable for the various agro-ecological and socio-economic conditions
- Dissemination of the technologies
- Provision of rural infrastructure, particularly roads and railways for reducing the cost of accessing input and output markets
- Organizing joint (group) activities, e.g. larger irrigation initiatives
- Defining and maintaining grades and standards
- Insurance against covariate risk

Macroeconomic management is very difficult in an economy so dependent on rain-fed agriculture and on variable donor support, as is the Malawian economy. Presently, the macroeconomic environment in Malawi is not conducive to agricultural growth. The primary constraints have been very high interest rates and high inflation. Huge fiscal deficits have been financed with domestic borrowing, resulting in real interest rates of up to 45 % on Treasury Bills. Government consumption and investment has absorbed more or less all-available credit in the country, crowding out private investment. The current government has brought down the interest rate to about 25 % and inflation to about 14 %. Both rates are too high.

Education is necessary to stimulate agricultural value creation. There is a need to educate entrepreneur, extension officers, farmers, government officers, etc. Just to fill vacant extension positions, 350 graduates must be produced annually for the next three years. Graduates from Bunda College are very attractive employees, but the Ministry of Agriculture is not able to retain those they hire. There is also a need for new enterprises to produce and trade goods as well as provide services. However, the human capacity to develop the private sector is still weak. Training is needed.

### **Present Policies, Programmes and Actors**

Malawi, with its desperate poverty, is a target country for many relief agencies. When severe food shortages became apparent in Malawi in late 2001 and intensified at the beginning of 2002, the NGOs worked together and with government agencies to develop coordinated programmes. Their success shows that where there is political will and commitment from all stakeholders, programmes can be implemented successfully. It was a remarkable achievement that has laid the foundation for more effective collaboration between all partners to address problems of national and household level food insecurity in future.

The main technology development and dissemination effort of the World Bank in the late 1980s and through the decade of the 1990s was the Agricultural Services Project (ASP). Under this project, farming systems methodologies were introduced and the extension service developed on

regional lines through semi-autonomous agricultural development divisions (ADDs). The hierarchical nature of technology development and extension that existed in Malawi made it very difficult to create the change in approach needed to create a farmer responsive system. As a result, collaboration between the World Bank, the international agricultural research centres (IARCs), and the Rockefeller Foundation worked to catalyse improvement of maize-based cropping systems to address rural poverty.

CIMMYT's Soil Fertility Network or SoilFertNet has focused on improving the productivity of maize-based cropping systems through the development and promotion of farmer-use of improved soil fertility technologies, combined with economics and policy support to help farmers access the technologies.

The improved maize varieties available in the 1970s and 1980s did not suit the circumstances of the majority of smallholders in Malawi. In 1990, CIMMYT provided two improved maize hybrids (MH17 and MH18) with good storage and household processing characteristics. The SADC/ICRISAT Groundnut Improvement Project spearheaded the development of improved grain legume varieties in Malawi.

The Maize Productivity Task Force (MPTF), consisting of concerned scientists, economists and policy makers in Malawi, was formed in 1996. It was a broad-based Malawian led effort to develop a national consensus on policy to address national food security. It developed a comprehensive programme, only a subset of which (the Starter Pack) was implemented. The programme was intended to be developed and modified over time as a way to encourage the introduction of new and more diverse cropping systems as proven options become available. While the programme has continued (as a 'targeted input programme' or TIP) in various forms, unfortunately its focus shifted to a safety net, and the development components have been entirely lost.

The Agricultural Services Project (ASP) lacked focus. The collaboration with the Rockefeller Foundation and the international agricultural research centres worked more effectively. The focus on a critical farming system (maize) provided opportunities for new thinking and new methodologies to emerge from within Malawi's research service – and the IARCs were critical in providing leadership and direction. Widespread verification trials served to engage every extension worker in the land and to start the much-needed dialogue on economically viable farmer recommendations.

To produce sufficient food, smallholders need to increase productivity through using fertilizer and improved seeds. They need access to inputs at low cost and access to markets for their produce. Low transport costs are crucial in this regard. Efforts are underway to improve harbour capacity in Nacala and improve the capacity of rail and road transport through the Nacala corridor. Within the country there are efforts to improve rural infrastructure through the Malawi Social Action Fund (MASAF) and other donor funded initiatives. NASFAM, IDEAA and IFDC are developing institutions and skills needed for efficient markets.

Under donor pressure, the government has attempted to restructure the public service, reducing its size and improving the wages of those who remain. However, dynamic and effective implementation of the principles of these reforms is muted, and donor follow-through has been weak and poorly monitored. Lack of capacity, weak institutions, leaders' self-interest, a weak civil society, and repeated donor bail-outs have permitted even the best policies and programmes to be ignored, subverted or delayed to the point of their being ineffective. An important entry point, therefore, has to be to help civil society to hold government accountable. A focus on supporting



the mechanisms that will lead to effective decentralisation is an essential component of such a move. Within the agriculture sector, well-planned collaborations between IARCs, local NGOs, and other agencies have produced results. This strategy needs to be developed and reinforced.

The Government of Malawi is currently considering fertiliser subsidies as a replacement for the Targeted Inputs Programme. There are problems with such a subsidy:

- It will create new uncertainties in the fertiliser market and increased risk to commercial traders
- Relatively rich farmers will most likely obtain most of the fertilisers and thereby most of the subsidy
- It will be very expensive and tend to increase the budget deficit

### **Opportunities for Norwegian support**

As a ‘pilot programme for agricultural growth,’ the new intervention should be professionally managed, coherent and focused, yet covering a certain range of interlinked elements. It needs to be complementary to the work of the many other donors already active in supporting Malawi agriculture. A programme must take into account the capacity of the implementing organisations. Our suggestions are, therefore, based on social and technical opportunities, assessment of other donors’ activities as well as institutional capacities and constraints. They are adapted to the general modalities and policies of Norwegian development assistance. Upscaling planned or ongoing programmes may be more cost-effective than starting up new ones. Regional cooperation is encouraged.

The proposed activities for support are all based on a growth strategy where the public sector, donors and government, provide supportive public goods, whereas the private sector, including small-scale farmers, are expected to invest in the new opportunities that are opened up in farming and related activities.

Gender disparities continue to exist in most organisations and activities. This calls for reflection, commitment and action by stakeholders. Involved partners must accept the HIV/AIDS pandemic as a reality and promote change in attitudes and behaviour. Success of programme activities will partly depend on the success in preventing and mitigating the disease.

### **Components of a proposed programme**

Recommended components of a support programme are presented under five thematic areas listed below in a *non-prioritised* sequence. A development program may consist of all or selected components:

#### *1. Budget support to Government of Malawi and policy dialogue*

Continued budget support would be the main way of supporting continued public spending in MoA and other ministries – while reducing the fiscal deficit. Budget support would need to be followed up with monitoring and by policy dialogue with the GoM, e.g., via the donors’ coordination group on agriculture and food security, or through other channels.

## *2. Agricultural education and enterprise promotion*

Education is essential for development. The need for new, qualified staff is strongly expressed by government agencies, civil society and private sector. Support to tertiary educational institutions in the sector is intended to address this need.

Two components are recommended:

- a) Continued support to Bunda College of Agriculture
- b) A new innovative programme to revitalize the Natural Resources College including an enterprise promotion programme
- c) Support to agricultural vocational schools starting with Mikolongwe Vocational School in Chiradzulu

Bunda College needs to be supported to provide national leadership in the development of Malawian agriculture. Norwegian support and encouragement – through UMB, IARCs and NGOs – in a coherent manner can play an important role in creating a self-help approach to change.

A new generation of entrepreneurs with a social and environmental conscience is needed. Support to the Natural Resources College to adopt the learning philosophy of the EARTH University (Costa Rica) is worth considering. NRC has excellent facilities, is presently under-utilised, and appears as a very strong candidate for developing the first ‘African EARTH College’. The NRC possesses the required formal autonomy to succeed. Support would constitute a continuation of Norwegian efforts to bring the EARTH concept to Africa. A new NRC should focus more on teaching technical skills than academic knowledge (which is the realm of Bunda). Support to entrepreneurial education should be linked to a *programme for enterprise development* in terms of credit, technical and legal issues as well as business linkages.

More than half of the population in Malawi is under the age of 21. Education at all levels is—and will continue to be—a major challenge in the economic development of Malawi. The elimination of diploma courses by University of Malawi leaves a gap to be filled. The capacity of the vocational education in agriculture does not meet the present needs.

## *3. Agricultural research and development*

There is a need to strengthen research in cooperation with implementing agencies and farmers. A new concept of ‘dialogue-driven’ research and outreach is suggested where researchers, managers, NGO staff, extensionists and farmers develop a coherent research and outreach programme through a formalised forum for dialogue.

The thematic area consists of two components:

- a) The Agricultural Research and Development Fund (ARDEF) managed by Bunda College
- b) Support to the expansion of the NGO-consortium I-LIFE

Proposed support to research by Bunda College should be reorganized and considerably strengthened to serve as an open programme for funding research, outreach and development work for any organizations that may contribute to compete for funding on merit: IARCs, Ministry research centres, NGOs, etc. The ARDEF should address essential issues such as soil fertility, crop productivity, livestock development, commercial production units, agricultural policy research, etc.

In recognition of the success of collaboration over the 2002 and 2003 food crises, the NGO community resolved to work together to address the long-term food security problems in Malawi in a development rather than a relief context. This has developed into what is now called the Improving Livelihoods through Increasing Food Security (I-LIFE) Programme. The coordinated effort has its own Programme Management Unit, which enables all participating NGOs to (1) coordinate their development efforts, (2) work jointly in partnership with government agencies, (3) implement government policies in a coherent manner, and (4) operate under a common funding mechanism. It is a five year activity to support broad-based agricultural and agribusiness growth in conjunction with improving health and district capacity to sustain development. Primary emphasis is on the most vulnerable communities and female and child headed households, as well as those affected by the chronically ill. The I-LIFE consortium may serve as an effective channel for Norwegian NGOs.

#### *4. Farmer organisation and market development*

In this thematic area we only propose one component at this stage: support to NASFAM. However, the idea of testing out alternative economic production units along the lines suggested by Professor Moses Kwapata should be pursued if possible.

Markets for farm inputs and outputs are weakly developed in Malawi. NASFAM's support to its members in terms of marketing and extension services is of great value. As a programme proposal is already being negotiated between the Embassy and NASFAM, the team will not go into detail beyond expressing support for a continuation and an expansion of the programme in line with the increased membership of NASFAM. There is obviously a need to expand the number of farmers in direct contact with a formalised market mechanism.

#### *5. Agricultural infrastructure and productivity investments*

The thematic area consist of three components:

- a) Improvement of rural roads
- b) Investment in water management
- c) Investment in soil fertility (notably nitrogen)

Traders will be reluctant to operate in many parts of rural Malawi due to poor or lacking roads. Improved infrastructure is important for several reasons: Lowered transport costs imply higher profitability; better access to input supply; better market access for surplus production; and improved access to consumer goods.

Drought and flood are major causes of recurrent food crises in Malawi. Climate change may worsen the situation in the future. In the long run, a substantial increase in food production based on irrigation will be necessary to reduce the extent of unsustainable farming on the hill slopes. In an African context, Malawi is in a fortunate situation: there is plenty of water.

What Malawi needs more than anything else to reduce hunger is to restore its soil health, particularly nitrogen fertility. The cycle of famine will continue unless this issue is effectively tackled and at scale (P. Sanchez, pers. com.). The best way of investing in soil fertility is, however, hotly debated. Further analysis is needed to design a suitable programme. Conversion to crops tolerant to low soil fertility, is not a long-term solution.

**Short-term hunger alleviation**

The suggested programme areas constitute a development strategy. They will do little to alleviate hunger during the coming year. Thus, it will be important that government and donors also support various measures to ensure survival and well-being in the short run, such as food for work, public works, school-feeding programmes, or even handing out money to destitute people so they may buy food. It is important that such measures are implemented in such a way that they do not undermine efforts for longer-term growth.

## 1. INTRODUCTION

The main priority for the Norwegian development aid is *poverty reduction*. The UN Millennium Goals are seen as essential pathways towards this vision. Despite the obvious link between poverty and rural livelihoods in developing countries, agriculture has until recently received limited attention in the Norwegian aid policy. To correct this imbalance, the Ministry of Foreign Affairs published in 2004 a plan of action entitled *Agriculture Against Poverty* in which growth in agriculture is seen as a fundamental element in the fight against poverty. As a start, Malawi and Ethiopia were chosen as pilot countries for the renewed focus on aid to promote agricultural growth. This report presents the outcome of a study into opportunities for Norwegian support to agriculture in Malawi. The study was commissioned by the Royal Norwegian Embassy in Lilongwe.

Reaching the UN Millennium Development Goals will require making each of them centerpieces in the national poverty reduction policies. Active support to the same policies will also be required by international donors. According to Sanchez and Swaminathan (2005), halving the number of people suffering from hunger within 2015 is “*well within our means*”. However, if the millennium goals on hunger are to be met, “*developed country governments must increase and improve their official development assistance, especially for agriculture and nutrition, and increase attention to capacity building*” (ibid.). Success in poverty reduction appears to be greatest where governments work in partnership with local communities, nongovernmental organizations and private actors.

In line with the Task Force on Hunger (Sanchez and Swaminathan, 2005), this report subscribes to the view that “*it can be done.*” We should not underestimate, however, the efforts needed to succeed. The job is enormous, but not impossible.

Past failures in agricultural development in Africa have left many national and international development workers with a bleak or even pessimistic outlook. Visions appear to have been reduced to one of alleviating abject poverty or maintain status quo. In fact, halting the decline would, in many cases, constitute a major victory. Nevertheless, the rate of progress needed to outpace the decline, will require fresh looks at all possible opportunities.

One sector cannot be developed alone. Investments in agriculture will only reach their full potential if progress is also made in sectors determining the socio-economic environment for farmers; health, education, energy, infrastructure and resource conservation. In addition, socio-cultural emancipation may be needed to free individuals from constraints to economic progress. Although often overlooked, development is largely a *collective change of minds*.

Nevertheless, this report focuses on core agricultural development opportunities for economic growth and poverty reduction rather than attempting to cover all interacting issues relevant for development. Links to health is covered, however.

This report attempts to point towards promising opportunities for Norwegian support to agricultural development in Malawi. It does not propose specific projects, and consequently it does not go into the issues of monitoring and evaluation.

The reader of this report is advised to keep in mind that the report takes a forward-looking approach and does not deal specifically with emergency relief and arrangements for social safety

nets. Emergency efforts must be maintained, however, in parallel with the implementation of long-term development policies.

As a '*pilot programme for agricultural growth*' the planned Norwegian support should be coherent and focused, yet covering a range of interlinked elements. The program obviously needs an actively involved, professional management to ensure relevance, implementation and impact.

## 2. AGRICULTURE IN MALAWI

### 2.1. PRESENT CHARACTERISTICS

Agriculture is the major economic activity in Malawi, accounting for about 40 % of the gross domestic product (GDP) and employing more than 80 % of the economically active rural population (GoM, 2004). Furthermore, agriculture is the major source of foreign exchange earnings, amounting to about 89 % of the total. Tobacco accounts for around 60 %, with tea and sugar contributing about 10 % each. The agricultural sector has a major impact on the rest of the economy. Agriculture relies mainly on rain-fed crop production; formally or semi-formally irrigated land is only 28,000 hectares. Livestock contributes about 7 % of GDP. Cattle, goats, sheep, pigs and chickens are the major livestock providing for both subsistence and commercial requirements. Production and consumption of animal products are very low. Exports of animals and animal products are virtually non-existent (Campher *et al.*, 2003). About half the dairy products consumed in Malawi are imported. As cropping extends further into grazing areas, the numbers of ruminant livestock, especially cattle, continue to decrease.

Malawi has one of the highest population densities in sub-Saharan Africa with an area of arable land per capita of 0.23 hectare, compared to 0.86 in Zambia and 0.4 in sub-Saharan Africa as a whole (World Bank, 2003). Other countries on the continent with similar population densities have two rainy seasons (which help spread harvests over the year and thus reduce the effect of the 'hungry season') rather than the single rainy season of Malawi (which, except where irrigation is used, means only one major harvest is possible each year).

Maize is the staple food and the dominant crop. It occupies 60 % of cultivated land (GoM, 2003). Most of the maize is grown by smallholders and consists of low-yielding local (unimproved) varieties<sup>1</sup>. Maize is produced using human labour with hand-held hoes, and in loose rotations with groundnut and sunflower. Increasingly, maize is grown on the same land year after year, often sparsely intercropped with bean, groundnut, cowpea or pumpkin. Other important smallholder crops produced include rice, groundnut, soyabean and root crops. Most of these are for local consumption, although there is some trade in rice and groundnut. In the Southern Region, where the average population density reaches 215 persons per square kilometre, maize is the main crop in nearly 90 % of the area and contributes 80 % of daily food calories. Some 60 % of rural households (and 41 % of the total population) produce less than they need to feed themselves through the year. Carr (1994) attributes the popularity of maize to its efficiency as a per hectare calorie producer compared to the other available food plants. As land availability declines, the efficiency of calorie production per hectare becomes of greater importance to farmers. Thus the food security of resource-poor households is critically dependent on the productivity and sustainability of maize-based cropping systems. However, as soil fertility declines, maize tend to be replaced by cassava.

#### 2.1.1. Structure of the agricultural sector

Agricultural land in Malawi is divided between the customary (smallholder) sector, which occupies 6.5 million hectare, and the estate (large scale) sector (1.2 million hectare of private land

---

<sup>1</sup> For very good reasons: results from an extensive programme of on-farm demonstrations conducted over four seasons in the major maize growing areas of Malawi showed that, even on relatively fertile soils, improved maize varieties gave a very modest yield increase if grown without fertiliser (Jones and Wendt, 1995; Conroy and Kumwenda, 1995; Zambezi *et al.*, 1993).

held as leasehold or freehold estate). The estate subsector produces mostly tobacco, tea and sugar. The smallholder sub sector is predominantly subsistence and involves about 1.9 million farm families under customary land. The smallholder farmers supplement their subsistence farming by growing a few cash crops. Of the available agricultural land, at most, about 70 % is considered suitable for rain-fed farming. Recent survey data indicates that the average land holding in Malawi is about one hectare (Table 1). Almost three of four farmers cultivate less than this, and 41 % cultivate less than 0.5 hectare (GoM, 2003) – too small at current levels of productivity and farming systems to achieve food security.

Table 1. Average land holding by region

<i>Average Land Holding (ha)</i>			
	Poor	Non-Poor	All
Northern	1.1	1.2	1.1
Central	1.1	1.3	1.2
Southern	0.71	0.83	0.76
Malawi	0.91	1.9	0.99

Source: GoM, 2000

The major change that has occurred in the smallholder production over the past decade is crop diversification in response to government policies and market liberalisation. Apart from the increase in smallholder tobacco production (burley) that took place in the late 1980s to 1990s, the area grown to groundnut and pulses has increased. In addition, there has been a shift towards drought tolerant crops such as cassava, sweet potato, millet and sorghum (Figure 1). Production of cassava and sweet potato in particular have increased dramatically in the past decade, contributing to household food security as well as cash incomes among the smallholder population. On the other hand, conversion from maize to cassava cultivation is a sign that soils are depleted of plant nutrients. Replacement of maize by cassava in people’s diet also implies a decline in their protein intake. But still, maize continues to be the dominant crop among smallholders.

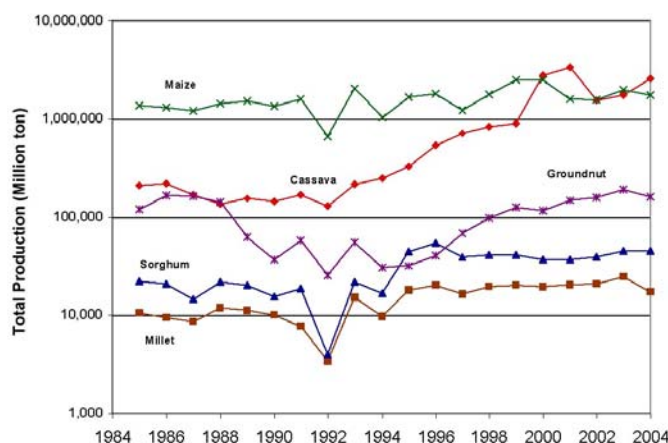


Figure 1. Production of major crops in Malawi 1985-2004 (data for sweet potato not available; note the logarithmic scale; FAO).

Highest population density—and consequently a large proportion of the poor farmers—is found in the highlands of the Central and Southern Region (Figure 2). In these areas, people enjoy relatively good rains and comfortable temperatures. The distribution of poverty is also linked to the size of landholdings. The lowest yields are generally obtained in the most densely populated highlands.



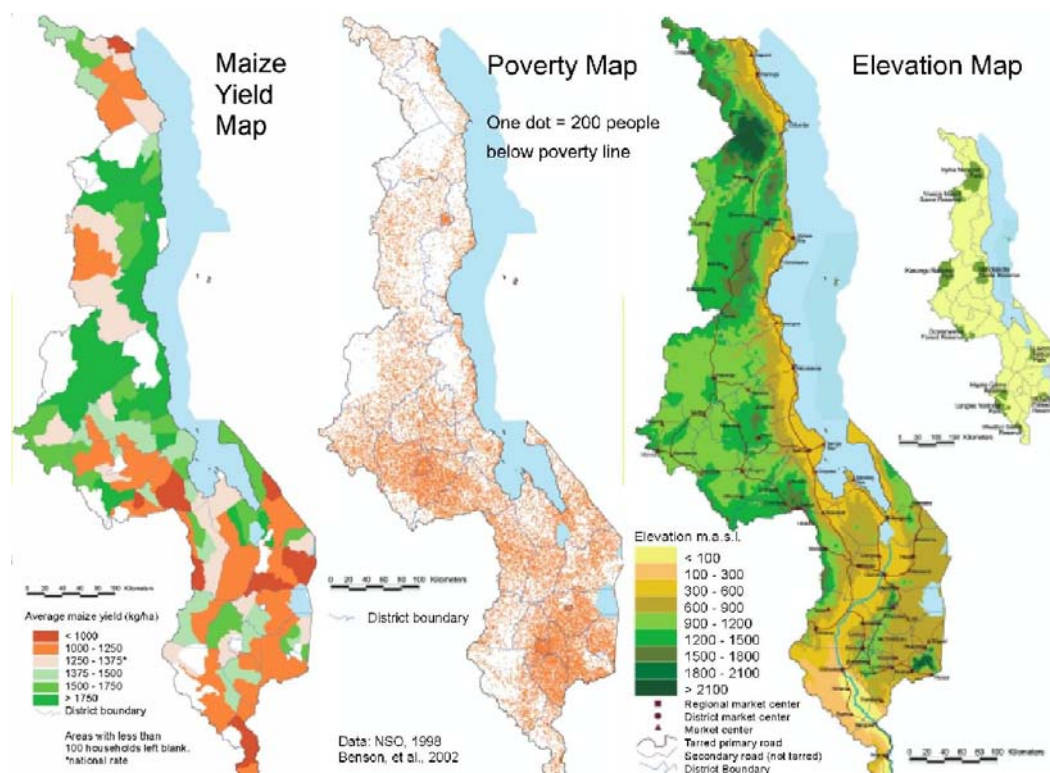


Figure 2. Maize yield and poverty density compared to topography (Benson, 2002).

### 2.1.2. Economic performance

The annual growth rates of GDP have fluctuated considerably over the period from 1995-2003. Growth from 1998 has been insufficient to match population increases, especially from the year 2000 (Table 2). The main source of income is largely from the agricultural sector, which has experienced sharp declines particularly in 2001 and 2002 (Table 3). Prior to 2000, the agricultural sector contributed a third or more to annual growth, drought caused a sharp decline in 2001 and there was a weak recovery in 2002 and 2003. This increase was mainly from the smallholder subsector, which continues to outperform the estate subsector (which has remained stagnant for the past decade).

Table 2. Economic performance of Malawi.

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
GDP annual growth rate (1994 factor cost) (%)		13.8	10.0	6.6	1.1	3.5	0.2	-4.1	1.8	4.4 (Nov)
Average annual inflation (%)	34.7	83.1	37.7	9.1	29.8	44.8	29.6	22.9	14.8	10.7
Interest rates (lending) (%)	31.0	47.3	45.3	28.3	37.7	53.6	53.6			
Average exchange rate (MWK to USD)	8.7	15.3	15.3	16.4	31.1	46	80	67.3	87.3	109

Source: [www.nso.malawi.net](http://www.nso.malawi.net)

Table 3. Share of GDP from the agricultural sector 1997-2003.

	1997	1998	1999	2000	2001	2002	2003
Smallholders	24.1	28.0	30.7	30.5	31.5	30.0	32.6
Large-scale/estates	9.0	7.7	7.3	8.7	7.2	8.9	7.2
Agricultural sector	33.1	35.7	38.0	39.2	38.7	39.0	39.8

Source: Economic Report 2002 (for 1997–2000) and Malawi Economic Growth Strategy 2004 (2001-04).

However, smallholder production is characterised by low productivity due to a number of problems such as small landholdings, inadequate inputs, unfavourable prices, lack of access to credit, unfavourable internal and external terms of trade, external shocks such as drought and floods, and other structural bottlenecks. As such, growth was minimal in relation to population growth, which translates to reduced food production per capita, food insecurity and low incomes among the smallholder population and indeed the nation.

The low growth rate in agriculture also constrains growth in other sectors as Malawi's economy depends on agriculture. It is therefore not surprising that poverty is widespread, with about 65 % of Malawians living below the poverty line (GoM, 2000a). Within this group, about 29 % were living in extreme poverty in 1998; their daily consumption was less than 60 % of the poverty line, which averaged USD 0.40. The 1998 Integrated Household Survey demonstrated that the majority of the poor are in the rural areas, and have subsistence agriculture as their main source of income. However, the most important source of income was not from agricultural sales, but cash income from casual labour. This fact justifies the importance of safety net programmes such as public works, food for work or cash for agricultural labour.

It is clear that economic growth in Malawi depends on the performance of the agricultural sector. At present, the source of growth in the agricultural sector is smallholder production. Transformation of the agricultural sector is therefore central to creating the necessary change that will drive the Malawi economy. The following chapters will show that a number of options and strategies are already in place, and a number of technologies have been promoted. But, the challenge, it seems, is more than a technology problem, development requires us to do things differently, to do 'business unusual'. We should not expect magic solutions but be sure that certain opportunities can work based on social and geographical advantages.

## 2.2 THE PERENNIAL FOOD CRISIS

Many Malawians express nostalgia for the settled times of the 1970s. In this period, according to popular myth, food was always available, there was little crime, and it was a time of optimism and progress. In this section, we examine how the policies of this period laid the ground for the major problem that afflicts Malawi today – what we term a perennial food crisis. Every year, it seems, food is either short or desperately short. Food insecurity at the national and at the household level dominates the development of policy. Fear of national food shortages paralyses action at many levels. The effects are often contradictory and counterproductive.

### 2.2.1. Land, agricultural productivity, and land policy

Understanding the evolution of land policy in Malawi is crucial to understanding food insecurity. The first President of the Republic of Malawi, Dr. Hastings Kamuzu Banda had a vision for Malawi of an economy based on labour intensive agricultural exports produced by large-scale "modern" farms (notably tobacco). Smallholder agriculture was perceived as 'backward'. Land

policy was deliberately aimed at stimulating the growth of the large-scale estate sector. A significant amount of land was alienated from the smallholder to the estate sector. The resources needed to finance the expansion of the estate sector were extracted from the smallholder sector via implicit taxation of smallholder export crops. By the end of the 1980s, the amount of land transferred from the customary sector to the estate sector was in excess of 700,000 hectare (Cross, 2002). The principal beneficiaries were members of the political elite, party functionaries and richer smallholders, many of whom failed to use the land effectively.

The effects of this policy on smallholders have been devastating. The transfer of land from, and increasing population pressure within, the smallholder sector increased the scarcity of land in that sector and contributed to the continual fragmentation of plots. Surprisingly, as land availability per capita in Malawi has fallen, the outcome has not been agricultural intensification but rather a long-term decline in soil fertility - resulting in land degradation, falling production per unit area of land, and the consequent impoverishment of majority of the population. Many smallholder land holdings are too small to support the families that live on them and some rural households are effectively landless. In desperation to gain access to land, smallholders increasingly cultivate land that is not suitable for farming (such as erosion prone steep slopes). Forest cover has declined from 26 % to 19 % of the total land area over the past 25 years with attendant problems associated with the management of watersheds (World Bank, 2003). The World Bank (2003) suggests that harvested crops annually remove a net 75,000 ton of soil nutrients, causing further environmental degradation, and compromising long-term family livelihoods and food security.

### **2.2.2. The central role of moisture, soil fertility, and labour productivity**

Maize is the preferred staple food of most Malawians, and low productivity maize cropping, based around traditional (but low yielding) varieties, dominates the agricultural economy. Adopting improved maize seed, without also taking on important complementary crop husbandry changes, does not provide the productivity boost needed to pull many farm families out of poverty. Weeds are a problem when there is insufficient labour for timely weeding. Moisture is often a major constraining factor. Even relatively short dry spells during the rainy season can have devastating effects on maize yields. The seeds have to be watered, and the crop managed, if the farmer is to gain the substantial benefits that fertiliser and improved seeds can provide.

Depletion of soil fertility is well documented as a major cause of low per capita food production in sub-Saharan Africa. Smallholders across the continent have been extracting nutrients from their soils consistently for the past 30 years or more. The low levels of nitrogen in Malawian soils are particularly alarming. But just providing fertiliser (or rebuilding soil fertility) is also not sufficient to reduce poverty and food insecurity. The interaction between weeding and effects of fertiliser use (Figure 3) is an illustration of the complexity of cropping systems. If the crop is not weeded at all (W1), even with very high rates of fertiliser, the crop yields dismally. In contrast, weeding twice gives significantly more yield with less fertiliser (W3 and 46 kg of nitrogen) than weeding only once and double the fertiliser (W2 and 96 kg of nitrogen). In the case of severe water stress, yields will, of course, be minimal regardless of other inputs. In fact, high rates of fertiliser application will exacerbate the negative effect of water stress since fertilisers are salts. As Byerlee *et al.* (1994) note, what smallholders in Africa need (as importantly as improved seeds) are the complementary technologies for maintaining soil fertility, conserving moisture, and increasing labour productivity. Farmers physically weakened by acute food shortage and poor health in the cropping season will, however, find well-meant agronomic recommendations of limited benefit.

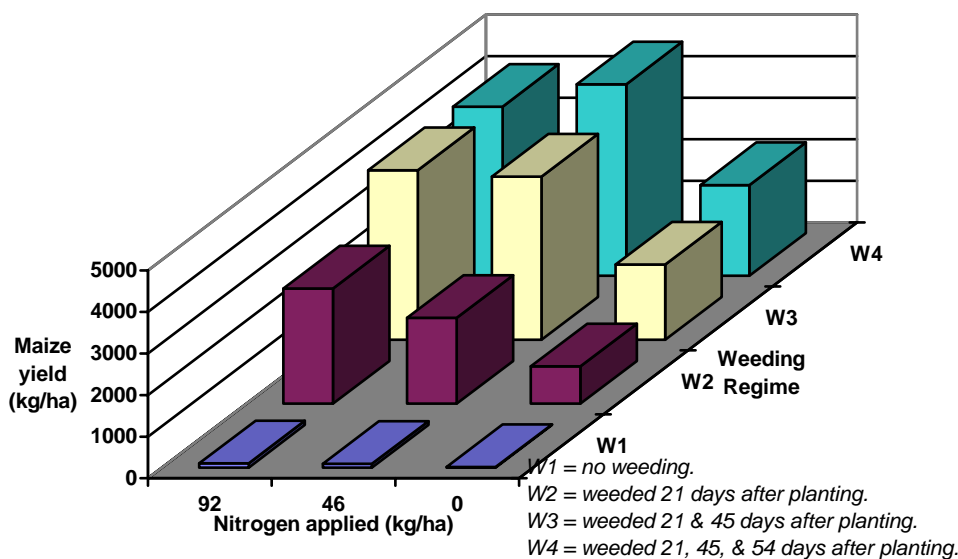


Figure 3. Interaction between weeding and fertiliser use in maize.

### 2.2.3. Climate change and food insecurity

Droughts and floods are overriding causes of acute food shortage in Malawi (Clay *et al.*, 2003). With an economy largely based on rainfed agriculture, Malawi’s national product, food security and poverty are closely linked to the last season weather conditions (Figure 4). Repeated droughts tend to transform the country’s economic policy away from long-term economic growth to crisis management. It takes time for shocks to fade and life to return to normal.

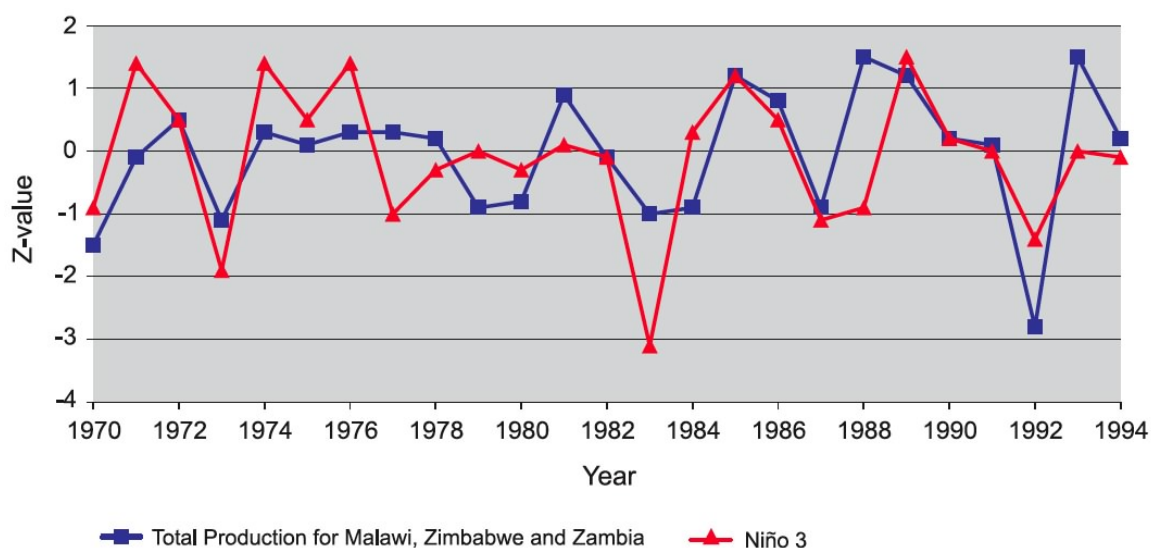


Figure 4. Relationship between agricultural production and Niño 3 in southern Africa (the z-values express the number of standard deviations from the mean) (AfDB, undated).

Predicted climate change may affect agriculture through:

- Changes in temperature and precipitation

- Changes in soil moisture and fertility
- Changes in the length of growing season
- Increased occurrence of extreme climatic conditions

Global climate models predict that the sum of changes in world food production most likely will be small. There is a general agreement, however, that climate change may lead to substantial reductions in agricultural productivity in developing countries (McGuigan *et al.*, 2002). Poor countries are particularly vulnerable because most of their agriculture is based on seasonal rainfall, and they have very few structures to attenuate the effects of drought and flood.

Although global climate change is generally expected to lead to more precipitation, much of the water will not fall where it is mostly needed. Dry to semi-dry regions are likely to suffer from reduced rainfall and increased evaporation. Climate change will therefore add to the existing problems of land degradation.

It is important to note that water availability is not always included in global simulations of agricultural productivity since irrigation adaptation has been taken for granted. This illustrates the need to include water resources in the vulnerability assessments in developing countries.

Several meteorological services in Africa issue seasonal climate forecasts. So far, seasonal predictions have not yet been communicated to farmers to enable them to take the necessary precautions for either wet or dry cropping seasons. Thus, opportunities exist for governments to reduce vulnerability using climate forecasts (Amissah-Arthur, 2003). However, one should not overestimate farmers' ability to counteract the impacts of drought and flood.

Precipitation can increase during warm (El Niño) or cold (La Niña) events in some areas, whereas in others, drought might be more likely. In southern Africa, droughts tend to happen in the December to March rainy season after onset of an El Niño event (Thomson *et al.*, 2003). Climate models suggest a modest drying over large parts of southern Africa. Intermittent droughts and floods, however, are likely to become more frequent and severe. Since climate change is expected to exacerbate climatic extremes, there is a definite need to address climate-related vulnerability in the context of food security and development strategies.

In some African countries, as much as 80 % of the variability in agricultural production is caused by variability in weather alone (Sivakumar, 2005). In sub-Saharan Africa, the area under irrigation is very limited and crop failure and hunger are well known. Farming in Malawi will remain a risky business since the essential input, water, is highly variable.

#### **2.2.4. The downward spiral into poverty**

Lack of cash dominates the choices available to the typical Malawian farmer. The two major costs faced by many smallholders in producing food are labour and the inputs of seed and fertiliser (including home produced organic fertilisers such as composts, which are highly labour intensive). Labour may be provided by the family, it may be bought in from other farmers, and it may be sold to others for food or cash. Often the household is headed by a woman, commonly with small children. The older children may be at school, or have moved to town. If she is fortunate, her husband and children living away will send cash or kind to help support the rural household. If not, she will be attempting to support herself and her children from what she can grow or sell. She will be living on a piece of land that has been cultivated many times before. What inherent fertility was

there has long been extracted from the soil. Weeds, including the devastating *striga*<sup>2</sup>, will have established themselves and will compete strongly with whatever she plants for light, water, and soil nutrients.

If she has access to a hectare or more of land, she may produce enough to feed herself and her family if her health is good and the weather favourable. But the start of the rains brings diarrhoea and malaria. Often, illness of herself or her children will result in her planting her crop late. With a poor rainy season her crop may fail. The odds are that in some, if not many, years, she will find herself unable to produce enough food for her family's needs. She will need to go out to work for neighbouring farmers who will then feed or pay her (and any children that work with her) for the days that she puts in. Typically this work will be planting, weeding, or fertilising the neighbour's crop - which means that her own is left unplanted, unweeded, and unfertilised until later in the season. Late planting and poor weeding mean a poor harvest and once again she finds herself without food before the crop comes in. This is the downward spiral that creates much of Malawi's poverty.

While there are technically sound solutions to many of the problems faced by smallholders, all too often these turn out to be financially or managerially unsound. Access to fertiliser has been the cause of innumerable debates and discussions on improving smallholder productivity in Malawi. It is evident that:

- the low level of fertiliser use in Malawi (well below soil nutrient replacement needs) is, in part, caused by the cost of fertiliser,
- fertiliser is the most costly cash input used by the typical Malawi smallholder, and,
- its price (in local terms) has been rising sharply.

But an expensive input can be profitable if used efficiently. In fact, farmers in Malawi have been receiving advice on the use of fertiliser that actively discourages its use. Fertiliser recommendations have ignored soil and climatic variations found in smallholder farming areas (which we know are high), are incompatible with farmer resources (which we know are severely limited), or are inefficient, (which drastically affect the profitability of fertiliser use). An economic analysis of fertiliser policy in Malawi (see HIID, 1994) concluded, at the lower local prices prevailing then, that improvements in fertiliser use efficiency could substantially outweigh feasible price changes in either fertiliser or maize in making fertiliser economically attractive to smallholders. Research on farmers' fields in Malawi shows that, at farmers' levels of fertiliser application, with improved timing and application methods the maize response to nitrogen can be increased from 15 to 20 kg grain per kg N applied for unimproved maize and from 17.4 to 25 for hybrid. But, despite the very real costs of using this critical input inefficiently, little has been done to improve efficiency of fertiliser use. An illustration of the cost of this neglect is shown by the work of Piha (1993) in Zimbabwe. Piha designed a simple, practical, and farmer friendly system to apply fertiliser based on rainfall patterns and nutrient need. Over a five year period, Piha's system gave 25-42 % more yield and 21-41 % more profit than did the existing fertiliser recommendations.

---

<sup>2</sup> *Striga spp.* is a species of parasitic weeds of maize, sorghum, and related crops. The plant attaches itself to the root system of the host plant and lives off the nutrients that should be going to make grain. *Striga spp.* will produce millions of seeds each year if allowed to flower and the seeds last for many years in the soil before germinating. It is particularly problematic on low fertility soils and can almost wipe out the crop. Control of the parasite is exceptionally difficult.

A crucial component of any programme to develop Malawian agriculture would thus be to improve the efficiency and the returns to using inputs such as high-yielding seed and fertiliser. That would involve improved timeliness of supply of the optimal seed varieties and nutrient mixes. And it would involve improved recommendations on locally adapted use of the inputs and other farming practices.

Even if fertiliser use can be very profitable, the risk of rain failure makes it a risky investment. Crops that have been planted at the right time, and that have received optimal levels of nutrients are more likely to yield even when there is a dry spell. In the case of severe drought, however, farmers may lose most of their investment in fertiliser.

### **2.2.5. Land degradation**

The majority of the Malawian people have settled in the highlands to benefit from the relatively high rainfall and pleasant temperatures. Removal of permanent vegetation, erosion and depletion of plant nutrients leave this situation critically unsustainable. Low crop production per unit area requires that large parts of the landscape must be cultivated to provide a minimum of food for the people. In the Southern Region, 55 % of the cultivated land is 'not suitable for cultivation' under present methods of land use (based on data from NEAP, 2005). In the Central and Northern Regions, the proportion is somewhat smaller (Table 4). The main reason for land being classified as 'not suitable for cultivation' is steep slope. Expansion of agriculture into marginal and unsuitable land is a major threat to Malawi's sustainability both with respect to land and water resources. Soil erosion and water runoff is therefore, rampant. Slash-and-burn agriculture commonly practiced in the hills are particularly damaging for the environment (Figure 5). Soil and plant nutrients are quickly washed away and the landscape is left bare (Figure 6).



*Figure 5. Slash-and-burn agriculture in northern Malawi ruins the environment (photo: K. Esser).*

Soil and water conservation projects have generally had little or limited effect. Decades of conservation efforts in Ethiopia, for instance, give little reason for optimism. Conservation farming requires additional time and labour, which poor farmers cannot afford. On the other hand, area

closure (total elimination of cropping and grazing) have generally resulted in high recovery rates in drylands.



*Figure 6. Hills have been deforested, rainwater disappears quickly and the landscape is left dry (northern Malawi; photo: K. Esser).*

Unfortunately, construction of roads in the uplands and improved market contact, tend to exacerbate the problem. Unless properly drained, roads tend to capture runoff and concentrate water in spots where gullies form (Figure 7). From an environmental standpoint, inaccessibility is, in fact, the best assurance for land conservation.



*Figure 7. Erosion caused by the construction of a low-cost feeder road in the hills of northern Malawi (photo: K. Esser).*



Table 4. Areas and proportions of suitable and unsuitable land used for cultivation (based on data from NEAP, 2005).

Region	Cultivated land (incl. short fallow) (ha)	Land suitable for cultivation (ha)	Cultivated land not suitable for cultivation (ha)	Proportion of cultivated land not suitable (%)
Northern	902,900	623,500	279,400	31
Central	2,171,850	1,658,750	513,100	24
Southern	1,503,500	672,250	831,250	55
<b>Total</b>	<b>4,578,500</b>	<b>2,954,500</b>	<b>1,624,000</b>	<b>35</b>

Long-term agricultural planning should envisage a future situation where crops are grown only on suitable land and permanent vegetation covers land not suitable for cultivation. The best-suited cropland can yield about ten times the present average crop production per unit area. Assuming two cropping seasons based on irrigation on the best croplands, 80-90 % of the present hill slopes could be converted from eroding cropland to permanent vegetation without reduction in the total national food production. Converting highlands to permanent vegetation would reduce runoff significantly, reduce sediment transport, increase land surface evaporation and maybe improve rainfall.

Cultivation of sloping lands followed by soil erosion has led to rapid sedimentation in Lake Malawi. Destruction of spawning areas as a result of sedimentation is believed to be a partial reason for the rapid reduction in fish catches in the lake, and consequently, loss of protein in people's diet.

For obvious practical reasons, large-scale changes in land use are not possible within a short time frame. However, long-term planning should keep in mind that substantial and extensive land use changes will be absolutely necessary to stabilize the landscape while maintaining food production. The necessary land use changes needed to end excessive erosion and restore the hydrology will not be possible without major investments in science-based, highly productive agriculture located in the most suitable areas where the rate of erosion is low and water is available for double cropping seasons. Continued cropping on non-suitable land coupled with donor funded conservation projects (repair work) will not work. Soil and water conservation projects in marginal areas tend to fail shortly after the project funding ends despite great promises in project proposals.



Figure 8. Songwe River in northern Malawi is largely unutilized (photo: K. Esser).

### **2.2.6. Structural adjustments**

In the first years following Independence in the early 1960s, Malawi's economic growth was largely based on two key, and interrelated, factors:

- tobacco production by the estate (large-scale) sector, and,
- the introduction of fertilised hybrid maize (using subsidies to disguise the real cost of production) to the wealthier farmers in the smallholder sector.

But growth across the agricultural sector was highly uneven, with smallholders playing a minor role. Widespread poverty and ecological decline resulted despite the best efforts of the Banda government to conceal these facts (and the continuing nostalgia for these times often expressed by Malawians). By the mid 1980s there was compelling evidence that, despite the well-stocked retail maize markets of the Agricultural Development and Marketing Corporation (ADMARC), tens of thousands of Malawian households were too poor to buy this maize. In the face of national surpluses, chronic malnutrition afflicted nearly half of the Malawian children.

In response to a deteriorating macroeconomic situation, the Malawi Government introduced a structural adjustment programme in late 1979 with support from the World Bank and the International Monetary Fund (IMF). A series of such programmes continued through the 1980s and 1990s supported by successive IMF standby arrangements and World Bank-financed structural adjustment loans. The (entirely laudable) aim was to redress the policy bias against smallholder agriculture.

The structural adjustment exercises were intended to remove market distortions that encouraged too many resources being devoted to maize production and that inhibited smallholders from participating in crop markets. But, as following paragraphs will show, price incentives alone were not sufficient to generate the needed supply response. The need to develop complementary but essential policies to address technological, land and credit constraints faced by smallholder households remained largely ignored (Harrigan, 2002). The basic causes of food insecurity and agricultural stagnation in Malawi lay in the failure to implement reforms to address basic questions of declining land availability, fragmentation of holdings, and the decline in soil fertility in the smallholder sector.

In 1987, three simultaneous events catapulted Malawi from a routine national food surplus to regular national shortages. The cassava mealy bug decimated the staple crop of Malawi's northern lakeshore population; drought ravaged the Shire Valley; and Malawi became a safe haven for large numbers of Mozambicans fleeing a devastating civil war. With maize weighted heavily in the consumer price index, inflationary pressures mounted.

This set the stage for the long and continuing slide in the value of the Malawi kwacha and made more difficult and painful the opening of the economy to market forces. There followed an extended period of intermittent food crises with donors providing extensive food aid. Following the great drought of 1991-92 and the collapse of the credit system, donors started to provide emergency free distributions of seed and fertiliser to maintain maize production. Even with an overvalued currency and high fertiliser subsidies, few households found the use of fertiliser on maize (based on official recommendations for its use) an economic option. The sharp devaluation of the Malawi kwacha in the 1990s drove fertiliser prices beyond the reach of almost all maize growers. The removal of subsidies is widely believed to be the main culprit for the rise in fertiliser prices. In fact, they had a minor effect compared to that of devaluation.

### **2.2.7. Credit collapse and fertiliser subsidy removal**

Fertiliser subsidies were targeted early on in Malawi's reform process as part of the implementation of the second Structural Adjustment Loan in the mid 1980s. The high import costs of fertiliser as the result of devaluation made the costs of policies to promote growth through fertiliser subsidies fiscally unsustainable. But other national changes also had their own effects. The country was moving towards a more conventionally democratic political system. A significant casualty of political change was the smallholder credit system that delivered the subsidised seed and fertiliser to a minority of larger smallholders. When the ruling party changed, so did the ability of government to collect credit repayments<sup>3</sup>.

The credit system suffered blows from other sources as well. After the 1991-92 drought, there was an entirely reasonable moratorium on credit repayments – it was impractical as well as inequitable to demand credit repayments from families on the edge of survival. Farmers learned fast that credit did not always have to be repaid. A policy of post-drought credit expansion to boost fertilised hybrid maize and restore grain reserves also brought in new and less credit-worthy borrowers. What was intended to be an expanded credit programme in reality became a large free-inputs programme for the final round of credit recipients. Whereas before 1990, the quantity of fertiliser not paid for did not exceed 5 % in any one year of the total used by smallholders, by 1996 this had risen to over 50 % (Whiteside and Carr, 1997).

## **2.3. BREAKING OUT OF POVERTY AND FOOD CRISES**

Neither the Malawi Government nor donors anticipated how fundamentally the twin events of the collapse of the credit system and the increased cost of fertiliser would affect food security. Once improved maize seed and fertiliser technology were priced beyond the cash means of most smallholders, the outcome was tragic. The 1996/7 supply of marketed maize (after a good growing season) fell precipitously, the village level purchase price of maize quadrupled, and there was widespread hardship amongst the majority poor section of the population. The liberalisation of markets (agreed generally as essential to Malawi's future growth) was in danger of becoming discredited amongst the public by the high consumer price of maize and by the conspicuous rents evidently being extracted by private traders. The economy experienced the downside effects of liberalisation, but few of its benefits.

In 1998, the deteriorating food security situation threatened to undo completely the impressive progress made in laying the policy framework for growth. High maize prices were creating powerful inflationary pressures, compromising household food security, promoting labour unrest, and fuelling demands for higher wages. Emergency maize imports contributed to Government's runaway expenditure that further fed inflation. Interest rates rose sharply and the kwacha collapsed, undercutting productive investment and further driving up the cost of fertiliser for the next crop. With the looming food crisis (and the associated high consumer prices for maize meal and large scale theft of drying maize from fields), households were eating an unusually high proportion of the crop as green maize - with consequently less available for the following year's consumption. This scenario is now repeated, in varying degrees of severity, almost on an annual basis.

It was evident then, and remains true today, is that Malawi needs urgently to implement a strategy for broad-based and vigorous income growth, within a non-inflationary environment. While,

---

<sup>3</sup> The Banda government had used draconian measures to ensure credit repayment and, as a result, had an impressive repayment record (although a dreadful human rights one).

in the longer term, high maize prices may allow greater investment at the farm level and thus lead to increased productivity, the tragic famines of 2002 and 2003 suggest that it is quite possible that many Malawians would not survive to benefit from these changes. The message of this chapter is that many Malawian farm families face a dreadful series of choices. The technologies that they are recommended to use are incomplete, often uneconomic, and do not provide a reliable and effective road from poverty. Reforms carried out at the macro level have failed to reach their potential largely because the ever-present threat of a food crisis drives much of what is implemented as policy. Needed long-term change is lost in the urgency of dealing with immediate real or perceived crises.

### **3. OPTIONS FOR GROWTH**

#### **3.1. OPPORTUNITIES AND RESOURCES**

##### **Visions for Africa**

There is a general lack of vision for Africa's development. Past development failures and recurrent crises have led to adaptation strategies and short planning horizons rather than planning for long-term goals. International development NGOs seem to follow a strategy of 'misery adaptation' for Africa. For instance, when maize fails due to drought and low soil fertility, cultivation of cassava is recommended based on its drought and infertility tolerance. The tendency is to accept limitations and adapt to them.

Although there are major differences between Africa and Asia, there are lessons to be learned. For instance, recent achievements in agricultural development in Vietnam are worth a paragraph. Within a few years, the country has moved from being one of the poorest nations in the world to become the second largest exporter of both coffee and rice. Part of their success is based on bold visions and large-scale investments in productive land resources.

Development failures in Africa in the 1970s and 80s are history. We have learned a lot since then. Governments and political sentiments have changed. There are good reasons for being optimistic, forward-looking and daring in the formulation of development programmes.

##### **Education**

The greatest resource of a country is, of course, its people. Knowledge, aspirations and cultural values are powerful determinants of a country's political, economic and social performance. Attempts to promote national development should, therefore, always take a human-centered approach.

Following independence, education received high priority in African countries. 'Africanisation' of both curriculum and staff became a fundamental objective for the universities in the new states. Universities were given the role of 'development institutions' with a responsibility to undertake locally relevant research and participate directly in rural development (Girdwood, 1995). Low salaries among academic staff lead to dual employment and little effort devoted to teaching and research (Godonoo, 1998). With an estimated exodus of professionals from Africa to industrialized countries in the order of 100,000 in the 1980's alone, much of what was gained in terms of education has obviously been lost. During the 1990's, the difficult situation has been compounded by the tragedy of the HIV epidemic. According to Domatob (1998), "sub-Saharan African higher education faces a grave crisis". The problems are obviously fundamental and complex. Nevertheless, higher education is—and will always be—an essential instrument for social, cultural and economic development.

The role of African universities has to a large extent been to supply government institutions with trained manpower. The near automatic hiring of most graduates by the administration for the last 40 years, has led to weak links between universities and the private sector. Relatively little university knowledge has, therefore, contributed directly to the production of goods and economic growth in society. As a result, the private sector has lost the opportunity of achieving technological improvement and rising productivity. A redirection of universities towards (1) useful knowledge, (2) the local community, and (3) the economy, may improve their role as 'develop-

ment institutions'. These three features have been a characteristic of universities in the United States since the establishment of the land-grant universities (Neave, 1998; Fischer, 2000).

Already in the early 1990's, there was a recognition that liberal arts education for public service in Africa needed to yield to science, engineering and business management to support the private sector and facilitate self-employment and economic growth (Saint, 1992). To contribute to development, African universities should "*promote a culture of science-inspired creativity and technology innovations linked to the entrepreneurial enterprise*" (Ajayi et al., 1996).

The commercial sector in Malawi is relatively weak. The importance of such a sector is demonstrated by the economic consequences of the implosion of commercial farming in Zimbabwe. Development of the commercial sector holds a significant potential for economic growth in Malawi.

Malawi faces both challenges and opportunities due to its proximity to the highly developed economy of South Africa. Productive enterprises in South Africa represent strong competitors, while the high purchasing power of the South African people constitutes a great market for Malawian producers. There is, no doubt, a need to explore and develop commercial opportunities.

Presently, there is also a need for education of extension officers in Malawi for government and NGO employment. Seventy percent of extension positions are vacant. To fill the positions, 350 graduates must be produced for the next three years. The Department of Extension hired 28 Bunda graduates recently, but all except two have moved to NGOs for higher salaries and better working conditions (thanks to generous donors). The agency has, in fact, started to train its own staff members to deal with the problem of staff shortage.

### **Implications for Bunda College**

Advice for changes in the agricultural educational system will depend on the vision for possible and effective paths for agricultural development. As a result of increased focus on market liberalisation, value added, and regional and international trade, more emphasis will be placed on educating graduates who can participate directly in economic value creation and less emphasis on graduates with a mission to advise others. In this respect, there will be a greater need for teaching the so-called 'hard sciences'—not less. There will be a need for more knowledge transfer—not less. These ideas are not new, however. They were presented more than a decade ago as described above, but were met with strong ideological opposition at the time. However, political views have changed, ideas have matured and the need for private sector value creation is now finally a mainstream argument in the development discourse. Bunda College should be commended for its clear vision and early educational changes in this respect. Bunda is, in fact, ahead of many donors and NGOs.

A couple of decades ago, the idea of 'supply-driven' research were replaced by the idea of 'demand-driven' research in international development literature. However, the presumption that partly illiterate farmers know — and can articulate — the most promising research opportunities, is dubious at best. Time is overripe to make one step further into the concept of '*dialogue-driven*' research where farmers and scientists discuss and learn from each other to reach a common ground for problem analysis and assessment of research opportunities. In fact, staff at Bunda College have already entered the stage of dialogue approach and are thus ahead of foreign advisers.

The concept of ‘interdisciplinarity’ at Bunda College should not be limited to interaction between natural science and social science through links with Chancellor College, but just as much through interaction with scientists in subjects such as human nutrition, medicine, engineering, climatology, hydrology, business management and marketing.

Support to a national scientific agricultural journal in Malawi should be assessed with caution. There are many examples of short-lived national scientific journals in Africa. As a start, it will be more cost-effective—and in fact more rewarding scientifically—to use existing conduits for research results. There are several well-established African scientific journals (see [www.ajol.info](http://www.ajol.info)). Some of them do, however, struggle to maintain regularity. They appear to be in need of scientific contributions and financial support. International journals with a regional focus are an important mechanism for scientific communication across borders. High-level research papers should preferably be published in international peer-reviewed journals with global distribution. For comparison, the Scandinavian countries have for decades maintained a joint agricultural scientific journal entitled ‘Acta Agriculturae Scandinavica.’

### **Vocational training in agriculture**

University of Malawi made a policy some years back to focus on degree programs only and stopped all diploma courses. But now, it is clear that this policy was wrong since nobody took over the diploma-training programme. Meanwhile, MOA is requesting Bunda to resume the diploma training. However, Bunda has a serious capacity problem that needs to be addressed quickly if it is to play a role.

Previous vocational agricultural programmes did not include entrepreneurship training. It is a new concept in Malawi. A revitalisation of the diploma education in agriculture should include the business aspects of farming.

Apart from the Natural Resources College, there are structures that are idle previously used for training veterinary assistants at Mikolongwe in Chiradzulu. Mikolongwe Vocational School offers programmes within three trades: 1) construction, 2) agriculture and 3) business administration. The combination of existing programmes constitutes a promising platform for further development of an agricultural entrepreneurship curriculum.

### **Business development**

Private enterprises are needed to:

1. Provide input and output markets for smallholder producers
2. Produce agricultural products
3. Process agricultural products (value added)
4. Create job opportunities
5. Expand the non-agricultural labour force demanding food products

However, the human capacity to develop the private sector is still weak in Malawi. Training and support is required. The development of businesses is largely dependent on the mindset of a few individuals. If done well, training and stimulation of entrepreneurs may, in fact, have more far-reaching consequences than traditional development projects (Box 1).

**Is one entrepreneur worth more than 100 million dollars?**

Around 1980, a government managed rural development program started in Northern Zambia funded by Norad. The programme included basic agricultural research, adaptive research, village development, regional administration, farmers' cooperatives for inputs and outputs, a large maize mill, a main road and plenty of feeder roads. After about 15 years, almost \$100 million had been spent. At the same time, three independent evaluation reports stated that the programme had had very little impact.

Around 1980, an enthusiastic young university graduate wanted to buy a farm somewhere in southern Africa, but had no money. He and his wife finally signed a 99-year lease on a large piece of unused bush land in Zambia, located next to a stream. With their bare hands, they started to clear the land and plant tomatoes. After about 15 years, they employed 150 workers in the peak season. Workers received thrice the normal wage plus free housing with a community TV lounge plus free work uniforms and bicycles every year. The workers received training to the extent that the owner could leave the operation for a year without drop in production. The farm had 15 well-maintained small tractors and a truck for hauling tomatoes directly to the market. Neighboring farmers delivered produce for joint marketing. The business gave many families a secure income, training in modern farming and inspiration to move forward.

**Land and water**

When asked what smallholders in Malawi perceive as the major causes of poverty, they give the following prioritised list (FAO-IC, 1996):

1. Drought
2. Small landholdings
3. Low soil fertility

Given its natural resources, Malawi could easily feed its people. The country has plenty of sunshine, reasonable amount of good land, and plenty of water. These are three basic requirements for *plenty of food*. A fundamental drawback, however, is that the water is not where the land is. Investments are needed to combine the two.

Malawi's drainage system consists of 17 water resource areas that are further subdivided into 78 water resource units. At present, these resources are barely utilised. Important characteristics of the major river basins are shown in Table 5. The surface water resources are totally dependent on rainfall. Some rivers display seasonal flow patterns and dry up to a large extent in the dry season. Shortage of domestic water is common in rural areas during the dry season, and in urban areas during drought.

Table 5. Annual runoff from Malawian river basins, some of which can be impounded and stored in reservoirs for water supply and irrigation (NEAP, 2005).

River basin	Catchment area (km)	Rainfall (mm)	Runoff (mm)	Runoff (m <sup>3</sup> /s)	Runoff (%)
Shire	18945	902	137	82	15
Lake Chilwa	4981	1053	213	34	20
South West Lakeshore	4958	851	169	27	20
Linthipe	8641	964	151	41	16
Bua	10654	1032	103	35	10
Dwangwa	7768	902	109	27	12
South Rukuru	11993	873	115	44	13
North Rumphu	712	1530	674	15	44
North Rukuru	2091	970	252	17	26
Lufira	1790	1391	244	114	18
Songwe	1890	1601	327	120	20
South East Lakeshore	1540	887	201	10	23



Lake Chiuta	2462	1135	247	19	22
Likoma Island	18.7	1121	280	-	-
Chizumulu Island	3.3	1121	280	-	-
Ruo	3494	1373	538	60	39
Nkhotakota Lakeshore	4949	1399	260	41	19
Nkhata Bay Lakeshore	5458	1438	461	80	32
Karonga Lakeshore	1928	1028	361	22	35

Malawi has abundant land where soil and topography are suitable for irrigation. However, only limited areas can be easily supplied with water directly from perennial streams. Other areas would need more investment in water conveyance. The flat areas along the lakeshore and the Shire River valley consist of marshy land, swamps and lagoons that are poorly drained and susceptible to floods. Flood control structures and drainage canals would be needed to utilize these areas to their full potential. The area suited for irrigation has been estimated to be about 100,000 ha plus 61,900 ha of dambos according to FAO (1997) and 500,000 ha according to WB (2005). The amount of water flowing from the Malawian surface into Lake Malawi is 12.5 km<sup>3</sup> per year. The outflow from Shire River into Zambezi River carries 16 km<sup>3</sup> water per year. These are substantial figures.

Irrigation has played only a small part in the agricultural development in Malawi. Currently, only 28,000 ha are irrigated of which 16,000 ha are on two large sugar estates (SUCOMA at Nchalo and DWASCO at Dwangwa). A further 3,600 ha are on 16 government-owned small-holder rice schemes distributed throughout the country. The main potential for future medium to large-scale irrigation development is found along the lakeshore using water pumped from Lake Malawi. In the longer term, there are potentials for major gravity canals. There are also potentials in many areas for small-scale irrigation estimated at over 100,000 ha (NEAP, 2005). Estimates of irrigation potentials appear to differ substantially between literature sources and should not be taken as exact figures.

Fish farming should be regarded as an integral component of agricultural water management projects. It can turn pig manure (or other material rich in nitrogen and phosphorus) into valuable protein for humans via algae growth (Figure 9).



Figure 9. Combining pig rearing and fish farming in northern Malawi (photo: K. Esser).

Past fish farming projects appear to have been successful and appreciated by people. Fishponds can be built by individual farm families or by groups of farmers. Presently about 5700 farmers operate about 7500 fishponds in Malawi. Each fishpond tends to be around 200 m<sup>2</sup>. Presently there is one fish farm extension officer in each district plus some in certain areas along the shore of Lake Malawi. FAO, funded by IFAD, has published a guide entitled "Integration of Aquaculture into Irrigated Small-Farming Systems for Southern Africa."

### **Small-scale or large-scale water structures**

There is a popular belief in development communities that only small-scale water schemes are appropriate in Africa. The concept of 'water harvesting' is often embraced with enthusiasm. Although small structures are useful and often the only option available, one needs to realize that they have clear limitations:

1. Water harvesting provides water primarily in the wet season
2. The volume of stored water is commonly too small for use in the dry season
3. Water harvesting from roofs is not possible in areas with mainly thatched huts
4. Treadle pumps are arduous to operate for weak persons, particularly for under-nourished people in the 'hungry season' and always for short women
5. Suitable land surfaces for water harvesting may not be present where they are needed
6. Small reservoirs are filled very quickly with sediments and rendered useless
7. Water harvesting and irrigation schemes directly linked to the flow of rivers are often damaged by floods (see Box 2)

Box 2

#### ***Malawi's Irrigation Project Fails to Deliver***

*By Raphael Mweninguwe (Planet's Voice 30 Sep. 2002) (excerpts)*

*The planners of the USD 15 million Bwanje Irrigation Scheme in Dedza district project will have to go back to the drawing board and come up with another plan for the scheme if what the demands for farmers is something to go by. The 800-hectare scheme has failed to meet the expectation of smallholder farmers.*

*"The water is not enough to irrigate our crops. Most of the gardens have not been levelled and water does not reach these plots," complained Samalani Chipezeani, one of the smallholder farmers in the scheme.*

*The construction of the project, which began in 1997, was aimed at enabling smallholder farmers to produce rice and other crops for food security and economic development at household level among others.*

*Despite having this irrigation scheme the people surrounding Bwanje were among the thousands of people country-wide facing serious food shortage.*

*The rivers Nankhokwe and Mwandipewera that run near the scheme burst the riverbanks during the rainy season and flooded the scheme causing massive damage to the crops.*

*Alikangelo Koloti from Maluza Village in the district said something should be done to control the situation.*

*He said when Nankhokwe river is full, it floods the scheme leaving "all of us hungry as it has done this year."*

*The smallholder farmers expected the construction of a dam at the scheme, a thing that farmers feel would supply them with water constantly.*

*But what the constructors did was to divert water from the Nankhokwe River to the canal leading to the scheme.*

*When the amount of water in the river is reduced as a result of extreme hot weather, the flow of water in the canal is also reduced and this makes it impossible for most of the gardens in the scheme to be irrigated.*

Only large water structures can provide the volume of water needed to reduce the effects of severe drought and provide water for dry season cropping. Large structures are also needed to buffer floods. There is definitely a need for small-scale water structures, but their limitation should be acknowledged. At the same time, large structures for water impoundment and conveyance are needed to provide water in the dry season over areas large enough to have an impact on the national food security. Furthermore, large structures are needed to alleviate flood damage.

The commonly held view among international development agents that large-scale water infrastructures cannot be managed in Africa, needs to be challenged. Sooner or later, existing management problems must be solved. Provision of water should be seen as a service similar to provision of health services, roads, fertilizer, seeds, extension services, electricity and the like. For the sake of comparison, NASFAM spends USD 40 of donor funds per member annually to facilitate its extension and market service.

Water management problems need to be solved to contribute to the reduction of poverty and make the country less vulnerable to the erratic rainfall. Lessons for Malawi can be learned from e.g., Vietnam's extensive water management plans and operations.

### Limits to growth on small farms

With an average farm size among poor families of one hectare, the potential of growth is limited. A family of six (two parents and four children, 1 to 14 years) needs a minimum of 4.6 giga calories annually to satisfy their energy requirement (FAO, 2001). This can be obtained by a maize yield of 1350 kg, which is 150 kg above the present average yield in Malawi. To pay for necessities of life and fertiliser, the family may have to sell maybe 200 kg of maize (prices fluctuate). Diversifying the crop production to facilitate a better nutrition (inclusion of groundnut or bean) would reduce the total calorie production on the farm. To maintain the minimum calorie production, one may assume a maize yield increase of at least 100 kg/ha. To obtain minimum production of calories, minimum nutrition, and income, we can conservatively estimate that an average maize yield increase of 450 kg/ha is needed. This translates to an average yield of 1650 kg/ha. During the last 10 years, this was obtained only twice (concurrently with the distribution of starter packs; Figure 10).

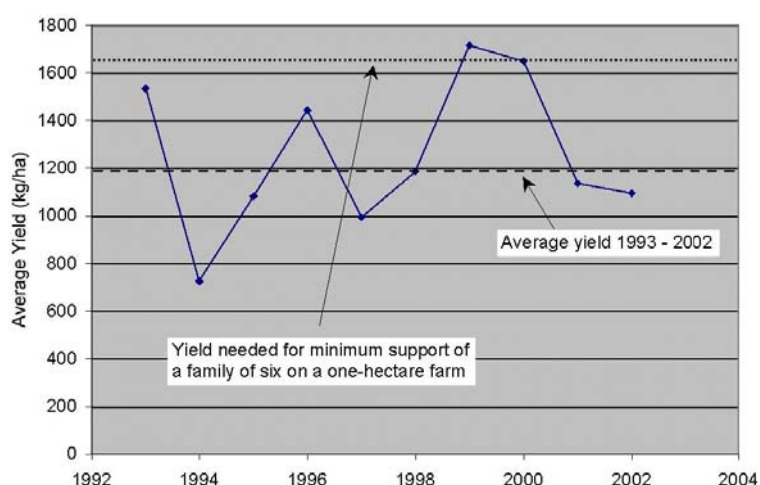
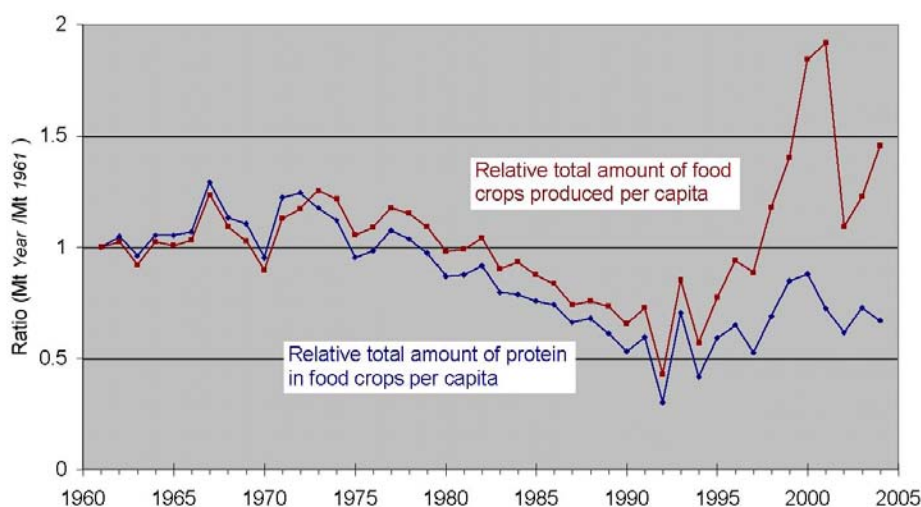


Figure 10. Historic maize yields and estimated minimum maize yield needed to support a family of six on a one-hectare land (historic maize data from MAIFS, undated)

Recent drought events have led many families to grow more cassava to maintain food security since maize is rather sensitive to drought spells. Replacing maize with cassava represents, however, a major setback in terms of protein nutrition.

The total amount of food crops per capita produced in Malawi (measured as sum of fresh weight banana, cassava, green maize, groundnut, maize, millet, pigeon pea, plantain, potato, pulses, rice and sorghum) decreased steadily from 1975 to 1992. Since 1992, there has been a steep but erratic increase. However, the increase in crop protein production per capita has been significantly lower during the last 12 years since most of the food crop increase consists of higher cassava production. The per capita crop protein production is presently only about 50 % of what it was in the 1970s (Figure 11).



*Figure 11. Relative total amount of food crops per capita and relative total amount of protein per capita (1961 = 1; based on FAO statistics and average protein content).*

Presently (2005), the government is considering boosting maize production by subsidizing fertilisers. The soils in Malawi are, in fact, dramatically low in nitrogen, phosphorus and in some areas potassium. The World Bank (2003) estimates that harvested crops annually remove a net 75,000 ton of soil nutrients, causing environmental degradation, and compromising family livelihoods and food security. Fertiliser application is absolutely necessary, but not sufficient for sustained yields. Fertilisers will remain a high cost item for Malawian farmers for the foreseeable future, so profitability of fertiliser use depends heavily on making best use of the limited amounts of fertiliser that the typical smallholder is able to purchase. The advice that Malawian farmers have been given on fertiliser use actively discourages the effective use of this important input through a disregard for the economics of maize production at the smallholder level.

The outcome is unsurprising. Data on maize production and total fertiliser consumed in Malawi indicate that the fertiliser efficiency has gone down since 1970 (Figure 12). Although several variables are hidden in these data (e.g., rainfall, arrival time of fertiliser, changes in use of fertiliser between crops) subsidy on fertilisers is clearly not a long-term solution alone. The reductions in fertiliser efficiency is a result of soil erosion, loss of soil organic matter, compromised crop management (poor weeding, for example), late or inappropriate fertiliser application, acidification, depletion of nutrients other than NPK, and formation of subsoil hoe pans. All these factors must be addressed to maintain crop yields.

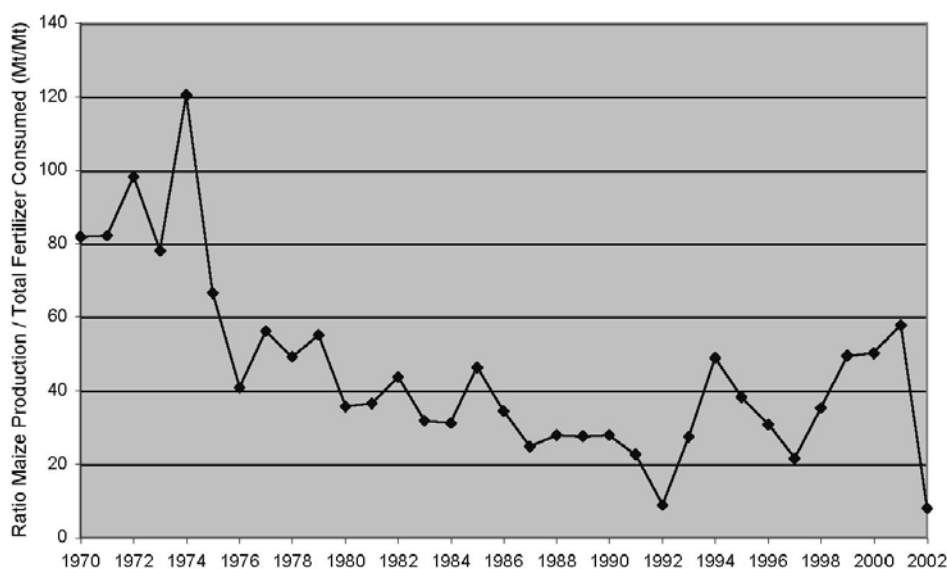


Figure 12. Ratio of maize production (Mt) and total fertiliser consumption (Mt) in Malawi 1970-2002 (based on data from FAO statistical data base).

The situation is obviously difficult for the individual farmers to handle. Reaching the higher potential yield levels cannot be achieved by peasants alone. It requires that a research system develops appropriate agronomic recommendations and appropriate high-yielding seeds and that a system exists for producing and marketing seeds. A system must also exist for timely marketing of appropriate fertiliser and other agro-chemicals, and knowledge of best practices must be made available to the peasants. There must be a well functioning market for the marketable output from farmers. A good rural infrastructure must ensure low cost access to the markets for input and output. Some of these preconditions can only be met through government funding and provision. Others are best satisfied by allowing markets to develop – markets where government only plays a regulatory role.

Box 3

#### Groundnut Production and Marketing

Plan Malawi and the International Crops Research Institute for Semi-arid Tropics (ICRISAT) initiated collaborative work in 1999 to promote production of the improved groundnut variety CG7 in all Plan communities. ICRISAT provided technical and other assistance in CG7 groundnut production in Plan communities. Specifically, the collaboration was set with the following objectives:

- To increase awareness of the value of growing improved high-yielding varieties by following good agricultural practices thus, enhancing the production of groundnuts among smallholder farmers through farmer managed participatory on-farm demonstrations and field days.
- To train smallholder farmers' groups in improved groundnut production and management technologies and in the use of simple hand-operated, labour-saving tools through farmer field days and demonstrations.
- To strengthen the capacity of field technicians and volunteers working in communities in transferring groundnut production technologies through short-term training courses.
- To improve families' access to and availability of improved groundnut seed varieties through establishment of community managed revolving seed banks.

Within four years of the initiation of this work, the Plan communities realised appreciable increase in production, and therefore required an outlet for the surplus. The next phase, therefore, introduced an innovative strategy to community development by linking production to marketing through participatory methods that took full cognisance

*of roles and responsibilities within families and communities. The production, training, processing and utilisation components of the previous phase were retained in order to provide the necessary skills for new communities.*

*ICRISAT undertook to assist Plan communities in the identification of markets for groundnut and pigeon pea produced by families in the Kasungu, Lilongwe and Mzuzu programme units. A survey was carried out to determine the extent of the logistical challenges that would be encountered in the supply chain coordination, and to establish likely quantities and quality of groundnuts available. A structure for marketing was developed to link the Plan communities to the National Smallholder Farmers Organization (NASFAM) - a key player in groundnut production and marketing in Malawi. NASFAM's policy does not allow it to buy from non-members, but an existing collaboration between NASFAM and ICRISAT was used to overcome this problem. ICRISAT undertook to carry out the quality assurance for NASFAM. The price to be paid for the produce was negotiated directly between NASFAM and Plan Malawi, with ICRISAT providing unbiased marketing information to both parties.*

*Marketing centres were established at already existing Plan unit grain banks. Farmers bring the produce to these centres, ICRISAT technical staffs evaluate the quality, and then the farmers are paid on the spot by NASFAM. During the 2004 marketing season (June – September), in some communities as much as MK1 million of produce was purchased by NASFAM within a period of ten days. The collaboration demonstrated a practical way of linking improved seed, good agricultural practices, supply chain coordination and a system of grades and standards, to benefit smallholder farmers in Malawi.*

In Malawi the public sector has clearly fallen short of creating the preconditions for peasants and farmers to develop. Cammack (2004) places the blame for Malawi's sorry performance squarely with poor governance in the country:

*“Malawi is underdeveloped and continuing on its downward economic and political spiral as a result of the structure and substance of its governing structure. This is not to deny that other factors are also fundamental: it is landlocked, it lacks natural resources, and it has high population densities on the land, degradation of the environment, high rates of inequality, HIV/AIDS, etc. Some ill-designed policies, poor advice and insufficient follow-through by donors might be added to this list.*

*But given the amount of money and technical assistance that has gone into Malawi in the last two decades, if the Banda and Muluzi governments and civil service had devised and honestly implemented the right policies and utilized the advice given, the country would have prospered. As it is, lack of capacity, weak institutions, leaders' self-interest, a weak civil society, and repeated donor bail-outs have permitted even the best policies and programmes to be ignored, subverted or delayed to the point of their being ineffective.” (Cammack, 2004: 33-34).*

Considering the past poor performance of the government, the planned downsizing of government services and the weak market position of individual peasants, the immediate future looks rather bleak. New ways of farmer organisations should be considered.

### **New agricultural production units**

The system of individual subsistence farmers guided by government employed extension staff has proven expensive and weak in terms of livelihood security and growth potential. To some extent, its weakness has been compensated for by unsustainable foreign-funded NGO services. The partial withdrawal of government services and increased reliance on market forces will no doubt leave farmers in an even more precarious situation open for exploitation. In this setting, NGOs see opportunities for playing a bigger role. Are there alternative approaches?

New concepts of economic farming units where farmers can obtain greater strength through joint enterprises, have been proposed (Kwapata, 2005). Although organisational details need to be worked out and tested, one can envisage production units managed by community members trained in agriculture and enterprise management. Larger and cohesive production units could obtain the necessary market power to increase its profit margin. They would also be in a better organisational position to solve some of the water management challenges alluded to above. And

above all, they could possess knowledge and be linked to sources of information such that they would have a substantial internal problem-solving capacity. The purpose of production units would not primarily be to obtain benefits of scale, but to obtain economic growth through social organisation and change of mindset (Figure 13).



*Figure 13. Joint effort can be a strong motivator in development by creating common goals (from Sri Lanka; photo K. Esser)*

### **3.2. POLICIES FOR THE PRIVATE AND PUBLIC SECTORS TO REALISE THE POTENTIAL**

A precondition for sustainable income increase is an increase in labour productivity. Poverty reduction requires that those below the poverty line share in the income increase, e.g. by increasing their own productivity. Growth in Malawi agriculture holds a potential for creating broad-based poverty-reducing growth for a number of reasons:

- Because of its initial size and importance. Agriculture contributes 40 % of Malawi's GDP. A growth of 6 % in agricultural income alone thus translates into a 2.3 % growth in GDP. Smaller sectors would need a much larger annual growth in order to have the same effect on total GDP
- There is a large potential for productivity gains in agriculture, as pointed out above. A doubling of yield per hectare does not require a doubling of labour inputs or total input use per hectare. Growth in production originating only from increase in area planted, however, will not increase productivity and returns to labour.
- Agricultural goods are important wage goods. Increased productivity is necessary for bringing down the cost of food for the poor and vulnerable and thereby securing their access. But low food prices are also important for maintaining the purchasing power of wages, and thereby maintaining the competitiveness of export and import competing industries. These low prices have to come about through increased productivity, and lower

production cost per unit. Malawi is constrained by limited foreign exchange earnings in importing foodstuffs, and thereby dependent on high productivity in its own agriculture for maintaining low food prices. Keeping food prices low by subsidising imports is not a sustainable policy for a foreign exchange-constrained economy – as Malawi has painfully experienced. The only way maize prices can sustainably be kept at levels affordable to the poor is through increased efficiency and productivity in maize production in Malawi.

- There are large multipliers from increased agricultural incomes. When smallholder farmers increase their income a large share of the income increase tends to be directed toward increased demand for locally produced goods and services, such as food, building materials for improved houses, furniture, education, trade, etc. They thus create demand for labour in various rural sectors, and thereby increased employment possibilities for the rural poor (including those that have too small land holdings to become net sellers from their own land). This income growth in turn creates new rounds of demand, employment growth, and income growth. Growth in smallholder agriculture thus contributes to broad based income increase in rural societies. There is also a direct effect of increased demand for agricultural labour when some producers expand their production by hiring labour. Furthermore, the extended family system found in Malawi will redistribute some of the income increase to destitute family members. Paradoxically, because of the demand multipliers, the faster agriculture grows the faster will also other sectors grow, such that agriculture becomes a smaller share of the economy (Timmer, 1987).

Agriculture is part of private sector, made up of millions of production units. But farmers cannot develop beyond subsistence agriculture in isolation. Increasing the productivity of farming by adopting science-based agriculture requires a set of conducive conditions and a large number of firms working and developing together: farms, input suppliers, produce traders, processors, transporters, researchers, regulators, etc. Historic experience from many countries indicate a basic set of conducive conditions:

- *“Fiscal and monetary policies to establish and maintain low inflation and low interest rates;*
- *A broad tax base, simple tax structures and effective tax administration, to raise revenues for the government in a way that does not distort competition; and*
- *Secure property rights, effective rule of law, and peace and security“ (DFID, 2005)*

Developing agriculture, however, also requires that a set of public goods is provided, as each smallholder is typically too small to provide for these by him/herself. Such public goods include:

- Research for developing more productive technologies suitable for the various agro-ecological and socio-economic conditions
- Dissemination of the best technologies
- Provision of rural infrastructure, particularly roads and railways for reducing the cost of accessing input and output markets
- Defining and maintaining grades and standards, including environmental standards
- Organizing joint (group) activities, e.g. larger irrigation initiatives
- Insurance against covariate risk



### 3.3. PRESENT CONSTRAINTS

Macroeconomic management is very difficult in an economy so dependent on agriculture vulnerable to uncertain rainfall and on variable donor support, as is the Malawian economy. The present macroeconomic environment in Malawi is not conducive to agricultural growth. The primary macroeconomic constraint has been a very high interest rate and high rate of inflation (Figure 14). Huge fiscal deficits have been financed with domestic borrowing, resulting in real interest rates of up to 25 % on Treasury Bills (45 % in nominal terms).

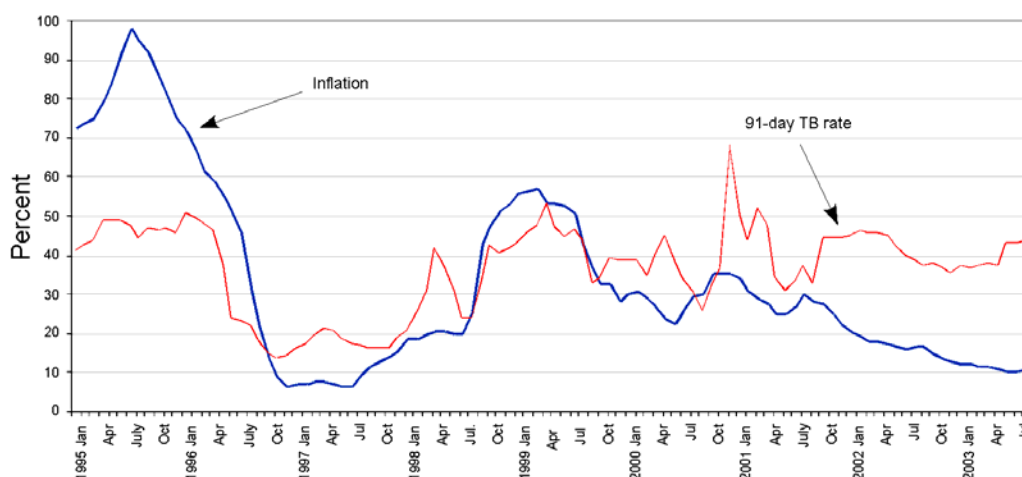


Figure 14. Inflation and interest rates on 91-day Treasury Bills from 1995-2003 (Anon, 2005).

Thus Government consumption and investment has absorbed more or less all available credit in the country, crowding out private investment. It is not easy to find many investment projects that yield more than a 25 % secure return, thus being able to compete with lending to the government. The effects of this are evident from the data on bank lending to the private sector, which has dropped to extremely low levels (Figure 15).

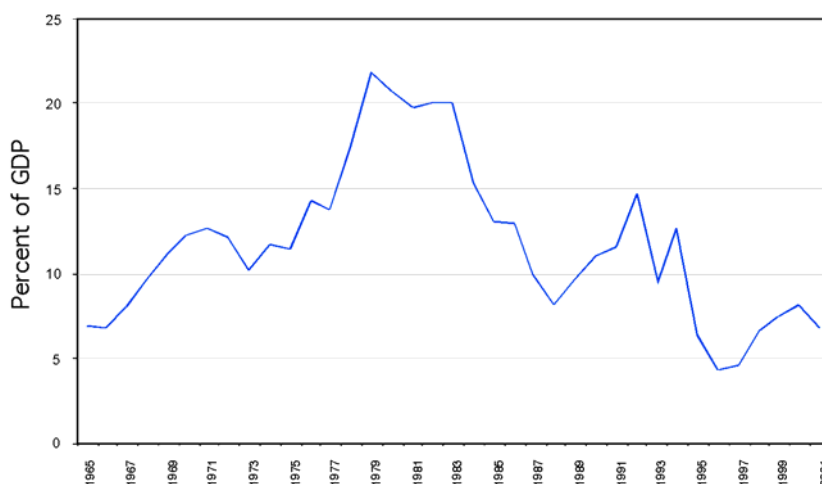


Figure 15. Domestic credit to private sector (Anon, 2005)

The current government has given top priority to reducing the deficit and thereby reducing the interest rate and making capital available also for the private sector. The interest rate has been brought down to about 10 % (T-Bills, real terms). This is a very positive result, but the government's efforts are being continued, and should be continued, to bring the deficit and interest rate even lower. Inflation has also been brought down to about 14 %. Reducing inflationary pressures even further are important for reducing expectations of Kwacha devaluation. Devaluation expectations constitute a major uncertainty for investors. Nevertheless, the reduction in interest rates and inflation are a major achievement, and should in themselves give a boost to investment and growth also in the agriculture sector, especially in marketing and processing. But it should also lead to better access to finance for farmers and ease the development of sustainable micro finance initiatives.

On another front past government policies have also been less than helpful in developing the sector. In most seasons the government has been active in buying fertiliser and seed for distribution, and in deficit years it has imported maize for supplying consumers. Decisions about how much to procure and at which prices it would be sold, have been taken very late and have therefore added to the uncertainties facing commercial traders in these sectors. This is likely to have reduced private investment and competition in trading and storing of inputs and produce, and thus made both inputs and output markets less efficient. It is important, if government shall still be a trader in these markets, that it must announce its intentions, terms and conditions at a much earlier date and behave with a much higher degree of predictability. (The best is probably that the government entirely stops being an importer and trader in inputs and output. It is hard to see how it can perform these tasks more efficiently than a competitive trading sector.) Improvement in the manner in which the government behaves in the sector is likely to spur increased investment and competition in trading and storing of inputs and output, and thus offer lower trading margins in the sector and higher efficiency.

### **Poorly developed financial sector**

The high government borrowing has severely reduced the financial sector's incentives and abilities to lend to the private sector, and thereby hampered the development of a financial sector geared toward providing credit to private sector firms and individuals.

### **Weak infrastructure**

A precondition for agriculture to increase its productivity is that it is profitable for farmers to use the purchased inputs required for high output farming. Profitability depends on the farm gate price of inputs and output. Poorly developed transport infrastructure will reduce profitability by increasing input prices and reducing output prices – in some areas to the point where high output systems simply are not profitable. High transport and transaction costs on imports and exports have been a major drag on growth in Malawi. Low harbour capacity in ports in Mozambique, and poorly functioning rail systems and roads are major constraints. Improving infrastructure, both for transit through neighbouring countries, but also within Malawi will be important for increasing the profitability of high productivity agriculture. There also seems to be much scope for reducing transaction cost in improving cooperation with transit countries. Within Malawi transaction cost may also be reduced by reducing the license requirements for traders and by opening up for more competition in transport and trading.

### **Poorly developed regional trade in staples**

Malawi is a member of several regional initiatives aimed at increasing intraregional trade. However, many of the countries in the region consider staple crops to be of such strategic importance that they place various restrictions on trade in these. Nevertheless, there is a large unofficial

trade, but legalising and easing these flows would contribute to increased efficiency and also more stable prices within the region. It would be particularly helpful to the more outlying areas of the country if trade did not need to pass through the centre.

### **Protection of property rights and security**

Theft of assets such as livestock and produce are reported to be a major concern to producers. Sometimes and in some places this is such a big problem that production becomes totally impossible.

### **Weak policy and regulatory capacity of the government**

Following the move to a more liberalised economy, the Ministry of Agriculture has struggled to redefine its role, responsibilities and mode of operations. Severe financial constraints in the public sector have contributed to poor working conditions and motivation. Capacity has been lost to NGOs and others who have been able to offer better employment conditions. High mortality of officers has also contributed negatively. Due to recurring food crises, policy has operated more in a crisis management mode than in a development mode. Ministry expertise has frequently been overruled by the high politicians' need to show action on crisis management. And much capacity has been directed to managing crisis programmes, such as the Targeted Input Program (TIP). The result has been that the government has lagged behind in providing needed public goods and developing suitable regulations and standards for the sector.

### **Poor capacity of research and extension systems**

Financial constraints have caused severe reduction in the resources, manpower and capacity available to the national agricultural research and extension systems.

### **Insurance**

Farming in Malawi is a very risky business, and peasants and farmers must give high priority to choosing crops and production methods that minimise risk. Formal insurance mechanisms are poorly developed. The main livelihood insurance for smallholder livelihood is probably the extended family. The public sector, government and donors, as well as NGOs contribute with food aid, food for work schemes and various other schemes, but these schemes are unable to ensure food security for the population.

## **4. PRESENT POLICIES, PROGRAMMES AND ACTORS**

### **4.1. RELIEF AND DEVELOPMENT**

International NGO assistance to Malawi started in earnest in the mid-1980s, when the Mozambican refugee crisis forced Dr. Banda to seek help from both the UN and NGOs. Malawi, with its desperate poverty, is a target country for many relief agencies. These agencies focus initially at providing a response to a very difficult humanitarian problem, and then build in longer-term development into their programmes as resources permit. Today there are numerous community-based organisations and international and local NGOs. They typically specialize in areas such as HIV/AIDS, child rights, population, women's empowerment, governance and human rights, food aid and relief, water development, community development, and food security. The Council for NGOs in Malawi (CONGOMA) was established in 1992 and is active in coordinating sector-wide projects, sharing information, and facilitating collaboration. It has approximately 175 member agencies. Few NGOs are strong financially or have substantial skilled staff (Cammack, 2004).

NGOs have played a major role in helping alleviate some of the worst effects of food insecurity in Malawi. Food shortages and the continuing threat of famine dominate much of the agenda. When severe food shortages became apparent in Malawi in late 2001 and intensified at the beginning of 2002, it was the NGOs who collected evidence from detailed field studies while civil society and the churches raised the alarm. The NGOs have also been particularly innovative in working together (and with partner institutions) to develop coordinated programmes. The best example is the 2001/2002 food crisis. The Appeal of the National Food Crisis Task Force to the donor community on the 20<sup>th</sup> March 2002 outlined the need to provide humanitarian assistance to the population without food – over 3 million people. It also intended to expand cash for work, food for work and supplementary feeding for malnourished children, pregnant women, lactating mothers and under-five children and to expand the school-feeding programme. This was a massive endeavour requiring extensive coordination between a whole range of agencies and individuals. In April 2002, a “town meeting” (convened by the United States Agency for International Development) proposed an NGO Consortium<sup>4</sup> to deliver food aid and a Joint Emergency Food Aid Programme (JEFAP)<sup>5</sup> was established.

JEFAP was a new partnership that strengthened collaboration between the Malawi Government, all cooperating partners, the World Food Programme, NGOs operating at the district level and the district authorities. It proved crucial to the success of the humanitarian relief programme. Typically in the past, NGOs involved in humanitarian interventions tended to work outside Government structures, and it was difficult to put together a nationally coordinated programme. By

---

<sup>4</sup> The NGO Consortium was chaired by Care International: each district had a lead NGO and District Assisting Partners. The following NGOs were lead in the different districts: Africare operated in Mzimba, Nkhata Bay, Likoma and Ntcheu; Care Malawi operated in Lilongwe and Dowa; Save the Children US operated in Balaka and Mangochi, Save the Children UK operated in Mchinji and Salima, World Vision Malawi operated in Chikwawa, Nsanje, Mwanza and Thyolo, Catholic Relief Services operated in Kasungu and Zomba, Oxfam operated in Mulanje, Emanuel International in Machinga, Concern Universal operated in Dedza, Goal operated in Blantyre and Chiradzulu while the Salvation Army operated in Phalombe (Alexander Phiri, Assessment of the Malawi Government strategy used to address the 2001-02 Food Crisis. First Draft Report, Emergency Drought Recovery Programme, Lilongwe, Malawi.)

<sup>5</sup> JEFAP's objectives were to prevent severe food shortages that could lead to starvation at the household level, safeguard the nutritional status of vulnerable groups, preserve productive and human assets from liquidation and distress selling, and prevent distress migration from affected areas to urban centres.

contrast, under JEFAP, all participating NGOs worked within a common structure using formal, agreed guidelines.

Two key mechanisms were introduced that were central to the success of the humanitarian relief operation. Firstly, the targeting of districts and households for the humanitarian relief operations was done through JEFAP on the basis of objective criteria and in a fully transparent manner. Secondly, there were regular reviews of the programme with representation from government departments, WFP, collaborating partners, participating NGOs and the Civil Society Agriculture Network (CISANET). In addition, a Parliamentary Committee was appointed to monitor the implementation of JEFAP in the field. The Department of Poverty and Disaster Management Affairs appointed field emergency monitors in every district with the support of UNDP. The WFP also placed food aid monitors at distribution points. Where problems arose and were referred to the political level, these were immediately investigated by the Chair of the NGO Consortium in collaboration with government officials. They reported back to the National Food Crisis Task Force, and action was taken to address problems or to improve communication at the district level.

This was no small exercise. In July 2002, just over 600,000 beneficiaries received food rations. By February 2003, the numbers had swelled to 3.1 million. Each beneficiary family received a food ration of 50 kg of maize grain, 5 kg of soya flour, 5 kg of legumes (mainly beans and peas), and 2 litre of cooking oil every month<sup>6</sup>. The general food distribution was conducted in a professional manner. While there were inevitable problems, there was excellent collaboration between the government and the private sector transporters, combined with competent logistical support from the World Food Programme. Phiri (2004) noted:

*“The major positive attribute that should be learned, and if possible replicated in future programmes, is the high level of commitment and dedication from all the stakeholders that were involved at various levels. Government officials, NGOs and donors worked together tirelessly to ensure success of the programme. Against all odds and immense challenges, the programme still managed to achieve remarkable success in averting what would have been a major humanitarian crisis. The JEFAP experience in Malawi is generally regarded as the most successful response to the food crisis in the southern African region”.*

It was not just a relief exercise. A number of seed multiplication exercises were set up. These mainly involved improved, higher yielding open-pollinated seeds that farmers can save for themselves for 3-4 years before needing to renew it with fresh seed. This makes the cost of seed substantially less than with hybrid seed – although generally, even under poor management conditions, open-pollinated seeds will produce a smaller yield than hybrids.<sup>7</sup> Common beans are a popular food crop and widely grown by the poor. There are several improved varieties available but few are found in formal markets. An innovative bean improvement effort involving both national and overseas participants pulled together a range of existing groups - women groups, church groups, savings and credit groups, vegetable growers. Both men and women were actively involved in these groups and improved agricultural technology interventions were linked to ongoing development activities so as to create a coordinated focused programme of change. This has enabled the strengthening of ongoing farmer empowerment efforts, while at the same time addressing a major constraint to an important food crop. NGOs with expertise in market

---

<sup>6</sup> The ration was intended to meet the consumption requirements of an average family of 5.5 individuals. Although this was the agreed nutritionally balanced ration, it was not always possible to provide it.

<sup>7</sup> Hybrid seed loses much of its extra vigour if the seed is saved and replanted and thus fresh seed is recommended each year. It is also more expensive to produce and to buy.

and other development areas are encouraged as active partners so as to enhance outputs and benefits to farmers.

The humanitarian response to the 2002 and 2003 food crises show that where there is political will and commitment from all stakeholders, programmes will be implemented successfully. At the outset, all stakeholders recognised that Malawi was facing a serious and urgent emergency that needed action on a broad scale. Government, donors and stakeholders collectively addressed the issue of how to implement a relief operation for two to three million Malawians. Government and donors explored options to work with lead NGOs in each District, and the NGO Consortium was established. Then a focused analytical effort was deployed constructively to determine how to make the programme work. Capacity constraints were recognised and addressed. Three factors contributed to the success of the humanitarian response:

- An exceptional degree of collaboration between all implementing partners: NGOs, government ministries, district authorities and community leaders. Everyone involved worked with in a dedicated manner to respond to the humanitarian emergency.
- Decisions were taken on the basis of objective criteria – both in terms of targeting the most vulnerable areas and targeting households at the community level.
- Strong mechanisms for monitoring, transparency and accountability from the Food Crisis Joint Task Force, civil society and from Parliament.

The humanitarian relief programme was viewed as a national exercise to which everyone contributed. It demonstrated that it is possible to “build a virtuous cycle” when there is genuine collaboration and all actors involved have a common goal. This was a remarkable achievement that has laid the foundation for more effective collaboration between all partners to address problems of national and household level food insecurity in future provided that the principles of transparency and accountability are maintained.

## **4.2. TECHNOLOGY DEVELOPMENT AND DISSEMINATION**

### **4.2.1. The World Bank Agricultural Services Project**

The main technology development and dissemination effort of the Bank (probably the major donor to the agriculture sector) in the late 1980s and through the decade of the 1990s was the Agricultural Services Project (ASP). Under this project, farming systems methodologies were introduced (with technical assistance provided by USAID) and the extension service developed on regional lines through semi-autonomous agricultural development divisions (ADDs). Each ADD had a programme manager responsible for the agricultural development activities within his or her geographical area. Extension efforts were based around the ‘training and visit’ (T+V) system, and there was a major research station in each ADD.

The research agenda was subject to annual review (mainly by co-researchers). Funding of research prioritised on-farm, adaptive research. A farming systems research team was based at each ADD, under the control of the ADD programme manager. The farming systems research teams belonged to the then Department of Agricultural Research.

A competitive small grants programme was created under this project, but the major funds were available through the priorities approved at annual agricultural research planning meetings.

These last were mainly organised around commodity clusters (maize, sorghum and millet, farming systems, and so on). Extension workers and ADD management did attend the meetings, which were intended to provide a strong linkage between research and extension. Extension workers and the farming systems teams provided the major 'farmer' input to the agenda setting.

But the hierarchical nature of technology and development that existed in Malawi made it very difficult to create the change in approach needed to create a farmer responsive system. The procedures were present in the Agricultural Services Project; their implementation fell far short of the ideal. In 1986, The Rockefeller Foundation opened a programme in Malawi. The focus was on the major food cropping system (maize and associated crops). As a small donor, the Rockefeller Foundation had an explicit policy of developing complementary activities to those of major donors. In particular, it sought to harmonise its efforts with those of the World Bank as both agencies had a common focus on maize-based cropping systems and on developing a farmer-focused research agenda. In collaboration with the World Bank and the international agricultural research centres (IARCs), the Rockefeller Foundation worked to analyse the major constraints to reducing poverty amongst the majority rural poor through a comprehensive investigation of the options available to improve maize-based cropping systems.

#### **4.2.2. International Agricultural Research Centres as change agents**

##### **Mother-baby trial methodology**

The 'mother and baby' trial design<sup>8</sup> was developed in Malawi to enhance farmer empowerment in research. The design comprises 'mother' trials that test a number of different technologies, and 'baby' trials that test a subset of three (or fewer) technologies, plus one control. The design makes it possible to collect quantitative data from 'mother trials' managed by researchers, and to systematically cross-check them with 'baby trials' on a similar theme that are managed by farmers. The design is very flexible. Mother trials are located on-farm at central locations in villages, but they could as easily (depending on need and logistics) be located at nearby research stations. Farmer participation in baby trial design and implementation can vary from consultative to collaborative.

Relatively simple 'one-farmer, one-replicate' trials are managed by farmers as satellites or 'baby' trials. These are linked to a central 'mother' trial managed by researchers that have "within-site replications." A trial design with a maximum of four plots and no replication within the farmer's field fits a limited field size. It simplifies the design and makes it easier for farmers to evaluate technologies. Having many replicates across sites makes it possible to sample wider variations in farm management and environment. However, replication within a site and intensive, uniform management improves research on biological processes.

Data collected from trials includes such quantitative information as planting date, emergence date and population density at emergence, early weed cover, and dates when plot was weeded. The farmers provide quantitative feedback on their evaluation of technologies to researchers through surveys, paired matrix ranking and by rating technologies. Qualitative feedback can be obtained from meetings between farmers and researchers, and comments recorded at field days. The 'mother trials' can be evaluated more informally during discussions held during field days. This makes it possible to integrate the farmers' assessment and improve research priority setting. Meetings are also held with senior stakeholders, conducted as part of an iterative process to

---

<sup>8</sup> The terminology is, in fact, the farmers' who were delighted to have responsibility for their own trials.

maintain support and inform priority setting at every level. This includes policymakers, supervisors of extension and NGO staff, senior researchers and industry representatives.

By facilitating hands-on experience for farmers, the clustered ‘mother and baby’ trials provided a relatively rapid approach to developing ‘best bet’ options. The linked trial approach provides researchers with tools for quantifying feedback from farmers, and generates new insights, such as (in the case of Snapp’s own work on soil fertility) the need to widen the research focus beyond soil fertility to include secondary benefits such as weed suppression (Snapp *et al*, in press).

In the late 1980s and early 1990s, The International Maize and Wheat Improvement Center (CIMMYT) developed breeding methods that enable efficient development of improved varieties for abiotic stresses such as drought, and low-nitrogen and acid soils (Bänziger and Cooper, 2001). National breeders have been trained in these new methods, which now allow them to select maize under stress conditions, instead of just focusing on increasing yields under agronomically well-managed conditions.

CIMMYT breeders adopted the “mother/baby trial” methodology to allow the evaluation of the performance and acceptance of new crop varieties under farmers’ real conditions. A partner organisation (extension, NGOs, schools) grows the mother trials, containing all varieties under evaluation, in the centre of a farming community using both recommended and farmer-representative crop management practices. Several farmers in the community grow the baby trials, (in this case, sub-sets of four varieties per farmer) under farmer-managed practices. Both performance and farmers’ assessment are recorded.

This methodology allows all stakeholders - farmers, international and national research programmes, extension workers, NGOs, agricultural teachers – to contribute directly to the selection process. It greatly helps to empower non-researchers in the direction and focus of the research process. It also helps provide feedback to seed companies and other relevant organisations on the potential demand for new varieties. In 2000, CIMMYT scientists adopted the method and conducted over 1000 mother-and-baby trials in six countries in southern and eastern Africa.

Scientists from other agencies and countries in Africa are either currently using the mother-and-baby trial design or in the process of adopting it – with adaptations to local circumstances (Morrone and Snapp, 2001). The primary reason cited for interest in the approach was the ability to involve many farmers systematically and to rapidly elicit evaluation of technologies and varieties.

A recent study compared 41 hybrids from CIMMYT’s stress breeding programme with 42 released and pre-released hybrids produced by private seed companies in 36-65 trials across eastern and southern Africa. Hybrids from CIMMYT’s stress breeding programme showed a consistent advantage over private company check hybrids at all yield levels, with selection differentials being largest for yields between 2 to 5 t/ha. This new approach has been shown to increase maize yields significantly in the variable stress-prone environment typical of many smallholder-farming areas, and at yield levels most relevant to resource-poor farmers.

### **‘Best bet’ technologies**

The potential gains in maize productivity possible from improved crop management, especially soil fertility management, are substantial, but largely unrealised amongst resource-poor farmers. This limited impact is related to structural, policy and socioeconomic issues, combined with the risks involved in adoption under uncertainty. Furthermore, too little effort has been made to gen-



eralise what are often highly site-specific crop management options into robust, economically viable farmer recommendations.

CIMMYT in southern Africa has used a collaborative approach to confront the challenges of soil fertility and water deficit in maize-based systems by engaging in crop and resource management research through a regional network – the Soil Fertility Network or SoilFertNet (a similar network exists in eastern Africa). SoilFertNet has worked for nine years to help smallholder farmers in southern Africa maintain and improve soil fertility of their dominant maize-based cropping systems through the development and promotion of farmer-use of improved soil fertility technologies and economics and policy support to help farmers access the technologies.

The Network has emphasised the adoption of a ‘best bet’ approach. The Network sponsors a regular set of field tours during which researchers and farmers review ongoing technologies in the field. The aim is to encourage a rigorous process of peer review, with inputs from scientists and farmers, of research as it moves from a researchable idea towards a potential adoptable technology. The process is very open, consultative and inclusive. It is intended to provide a challenge to the best scientists and a learning process for the younger entrants, as well as a way of bringing farmer voices into the exercise in a continuing, rather than a one-off, manner. Information from the field tours and the research analyses are used to select potential ‘best bets.’ These are technologies, which are deemed to have particular value for identified farming environments or groups.

One example is improving the profitability of fertiliser use. Fertiliser is expensive – some 12 kg of maize are needed to pay for 1 kg of nitrogen fertiliser. The agronomic efficiency use of fertiliser is low – as little as 5 kg of grain per kg of fertiliser in some situations. Moisture and soil fertility work both with and against each other. The climate of southern and eastern Africa means that moisture is a frequent constraint on maize yields and yield response to fertiliser. The efficiency (measured through grain production) of both water use and fertiliser use is raised when both are in adequate supply. The high risk of poor response to fertiliser in dry years is a major reason why most farmers in semi-arid areas use little or no fertiliser.

### **4.2.3 International Agricultural Research Centres products in improving livelihoods in Malawi**

#### **Crop improvement**

The improved maize varieties available in the 1970s and 1980s were derivatives of those developed for large-scale farmers in Zimbabwe. However, they did not suit the circumstances of the majority of smallholders in Malawi. Of particular significance was the fact that the grain type was too soft for household processing and allowed the harvest to become quickly infested with weevils. The conventional wisdom amongst maize breeders was that hard endosperm maize was inherently low yielding and thus unsuitable for maize improvement programmes. In 1985, CIMMYT started to develop two improved maize hybrids (MH17 and MH18) and these were released in Malawi in 1990. These hybrids had a harder, semi-flint grain type with good storage and household processing characteristics<sup>9</sup>.

International agricultural research centers made important contributions to other food and cash crop improvement programmes, which underlie efforts to reduce poverty in Malawi. Groundnut

---

<sup>9</sup> Although these advantages were quickly lost if the farmer recycled the seed – a fact ignored in extension messages for smallholders.

production crashed in the 1980s under the weight of distorted price regimes and lack of attention to markets. The SADC/ICRISAT Groundnut Improvement Project spearheaded the development of improved groundnut varieties in Malawi and throughout the SADC region. There has been widespread adoption of these materials. Similarly, long season improved pigeon pea have enabled the development of cropping systems based around maize and pigeon pea intercrops which provide cash and nutrition to farm families as well as helping the necessary shift to more sustainable cropping systems based around biological nitrogen fixation and the use of deep rooting crops to break hoe pans and improve water infiltration to the soil.

### **The Maize Productivity Task Force (MPTF)**

The Maize Productivity Task Force (MPTF), consisting of concerned scientists, economists and policy makers in Malawi, were formed in 1996 to pool their skills and efforts to address the country's increasingly severe and chronic food crisis. It liaised with key donor agencies and drew on external expertise and advice as appropriate. This unique initiative in self-help and self-reliance – the development of a concerted and broad-based Malawian led effort to develop a national consensus on policy to address probably the most important problem facing the country – was a chance that could, and should, have been sustained. While it had strong support from the Malawi Government, most of the donor community (including the World Bank) did not take the effort seriously.

The first task of the MPTF was to review options for change. The conclusion of the MPTF was that for the next decade at least (until around 2010), population growth would exceed growth in food production by 1 % or more annually. There was a current annual structural food deficit in Malawi of some 300,000 ton of maize. On productivity trends measured for the 10 years preceding 1995, this would result in a deficit of some 2 million ton by the year 2015.

The MPTF review concluded that the widespread adoption of the available maize seed and fertiliser technology was an essential component of a food security strategy. Low cost input strategies such as the use of organic manures should be attractive in a poor country such as Malawi but the evident and serious decline in unfertilised maize yields simply could not be reversed by an organic strategy alone. On the other hand, Malawi farmers did not have enough cash to afford sufficient fertiliser, nor enough land to supply sufficient high-quality organic materials to crop yields much beyond subsistence levels at best. However, by the efficient use of small amounts of inorganic and organic materials, they should be able significantly to increase their maize productivity.

The MPTF proposal consisted of several interlinked and complementary elements:

- Providing *all smallholders with small packs of improved seed and fertiliser*. These they could use to learn (and appropriately modify for their own circumstances), on their own fields, the new area-specific “best bet” recommendations from the work of the MPTF. They could also learn improved management techniques to realize yield, cash, and soil fertility benefits from legume rotations.
- Ensuring that *supplies of small bags of improved seed and fertiliser* (1-3 kg) were readily available for purchase in all rural markets at a price comparable, per kilogram, to those of existing large bags.
- Supporting the drive to improve productivity with both traditional extension work and an extensive radio campaign reinforcing the extension messages included in the packs. The European Union provided thousands of “wind-up” radios to assure that farmers everywhere could listen to these messages.

- Providing opportunities for able-bodied individuals to increase their purchasing power for seed and fertiliser through a *structured fertiliser (and seed) for work programme* implemented during the dry season.
- Building an effective savings-club movement tied to the purchase of agricultural inputs along the lines of the proven successes in Zimbabwe.

The MPTF focused initially on the small pack programme, but the intention always was to work with the wider development community to implement the comprehensive programme outlined above. The programme was intended to be developed and modified over time as a way to encourage the introduction of new and more diverse cropping systems as proven options become available.

While the programme has continued (as a ‘targeted input programme’ or TIP) in various forms, unfortunately its focus shifted to a safety net and the development components have been entirely lost. The essential complementary measures recommended by the MPTF were lost in protracted debates about whether the programme should be universal or targeted, and whether it reinforced a maize-dominated agricultural economy. Some members of the donor community are (not unreasonably) concerned that a large-scale populist agricultural programme, based on controversial targeting procedures, would be used to favour the governing party rather than promote food security and avoid food crises. Annual struggles over reauthorisation resulted in changes and delays that substantially undercut its potential impact on productivity. The contents of packs have become what are administratively and financially convenient to include, and have lost the ‘best bet’ focus of the original proposal.

In fact, the original starter pack programme proved more successful than the MPTF had dared to estimate. The effort appears to have contributed 499,000 ton to a total production of 2.15 million ton in 1998-99 and 354,000 ton to a total production of 2.21 million ton in 1999-2000. National food security was achieved, maize prices were stabilised and there was no food crisis<sup>10</sup>. But there was a real concern that the programme represented an attempt to “reintroduce fertiliser subsidies through the back door” (which violated structural reform agreements with the donor community). Ironically, what became a targeted safety nets programme worked increasingly against household or national level food security. In 2000-01, 1.5 million smallholders were targeted and the pack size and composition was altered significantly. The inputs were delivered late and as a result, the TIP contributed only 75,000 ton of maize to a total maize harvest of 1.49 million ton. The programme was scaled down in 2001-02 to one million beneficiaries and contributed only 40,000 ton to a total maize production of 1.3 million ton.

Today, as a direct result of donor reluctance to support a ‘free input’ programme, the TIP has become just that – a free-input system without a clear development objective to enable those receiving the inputs to break out of dependency. The implementation of the TIP is an annual struggle between donors and the Malawi Government as to the size of the pack and the size of the distribution. The contents of the pack have lost all relation to evidence-based decision making. They do not reinforce the productivity focus of the initial concept and, indeed, serve to undermine serious attempts to transform smallholder agriculture in Malawi. Discussions on the size and distribution of the packs mean that the packs are delivered late (so their effectiveness is even further reduced), they do not reach farming leaders (and thus have minimal impact in cre-

---

<sup>10</sup> The additional yields would give a family of six cultivating one hectare of land approx. 160 and 90 kg maize for sale, respectively, beyond minimum subsistence as a result of the starter pack programme.

ating needed change), and the effort actively disrupts the national market for seed and fertiliser as the demand for packs is not known by suppliers in time for them to place orders in advance.

Several international agricultural research centers (as will be outlined shortly) are implementing aspects of the MPTF smallholder development strategy, but the focus and momentum of the MPTF have been lost. The present Starter Pack Programme no longer reinforces a consistent and coherent national extension programme message and objective. The crop diversification component (particularly the legume part) has been particularly badly affected by poor and inappropriate procurement procedures. Much of the legume seed has been of unknown origin with little attempt to source farmer-preferred varieties that have been developed by research. These legumes (pigeon pea, groundnut, bean) play several important roles; they are nutritious foods, they do not require expensive fertiliser inputs (with the possible exception of P and K), and there are ready local, regional, and international markets with few impediments to trade.

#### **4.3. LESSONS FROM THE AGRICULTURAL SERVICES PROJECT FOR NORWEGIAN SUPPORT TO TECHNOLOGY DEVELOPMENT AND DISSEMINATION**

The Agricultural Services Project (ASP) lacked focus. It was a generalised agricultural research and technology dissemination exercise, albeit with the building blocks necessary for a farmer-focused endeavour but without the momentum necessary to create change in a system highly resistant to change. The farming systems technical assistance provided under a complementary programme by USAID was top down, poorly accepted within the Malawi system, and had serious problems of leadership.

By contrast, the rather less formal collaboration with the Rockefeller Foundation and the international agricultural research centres worked more effectively. The Rockefeller Foundation had a clear focus on maize-based cropping systems. It is these systems that have to change if poverty is to be addressed within Malawi. Furthermore, the focus on a critical farming system provided opportunities for new thinking and new methodologies to emerge from within the legumes, maize, farming systems and soils commodity groups within Malawi's research service – and the IARCs were critical in providing leadership and direction. The highly successful 'mother-and-baby' trial system was a direct innovation of the MPTF effort. The widespread verification trials served to engage every extension worker in the land and to start the much-needed dialogue on economically viable (rather than yield maximising) farmer recommendations. It also made explicit the need for area specific rather than national recommendations.

In the scaling up components – both for the nationwide verification trials and for the subsequent starter pack effort – the support of the World Bank was essential. What was missed was the opportunity to hold together a unique collaboration of scientists and policy makers to follow up, enhance, and modify the limited initiative that eventually became the Starter Pack Programme.

The Malawi Poverty Reduction Strategy has been designed in the light of the severe poverty situation in Malawi and the lessons learnt from past experience. As noted previously, in the 1970s, there was significant economic growth, but this was centered in the estate and large-scale sectors and did not benefit the poor. In the 1980s, structural adjustment programmes succeeded in achieving relative economic stability, but this was not translated into economic growth - in part due to a lack of national ownership and poverty focus. In the 1990s, there were periods of equitable growth driven by the smallholder agricultural sector, but this growth was not sustained as a result of external shocks and policy reversals. The starter pack programme, which was in-

tended as a component of a comprehensive smallholder development strategy, actually was implemented as a stand-alone exercise and lost its development focus.

Agricultural transformation is a central component of Malawi's poverty alleviation strategy through providing farmers with the necessary services and conditions for them to increase their incomes. This will involve expanding and strengthening access to agricultural inputs; improving research and extension services, introducing smallholder friendly technologies, improving access to local and international markets; reducing land shortage and degradation; increasing investment in irrigation; and developing farmer co-operatives and associations. But the generation of technology is not sufficient in itself. The technologies have to reach – and be adopted by – large numbers of those who have been bypassed by previous efforts. They have to be appropriate for an environment in which human disease, especially HIV/AIDS, is a major cause of poverty. And they need to address the very real problems that women face in breaking out of the poverty trap.

Fundamental to the success of this strategy are agricultural research and outreach institutions that are able to work with farmers – across gender, age and wealth barriers – to increase the productivity, profitability, and sustainability of agriculture in Malawi. This will require demand-driven pluralistic research and outreach services, allowing farmers to determine the information required, and involving a wide range of partners in the technology development and uptake processes. Strong linkages to markets are essential to help farmers break out of the poverty trap in which they find themselves.

The IARCs and other regional and international centres of excellence have a potentially valuable role in the successful implementation of the Malawi Poverty Reduction Strategy as agriculture will be a central focus of pro-poor growth for Malawi in the medium term. To meet the poverty reduction strategy objectives, a radical new approach to the challenges facing the agricultural sector is needed. Important emphases are the decentralisation of decision making to local levels and the direct involvement of farmers and other clients of research in setting and implementing the development (research and outreach) agenda. The aim is to move quickly and efficiently to a reformed research and outreach system with the following key characteristics:

- A demand driven research and outreach agenda with farmers effectively influencing the design of development projects and resource allocation.
- A diversified research and outreach system; both in terms of suppliers of technology (agricultural research institutes, the university, the private sector and others), and also in the demand for research output (not only public extension, but also farmer/ producer organisations, the private sector, agro-industry and NGOs).
- In the longer term (but realistically, given poverty levels in rural Malawi, not immediately), building improved financial sustainability of research through users of technology contributing at least part of the operating costs of the research and outreach systems.

The Malawi Agricultural Sector Investment Programme (MASIP) has identified the major constraints to agricultural productivity. Space does not permit full discussion of the full set of constraints, but the following are particularly relevant to the role of the IARCs and other regional and international development organisations.

**Inadequate/inappropriate technology development and dissemination:** too few subsistence farmers use improved technologies that, for a variety of reasons, they are unable to access. Lack

of institutional capacity within the Ministry of Agriculture worsens the situation. Many skilled agricultural advisors and researchers have been lost. The research and outreach manpower base in Malawi needs to be retooled and re-skilled, while at the same time, bringing on stream the 'best bet' options quickly and effectively to enable the rural poor to lift themselves out of poverty. Thus, the extension approach has to be reoriented, with less emphasis on central screening of extension messages and more local adaptation of technologies and dialogue with end-users. The Norwegian support can play a significant role in bringing this about.

**Poor linkages, coordination and networking among stakeholders:** productivity in agriculture can be enhanced if linkages and coordination were improved. The stakeholders involved are farmers, extension agents, researchers, consumers, policy makers, traders, trainers, the private sector and the donor community. Strengthening coordination will involve developing institutional arrangements that bring together all stakeholders at the national level. There have been several impressive national programmes - the initial years of the Starter Pack Programme and in the various recovery exercises after the recent famine – where assessments have been coordinated, implementation guidelines developed, and effective monitoring and evaluation put in place. Open and effective collaboration between Government, donors, civil society and the NGOs has been shown to be crucial to the success of these exercises. A carefully focused programme of support from Norway can build on this experience to establish linkages, and to enhance networking and coordination.

**Poor development of institutional structures and capacity building including farmers associations and cooperatives:** the effective implementation of the proposed policies and strategies depends on the capacity of the public and private sector agencies involved, NGOs, and other central players. Crucially, at present, farmers do not have an effective voice. There is also poor coordination between the various agencies that can lead to duplication of efforts, confusion, misleading information, and wastage of resources. Norway has valuable experience in improving farmer empowerment so as to facilitate effective development and the efficient implementation of policies.

**HIV/AIDS pandemic management:** the HIV/AIDS pandemic is adversely affecting agricultural productivity because most of the affected people are the productive group. Others are involved in taking care of the sick or attending the increasingly frequent funeral ceremonies. Both impact severely on the available time for agricultural activities. Increasing numbers of households are headed by women, children or the elderly. Improved home nutrition can slow the onset of disease and is essential for the successful use of antiviral agents needed to keep the disease in check. New technologies to improve food security are needed to mitigate many of the negative impacts of HIV/AIDS<sup>11</sup>.

**Natural resource management:** environmental degradation is severe and, without a solution to the pervasive poverty in the country, further catastrophic natural resource decline is inevitable. By improving the productivity of agriculture and improving the livelihood options of smallholders (thus releasing them from the tyranny of resource exploitation as a survival mechanism), the destruction of ecosystems and landscapes can be halted and reversed.

It is incontrovertible that Malawi smallholders have to move beyond subsistence. While improving maize productivity is an important part of the answer, much more needs to be done. An ob-

---

<sup>11</sup> This includes innovative interventions such as the promotion of 'antiviral diets' which may involve the use of goats' milk, amaranthus, and home grown soya products, for example.

vious solution, which has already been alluded to, is to open up new potential income streams that poor families can link into. The encouragement of cash cropping is one such stream.

The Malawi Economic Growth Strategy focuses on growth in production of traditional export crops as a strategy for economic development. It should be remembered, however, that there is still considerable scope for import substitution. In most years Malawi imports several hundred thousand ton of maize. Half of milk consumption is imported. Chicken feed is imported, just to mention some possibilities for import substitution. Moreover, there is considerable potential for non-traditional export crops, such as groundnut. An important task of agricultural research and extension will be to prioritise crops and products where market potential exists. For the traditional export crops there are important constraints relating to market development.

Box 4

***A comment on cash cropping in Malawi***

*Tobacco accounts for about 60 % of Malawi's merchandise exports, 23 % of its total tax base and as much as 10 % of GDP (World Bank, 2003). Malawi is more dependent on tobacco for export and tax revenue than any other country in the world. Tobacco income is (and has been for many years) the major source of wealth in Malawi, and the performance of the sector is crucial to the economy and its economic vulnerability.*

*The commercial cultivation of tobacco in Malawi dates from 1890, and by 1920 tobacco was the principal export crop. Following independence, the tobacco industry expanded rapidly in the 1970s and 1980s and tobacco became the country's primary source of wealth, political patronage, private sector employment and foreign exchange earnings. Smallholders were precluded from growing burley tobacco, but were allowed to grow other tobacco varieties. Even so, they were not able to sell directly on the auction floor and received prices that were well below prevailing market prices.*

*Under the structural adjustment programmes of the 1990s, burley production was opened to smallholders. By 1996, 200,000 smallholders were growing the crop. This led to a substantial injection of income into the smallholder economy and savings in those communities that participated in tobacco cultivation. Total national production of burley tobacco increased from 71,000 ton in 1994 to 142,000 ton in 2000; with smallholders accounting for two thirds of the crop.*

*However, the future of the industry is in serious doubt. With increasing production, prices have fallen. Average prices in 2000 were nearly one third lower than prices in 1996/1997. The profitability of the crop is compromised by low productivity. Yields in Malawi are just less than one ton per hectare – the lowest in the world<sup>12</sup>. This makes Malawi's a high cost producer in terms of cost per kilogram<sup>13</sup>. Productivity and quality are falling. According to the Tobacco Control Commission, Malawi's average burley tobacco yields went from 1150 kg per hectare in 1990 to 922 kg hectare in 2001 – caused by poor soil fertility management, sub-optimal or incorrect fertiliser use, poor seeds, pests and diseases. Data from NASFAM show returns from smallholder tobacco declined by 50 % in 2000 and a further 50 % in 2001.*

*Malawi's other principal export crops include tea, sugar and cotton. Tea is principally an estate crop grown in Southern Malawi. There has been little effort (along Kenya and Tanzania lines) to involve smallholders in the crop. Total production has increased from 36,800 ton in 2001 to 41,700 ton in 2003. But due to falling prices total export revenue declined from USD 35.6 million in 2001 to USD 25 million in 2003.*

*Total sugar production amounted to 259,878 ton in 2003. Of this, domestic consumption amounted to 119,000 ton and the balance was exported. Just over 50,000 ton was exported to Europe with an average price of £ 397 per ton and 72,000 ton were exported within the African continent at USD 345 per ton. Total export receipts from sugar were USD 60.8 million in 2003.*

<sup>12</sup> Comparable data on yields for the United States are around two to two and a half ton per hectare, and most of the other producers (China, Argentina, India and Brazil) range around 1.5 ton per hectare.

<sup>13</sup> The cost of producing a kilogram of burley tobacco is USD 0.72 for smallholders and USD 1.27 for estate growers. Comparable data on production costs per kilogram for Malawi's competitors are USD 0.6 in India, USD 0.7 in Brazil, USD 0.86 in Thailand and USD 4.14 in the United States of America. Presumably the United States can only compete in the world market because of the high levels of subsidies on agriculture.

*Malawi used to be a major producer and exporter of quality groundnuts but the market for chirimola groundnuts (Malawi's principal conventional variety) has declined over the past ten years. ICRISAT are promoting increased production of quality groundnuts and legumes (especially pigeon peas) for which there are reasonable market prospects internationally. Increased production of all pulses would make a major contribution to food security as they improve household diets and are an especially important weaning food for infants. First, however, seed supply constraints must be overcome. Recently, smallholder farmers have started to diversify successfully into paprika production and export with the support of NAS-FAM. Total export value was just over USD 150,000 in 2003.*

But, as both the MPTF and the management of the 2001 food crisis showed, even a poor country like Malawi has a body of competent technicians who need to be brought into the policy formulation to the benefit of all. It is almost unbelievable that the careful analyses of the MPTF in Malawi have been allowed to disappear almost in their entirety. The MPTF had a solid foundation of respectable science upon which to base its recommendations. The results from implementing these recommendations are, on unbiased examination of the evidence, impressive. If this foundation had been developed and enhanced, Malawi could today be starting its long haul out of poverty into a more prosperous future. Similarly, the close cooperation for common purpose that drove the famine relief efforts can surely be focused to deal, in a similarly comprehensive and coordinated way, with the long-term development needs of the poor in Malawi.

#### **4.4. INPUT AND OUTPUT MARKET DEVELOPMENT AND ACCESS**

With increasing population density, decreasing landholding per person, and large-scale land degradation a growing share of peasants find that their arable land is too small to provide food security through subsistence agriculture – that is cultivation methods based on local resources alone. In order to produce sufficient food they need to increase productivity through using fertiliser and improved seeds. To pay for these they will have to produce a surplus that they can sell. This requires that they have access to the required inputs at low cost and access to markets for their produce. Low transport costs are crucial in this regard.

Currently efforts are underway to improve harbour capacity in Nacala and improve the capacity of rail and road transport through the Nacala corridor. Within the country there are efforts to improve rural infrastructure through the Malawi Social Action Fund (MASAF) and other donor funded initiatives. We have not had the opportunity to review the status of rural road network, but reports indicate that traders are reluctant to send trucks to many areas from fear of damage from bad road quality and also that the vehicle will get stuck. Market access will thus be improved through improvements in the road network – new roads and improvement in existing roads.

Market access is not only a question of physical infrastructure, but also of developing the institutions and skills needed for efficient markets. During the 1960s to 1980s ADMARC undertook these tasks. With the liberalisation of markets and removal of ADMARC monopoly it was expected that private traders would step in as market intermediaries. But developing trade has been a slow process. Markets are thin and poorly integrated and marketing margins have been high. In many areas a trader may have a virtual monopoly and thus be able to offer farmers very low prices. Several organisations, NGOs and others, have thus stepped in to develop more efficient and competitive markets for inputs and produce.



ADMARC remains a burden on public budgets. Transfer of funds to the parastatal is justified by reference to its “social services” in providing trading points in localities where there are no other, but it has been very hard to quantify the importance and value of these services, and to separate these from the commercial activities of ADMARC.

There are areas where ADMARC markets were closed and people were left with literally no alternative and produce prices are terribly low. Keeping ADMARC markets open in remote areas appears to be a necessary service that the government should continue to provide. Presently, ADMARC is under reform.

NASFAM, IDEAA and IFDC have established a market information system for collecting and making public information about prices and quantities of inputs and produce at various locations in the country. This information is conveyed to the public through radio programmes, through printed media, and through an SMS service. The system is still in the developing stages though. IFDC has supported the development of a network of fertiliser dealers in the country and provided training to these. It has also worked to improve legislation for quality assurance in the fertiliser distribution system. IFDC will be continuing its market information systems work, although funding from USAID may be reduced.

One of the priority tasks of NASFAM is to organise smallholders for improving their access to output markets through bulking their produce and enabling them to bargain for better prices. Although the organisation has grown rapidly, it only has about 100,000 members. It was initially primarily an organisation for smallholder tobacco growers, but has expanded to also include paprika, chilli, groundnut and rice. It has also assumed the role of trade union for smallholders, lobbying for reduced overheads to various intermediaries in the marketing chain and has recently achieved an important success in removing withholding tax on smallholder tobacco sales.

The Government of Malawi is currently considering fertiliser subsidies as a replacement for the Targeted Inputs Programme for making fertiliser more cheaply available to farmers. We do not think such subsidies are a particularly good idea, for a number of reasons:

- Likely problems in securing the funding for such subsidies will most likely create uncertainties in the fertiliser market about prices, qualities and volumes, thus increasing risk to commercial traders in the sector and disrupting their plans for supplying fertiliser in a timely fashion.
- Fertiliser will mostly be used by the richer farmers. The distributional profile of the subsidy is thus likely to be regressive, with most of the transfer going to the richest farmers, and none going to those so poor that they will be unable to buy even subsidised fertiliser.
- A subsidy does not make the fertiliser any less costly to Malawi, only to the individual farmers.
- A fertiliser subsidy will be very expensive if it is going to more than a symbolic gesture, and will tend to increase the budget deficit.

It is also characteristic that, as of present, no decision has been made on the implementation of such a subsidy: how big it should be, possible rationing or targeting, what it would cost, and other aspects of its implementation, even if importers need to start arrangements very soon for fertiliser to arrive on time for next season.

Currently Malawi is dependent on food aid on an annual basis. It may be argued that it would be more efficient and more growth enhancing to give out inputs to farmers rather than giving food. By giving inputs the same amount of aid would provide for more food available. In that case a

system of rationed gifts, such as those in the early starter packs, would do more for securing food to the vulnerable than a blanket fertiliser subsidy, which would primarily benefit the big users.

#### **4.5. INSTITUTIONS AND DECENTRALISATION**

Malawi is heavily dependant upon aid – but this support has had disappointingly little impact in creating the broad-based economic growth needed to lift many out of poverty. With the introduction of a democratically elected government in 1994, the focus of national policy moved explicitly and strongly to ‘poverty alleviation’ – defined as improving directly the livelihoods of working people and the poor by funding education, health and other social sectors through the focused use of donor resources. Agriculture was confirmed as the centrepiece of the nation’s development, though it initiated far-reaching changes through deregulation. The repeal of the Special Crops Act in 1995 opened burley tobacco production and sale to smallholders. Fertiliser and input markets were deregulated and the Starter Pack programme (later TIP, the targeted-inputs programme) was used to transfer resources to subsistence farming families.

But the longer-term development (and poverty alleviation) objectives of these reforms have not been met. The problem appears to be not bad policies; rather it is delayed and poor implementation. Malawi’s Poverty Reduction Strategy Paper (PRSP) notes that benefits from reforms to smallholders were offset by input prices increasing faster than producer prices. Importantly, there was an evident pattern of public funds allocated to poverty related activities not being used efficiently, or in ways that effectively reach the poor. In agriculture, the PRSP comments that the largest share of the budget is

*“spent on administration, with headquarters receiving a significant proportion of this, partly because all donor funds are channelled through Headquarters and because of the centralised structure of the Ministry. Expenditures on agricultural research and extension as a percentage of GDP have fallen, with extension spending declining from 0.6 percent in 1995/96 to 0.3 percent in 2000/01..... Although Government has reallocated funds to those Ministries that have direct impact on poverty reduction, these funds were not always directed within the Ministries to those particular sub-sectors and activities that directly benefit the poor. This would explain why the overall reallocations in expenditures have had a limited impact on poverty reduction in the 1990s”.*

The outcome has been that social and economic indicators have continued to decline (despite the substantial external assistance provided). Malawi is increasingly being perceived by international donors as a typical ‘poorly performing country’. The causes are many and complex (Cammack, 2004) but include:

- national policy is created within a system that inhibits meritocracy, equitable growth and nation-building
- poor natural resources, high levels of inequality (and with the elite often capturing resources intended to foster broad based development)
- reliance on rainfed agriculture, under high population densities, with degraded soils, and poor technology
- low levels of public and private investment in productive sectors and supporting institutions

- a critical shortage of human capacity – and with heavy losses to existing capacity from disease (malaria, HIV/AIDS especially) and emigration
- weak rule of law, and weak civil society
- poor policy advice

Cammack (2004) in a well-argued and sympathetic analysis of the causes behind the failure of both the Malawi Government and its international donors to create change, focuses on the lack of incentive for service delivery in a public sector where resources are typically captured by the rich and powerful. In Dr. Banda's era, fear of appearing too prominently greedy limited the extent of the abuse (and confined it to a very select elite). Just as the collapse of the credit system for agriculture (similarly built on fear) has devastated national food security, so the collapse of a fear-based discipline in the public sector has left public services at the mercy of those who chose to seek personal advancement.

Under donor pressure, the government has attempted to restructure the public service, reducing its size and improving the wages of those who remain. 'Management by objectives' has been introduced, training is related to client needs, and monitoring and evaluation introduced. A Medium Term Expenditure Framework form of government-wide budgeting has been introduced and a performance management contract scheme for Principal Secretaries and other senior servants has been introduced. However, dynamic and effective implementation of the principles (as opposed to the letter) of these reforms is muted. Cammack (2004) observes that donor follow-through has been weak and poorly monitored. The outcome has been an unreconstructed public service where good policies can be devised, and resources (funds and technical assistance) can be made available at the center. But these policies do not result in better public service at the grass-roots level because the technocrats (skilled, motivated, well-paid, and independent of political pressure) are largely missing.

Lack of capacity, weak institutions, leaders' self-interest, a weak civil society, and repeated donor bail-outs have permitted even the best policies and programmes to be ignored, subverted or delayed to the point of their being ineffective. The entry point, therefore, has to be to help civil society to hold government accountable. A focus on supporting the mechanisms that will lead to effective decentralisation is an essential component of such a move. In previous sections, we have shown how, within the agriculture sector, well-planned collaborations between international centres of excellence (such as the IARCs), local NGOs (NASFAM), and other agencies have produced remarkable results. This strategy needs to be developed and reinforced – together with a more broad-based and coordinated effort across the donor community as recommended by Cammack (2004).

Box 4

***Recommendations to the donor community (Cammack, 2004)***

***Strengthen the institutions of civil society.*** This process can be supported by donors by funding development and democracy projects (capacity building, capitalisation, programme development, etc). Especially important are the media. Involvement of civil society in economic discussions should be insisted upon by donors. Civil society institutions should vet their own people, and learn more about the people leading NGOs and about their agendas. This is necessary in Malawi where some leaders of NGOs purport to represent the public interest, but actually speak for political parties, including the ruling party.

***Donor consistency and coordination.*** While some amount of coordination already exists in Malawi, donors should form multi-agency teams which analyse and report regularly on the political economy of Malawi, so that all donors (each with its limited institutional memory) can plan in an informed environment, and can evaluate new decisions in light of past practices. Reform and programme goals should not be readily re-

*laxed. Multi-donor quality assurance teams are needed to check up on all programmes, emphasising the substance of projects and programmes.*

**PRSP process renegotiated.** *Government and donors need to review the PRSP process, and more importantly, the development strategies and goals outlined in it, to ensure that there is common understanding and agreement – by donors, government and civil society – about its priorities. Key civil society institutions should be closely involved in the process.*

**Public sector restructuring and reform.** *Civil service reform has stalled. Politically independent and professional technocrats are needed to write and implement policy. Public sector human resource restructuring should be prioritised and funded. ‘Centres of excellence’ need to be developed that demonstrate enthusiasm, creativity, and a ‘national’ consciousness.*

#### **4.5.1 Implications of Decentralisation Policies**

Malawi developed a decentralization policy in 1998 aimed at bringing on board grassroots’ participation in decision-making and the management of their own affairs.

Specifically the policy aims:

- To create a democratic environment and institutions in Malawi for governance and development at the local level, which facilitates the participation of the grassroots in decision-making.
- To eliminate dual administration (field administration and local governance) at the district level with the aim of making the public service more efficient, more economic and cost effective.
- To promote accountability and good governance at the local level in order to help government reduce poverty.
- To mobilise the masses for socio-economic development at the local level.

The policy, backed by the Local Government Act 1998, devolves the development functions, responsibilities, powers and resources to the District Assemblies. Specifically the policy:

- Devolves administrative and political authority to the district level.
- Integrates governmental agencies at the district and local levels into one administrative unit through the process of institutional integration, manpower absorption, composite budgeting and provision of funds for the decentralised services.
- Diverts implementation responsibilities from the centre and transfers these to the districts.
- Assigns function and responsibilities to the various levels of government.
- Promotes popular participation in governance and development of the districts.

For democratic decentralisation to take place, legal, institutional, fiscal and political instruments should be available at the lower levels. In order to implement the decentralisation policy, the government has provided the legal framework through the new Local Government Act, which became effective in 1999. In addition, it made a commitment to finance local governments and at the same time, mandated them to raise their own resources so as to make them independent. However, most district assemblies have limited capacity to raise their own funds because the devolvement of functions has been slow, and generally, the country’s economic development has weakened. As such, District Assemblies depend on the subvention from government, which is also limited. The poor financial situation of District Assemblies undermines their ability to make decisions and deliver services effectively and make them lose credibility. Whilst the primary in-

stitutions for decentralisation are in place and capacity building in progress, the great challenge is to reconcile them with the public sector reforms. How do the Assemblies link up with the Ministry of Agriculture for example? In terms of political instruments, people must participate in electing their own councillors. The first local government elections were held in 2000, after 6 years without an elected body in local authorities. The second elections were due in 2005. Meanwhile the government has dissolved the assemblies. This does not bode well for the government's commitment to the decentralisation process.

The National Decentralisation Programme started in 2001 and progress has been slow, affecting the operations of district assemblies. The District Commissioner and Councils' offices have been merged into one administrative unit: the District Assembly. All sectors have prepared their sectoral devolution plans and are in the process of implementing them. The Ministry of Agriculture has realigned itself to the District Assembly structures. That is, the Rural Development Projects under the Ministry of Agriculture are now under the Assembly headed by a District Agricultural Development Officer. Each Assembly has produced district development plans prepared in a participatory manner involving people at different levels in the district. Attempts have been made to create structures at Traditional Authority and village levels. However, how well these structures are functioning varies from area to area. Since it started, the decentralisation programme has faced a number of challenges:

1. While the government has made efforts to decentralise to the district functions and responsibilities, there are growing fears that if not carefully managed 'centralisation' may occur at the district level, creating an elite similar to that at the central level (Sikwese, 2003). There is a need to transcend the decentralisation process beyond the district level structure and reach out to the lower levels.
2. In addition, the poor economic environment limits the ability of assemblies to raise their own resources for improved service delivery.
3. Coming from a culture of one-party rule, the majority of Malawians continue to be passive participants in planning and implementation of agricultural activities, unable to demand service.
4. In some cases, a high degree of political intolerance undermines the ability of the people to speak out, rendering them voiceless.
5. The government has defined the roles and responsibilities of chiefs, councillors and members of parliament who are all members of the district assemblies, but some do not follow them and conflicts between these groups are common. They three compete with each other and sometimes confuse their clients. This is largely due to the long absence of councillors during the one party system and the Malawian politics that perceive the MP as the source of development activities in the area.
6. Although the Assemblies are in place, deconcentration has not yet taken place. That is, the Ministry has not yet transferred functions from headquarters to the District Assembly to perform functions that otherwise the headquarters would be performing. For example, the Ministry of Agriculture continues to fund the agricultural activities and pay staff salaries. The Ministry is still inspecting meat and controlling diseases. In terms of land titling in the Ministry of Lands, Housing, Physical Planning and Surveys, the Commissioner for Lands and Surveyors sign every deed document. The argument is that the District Assemblies have no capacity to handle these activities. There are worries that Assemblies may not place agriculture as a top priority and may therefore divert agricultural funds to other activities. There are also worries about irresponsible spending and corruption. As such, there is reluctance to devolve budgets and resistance to devolve powers. The result is that staff implement agricultural activities and report to the District Assembly on a day-to-day basis but

remain accountable to their respective departments in the Ministry headquarters where the decision-making power and resources are.

In decentralisation, we want to get as close to where farmers are as possible as decisions taken at this level are expected to better reflect the needs of farmers, especially the poor. The important thing to note is that the decentralisation process has not taken root yet and capacity building in district assemblies continues. In addition, there is evidence to suggest that the capacities of all levels progressively increase as decentralised service systems mature. Support for decentralisation is therefore necessary and vital to enhance the participation of farmers and make delivery systems in research and extension demand-driven. Decentralisation process has created an opportunity for stakeholders to bring control of extension and research services closer to farmers and offer services that fit better with local situations. Future agricultural programmes should pay attention to the decentralisation process and allocate resources to the districts and strengthen their capacity to make decisions, mobilise resources, and provide services more effectively. Such programmes should also encourage and strengthen development of partnerships between the public sector and NGOs at district level. For example, the Department of Agricultural Extension and Support Services piloted a district agricultural extension service system in Rumphi, Mchinji, Mulanje and Dowa districts through an Agricultural Extension Services Project funded by GTZ (see box for details). The EU will support the Ministry of Agriculture through the Institutional Development across the Agri-food Sector (IDAF) programme (forthcoming) in making its agricultural services in the districts more responsive to the demands of various categories of farmers (EU, 2004). It will support capacity building for agricultural staff as well as farmers' organisations.

Box 3

***The District Agriculture Extension Services System (DAESS)***

*DAESS rests on four pillars:*

- 1. Organisation of farmer demand – use the participatory approach to enable farmers to demand service taking into consideration the needs of different categories of farmers: commercial, emerging commercial farmers and small-scale food security farmers.*
- 2. Facilitation of service provider response – both public and private sectors are providing extension service and coordination is necessary in order to improve efficiency and provide quality service. A stakeholder analysis is a prerequisite.*
- 3. Agenda for agricultural development. Stakeholders in the district participate in the development of an agricultural development strategy in order to have a shared vision.*
- 4. Funding for agricultural extension service – to sustain provision of extension services, funding should not depend on the public service but also from the private sector. To sustain the extension service, district assemblies should explore various sources for funding including co-financing arrangements.*

*The implementation process involves sensitisation of all stakeholders in the district including the extension workers, farmers' organisations, and district assemblies, among others. Establishing and training change teams that assist various players in implementing the extension policy follow sensitisation. The focus is on leadership, participatory extension methods, and extension management skills, equipping them with skills to initiate process and management and evaluation. The decentralised extension system is implemented through the establishment of stakeholder panels at area and district level and an agricultural extension coordinating committee at district level.*

*Implementation in the four districts was encouraging particularly in Rumphi. Replication in other districts was not possible due to lack of funding as the project completed in 2004. The system has potential for development of partnerships among stakeholders and for supporting decentralisation at district level and is an opportunity worth supporting. (Source: District Agricultural Extension Services System Implementation Guide and the District Agricultural Extension Services System Manual).*

#### **4.5.2. Reforms and Restructuring of the Ministry of Agriculture**

Government is undertaking a public sector management reform in order to improve governance. The major challenge for the public sector is to establish an effective incentive structure that will improve work ethic and productivity. In addition, government is reviewing the structure of the civil service so that it focuses on poverty reduction. In this regard, the Ministry of Agriculture undertook a functional review process and redefined its functions and staffing levels in 2001. However, implementation of this process was incomplete. The Department of Agricultural Extension and Support Services also benefited from the Agricultural Extension Support project that conducted another review of its core functions to support the decentralisation process. This review facilitated the development of a new extension policy that is based on pluralism, equalisation, coordination and decentralisation in the provision of demand driven extension services system. According to EU (2004), the project demonstrated that process facilitation and ownership of change agendas were crucial in getting management and staff in the department to engage with the problems and challenges confronting them. The EU's IDAF project seeks to apply this process to the other departments across the ministry. The Malawi Agricultural Sector Investment Programme will coordinate the implementation process.

The major constraints that have prompted the reform process include the declining financial situation, duplication of services particularly at district level, poor working conditions in the civil service and high diversity of demands. The aim is to assist the ministry to reduce its services and focus on public goods (regulatory, poverty alleviation and social extension services) and partner with private sector to implement the other services. The core functional analysis will focus on reassessment of the situation in the agriculture sector, rationalisation of functions (what is core and non-core and marginal), reorganisation of the functions, right sizing, and revitalisation. Revitalisation is a much broader reform and aims at keeping less people with good working conditions. It is expected that the ministry will then be able to improve input supply, extension service and markets. It will keep the mandatory functions and outsource the rest. To achieve this, capacity building is a must for the ministry to undertake its new functions at all levels. This involves testing new ways of doing things, formulating new policy framework, revisiting the legislative/regulatory framework and dealing with quality issues. The issue at hand is to decide which functions are public good and which ones are not. The process requires government commitment to the reform process as well as to decentralisation.

In the mid-1990s, a project was started to develop a Malawi Agriculture Sector Investment Programme (MASIP), intended to pool and coordinate the resources of donors, government and the private sector. Due to fundamental disagreement among donors about strategies, approaches, and priorities, as well as lack of donor confidence in the Ministry of Agriculture, the MASIP never gathered sufficient support to become reality. The current sense among donors interviewed seems to be that the time is not ripe for a sector wide programme in agriculture. Donors still lack confidence in the ability of the Ministry of Agriculture to manage such a programme.

The Ministry of Agriculture should ideally play a leading role in agricultural development, and one would think that Norwegian support should be channelled through this organisation. However, our informants pointed out disappointing experiences with this approach, notably in the World Bank sponsored ASP in the 1990, which was characterised as a fiasco. Most of the resources were spent in the centre, and the Ministry was deemed incapable of leading agricultural development. Consequently most donors currently work through project organisations or project implementation units outside the ministry, or they work with the District assemblies. However,

donor projects often draw on the resources of ministry field staff, co-opting extension officers by providing them with the operational resources needed to work effectively.

To rectify the situation, one of the centrepieces of EU support to agriculture is a programme for institutional reform within the Ministry, in creating a leaner and more efficient organisation, better able to fulfill its role and responsibilities. The process seems to be making little headway. The reform programme is sufficiently funded (€8 mill.), however, and we believe that the ministry should show tangible results from the reform programme before Norwegian support is channelled through the ministry.

#### **4.6. OVERVIEW OF PAST, PRESENT AND PIPELINE DONOR PROGRAMMES**

The field of donor projects and programmes is rather complex. Many projects have short or irregular life cycles. Many are co-financed by several donors. Some are implemented jointly by government and nongovernmental agencies. To classify projects and programmes can, therefore, be a bit difficult. The following summary may only provide a partial outline of the Malawian ‘world of programmes.’ A summary of donor activities in agricultural, food security and natural resources management is presented in table form in Appendix 1. Below are some highlights:

**The World Bank** has been a major contributor to agriculture. Evaluations of past efforts have not been entirely favourable, however. The ASP completion report noted that in this major project 70 % of the funds were spent in the centre, and very little reached the intended beneficiaries.

The World Bank supports the following projects as of January 2005 in Malawi to a total of USD 336.8 million:

<b>Project Name</b>	<b>MUSD</b>	<b>Status</b>	<b>Approval Date</b>
Education Sector Support Project 1	32.2	Active	2005
Health Sector Reform Project	15	Active	2004
Community-Based Rural Land Development Project	27	Active	2004
Fiscal Management and Accelerating Growth Program Project	50	Active	2004
Development Learning Center project	4	Active	2004
Multi-Sectoral AIDS Project (MAP)	35	Active	2003
Third Social Action Fund (MASAF III)	60	Active	2003
Financial management and Accountability Project (FIMTAP)	23.7	Active	2003
Mulanje Mt. Biodiversity Conservation Project	0	Active	2001
Regional Trade Facilitation Project - Malawi	15	Active	2001
Privatization and Utility Reform Project	28.9	Active	2000
Road Maintenance and Rehabilitation Project	30	Active	1999
Secondary Education Project	48.2	Active	1998

(Source:

<http://web.worldbank.org/external/default/main?menuPK=355904&pagePK=141155&piPK=141124&theSitePK=355870>

The following programmes are in the pipeline:

<b>Project Name</b>	<b>MUSD</b>	<b>Status</b>	<b>Approval Date</b>
Irrigation, Rural Livelihoods and Agricultural Development Project (see below)	30	Pipeline	N/A
Rural Infrastructure Services	40	Pipeline	N/A
Urban Water Supply Project	30	Pipeline	N/A

The World Bank is also supporting the Community-based Rural Land Development Project. This project is part of a drive for market-based land reform, where large landholders are stimu-



lated to sell unutilised or poorly utilised land through an increase in land rent. The project provides grants to selected landless people to buy land and provides loans for their initial operating expenses.

The following project is of particular relevance in the present context:

**Irrigation, Rural Livelihoods and Agricultural Development Project**

Region: Eastern and Southern Africa

Nature of project: Irrigation and agricultural development

Project cost: USD 41.8 million

Proposed terms: Highly concessional

Stage of project cycle: Under appraisal

Next step in project development: Loan negotiations scheduled for third quarter of 2005

Tentative date for consideration by the Executive Board: December 2005

Project duration: Six years

Tentative project start: March 2006

Implementing agency: Ministry of Agriculture, Irrigation and Food Security



Anticipated funding: World Bank USD 29.5 million, IFAD USD 8.0 million, the Malawi Government USD 3.2 million and beneficiaries will contribute USD 1.2 million (= 41.8).

**The European Union** is probably now the biggest donor to agriculture. It provides macroeconomic support and aid to sectoral projects and programmes in support of the government's poverty reduction strategy. EC support is focused on two sectors – agriculture/food security/natural resources and transport infrastructure as well as on macro-economic support, especially in the social sector in education and health. On-going programmes in non-focal areas will be restricted to continued assistance for the micro-projects programme, for civic education to support the democratisation process, for good governance activities as well as for non-state actors. The EC provides budgetary support to government.

The EU programmes include growth and development activities, as well as measures to ensure short-term food security. Notable interventions are support to capacity strengthening in government, support to the National Food Reserve Agency and the Strategic Grain Reserve, Smallholder seed multiplication, credit in kind scheme for fertiliser and seed for smallholders, NGO project to increase food security (extension, irrigation, livestock development, etc), STABEX to encourage crop diversification for export crops, tea research and replanting, smallholder coffee production.

**JICA** is among the major donors to Malawi. Within agriculture JICA supports *i.a.* institutional capacity building in the Ministry of Agriculture, a small scale irrigation programme, the Bwanje Valley irrigation scheme (800 hectares/2000 households), a crop diversification project (sweet potatoes and fruit trees), the Lobi Horticultural Appropriate Technology Extension Project in Dedza West (an extension is in the pipeline), an animal husbandry promotion project, and a programme for support to fish production increase (aquaculture and fisheries). An important component of JICA projects is the provision of expatriate experts.

**USAID** promotes Malawi's sustainable development through market-based economic growth and support for democratic governance, which are seen as closely linked. Its activities concentrate on aspects of policy and institutional change to enhance the efficient delivery of goods and

services, to foster continued democratic progress and to address health and social problems. It supports agricultural, reproductive health, HIV/AIDS, environmental, basic and girls' education projects. Its democracy programme aims to increase participation of civic society in economic and political decision-making and debate; works with parliament to promote its role as an independent, accountable and responsive institution; supports the electoral commission to ensure that elections are conducted in a free and fair manner; and helps the legal system to strengthen the rule of law in Malawi.

Notable interventions in agriculture are support to market development through NASFAM and IFDC, development of the dairy sector through Land O' Lakes, and support to the I-LIFE consortium of NGOs.

The market development efforts in NASFAM centres round a project to develop a regional commodity exchange, providing brokerage services to buyers and sellers of agricultural produce. The organisation is also about to set up a system of warehouse receipts. NASFAM also cooperates with IFDC and IDEAA in developing a market information system for farmers and traders.

IFDC is primarily concerned with improving the performance of the fertiliser market. It has supported the development of an association of rural fertiliser traders and distributors. Members have been provided with training and advice. IFDC is also working to make market information more accessible to government and market participants. As a consequence marketing margins have been considerably reduced over recent years. IFDC has also been working with the government to improve legislation and regulations of fertiliser and other inputs trade.

Land O' Lakes supports the development of the dairy sector through providing extension and improved breed cows. The cows are provided through a heifer-loan scheme, where the recipient repays the loan by returning to the scheme the first heifer borne from the one received. There is evidently a large commercial potential for developing dairy production, as Malawi currently imports 50% of the milk consumed.

A USAID project (I2) produces vaccine for animals that are less sensitive to high temperature. The project will close in October.

**DFID** supports the four pillars of the PRSP. Budget support is potentially DFID's primary financial instrument; the programme is being revised to include technical support and to set benchmarks to improve pro-poor budgeting and expenditures. DFID aims to improve government's financial management and accountability through technical assistance, including support for anti-corruption measures, progressing the MTEF, and conducting expenditure tracking studies. It also supports food security, livelihood, health, education and access to safety/justice/security programmes. It intends to increase aid to programmes that promote civil society involvement and voice, government accountability and civil service performance.

DFID has been one of the biggest donors to agriculture in Malawi, funding a large share of the Targeted Input Programme. Following the dismal results of the TIP in the 2004/05 season DFID has decided to withdraw from the TIP, and indeed to reduce on its support to agriculture altogether

**GTZ** has focused on decentralisation, health and basic education in its assistance to Malawi. In addition, GTZ promotes cross-sectoral projects such as HIV/AIDS prevention and control, a forum for dialogue and peace, prevention of gender-specific violence and the provision of macro-

economic advice to the Ministry of Finance and Economic Planning. In addition, a project (Technical Education Vocational and Entrepreneurship Training, TEVET) is being executed to promote employment-relevant vocational training and upgrading (Photo: GTZ).



**FAO** is preparing a plan for food security in 70 countries. A team arrived in Lilongwe in early May to prepare a plan for Malawi. A proposal will be presented in June 2005. FAO finds the development programmes in Malawi too donor driven. Government should hold a leadership role in the development process. NGOs operate too independently in the country. Malawi should adopt the granary concept of growing sufficient food where it is cost-effective. FAO sees the following gaps in which to focus development:

1. There is lots of water—get it to the field
2. Diversify crops and grow them where they are best suited
3. Develop fisheries
4. Develop livestock
5. Organize farmers
6. Value addition and marketing

FAO funds and coordinates the Special Programme for Food Security (SPFS) which is a programme for 86 ‘low-income food-deficit countries’ least able to meet their food needs with import. The programme includes “*ensuing enabling environment, improving access to food, producing food, increasing the role of trade, dealing adequately with disaster, and investing in food security.*” The committed fund for Malawi was USD 2,191,000 (date not specified).

FAO observes that small-scale producers collapse in times of glut while medium to large-scale producers survive. Assisting medium-size producers for export will probably be cost-effective.

Government and NGOs need to cooperate better. FAO notes that many smallholders receive at least three starter packs—one from government and two from different NGOs.

**IFAD** lists the following approved projects in Malawi:

Project Name	Total Project Cost (USD Million)	Loan Amount (SDR Million)	Project Type	Status	Approval Date
Rural Livelihoods Support Programme	16.56	10.70	Flexible Lending Mechanism	Ongoing	12-09-01
Smallholder Flood Plains Development Programme	15.47	9.25	Agricultural Development	Ongoing	23-04-98
Rural Financial Services Project: Mudzi Financial Services Sub-project	49.93	6.18	Credit and Financial Services	Closed	02-12-93
Agricultural Services Project: Smallholder Food Security Sub-project	79.14	5.78	Agricultural Development	Closed	15-09-93
Smallholder Agricultural Credit Project	14.24	4.80	Agricultural Development	Closed	02-12-87
Kasungu Agricultural Development Project	16.89	12.32	Rural Development	Closed	12-12-84
Smallholder Fertiliser Project	29.77	8.49	Programme Loan	Closed	21-04-83
Dowa West Rural Develop-	9.47	7.65	Rural Devel-	Closed	08-09-81

ment Project	opment	
<b>8 projects for a total of:</b>	<b>231.47</b>	<b>65.17</b>

(Source: ([http://www.ifad.org/operations/projects/regions/PF/MW\\_all.htm](http://www.ifad.org/operations/projects/regions/PF/MW_all.htm))

**The African Development Bank (AfDB)** list only one project in Malawi:

<b>Project Name</b>	<b>ADF</b>	<b>Status</b>	<b>Approval Date</b>
Support for Good Governance Programme	18 MUSD	Approved	08-DEC-04

Source: <http://www.afdb.org/>

Ministry of Agriculture, Irrigation and Food Security, Department of Agricultural Extension Service claim to have the following projects with AfDB:

1. Horticultural and Food Crops Cultivation Project
2. Small-holder Irrigation Project
3. Rural Income Enhancement Project

AfDB does not provide online list of projects in the pipeline.

### **Malawi Union of Savings and Credit Cooperative (MUSCCO)**

MUSCCO is a not-for-profit cooperative providing technical assistance to savings and loan circles. The 'circles' are local cooperatives consisting of from 120 to 3800 farmers. Each member should save 10,000 kwacha before being granted a loan. MUSCCO received support by USAID from 1980 to 1996. The Canadian Cooperative Association supported computerisation of circles. DIFID will support Lilongwe City Community Circle, designed for urban poor to start small businesses, for the next three years.

MUSCCO cooperates with NASFAM to allocate Norad grants to fund start-up loans and to fund capacity building of staff at circles and office supplies and buildings. The budget is NOK 4.6 million of which 2.2 million is for loans to agribusinesses. DANIDA left a fund of USD 500,000 for lending. MUSCCO's main limitation is its inability to reach out to a large number of circles due to lack of capacity. Presently, 51,000 persons are members in MUSCCO supported circles.

The average loan taken by circle members is 9200 kwacha at 27 % interest. Male circle members constitute 78 % and female 22 %. Members are both literate and illiterate.

### **Enterprise development projects**

**The Enterprise Development and Employment Generation Programme** aims to harness efforts at the national and regional levels to promote the development of an enabling environment for enterprise development as a means to increase incomes, employment creation and private sector activities (as of 2002). Under the programme, UNDP will provide support to develop capacities of service providers in relevant areas of enterprise development. Key areas of capacity building include policy and strategic analysis, programming and management, training and marketing, micro-financing and technological services.

**Business Expansion and Entrepreneurship Development (BEED)** is a local agent for CEFE International. It is Malawian owned and managed. It franchises the CEFE courses to Malawian trainers who have been through more than 2 months specialised training in CEFE courses and

methodology. BEED aims at the support of existing Micro, Small and Medium Enterprises and business starters through the supply of Business Development Services (BDS). The site has a compilation of literature and papers that deal with micro and small enterprise development.

### **Land tenure projects**

The Ministry of Lands, Housing and Survey studied the land use sector in 1996-2000. Major problems are tenure insecurity, improper land use and poor access to land. A comprehensive land use policy was prepared in 2002. As a follow-up to the policy, a land reform programme has started in the Southern Region. With funds from the **World Bank**, the government buys up unused land from private estates and distributes to established groups of landless (Community Rural Land Project). Estate owners are increasingly willing to sell land as the land tax has been increased from 50 to 1000 kwacha per hectare. Funds are also available for farmers to set up homesteads and farming equipment.

A Customary Land Reform and Rural Livelihood Project is supported by **AfDB**. Permanent entitlement is given farmers through the traditional chief. The project also provides investment support.

**EU** provides funding for a capacity building project to facilitate the land reform programme. Trained staff is required to carry out field and office work as well as communication with farmers. The Natural Resources College provides training.

Funding is presently being sought from **UN-HABITAT** to provide land tenure and services to slum dwellers (roads, water and sanitation) in Malawi.

The Ministry is careful in its collaboration with **NGOs** regarding land tenure because some of them have misrepresented the issue in the past and created tensions. The Ministry prefers to handle the project themselves to ensure correct messages to the people.

The land tenure programme has not yet been decentralised. Surveying may, however, be decentralised soon. Presently, the Commissioner of Land must sign every single land deed.

### **Projects in livestock**

Donor funding in government livestock projects is not very popular despite the obvious needs for support in this field. Dairy plants operate at half capacity due to lack of animals. Farmers hesitate to invest in grazing animals due to theft. Most pork is imported. There is a substantial opportunity for increasing the number of goats and chicken. There is a need for educated extension officers in the field of animal husbandry and veterinary science.

### **Projects in higher agricultural education**

**Bunda College of Agriculture** accepts 120 students each year, but should take 200 to meet the demand. The campus holds a total of 700 students although it is built for only 200. Norad has provided, *inter alia*, much-needed dorms, a cafeteria and computer facilities. IFAD supports a few undergraduate students. The Rockefeller Foundation supports two M.Sc. students. Some support is received from Ministry of Agriculture. Iceland supports aquaculture in the SADC countries, some of which goes to Bunda College. Some ministries complain that Bunda gradu-

ates do not hold the necessary technical skills. For instance, they do not have proper skills in aerial photo interpretation, mapping, and construction of soil conservation structures.

**Natural Resources College (NRC)** provides 2-year diploma courses in extension and irrigation technology. Full residential tuition fee for students is MWK 429,000 for a total of two years. The Ministry of Agriculture obtains some scholarships from donors to cover some students. The NRC campus was built by CIDA to educate extension workers. DANIDA supported the college until recently. This year, NRC has been in contact with The Norwegian Association of Local and Regional Authorities (KS), Vestfold University College, Akershus University College and Agder Research regarding education of graduates to facilitate the decentralisation process in Malawi.

### **Ministry of Trade and Private Sector Development**

The ministry has presently no donor-supported programme. Previous donor projects have been small, short and with too much conditionality. Assistance has also been too technical. Support is needed to develop agribusiness. New entrepreneurs have problems with collateral and interest rates. Donors tend to take the easiest and most secure path. Development of the private sector is difficult and risky despite the many opportunities.

### **Norwegian support to agriculture in Malawi**

Malawi has been a priority country for Norwegian development co-operation since 1997. The objective of the Norwegian support is to support Malawi's own endeavours towards sustainable economic, social and political development as outlined by the Malawi Poverty Alleviation Programme. The Norwegian support focuses on health, education, agriculture and good governance. In addition, a large proportion of Norwegian assistance is given in the form of budget support to reduce domestic debt. Presently, in the field of agriculture, Norway provides direct support to NASFAM and Bunda College of Agriculture.

**The Development Fund** operates through six organisations in Malawi: Oxfam Malawi, Centre for Environmental Policy and Advocacy (CEPA), Maleza, Mzuzu Agricultural Development Division, Southern Africa Root Crops Research Network (SARRNET), and International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). The fund supports three projects: 1) Rural Food Security, 2) New Crops in Agriculture, and 3) New Law for Biodiversity (Utviklingsfondet, 2005).

**Norwegian Church Aid (NCA)** focuses on health and nutrition programmes. The primary objective of the organisation is to support nurse education, health centres and hospitals (KN, 2005; pers. com.). Their efforts also includes food relief, nutrition, water and sanitation, and HIV/AIDS prevention. NCA assists mothers with malnourished children to improve their agricultural production through training and provision of seeds and establishment of irrigated communal vegetable gardens. NCA also provides fruit trees and provide training in their cultivation.

**Norwegian University of Life Sciences (UMB)** is involved in the support programme to Bunda College of Agriculture and coordinates of the NUFU project "Genetic diversity and rapid propagation of two important indigenous fruit." Partners are University of Malawi, University of Oslo.

**University of Oslo** coordinates the NUFU project "Lungwena health, Nutrition and Agricultural Multidisciplinary Project - Towards poverty reduction." Collaborating partners are University of

Malawi, Bunda College of Agriculture, Chancellor College, Kamuzu College of Nursing, Norwegian University of Life Sciences, University of Tampere, and The Polytechnic.

## **5. GENDER, HEALTH AND NUTRITION**

Insufficient food supply remains, together with AIDS, the main health problem of Malawi. Increased incomes (in cash and kind) will thus have a large impact on the health situation. We have already examined the problems in terms of introducing improved technologies and have shown that improving food security – at both national and household level – is more than a technology issue. There are other major challenges including gender imbalance, poor health resulting from the HIV/AIDS pandemic, and malnutrition. Removing gender disparities is essential to impacting on these complex problems.

### **5.1. GENDER ISSUES**

#### **5.1.1. Role of Women in Agriculture**

Women comprise about 70 % of the full-time farmers responsible for the daily food supplies. They spend as much time on farm work as they do on domestic activities – and they work as much as men on the farm. Women contribute labour to both cash and food crops and there is no differentiation between men and women's operations. They sow, weed, apply fertiliser and pesticides, harvest, and process the crops.

Women's contribution to nutrition and a balanced diet is considerable. They are the major growers of legumes and vegetables for the home (FAO, 2000). In Malawi, people survive on leaves from bean and pumpkin plants and different types of vegetables that provide useful nutrients during the 'hungry season' (three months before harvest – March/April). Women care for the all-important small livestock - poultry, goats, pigs, and rabbits. These are often the only animals owned by poor families. In dairy units, they are responsible for cleaning, watering and feeding, and in some cases, they milk the animals.

Although most households are still headed by a man, 26 % of rural households are headed by women<sup>14</sup> (GoM, 2000a). But female household heads are disproportionately poor; 64 % of rural female-headed households and two-thirds of individuals in rural female-headed households are poor. Poverty is deeper and more severe in female-headed households, suggesting that the ultra poor are more likely to be living in female-headed households.

#### **5.1.2. Access to Agricultural Resources for Women**

The important role of women in agricultural production implies that the success of agricultural production to improve food security will depend to a large extent on the assistance and training that women receive. Yet, studies consistently show that the women's access to productive resources such as land, capital, and knowledge is consistently less than that of men. This differential access has a negative impact on agricultural productivity.

#### **Land**

Ownership of, and access to, land is important in providing a sustainable livelihood in rural areas. When the landholding size is small, the levels of food insecurity and poverty are higher. The poor have access to land, but holdings are small and fragmented. In the customary land ten-

---

<sup>14</sup> These include those households headed by a single woman (divorced, separated, widowed, or never married); with women married to husbands who are periodically away in wage employment distant from home and mostly within Malawi; and with women married to husbands with more than one wife.



ure, ownership of land is communal and the chief has the responsibility for distributing land to the people within his or her jurisdiction. These people only have rights to cultivate the land but cannot sell it or give it to other people outside the family group. The State President is the trustee of all customary land but traditional customs regulate the distribution and inheritance of this land. These traditional customs follow the family system (matrilineal or patrilineal system of inheritance and succession) that dictates the inheritance rights (land use, property rights and ownership).

The two family systems differ in terms of the line of inheritance rights followed, which has gender implications. In the matrilineal system, the inheritance rights are through the female line. A woman might inherit land from her mother or grandmother. Women in the matrilineal societies (common in the central and southern regions of Malawi) have influence on major decisions such as the selection of chiefs and use of land, although the man still remains the head of household. When she marries, her husband comes to live with her, and together they till the land. In the case of divorce, the husband leaves the village and the woman and her children continue to cultivate the land. If the wife dies, the husband leaves the village leaving the children behind. The husband obtains the right to cultivate the land through his maternal line. Basically, the opposite is true in the patrilineal system. The man inherits land from his father or grandfather. When he marries, he stays in his village. In the case of divorce, his wife loses custody and her right to cultivate this land and returns to her own village.

However, these descriptions oversimplify the complexities of the two systems. For example, both systems recognise the man as the head of household and therefore the main decision maker. The culture in both systems expects the men to make all the major decisions in a household with or without consultation with their wives. Furthermore, the brothers and uncles in the matrilineal system assume a greater responsibility over the women in their family or clan regardless of their marital status. This implies that the decision and control over land and inheritance in both systems is usually in the hands of the male members. As Sigman (1992) found out, the impact of these two systems on women's agricultural productivity does not seem to be very different. The important factor is the woman's marital status. Female household heads make almost all decisions in their household. While women in male-headed households may make decisions alone, it is more common either for husbands make the decisions alone or for husbands and wives to make decisions together. There is more security for the female partner in the matrilineal system because the woman is cultivating her land, in her own village, and amongst her own people (Hirschman and Vaughan, 1984; Sigman, 1992). In addition, she will support from her own relatives, which is important in view of the high child dependency ratio.

The Ministry of Lands, Physical Planning and Surveys recently commissioned detailed land utilisation studies and special reports, which revealed that the major problems in land were insecure land tenure, improper land use, and poor access to land<sup>15</sup>. These studies informed the development of a land policy in Malawi and later the current land reform programme that is under implementation on a pilot basis. One of the major activities of the land reform programme is to register and title all customary land as secure rights to land are the basis for a sustainable livelihood among smallholder farmers. The gender challenge coming up in this process is: in whose name shall the land title be, considering the complexities of the matrilineal and patrilineal systems of marriage? The experience so far is that it is not easy to title land in the name of a man in the matrilineal societies and in the name of a woman in the patrilineal societies. With the increasing

---

<sup>15</sup> Some of the studies include the land use study, tracer study, socio-economic study of land tenure, and estate, public and customary land utilisation and interaction studies conducted between 1996 and 1998.

number of deaths largely due to the HIV/AIDS pandemic, it is increasingly difficult for land to devolve to surviving spouse and to children whether male or female. The challenge is to ensure equitable distribution of land for both men and women in both systems of marriages as the land policy stipulates.

### **Knowledge**

Agricultural extension programmes inform farmers about new technologies and opportunities (including market access and other needs) that can help them attain better returns from their agricultural activities. Studies consistently show that women, compared to men, have much poorer access to extension services such as demonstrations, meetings, training and research activities (NSO, 1982; Culler *et al.*, 1990; and Sigman, 1992). Of the 105,000 members in NASFAM in 2004, 36 % were female. Most women have to ask permission from their spouses to participate in such activities. Chibwana (1998) showed that the choice for married women to participate in the extension programme activities really depends on their spouses, suggesting that participation in extension activities is a major family decision and the extension staff should treat it as such.

However, the choice of technologies promoted affects the level of participation between men and women. For example, officials from NASFAM and Care International reported that more women participate in the production of groundnuts and beans than in tobacco. Extension staff in Bembeke EPA also reported a predominance of women when promoting sweet potatoes and indigenous vegetables unlike promoting vegetable crops grown primarily for cash during the late 1990s (Chibwana, 1998). The EPA experienced an increase in sweet potato production largely due to adoption of the new varieties mostly by the women.

CARE International in its attempt to assist farmers to move away from credit focuses on a savings based approach. When the first groups were formed, both men and women turned up. However, most men dropped out when they discovered that CARE was not offering credit. Women therefore dominate the savings schemes<sup>16</sup>. They save about MK5-20 per week. The money paid in is immediately cycled into approved small projects so there is no need for savings books or stamps or to keep significant amounts of cash. The scheme requires that all loans be repaid by August so that the members can use the money to purchase inputs for the next growing season and buy food to cater for the 'hungry season'.

### **Access to credit and inputs**

The most important extension messages in Malawi concern the use of better varieties and seed of maize, and the use of fertiliser. Most farmers are aware of these messages, but, as noted earlier, the key constraint to adoption is the lack of cash or credit to access these inputs. Although it is difficult for most smallholders to access credit, the participation and benefit of women in credit programmes is much less than their role in agriculture warrants. This situation continues to persist despite deliberate efforts to increase the participation of women in credit operations run by the government or organisations such as Concern Universal and NASFAM. Most of the credit is offered to facilitate the production of cash crops such as tobacco and paprika, which is typically the domain of men.

Gender mainstreaming is central to most agricultural programmes, projects, and services, but gender disparities persist. This is largely because implementation does not adequately address the major constraints to enhancing the important role of women in agriculture. Much greater attention needs to be paid to how implementation actually affects gender needs, how gender roles

---

<sup>16</sup> Which repeats the experience in other countries in the region such as Zimbabwe.

are changed and enhanced, and where the key intervention points exist to modify important gender relationships. This requires understanding who makes what decisions in a community or household and who controls what assets. Close monitoring is therefore important and as part of this, collection of data by gender is a prerequisite.

## **5.2. HIV/AIDS**

Malawi has one of the highest HIV infection rates in the southern Africa region. The National Aids Commission (NAC, 2001) estimates a national adult prevalence rate (15-49 years) of 15 % with 25 % in the urban areas and 13 % in the rural areas (translating to about 740,000 adults living with HIV/AIDS). The estimated number of annual AIDS related deaths is at 80,000, which contributes to the increase in the number of orphans (children who have lost their mother or both parents to disease) in Malawi.

About three quarters of all AIDS cases are found among adults between the ages of 20 and 40. As this is the most economically productive segment of the population, deaths in this age group are an important economic burden. Deaths in this age group also have significant family consequences since most people in this age group are raising young children (NAC, 2004).

Although the total number of reported AIDS cases according to sex is about equal, the distribution by age group and sex is quite different. For females, these are concentrated in the younger age groups. There are four times as many females as males reported to have AIDS in the group aged 15-19, while there are about one third more females than males in the group 20-29. This pattern then reverses; where more males than females are reported to have AIDS in all of the groups aged 35 or more. Some of the differences may be due to the pattern of transmission from older men to younger women, but young women are also more vulnerable to HIV infection physiologically (NAC, 2004).

The outcomes of the epidemic include:

- Over 840,000 children under the age of 18 are orphans, with 45 % of these due to AIDS.
- 70,000 children (aged less than 15) are infected with HIV. There were 25,840 new infections in 2003, 20,590 new AIDS cases and 20,410 AIDS deaths in 2003.
- The death rate for adults has tripled since 1990.
- The number of tuberculosis cases is three times higher than it would be without AIDS.
- 170,000 people are in need of anti-retroviral therapy.
- About 500,000 pregnant women need good antenatal care including HIV counselling and testing. About 80,000 mothers need anti-retroviral therapy to prevent vertical transmission of the virus (NAC, 2004).

The annual number of AIDS deaths is projected to increase to 96,000 in 2010. The number of adult deaths will be 260 % higher than a without AIDS scenario in 2010. The number of new tuberculosis cases is projected to be 180 % higher than a without AIDS scenario while the number of people needing antiretroviral therapy will increase to 190,000 in 2010.

The epidemic has affected all sectors of Malawi society. About 170,000 adults living with AIDS are estimated to be in need of treatment – but less than 3% have begun receiving treatment (GoM, WHO, and NAC, 2004). In addition, HIV/AIDS related conditions account for more than

50 % of all hospital admissions. Over 70 % of all tuberculosis patients also have HIV infection (NAC, 2004).

Malawi's health services simply do not have the resources of medical personnel and funding to cope with the opportunistic infections associated with the disease. As a result, the Ministry of Health encourages people to use home-based care. This strategy has increased the load on women who bear much of the responsibility for taking care of the sick and orphans, and participating in funeral ceremonies – which impacts strongly on the time available for productive (typically, agricultural) activities.

### **5.2.1. HIV/AIDS and Gender**

While the prevalence of HIV/AIDS is showing signs of decline in Malawi, women account for an increasing proportion of the infected (WHO, GoM, and NAC, 2004). Oxfam (2004) stated that more than 80 % of infections in sub-Saharan Africa are through heterosexual intercourse and in most cases within the context of a marriage relationship. However, most HIV prevention strategies focus on advocating abstinence from sex and faithfulness (Marcus, 1993). Yet, many women are unable to negotiate the timing and conditions under which sex occurs, particularly the use of condoms, as women are expected to be submissive. Attempts to argue in such matters only invite violence and even divorce. The powerlessness of women and girls makes them particularly vulnerable to HIV infection, which increases in times of food crisis and poverty. Oxfam (2004) illustrates this point well in the following quote:

*'The cultural and social circumstances of women are a big disadvantage to their ability to negotiate safer sex. It is culturally allowed and expected that men will be more mobile than women, they can have more than one partner, and that women's key strength to survive in marriage is submission and endurance. There are still a number of very private cultural practices that force girls to engage in early sex with older men, force widows to marry their in-laws, force women to engage in cleansing rituals that involve sex. Women's poor economic status has made them more dependent on their husband/partner even when there is a high risk of being infected. Economic hardship has forced young girls to get into early marriages often times with older men, therefore exposing them to HIV/AIDS infections.'* p.9.

Apart from the above socio-cultural factors, medical specialists suggest that women are physically more vulnerable to HIV infection and other sexually transmitted diseases (STD) than men (Panos and UNAIDS, 2000). In addition, women get sexually mature and active at an earlier age than men.

In addition to being more at risk of HIV infection, women are also disproportionately affected by HIV. The task of caring for people with AIDS and AIDS orphans falls more on women than on men. Upon death of a husband, many women (regardless of their HIV status) often return to their maternal homes, particularly when very ill. Property grabbing after the death of a husband is also common throughout the country. This leaves the women and children with nothing, thereby increasing their vulnerability to the disease through high risk coping strategies and exploitation. Girls tend to be the first to be withdrawn from school as AIDS exacerbates poverty at the household and community level. Poverty also limits people's access to reproductive health services, prevention and treatment. Cuts in social expenditure also leads to increased pressure on women and girls to take on the role of social safety net through caring for sick relatives as other wage earners become sick and die.

### 5.2.2. Impact of HIV/AIDS

Since the national response started 15 years ago, the impact of HIV/AIDS remains devastating. The impact of HIV/AIDS in terms of illness and death has affected individuals, families, communities and indeed the whole nation. It has reduced the productive work force among professionals and the ordinary farming communities. Trained staff is lost at a faster rate than the rate of training replacements, creating a high vacancy rate. Officers consulted in this study reported that many trained and highly skilled young men and women are dying while others are terminally ill due to AIDS. Many more people are involved in taking care of the sick or busy attending funeral ceremonies. A study of the impact of the disease on human resources in the Malawi public sector singles out the Ministry of Agriculture as one of the most hit among government ministries, which is losing 29 officers per month. Agricultural officials estimate that the ratio of extension worker to farm families has doubled and in some cases tripled in recent years from the recommended 1:750. This loss has reduced the ability of the MoA to generate and disseminate technologies.

As a result, the role of NGOs and international research organisations has expanded. For example, international research organizations such as ICRISAT and ICRAF are forced to go beyond research into development, disseminating their technologies to farmers in collaboration with NGOs. On the other hand, NGOs such as NASFAM, CARE International and Concern Universal, who largely depend on the public extension system to mobilise farmers and disseminate technologies, find themselves employing their own grassroots extension workers to do the job.

The pandemic has increased the vulnerability of women, the elderly, orphans and the sick, as they cannot access productive resources such as labour, fertiliser and seed. This has resulted in an increase of households being headed by children and old people. Elderly people are taking care of small children (grand children) while children are taking care of other children. The challenge is for service providers to develop new strategies for reaching the children and the elderly whose needs might be different from their conventional clients. Often these new clients are left with nothing, are helpless and require safety nets. Consequently, most NGOs and government are implementing both relief and development activities.

The HIV/AIDS pandemic has significantly increased the vulnerability of households to acute food insecurity, which increases sustainability of household members to HIV infection. As noted above, the food crisis in Malawi is perennial and households are pushed into destitution when this is coupled with adult illness and death. These households experience marked reduction in agricultural production in terms of area planted as well as yields. In addition, they opt for crops that are less labour demanding. Their ability to generate income is therefore severely reduced, which forces them to engage in coping strategies much earlier than their counterparts. Children drop out of school to help their mothers in taking care of the sick or their relatives and to engage in casual labour to earn a living. Girls may be forced into early marriages. Household members engage in casual labour in exchange for food while their gardens remain with weeds. Their immediate survival becomes a priority. For example, some families have no option but to sell their own garden together with the crop just to survive during the hungry season. Others have to engage in sex in exchange for food and other basic commodities – which fuels the AIDS pandemic. Up to 60 % of Malawian girls have accepted money or gifts in exchange for sex (Panos and UNADIS, 2000). As Khaila (2002) found out in a study in Lilongwe district, promiscuity (*chowerewere*) is common in the Malawian society and this increases in times of food insecurity. The challenge is to slow down the spread of HIV/AIDS in a society where multiple partners are common.

### 5.2.3. Response by Government and Civil Society Organisations

The government, civil society, faith-based organizations, community groups and private sector have made extensive efforts to raise awareness of the pandemic and to encourage people to change their behaviour. However, the sector's response is sporadic and not coordinated. In the Ministry of Agriculture, for example, efforts to respond to HIV/AIDS at the community level began in 1998 by implementing strategies in specific locations<sup>17</sup>. The preliminary activities have led to the development of a policy and strategies for responding to the disease in the agricultural sector.

Many civil society organisations and faith-based organisations are also responding to the disease by integrating HIV/AIDS issues within their programmes. These include CARE International, NASFAM, Concern Universal, Action Aid, CADECOM, and WFP. Available reports show that there are very high awareness levels among the people but limited behavioural change.

A strategy to develop agriculture as we have outlined will require agriculture to be more market integrated. But we know that a higher degree of market integration also exposes people to more contacts that may spread HIV. On the other hand, the gathering of people in market places may be used as a possibility for spreading information about how to reduce infection risk (e.g. "street theatre" in the markets) and cheap condoms.

## 5.3. NUTRITION AND OTHER PUBLIC HEALTH ISSUES

Food insecurity and malnutrition is widespread in Malawi as indicated by the high infant and child mortality rates (Table 6). In 2000, infant and under-five mortality rates were estimated to be 104 and 189 deaths per 100,000 live births, respectively. The maternal mortality rate in 2000 was 1,120 deaths per 100,000 live births. In terms of malnutrition, the Malawi Demographic and Health Surveys (GoM, 2000a) show in Table 7 that the proportion of children who are underweight is more than 12 times the level expected in a healthy well-nourished population. In addition, wasting affects 6 % of the children, this is three times the level expected in a healthy population. The proportion of children (49 % in 2000) who were found stunted is almost 25 times the level expected in a healthy well-nourished population. In addition, the poor consume only 66 % of the recommended daily calorie requirements, implying that malnutrition affects the adults too.

Table 6. Demographic indicators from 2000 Malawi Demographic and Health Service.

<i>Indicator</i>	<i>Malawi</i>	<i>Urban</i>	<i>Rural</i>
Total fertility rate (children per woman)	6.3	4.5	6.7
Infant mortality (infant deaths per 1,000 births)	104	83	117
Child mortality (child deaths per 1,000 births)	95	71	106
Under 5 mortality rate (< 5 deaths per 1,000 births)	189	148	210

Table 7. Demographic indicators for children under-five years

<i>Indicator</i>	<i>1992</i>	<i>2000</i>
Underweight (too thin for age)	27%	25%
Wasting (too short for height)	5%	6%
Stunting (too short for age)	49%	49%

<sup>17</sup> These include the following: 'A preliminary study for integrating HIV/AIDS activities in the agricultural sector', and the 'Formation of an organisational and operational structure to develop implement the rural community and workplace programmes'.

The majority of rural households face chronic food insecurity due to inadequate home production and low incomes. Lack of household food security has been a major problem since the 1980s. Maize, the main staple food crop contributes about 65 % of energy intake in the national diet. Figure 16 indicates that the production of maize has been erratic for the past decade due to a number of factors including drought, inadequate inputs and volatile prices. This has led to an increased rate of chronic household food shortages and malnutrition. The food deficit months have increased from 3 to 6 at household level. At national level, the food deficit increased from 300,000 ton in 2001/02 to 482,000 ton in 2004/05 (excluding potatoes). The poor health indicators mean that the health care budget has to increase to take care of the sick and malnourished. The productivity of labour force is significantly reduced and in the long-term, the mental and physical development of the people is reduced. The need to increase food and nutritional security in Malawi is therefore critical. A food and nutrition security policy aimed at reversing this trend has been formulated and its implementation is urgent.

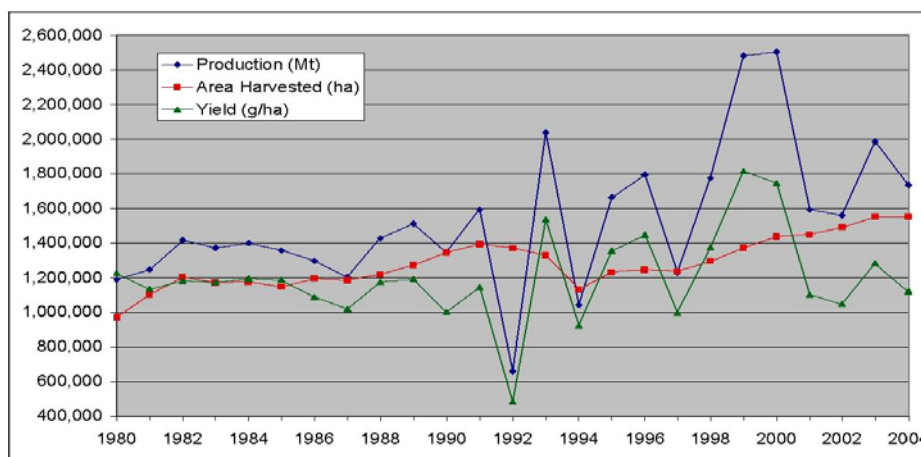


Figure 16. Total maize production, area harvested and yield in Malawi 1980-2004 (FAO website, country profiles)

Given the presence of the HIV/AIDS pandemic and other infectious diseases common in developing countries such as malaria, diarrhoea, TB, internal parasites and schistosomiasis, the health situation becomes complex, as most of these diseases closely relate to an individual's nutritional status. Malnourished individuals, especially children and pregnant women are more susceptible to infection (GoM, 2000b). Well-nourished individuals respond better to immunisation, treatment and rehabilitation. People with poor health are less able to fend for themselves as well as care for others. Since agricultural production in Malawi is labour intensive, productivity of people with poor health is minimal, thereby perpetuating food insecurity and malnutrition and therefore poverty.

## **6. OPPORTUNITIES FOR ACTION AND SUPPORT**

### **6.1. CROSS-CUTTING ISSUES**

#### **Agricultural development**

The planned Norwegian support to Malawi is classified as a ‘pilot programme for agricultural growth.’ The term implies that the programme should be coherent and focused, yet covering a certain range of interlinked elements. An actively involved, professional management will be needed to ensure relevance, implementation and impact.

A programme proposal needs to be tailored to the work of other donors already active in supporting Malawi agriculture. The programme should complement efforts of other donors—not duplicate. Proposals must also take into account the capacity of organisations available for implementation. Upscaling planned or ongoing programmes may be more cost-effective than starting up new ones. Regional cooperation is encouraged. Our suggestions are, therefore, based on an assessment of national priorities, other donors’ activities as well as institutional capacities and constraints.

The proposed activities for support are all based on a growth strategy where the public sector, donors and government, provide supportive public goods, whereas the private sector, including small-scale farmers, are expected to invest in the new opportunities for profit that are opened up in farming and related activities.

Modernisation and increased productivity require the use of modern tools for planning, managing and operating agricultural activities in production, processing and marketing. This has to be achieved while lowering the unit cost of operations. The challenge is to support the necessary shift from the current low level of inputs coupled with very low output, to operations that are science-based with high levels of output both in terms of quantity and quality. A further challenge is to provide knowledge and technologies that promote the improvement of the productivity and conservation of land, water and biodiversity.

While the majority of Malawian farmers will remain at a subsistence level in the near future, poverty reduction will only be achieved by breaking out of the subsistence cycle. This requires the development of strategies to catalyse the change from subsistence to profit through the identification and development of new and viable options that empower smallholder farmers to:

- change from subsistence to commercially profitable agriculture;
- shift focus from commodity production to marketing-oriented, processed and value-added products;
- move towards increasing participation in food markets; and,
- obtain access to local, national and international markets.

Achieving better profitability and sustainability in agriculture requires the improved management of agricultural resources, combined with increased efficiencies in managing inputs and outputs at all stages of the production chain, the adoption of new technologies, and the extension of the use of existing technologies, such as reduced tillage, mechanization, water harvesting and irrigation, range management, crop protection and animal health, and crop storage. The essence of the strategy recommended here is to enable, through appropriate interventions, the speedy and efficient implementation on a wide scale of these new practices. Investments are focused on provid-



ing direct support to agriculture, rather than on the administrative processes of the agricultural ministries and other public institutions<sup>18</sup>.

Sustainable growth will essentially have to come from efficiency gains in production, marketing and processing. There will not be one sole source of growth (i.e. no “quick fix”). Improved analysis of problems and potential interventions, increased transaction efficiencies, the mobilisation of private investment, raising the value-added of agricultural output and many other factors, will all have a role to play. Much can be achieved, at no additional cost by establishing an “implementation culture” where priority is given to problem solving and by inspiring ways of making the best use of limited resources.

Improved client orientation is fundamental to all service provision to smallholders. The strategy has a clear focus on building a ‘smallholder-friendly’ product/marketing chain, intended to link primary producers of crops and livestock commodities, to post-harvest operators, traders and consumers. At the same time, the strategy supports the empowerment of smallholders through innovative mechanisms such as increased training, communication and information flow, participatory problem identification and research to enable them to demand new and improved services effectively.

**Product chain approach:** for smallholders to become commercially competitive, they need to participate in product chains that are determined by markets and consumer needs.

**Shift toward value added and market considerations:** programmes to support smallholder development need to change their orientation quickly and effectively from the traditional focus on production-side research and its typical linear, top down technology dissemination. Holistic problem solving is extended to problems throughout the product chain, with an emphasis on improving the efficiency of input use.

**Ensuring the availability of ‘foundation’ technologies:** research teams need to work with other partners to ensure that, not only are their research products closely tailored to their farmer/clients’ needs, but also that the necessary links in the market chain are in place. The introduction of a new variety will be coordinated with the development of suitable partners to help bulk up the necessary seed for purchase. The private sector and other agencies have to work alongside researchers so that they are prepared and able to provide new inputs and other requirements for the new technology and market options developed.

**Reaching and serving the poor:** poverty alleviation is central to the objectives of this strategy. There is a focus throughout on dealing with issues of importance to resource poor farmers, women and youth.

### **Mainstreaming gender issues**

Most organisations include gender mainstreaming as a strategy in their agricultural programmes, projects and services. In addition, most policy documents include gender mainstreaming as a crosscutting strategy. However, gender disparities continue to exist in these organisations and activities, which means the strategies being implemented are not enhancing the important role of women in agriculture as they should. This calls for reflection, strategising, commitment and ac-

---

<sup>18</sup> A judicious balance is required between the needs of the institutions to provide effective delivery of public services to farmers, and the use of public funds to stimulate production.

tion by all stakeholders in order to strengthen the gender mainstreaming strategy. A number of activities are proposed below.

1. **Improve access to, and control and management of production resources such as land, capital and knowledge.** Specific activities for each production resource are required.
  - a. **Land.** The land policy and land reform programme have stipulated the need for gender equality in land matters. The debate on these issues is in progress and stakeholders in agriculture and gender should join hands to lobby authorities to ensure that the good intentions of the land policy are implemented.
  - b. **Capital.** A number of organisations provide loans to farmers in cash or kind in the rural areas. However, access to these loans is a major problem even amongst male farmers. But the issue for women is to understand the amount and form in which they need it in view of their lack of assets. The amounts women take are usually smaller than what men take. CARE International promotes savings schemes that suit the needs and constraints of women and such practices need up scaling. Concern Universal Micro-finance Operation (CUMO) model aims at reducing barriers to access of rural communities to financial services by using groups, savings schemes as well as credit that caters for farm and off-farm needs. The CUMO model has assisted women to expand their off-farm enterprises, businesses that women control and manage, thereby empowering them.
  - c. **Knowledge.** Provide extension and training service to women alongside men by making deliberate efforts to include women. Establishing separate groups for men and women also facilitates participation of women particularly in communities where culture does not support mixed groups.
2. **Increase the participation of women in various agricultural programmes, projects and activities.** To increase participation, we need to deliberately provide opportunities for women to participate through affirmative action and quota systems, such as is done in NASFAM.
3. **Advocacy for gender equality.** Considering the Malawian culture of males having power over women, and women being submissive, the issue of gender is a sensitive one and often threatens both men and women. Resistance is therefore not uncommon, particularly among men. As such, addressing gender issues (at community or institutional level) should be strategic and sensitive to the local situation that varies from region to region.

### **Mainstreaming HIV/AIDS issues**

Stakeholders in agriculture should accept HIV/AIDS pandemic as real and promote change in people's attitudes and behaviour as part of their responsibility because the disease is affecting staff as well as clients. Success of their programme activities will therefore partly depend on the stakeholders' success to prevent and mitigate the disease. Some of the activities included in mainstreaming activities are the following:

1. **Promote HIV/AIDS awareness among staff and farmers.** Staff and farmers must understand the disease and what it entails before they can help others.
2. **Build capacity of field workers to educate and work with the communities on HIV/AIDS.** This involves training activities in prevention, care and rehabilitation. The

plight of women in this pandemic and how they can claim and defend their rights should be highlighted.

3. **Promote livelihood of the affected and infected people.** This requires some investment for field workers to address livelihood challenges of the poor by promoting a variety of focused interventions aimed at improving the health and nutrition situation of the affected and infected. The interventions should consider the food security status (food secure, food insecure and food crisis) of the households and their coping strategies. Typical activities include an extension programme promoting food production (crops and livestock), nutrition, soil and water conservation and safety nets for the infected and affected households.
4. **Develop HIV/AIDS mainstreaming policy guidelines.** The agricultural sector policy and strategy paper for HIV/AIDS is available in the Ministry of Agriculture and can assist other stakeholders to develop their own.
5. **Develop HIV/AIDS support fund for advocating and promoting access to care and prevention.** Concern Universal and CARE International have set aside funds for assisting their staff and families to meet the challenge of living positively with HIV/AIDS while respecting their privacy. The challenge is to open this service to their clients.
6. **Conduct research on HIV/AIDS.** Research activities should inform the development of HIV/AIDS prevention and mitigation strategies. This should be a continuous process and in partnership with other stakeholders. Both quantitative and qualitative research is necessary to understand the situation better and to deal with specific issues. Wide dissemination of results is encouraged.

### **General risks**

The major risk to all interventions is the ‘non-implementation syndrome’ that afflicts so much of Malawi’s development assistance. It is not the absence of good ideas and policies that binds Malawi to poverty; it is failure to deliver on the promise. The World Bank, in its Agricultural Services Programme, found that less than 20 percent of funds intended for smallholder development actually reached anywhere near the beneficiaries. We have noted the breakdown in discipline within the Malawi public sector that, under the new democratic dispensation, makes a major culture change within the public services difficult to achieve. The functional analysis under MASIP appears terminally stalled and there is little momentum behind the national decentralization effort.

Furthermore, there are serious gaps appearing at critical levels in the public sector. Funds for training young development specialists have dried up over the last decade. Death and emigration, as well as retirement, have reduced the ranks of experienced individuals at all levels in government service.

This last, however, represents an opportunity as well as a risk. With a strong focus on helping build capacity at all levels within the country (which is consistent with the objectives of both Bunda College and NASFAM support), there is a real chance to create significant change. Young, enthusiastic individuals can be given the opportunities to work in a system that rewards enterprise and results. The international agricultural research centers and others have shown that they can provide the technical backup and support for new approaches to development initiatives. Norway has the particular advantage that it is starting a programme with relatively modest ‘baggage’ from the past. The World Bank has indicated unequivocally, that it wishes to work in close collaboration with Norway. This opens the potential for pooling the strengths of the two agencies (and probably other major donors also) into a strong decentralised, development initiative

where the economic clout of the Bank can be coordinated with a more nimble and focused Norwegian programme.

## **6.2. COMPONENTS OF A PROPOSED PROGRAMME**

Recommended elements of a support programme are presented below in a *non-prioritised* sequence as five thematic areas with sub-components. A development program may consist of all or selected components.

- 1) *Budget support to Government of Malawi and policy dialogue*
- 2) *Agricultural education and enterprise promotion*
  - a. Continued support to Bunda College of Agriculture
  - b. A new innovative programme to revitalise the Natural Resources College including an enterprise promotion programme
  - c. Support to agricultural vocational schools starting with Mikolongwe Vocational School in Chiradzulu
- 3) *Agricultural research and development*
  - a. The Agricultural Research and Development Fund (ARDEF) managed by Bunda College
  - b. Support to the expansion of the NGO-consortium I-LIFE
- 4) *Farmer organisation and market development*
  - a. Support to NASFAM
- 5) *Agricultural infrastructure and productivity investments*
  - a. Improvement of rural roads
  - b. Investment in water management
  - c. Investment in soil fertility

### **6.2.1. Budget support to Government of Malawi and policy dialogue**

Norway is currently providing budget support to Malawi. Continued budget support would be the main way of supporting continued public spending in MoA and other ministries – while reducing the fiscal deficit. Budget support would need to be followed up with monitoring and by policy dialogue with the GoM, e.g., via the donors' coordination group on agriculture and food security, or through other channels. As mentioned in the report, several policy issues are of particular interest to agricultural development, e.g.:

- Further reduce the fiscal deficit to bring down interest rate (and inflation) and make capital available for investment in the private sector
- Reduce market uncertainty caused by government intervention:
  - Ensure predictability in government procurement and sales of maize and fertiliser
- Review the role of ADMARC and other parastatals with the view of reducing their fiscal burden.
- Accelerate the reorganisation of MoA to make it leaner and more effective
- Continue decentralization
- Improve and expand (rural) transport infrastructure, as well as road, rail and harbours linking Malawi with the world market, especially the Nacala corridor.

The policy dialogue should be based on the strengthened agricultural and rural development policy research that should be an important component of the proposed ARDEF (see below).

### **6.2.2. Agricultural education and enterprise promotion**

Education is essential for development. Lack of a cadre of highly competent entrepreneurs, researchers, extensionists, technocrats, and managers is identified as a major constraint in Malawi. Support to tertiary educational institutions in the sector is intended to address this need. Norway has taken on a role as lead donor in agricultural tertiary education. It is proposed that this is continued and expanded.

Three components are recommended:

- a) Continued support to Bunda College of Agriculture
- b) A new innovative programme to revitalise the Natural Resources College including an enterprise promotion programme
- c) Support to agricultural vocational schools starting with Mikolongwe Vocational School in Chiradzulu

#### **1. Support to Bunda College**

Norwegian support to Bunda College has been appreciated and has had obvious impact. Bunda College needs to be developed and enhanced to provide the kind of indigenous leadership for change that the Maize Productivity Task Force and JEFAP provided in earlier crises. Norwegian support and encouragement – through UMB and the IARCs and NGOs - in a coherent manner can play an important role in creating a ‘self help’ approach to change. Continued attention should be given to support the Centre for Agricultural Research and Development (CARD) at Bunda as an important contribution to the national agricultural policy debate and development.

Since the support program is already well established and on track, the mode of operation is not discussed further in this report.

#### **2. Establish an ‘African EARTH College’ and a ‘Business Development Programme’**

##### *Background*

The commercial sector in Malawi is weak. Reductions in certain government services have not been taken up by the private sector as anticipated. Small-scale producers will benefit from entrepreneurs starting new commercial production in their region either by obtaining part-time jobs or by easier access to markets. A new generation of actors in the private sector is needed to move from a subsistence economy to a market economy. An African EARTH college might be an excellent contributor to this transition.

EARTH University of Costa Rica is an independent, undergraduate university. The institution grew out from a cry for peace, equity, sustainability and development in Central America. EARTH University was founded by people with a strong commitment to contribute to regional peace and prosperity. Throughout the four years of study, students are trained in entrepreneurship, leadership, community service, environmental awareness, sustainability, communication, teamwork, cultural appreciation and social concern. Most graduates find employment in private businesses or establish their own enterprises. The original ambition of the university still permeates all activities. Its mission is evident in student uptake, teaching, student/staff interaction as well as student life. Proof of success can be read from the enthusiastic eyes of staff, students and graduates alike.

EARTH offers a unique student-centered learning environment with a focus on the student as an active participant and the professor as a facilitator of learning. EARTH emphasizes experiential learning, development of leadership and entrepreneurial capabilities, teamwork and group problem solving. In addition to classroom learning, students receive hands-on training on EARTH's academic and commercial farms and work in rural communities. Each student must embark on an entrepreneurial project throughout the four years and demonstrate planning, decision-making and application of skills he/she learns in the classroom. After four years, the successful student leaves EARTH as an "agent of change".

The EARTH model is reminiscent of the Scandinavian 'Folk High School' and vocational farming schools. What makes EARTH successful, however, is the high dedication of staff and the motivation of students to leave the university as "agents of change". Everyone, staff and students alike, seem extremely proud of being part of EARTH.

Can EARTH be copied and implemented elsewhere? Yes, perhaps on a smaller scale and with a lower budget. A fundamental prerequisite, however, is the need for the institution to be autonomous. Most universities in Africa are owned by governments and tend to have a bureaucratic structure and limited freedom. EARTH-type graduates are clearly needed in Malawi and an "EARTH University" may serve as a regional center for entrepreneur education and potentially lead to impacts in other SADC countries.

Establishment of new enterprises is very difficult in Malawi—even for people with "the perfect" education. A 'Business Development Programme' will be desirable in conjunction with the university to support graduates in establishing small businesses for production, trade and services. The proposed university may contain an outreach section with the duty to assist private enterprises with problems pertaining to production, credit, marketing and other economic and legal issues. Alternatively, the college can cooperate with professional credit and business service institutions.

Expanding NRC in the direction of an "EARTH" college should not reduce NRC's role in educating extension workers and irrigation engineers. In fact, extension graduates would benefit from a more entrepreneurial learning environment. The Ministry of Agriculture admits to lacking business mindedness among its staff. Entrepreneur graduates are also needed in the line agencies of government to develop a society that is conducive for growth of the private sector.

#### *Relevance and feasibility for Norwegian support*

The programme would benefit from existing Norwegian support to EARTH (Costa Rica) as well as investments made to promote the idea of EARTH in Africa. The relevance and feasibility of implementation in Africa is well documented in several reports from the EARTH-Salzburg Seminar Series (see <http://www.changetropics.org/project.html>). Three staff members at Bunda College have visited EARTH as part of the project.

#### *Institutional channels*

The Natural Resources College near Lilongwe has excellent facilities, is presently underutilized and appears as a very strong candidate for developing the first 'African EARTH College'.

Opportunities for a business development programme potentially linked to a new EARTH college would need careful assessment. As an alternative to building up new functions at the college, services may be provided by existing institutions.

For credit service, collaboration with Norfund may be possible. Presently, low-cost micro-finance facilities for both agricultural and non-agricultural activities are available mainly through non-governmental institutions and special government safety net programmes. The following NGOs provide credit facilities to their members or target groups with low or no collateral: the Foundation for International Community Assistance (FINCA), the Malawi Union of Savings and Credit Co-operatives (MUSCCO), Village Enterprise Zones Associations (VEZA), the National Association of Small and Medium Entrepreneurs (NASME), the National Association of Business Women (NABW), and the Women's World Banking (WWB).

Other micro-finance institutions exist, but none of them provide specialized and low cost services to agriculture. These include the Small Enterprise Development Organization of Malawi (SE-DOM) the Development of Malawi Traders (DEMAT) and the Investment and Development Fund (INDEFUND). DEMAT also provides business and technical advisory and marketing services to micro, small and medium enterprises in the manufacturing, service and trading sectors for the purpose of alleviating poverty and creating employment.

#### *Possible risks and constraints*

The college is presently a semi-independent trust (Appendix 2). The government may, however, take over and change its mandate.

A college operating in a true 'EARTH' spirit will depend on exceptionally motivated management and teaching staff. A credit fund for student business development may be difficult to maintain.

Risks and constraints for implementation in Africa is well documented in reports from the seminar series

Developing NRC into an African version of EARTH would be a demanding task both financially and administratively. Success would probably require additional funding partners and committed institutional links.

#### *Potential contributions to the Millennium Development Goals*

Contributions to the MDG would be indirect through providing educated, young people who could help promote economic growth in Malawi by starting production businesses, trading companies, serve as extension agents and contribute to a better understanding of the private sector in the capacity of government employees. Scholarships to female students would promote gender equality. Activity would contribute towards "develop a global partnership for development."

#### *Potential impacts on the development indicators*

Possible positive impacts on (1) GDP per capita, (2) investment share of GDP, and (3) ratio of average female wage to male wage.

### **3. Support to agricultural vocational schools; Mikolongwe Vocational School in Chiradzulu**

#### *Background*

More than half of the population in Malawi is under the age of 21. Education at all levels is—and will continue to be—a major challenge in the economic development of Malawi. Only 25,000 new jobs are available for the 150,000 young people who enter the work force each year. Education must focus both on job creation and self-employment. The elimination of diploma

courses by University of Malawi leaves a gap to be filled. The capacity of the vocational education in agriculture does not meet the present needs.

*Relevance and feasibility for Norwegian support*

Support to vocational agricultural training would constitute an important link between Bunda College, Natural Resources College and farmers.

*Institutional channels*

Ministry of Labour and Manpower Development.

*Possible risks and constraints*

Projects channelled through the government system run the risk of 'non-implementation.' However, close cooperation and formal monitoring can eliminate the problem.

*Potential contributions to the Millennium Development Goals*

Contributions to the MDG would be indirect through providing educated, young people who could help promote economic growth in Malawi by improving farming.

*Potential impacts on the development indicators*

Possible positive impacts on (1) GDP per capita.

### **6.2.3. Agricultural research and development**

There is a need to strengthen research in cooperation with implementing agencies and farmers. A new concept of 'dialogue-driven' research and outreach is suggested where researchers, managers, NGO staff, extensionists and farmers develop a coherent research and outreach programme through a formalised forum for dialogue.

The thematic area consists of two components:

- a) The Agricultural Research and Development Fund (ARDEF) managed by Bunda College
- b) Support to the expansion of the NGO-consortium I-LIFE

#### **1. The Agricultural Research and Development Fund (ARDEF)**

There are currently many donors to agricultural research in Malawi. But most projects are relatively small and often poorly coordinated. It is suggested that current support to research by Bunda is reorganized and considerably strengthened to serve as an open programme for funding research, outreach and development work for any organizations that may contribute to compete for funding on merit: IARCs, Ministry of Agriculture research centers, NGOs, etc. Projects should address the main concerns of developing Malawi agriculture, e.g., soil fertility improvement, crop productivity, livestock development, commercial production units, agricultural policy research, etc. Projects should also be cooperative, including researchers from different institutions as well as extensionists and development workers. In line with this ambition, the programme should have decision-making bodies that are not controlled by any one institution, although secretariat should be situated at Bunda College. Linking Bunda so closely with the mainstream development work in Malawi will most likely become a great asset for the college.

As a programme proposal is currently being negotiated, the team will not go into detail on this issue, except by noting that the ARDEF should be given a volume sufficient to reinvigorate agricultural research in Malawi.



## **2. Support to the expansion of the NGO-consortium I-LIFE**

As has been shown vividly throughout this report, Malawi faces an unenviable complex of problems with tiny resources of human skills, capital, and income generating potential. In the 2002 and 2003 growing seasons, Malawi suffered two very poor food production years. In 2003, the situation was so bad that it was not a food crisis but a famine. Yet Malawians at all levels pulled together to create a response to the famine that was remarkably effective. They showed that, even with tiny resources and under considerable pressure, sensible, productive, and equitable policies can be developed and implemented with flair and success.

The programme developed for the food crisis was massive and comprehensive. It dealt, not only with the immediate problems of alleviating a humanitarian disaster, but also with the wider issues of protecting the vulnerable and recovering from the famine. It involved close and effective collaboration between government, donors, the private sector, civil society, and a range of interest groups. It required that all involved develop new ways of working and of doing business. The proposal here is to harness these same skills, which were engaged for a massive **relief programme**, for a focused and broad-based **development effort**.

A start has already been made. In recognition of the success of collaboration over the 2002 and 2003 food crises, the NGO community resolved to work together to address the long-term food security problems in Malawi in a development rather than a relief context. The NGOs developed a five-year Development Assistance Program (DAP) to reduce food insecurity among vulnerable households and communities in rural Malawi. Funding to implement this programme was obtained from USAID – which has the unfortunate outcome that only US-based NGOs can participate. A consortium of eight NGOs -Africare, American Red Cross (ARC), CARE, Catholic Relief Services (CRS), Emmanuel International (EI), Save the Children US (SCUS), The Salvation Army (TSA) and World Vision (WV) – revised the DAP into what is now called the Improving Livelihoods through Increasing Food Security (I-LIFE) Programme. The coordinated effort has its own Programme Management Unit that enables all participating NGOs to operate under a common funding operation. It is a five year activity to support broad-based agricultural and agribusiness growth in conjunction with improving health and district capacity to sustain development. Primary emphasis is on the most vulnerable communities and female and child headed households, as well as those affected by the chronically ill.

The I-LIFE programme has three interconnected strategic objectives:

- **Livelihood capacities of vulnerable groups are protected and enhanced.** I-LIFE will improve food availability and access by increasing agricultural production and incomes and improving infrastructure through a strategic process of improved agricultural practice, reinforced linkages between production and marketing, and strengthened farmer organizational capacity. The program will improve access to promising technologies already existing in Malawi. I-LIFE will also promote Food for Work (FFW) to improve rural infrastructure.
- **Nutritional status of vulnerable groups is protected and enhanced.** To improve food utilisation, I-LIFE will increase household adoption of improved nutrition and complementary health behaviors and improve food utilisation of malnourished children and chronically ill-affected households. Project activities will promote better nutrition practices, community health awareness campaigns, community and home vegetable garden-

ing, and improved capacity of community health workers to deliver sustainable quality health services within their communities.

- **Community and district capacity to protect and enhance food security is improved.** The Consortium will promote increased community and district level accountability, transparency, and effectiveness of district government structures and national civil society capacity to sustain development activities, while promoting coalition building, community organisation and workable applications of decentralisation within targeted districts and villages.

The development focus is to move farming families out of subsistence (or, more typically, from below subsistence) into surplus market agricultural production. Specific attention is paid to improving household nutritional and health practices. Actual activities carried out under the programme include:

- **Increasing agriculture production:** Farmer field schools for improved production practices, linking production to marketing, improved access to seeds and fertilisers for crop diversification (seed fairs), increasing agricultural assets, small scale irrigation and water catchment systems, developing village savings and loans
- **Improving nutrition and health:** using healthy families as the example in poor communities, rehabilitating malnourished children, providing safety nets for chronically ill-affected households, improving community capacity on the delivery of health services, introducing home gardens to increase nutrition
- **Increasing district capacity:** helping districts and CBOs provide leadership and services in the agricultural and health components of the programme, working to integrate key interventions into District Development Plans, and building capacity to sustain development

Participating NGOs build programmes with these components in their focus districts. Dedza is managed by Save the Children (US), Lilongwe by CARE, Mangochi by Emmanuel International, Mchinji by CRS, Ntcheu by Africare, Ntchisi by American Red Cross, Phalombe by the Salvation Army, and Thyolo by World Vision.

Under current funding, is limited to US based NGOs. This limits scaling up prospects and does not provide a coherent basis for a decentralised and coordinated food security and technology dissemination effort. Norwegian support would widen NGO participation and would provide a powerful mechanism for bringing to scale the other initiatives in technology development and market access funded through the Bunda and NASFAM operations. In addition, ARDEF funding for policy analysis, combined with the advocacy skills of the NGO movement, will enable a much more focused and coherent approach to policy formulation to emerge.

I-LIFE has its own Programme Management Unit to manage funding provided. This unit would need to be modified and made more inclusive under Norwegian support. The basic activities that are carried out already with I-LIFE are entirely compatible with the overall aims of the proposed Norwegian programme for Malawi. Approval of specific programmes by Norwegian supported NGOs could easily be incorporated into the regular work of the ARDEF committees and this would facilitate additional coordination across all three aspects of the programme.

We do, however, fear that channeling support for I-LIFE activities via ARDEF would be to overload the capacity of ARDEF for decision making and monitoring. Before the ARDEF management set-up has been tried and tested and proved viable and competent it would be too risky to use it also for support to I-LIFE. Our suggestion is therefore that possible support to I-LIFE should be developed as a separate project directly between the Embassy and the I-LIFE members and project management unit. Coordination with ARDEF could be maintained through representation by NGOs in ARDEF decision-making bodies. Provision should also be made for transferring possible extended support to I-LIFE to ARDEF or District assemblies after a first project period, of e.g. 5 years.

#### **6.2.4. Farmer organisation and market development**

In this thematic area, only one component is proposed at this stage: support to NASFAM.

##### **1. Support to NASFAM**

Markets for farm inputs and outputs are weakly developed in Malawi. NASFAM's support to its members in terms of marketing and extension services is of great value. The organisation has gained a reputation for doing good work. This includes initiatives in developing new markets, as well as training members in various organisational skills, literacy and numeracy. As a programme proposal is already being negotiated between the Embassy and NASFAM, the team will not go into detail beyond expressing support for a continuation and an expansion of the programme in line with the increased membership of NASFAM.

#### **6.2.5. Agricultural infrastructure and productivity investments**

The thematic area consist of two components:

- a) Improvement of rural roads
- b) Investment in water management
- c) Investment in soil fertility

##### **1. Improvement of rural roads**

###### *Relevance and feasibility for Norwegian support*

Traders will be reluctant to operate in many parts of rural Malawi due to poor or lacking roads, although there are also other constraints, such as small surpluses being offered for sale. Improved infrastructure is important for several reasons:

- Lowered transport costs imply higher profitability (break even) for high productivity agriculture
- Better access to input supply
- Better market access for surplus production
- Improved access to consumer goods

If built with labour intensive methods, public works, such as roads, also have an important role in providing income for rural poor and thereby securing livelihoods in the short term. Emphasis should nevertheless be given to the infrastructure strengthening aspect of the programme and not only to the relief aspect.

### *Institutional channels*

There are already several projects and activities in strengthening rural road infrastructure undertaken by government, donors and NGOs. The team did not have opportunity to get a full overview on these, but nevertheless remains with a strong impression that there is still much undone in terms of assuring road access to rural areas.

Funds for this activity should preferably be channelled through the District assemblies, in accordance with the decentralisation policy. There are several possible channels: earmarked funds for districts or supplement to the Malawi Social Action Fund, and possibly others. This will need to be explored as a programme is developed. The approach may either be to give support to all districts, or to select some districts where potential return in terms of agricultural growth is considered highest. Criteria for high return would be to identify areas with large production potential that currently have poor market access.

### *Possible risks and constraints*

The main risk of this programme would be the capacity of district assemblies to plan and implement such activities. Coordination with other funding sources and arrangements may also be an area of concern.

Unless properly built, roads in sloping landscapes can lead to severe erosion (examples seen in northern Malawi). Easier transportation may also lead to increased deforestation and cultivation of lands that are unsuitable for cultivation (increased erosion hazard).

### *Potential contributions to the Millennium Development Goals*

As argued above this may have large impact on poverty reduction, but will depend on implementation.

## **2. Investment in water management**

### *Background*

Drought is a major cause of recurrent food crises in Malawi. Drought takes the country repeatedly back from a path of development to that of emergency. Following drought, purchase and distribution of emergency food cost the international donor community large sums of money. In times of crises, WFP spends \$5/person per month in food support. Climate change predictions suggest that we will see more of this in the future.

In the long run, a substantial increase in food production in the lowlands based on irrigation will be necessary to reduce the extent of unsustainable farming on the hill slopes. Long-term investments in large-scale water management structure appear necessary.

In an African context, Malawi is in a fortunate situation: There is plenty of water. Investments are needed to reduce people's vulnerability to the vagaries of nature. Both small-scale and large-scale impoundment and conveyance structures will be needed to benefit from existing water during times of drought. Use of water in lowland agriculture has the potential to provide alternatives to farming on steep slopes.

There are several opportunities for Norwegian support to ease the effects of drought. In the north, a feasibility study for water development in Songwe River basin has recently been finalised. A meeting between the Department of Water Development and donors will be arranged in

May/June 2005 to determine the next steps. Development opportunities include hydropower, flood control, erosion control, reforestation, agriculture, and poverty reduction. Preliminary economic estimations show promising prospects.

According to heads of Department of Crop Science and Department of Soil and Water Engineering, Bunda College, substantial opportunities for water-based crop production exists in the area of Chimaliro, Mzimba District, Northern Region, based on dam and gravity flow. At Chilumba, water can be pumped from Lake Malawi to a reservoir to supply an area of 250 km<sup>2</sup> between Vithukutu, Uliwa and Hara. In both cases, water supply will facilitate two annual cropping seasons of which at least one could be rice. A dam in the Nyika River would facilitate irrigation of the Chitipa Plain.

About 750 small dams built in colonial times are scattered throughout the country. Many are out of commission due to damage or sedimentation. Ministry of Water Development is preparing an inventory of these old dams to assess the opportunities to rehabilitate some of them. The ministry will also assess opportunities for new small dams and options for constructing water harvesting reservoirs.

The World Bank has proposed an “Irrigation, Rural Livelihoods and Agricultural Development Project” (revised version 01/05/2005) that incorporates water provision into agricultural development. The project may serve as a vehicle for Norwegian support to drought protection and poverty reduction.

A feasibility study is also recently finished for Shire River Valley. The plan includes a control structure for the water level of Lake Malawi (upgrade of the 1965 barrage), an additional dam and a hydropower at Kol Kholombidzo as well as an integrated water resource development plan for the valley (including agriculture). Due to the enormous surface of Lake Malawi, a 10-cm lake level control would provide 3 billion m<sup>3</sup> of water for use in the dry season in Shire Valley.

All potential support to the construction of water management structures—small or large—should be designed as part of comprehensive agricultural development and rural livelihood programmes.

#### *Relevance and feasibility for Norwegian support*

Norway has a long history of support to the water sector and dryland management in several developing countries. The feasibility studies of Songwe River and Shire River have been funded by the Nordic Development Fund. A second phase of Nordic funding would seem appropriate.

#### *Institutional channels*

Further investigations into options for support should be directed through:

1. Ministry of Water Development
2. Ministry of Agriculture, Irrigation and Food Security
3. World Bank, Africa Regional Office, Country Department 3 Malawi, Rural, Environment and Social Development Unit

#### *Possible risks and constraints*

Risks and constraints are severe. Management of water structures will be a major challenge. Education of qualified graduates at Bunda College and the Natural Resources College will be essential to supply the necessary staff.

In the short run, self-financed operations may not be feasible. Provision of water should be seen as a service provided to farmers on similar terms as research results, roads, extension service, and subsidized seeds and fertilisers.

*Potential contributions to the Millennium Development Goals*

If successful, water management could have a major impact on:

1. Eradication of extreme poverty and hunger
2. Reduction of child mortality
3. Ensuring environmental sustainability

*Potential impacts on the development indicators*

Impacts will presumably be recordable in terms of equity (proportion living below poverty line; unemployment rate), health (nutrition, mortality, life expectancy under five; proportion with safe water), land (arable and crop land area; forest area; land affected by desertification), and economic structure (GDP per capita; investment share in GDP).

### **3. Investment in soil fertility**

*Background*

According to estimates, farmers remove annually twice the amount of plant nutrient that they replace through fertiliser. In particular, the levels of nitrogen in Malawian soils are dramatically low and constitute an important reason for food insecurity. The UN Millennium Project's Hunger Task Force recommends strongly to invest in the front end of the food chain, i.e., fertilizers, agroforestry, equipment for small-scale water management, and improved seeds rather than at the tail end with food aid. However, these investments have to be at scale—something that will effectively restore soil fertility and restore healthy nutrient cycling and improve water holding capacity (P. Sanchez, pers. com.). The most cost-effective method of restoring soil fertility in Malawi is a hotly debated subject that needs to be investigated further. A strategy of adaptation to low soil fertility is definitely not a viable solution.

*Relevance and feasibility for Norwegian support*

Soil fertility is a core element of livelihood security among subsistence farmers. Norway should collaborate with other donors regarding this issue.

*Institutional channels*

The Norwegian support programme should limit its partners to a manageable number. Channels for investment in soil fertility should therefore be sought among the partners of the other programme elements, such as I-LIFE and participants in the ARDEF programme. Specifically, the ICRAF office at Chitedze would be an obvious and competent partner regarding the agroforestry element.

*Possible risks and constraints*

Adoption of soil fertility and conservation technologies have had a low rate of success in the part in different parts of the world despite great promises by project proposals. The main problem is that the various methods for soil conservation is too laborious for poor farmers and occupy valuable field space. Poor farmers have so many urgent concern, that they may not care for the soil. Implementation of soil fertility projects should always be part of a broader development effort and not be organised as stand-alone programmes.

*Potential contributions to the Millennium Development Goals*

If successful, soil fertility investments could have a major impact on:

4. Eradication of extreme poverty and hunger
5. Reduction of child mortality
6. Ensuring environmental sustainability

*Potential impacts on the development indicators*

Impacts will presumably be recordable in terms of equity (proportion living below poverty line; unemployment rate), health (nutrition, mortality, life expectancy under five; proportion with safe water), land (arable and crop land area; forest area; land affected by desertification), and economic structure (GDP per capita; investment share in GDP).

### **6.3. SHORT TERM HUNGER ALLEVIATION**

The strategy we have outlined is a development strategy. It will do little to alleviate hunger during the coming year. Thus, it will be important that government and donors also support various measures to ensure survival and livelihood security in the short run. This would be interventions such as food for work, public works, school feeding programmes, or even handing out money to destitute people so they may buy food. It is important that such measures are implemented in such a way that they do not undermine efforts for longer-term growth.



*Figure 17. Malawian farmers are eager to learn (photo: K. Esser)*

## **7. REFERENCES**

- AfDB. Undated. African Development Bank.
- Ajayi, J.F.A., Goma, L.K.H. and Johnson, G.A. 1996. The African experience with higher education. The Association of African Universities, Accra, James Currey Ltd, London, and Ohio University Press, OH. 276 pp.
- Amissah-Arthur, A. 2003. Targeting climate Forecasts for agricultural applications in sub-Saharan Africa: Situating Farmers in User-Space Climate Change 58(1-2):73-92.
- Anon. 2005. Food Security and Nutrition Policy. Macroeconomic Policies: Situational Analysis (draft) Lilongwe.
- Bänziger M., and Cooper M., 2001, "Breeding for low-input conditions and consequences for participatory plant breeding - examples from tropical maize and wheat", *Euphytica* 122: 503-519.
- Benson, T. 2002. Malawi – An atlas of social statistics. National Statistical Office, Government of Malawi, Lilongwe, Malawi and International Food Policy Research Institute (IFPRI), Washington DC, USA.
- Byerlee, D., with Anandajayasekera, P., Diallo, A., Gelaw, B., Heisey, P.W., Lopez-Pereira, M., Mwangi, W., Smale, M., Tripp, R. and Waddington, S. (1994) Maize Research in sub-Saharan Africa: An Overview of Past Impacts and Future Prospects. CIMMYT Economics Working Paper 94-03. Mexico, D.F., Mexico.
- Cammack, D., 2004. Poorly Performing Countries: Malawi, 1980-2002 Background Paper 3 for ODI study on Poor Performing Countries. Overseas Development Institute.
- Campher, J.P., Njunga, G.R.; Campher, C.L., Chinula, A.J.W. and Chibwana, C. 2003. Designs and Legalisation of a Livestock Identification and Recording System for the Ministry of Agriculture, Irrigation and Food Security. Introductory Report. Paper prepared for the FAO Project No. TCP/MLW/2903 (A).
- Campher, J.P., Njunga, G.R., Campher, C.L., Chinula, A.J.W. and Chibwana, C. 2003. Designs and Legalisation of a Livestock Identification and Recording System for the Ministry of Agriculture, Irrigation and Food Security. Introductory Report. Paper prepared for the FAO Project No. TCP/MLW/2903 (A).
- Carr, S. 1994. The unique challenge of Malawi's smallholder agricultural sector. mimeo.
- Chibwana, C.M. 1998. A study of the agricultural extension programme in Malawi based on staff and farmers' perspectives. La Trobe University, Melbourne. PhD Thesis.
- Clay, E., Bohn, L., Blanco de Armas, E., Kabambe, S. and Tchale, H. 2003. Malawi and southern Africa: Climatic variability and economic performance. Disaster Management Facility, Working Paper Series, No. 7, The World Bank, Washington DC. 92 pp.
- Conroy, A. and J.D.T. Kumwenda. 1995. Risks associated with the adoption of hybrid seed and fertiliser by smallholder farmers in Malawi. In: D. Jewell, S. Waddington, J. Ransom, and K. Pixley (eds.) Maize research for stress environments. CIMMYT, Harare, Zimbabwe.
- Cross, S. 2002. Customary land tenure, taxes and service delivery in rural Malawi: A review of institutional features of rural livelihoods. LADDER Papers on Rural Development, University of East Anglia.
- Culler, C.J., Patterson, H. and Matenje, I.C. 1990. Survey on women in agriculture in Malawi. Malawi Agricultural Research and Extension Project. Publication No. 40. Lilongwe. Ministry of Agriculture/USAID/Malawi.
- DFID. 2005: Stimulating growth in Malawi and the role of agriculture and social protection. A paper in support of MEGS (Draft for discussion), Lilongwe: Department for International Development (UK).
- DFID. undated. Rural-urban linkages key sheet. [www.dfid.gov.uk](http://www.dfid.gov.uk) and [www.keysheets.org](http://www.keysheets.org)



- Domatob, J.K. 1998. African higher education policy: A survey of sub-Saharan Africa. Education and sustainable development in sub-Saharan Africa. International Scholars Publications. San Francisco, CA, USA. 138 pp.
- EU. 2004. Institutional Development Across the Agri-Food Sector (IDAF): Financing proposal 9<sup>th</sup> EDF.
- FAO. 1997. Irrigation potential in Africa: A basin approach. FAO Land and Water Bulletin 4. Rome.
- FAO. 2000. Gender and Food Security/Agriculture website <http://www.fao.org/Gender/en/agri-e.htm>
- FAO. 2001. Improving nutrition through home gardening: A training package for preparing field workers in Africa. Nutrition Programmes Service, Food and Nutrition Division, Food and Agricultural Organization of the United Nations, Rome, 2001.
- FAO. undated. <http://www.fao.org/waicent/faostat/agricult/prod-e.htm>
- FAO-IC. 1996. Socio-economic and production system study of wetland use. Malawi: Small-holder irrigation subsector programme. FAO Investment Centre.
- Fischer, J.R. 2000. The idea of a land-grant university. Speech presented to the President's Colloquium at Clemson University on November 9, 2000. <http://www.clemson.edu/agforestryresearch/lgu.pdf>
- Food and Agriculture Organisation. 2000. Gender and Food Security/Agriculture website <http://www.fao.org/Gender/en/agri-e.htm>
- Girdwood, A. 1995. Evolving roles and responsibilities: The university in Africa. In: T. Scholar (ed.), *The changing university?* Open University Press, Buckingham, UK. 200 pp.
- Godonoo, P. 1998. The history of higher education in anglophone sub-Saharan Africa. In: J.K. Domatob. African higher education policy: A survey of sub-Saharan Africa. Education and sustainable development in sub-Saharan Africa. International Scholars Publications. San Francisco, CA, USA. 138 pp.
- GoM and UNDP. 2002. The impact of HIV/AIDS on human resources in the Malawi public sector: report. Conceptual framework p.18-22 and impact of HIV/AIDS on Ministry of Agriculture. p. 46-69.
- GoM. 2000. Profile of poverty in Malawi, 1998: poverty analysis of the Malawi Integrated Household Survey, 1997-98. National Economic Council (Poverty Monitoring System).
- GoM. 2000a. Malawi Demographic and Health Survey 2000.
- GoM. 2000b. National plan of action for nutrition. Follow up to the International Conference on Nutrition. Ministry of Agriculture and Irrigation Development, Lilongwe
- GoM. 2003. Ministry of Agriculture and Irrigation Strategic Plan. Ministry of Agriculture of Agriculture and Irrigation.
- GoM. 2004. Malawi economic growth strategy. Volume II: Main report. Ministry of Economic Planning and Development. Lilongwe.
- Harrigan, J. 2003. U Turns and full circles: Two decades of agricultural reform in Malawi 1981-2000. *World Development* 31(5):847-863.
- HIID. 1994. Fertiliser policy study: Market structure, prices and fertiliser use by smallholder farmers. Harvard Institute for International Development and the Office of the President and Cabinet, Government of Malawi, Lilongwe, Malawi.
- Hirschman, D. and Vaughan, M. 1984. Women farmers of Malawi: food production in Zomba District. Berkeley, Institute of Information Studies.
- Jones, R.B. and Wendt, J.W. 1995. Contribution of soil fertility research to improved maize production by smallholders in eastern and southern Africa. In: Jewell, D., Waddington, S.R., Ransom, J.K. and Pixley, K.V. (eds.) *Maize Research for Stress Environments*, CIMMYT, Harare, Zimbabwe.

- Kabambe, V.H. and Kumwenda, J.D.T. 1995. Weed management and nitrogen rate effects on maize yield in Malawi. In: Jewell, D., Waddington, S.R., Ransom, J.K. and Pixley, K.V. (eds.) *Maize Research for Stress Environments*, CIMMYT, Harare, Zimbabwe.
- Khaila, S.W. 2002. CPAR Malawi HIV/AIDS project baseline survey: reducing the HIV/AIDS burden in the rural workplaces in Malawi.
- KN. 2005. Web page at <http://www.nca.no/article/archive/142/?TreeMenu=54>.
- Kwapata, M. 2005. Ending hunger and wealthy creation among smallholder farmers in Malawi: A development project proposal. Bunda College of Agriculture. Lilongwe, Malawi.
- MAIFS. undated. Guide to agricultural production and natural resources management in Malawi. Agricultural Communication Branch, Ministry of Agriculture, Irrigation and Food Security. Lilongwe. 335 pp.
- Marcus, R. 1993. Gender and HIV/AIDS in sub-Saharan Africa: the cases of Uganda and Malawi. Bridge, Institute of Development Studies (IDS).
- MASIP Coordinating Unit. 2002. Agricultural sector priority constraints, policies and strategies framework for Malawi. Ministry of Agriculture, Lilongwe.
- McGuigan, C., Reynolds, R. and Wiedmer, D. 2002. Poverty and climatic change: Assessing impacts in developing countries and the initiatives of the international community. Consultancy Project for The Overseas Development Institute, London School of Economics. 39 pp.
- Morrone, V.L. and Snapp, S.S. 2001. Uptake of a new on-farm trial design that includes the small-holder farmer. *HortScience* 36, 477.
- NAC. 2001. National HIV prevalence estimates report. Lilongwe.
- NAC. 2004. National HIV/AIDS policy: a call to renewed action. Office of the President and Cabinet.
- NEAP. 2005. Malawi National Environmental Action Plan. [http://www.sdn.org.mw/enviro/action\\_plan/index.html](http://www.sdn.org.mw/enviro/action_plan/index.html)
- Neave, G. 1998. Four pillars of wisdom. [http://www.unesco.org/couriet/1998\\_09/uk/dossier/txt12.htm](http://www.unesco.org/couriet/1998_09/uk/dossier/txt12.htm)
- NSO. 1982. National Sample Survey of Agriculture 1980/81: Household characteristics, labour availability and garden details. National Statistical Office, Zomba., Vol. 1.
- NSO. 2004. Malawi in figures. [www.nso.malawi.net](http://www.nso.malawi.net). National Statistical Office.
- Oxfam. 2004. Malawi country and joint programme strategy for Oxfam 2004-2007.
- Panos and UNAIDS. 2000. Men and HIV in Malawi. PANOS and United Nations Theme Group on HIV/AIDS.
- Phiri, A. 2004. Assessment of the Malawi Government strategy to address the 2001-02 food crisis: First draft report. Emergency Drought Recovery Programme.
- Piha, M.I. 1993. Optimizing fertilizer use and practical rainfall capture in a semi-arid environment with variable rainfall. *Experimental Agriculture* 29, 405-415.
- Saint, W.S. 1992. Universities in Africa: Strategies for stability and revitalization. World Bank, Washington DC.
- Sanchez, P. 2005. Personal communication. Director of Tropical Agriculture, The Earth Institute at Columbia University, Palisades, NY, USA
- Sanchez, P. and Swaminathan, M.S. 2005. Halving hunger: It can be done. MillenniumProject. Task Force on Hunger. Earthscan, London. 239 pp.
- Sigman, V.A. 1992. Participation of female household heads in agricultural extension in Malawi. Malawi Agricultural Research and Extension Project Publication No. 62. Lilongwe. Ministry of Agriculture/USAID/Malawi.
- Sikwese, L.K. (2003). The politics of decentralisation in Malawi: process, trends, status and challenges. In: Immink, B., Lembani, S., Ott, M. and Peters-Berres, C. (eds.). *From Freedom*

- to Empowerment: ten years of democratisation in Malawi. Proceedings of the Conference held from 4<sup>th</sup>-6<sup>th</sup> June 2003 at Capital Hotel, Lilongwe.
- Sivakumar, M.V.K. 2005. Climate prediction and agriculture: Current status and future challenges. International Workshop on Climate Prediction and Agriculture: Advances and Challenges. 11-13 May 2005, Geneva, Switzerland, World Meteorological Organization.
- Snapp, S.S., M.J. Blackie, C. Donovan. 2003. Realigning research and extension services: experiences from southern Africa. *Food Policy* 28:349-363
- Thomson, M., Abayomi, K., Barnston, A., Levy, M., Dilley, M. 2003. El Niño and drought in southern Africa. *The Lancet*, 361(9355):437-438.
- Timmer, C.P. 1987. The Agricultural Transformation. In *Handbook of Development Economics*, edited by H. B. Chenery and T. N. Srinivasan. Amsterdam, New York, Oxford, Tokyo: North-Holland.
- UNAIDS. 2004. Facing the future together: report of the Secretary General's Task Force on women, girls and HIV/AIDS in Southern Africa. Joint UN programme on HIV/AIDS.
- Utviklingsfondet. 2005. Web pages at <http://www.u-fondet.no/sw1825.asp>
- Whiteside M. and S. Carr. 1997. Services and policies needed to support sustainable smallholder agriculture in Malawi. Report to the Overseas Development Administration, UK. mimeo
- WHO, GoM, and NAC. 2004. Country report of the United Nations Secretary General's Task Force on women, girls and HIV/AIDS in Southern Africa.
- Wiggins, S. 2005. Southern Africa's food and humanitarian crisis of 2001-2004: causes and lessons. Discussion Paper, Agricultural Economic Society Annual Conference, Nottingham, April 4-6 2005. 29 pp.
- World Bank. 2003. Malawi: Country Economic Memorandum: Policies for Accelerating Growth. Report No. 25293 MAI.
- World Bank. 2005. Project appraisal document on a proposed IDA credit in the Amount of US\$25 million to the Government of the Republic of Malawi for an irrigation, rural livelihoods and agricultural development project. Rural, Environmental and Social Development Unit, AFTS1, Country Department 3, Malawi, Africa Regional Office.
- WRI. 2004. EarthTrends: The Environmental Information Portal.  
<http://earthtrends.wri.org/text/agriculture-food/country-profile-113.html>
- Zambezi, B.T., Kumwenda, J.D.T. and Jones, R.B. 1993. Closing the maize yield gap in Malawi. In: Munthali, D.C., Kumwenda, J.D.T. and Kisyombe, F. (eds.) Proceedings of the Conference on Agricultural Research for Development. Department of Agricultural Research, Lilongwe and Chancellor College, Zomba, Malawi.

## APPENDIX 1. Donor Activities in Agricultural, Food Security and Natural Resources Management

Name of Donor	Name of Project	Implementing Agency / Partner Institution	Time frame	Estimated Cost
African Development Bank	a) Smallholder Out-grower Sugarcane Production Project		to June 04	USD 12,336,000
	b) Lilongwe Rural forestry Project	Forestry Department		USD 420,780
	c) Lake Malawi Artisanal Fisheries Development Project	Fisheries Department		USD 900,921
	d) Rural Income Enhancement Programme			USD 12,571,000
	e) Smallholder Irrigation Project			USD 8,320,000
	f) Mwanza Rural Development Project			USD 1,457,219
	g) Horticulture and Food Crops Development Project			USD 12,571,000
	h) Macadamia Smallholder Development Project			USD 10,673,000
AUSAID	a) Central Region Livelihood Security Programme(CARE)	CARE International		
Canadian Development Agency (CIDA)	a) Gender and Biodiversity Project		2002 - 2004	CAD 400,800
Department For International Development (DFID)	a) Dedza sustainable livelihood Project		1998 - 2003	£2,800,000
	b) Concern Universal Micro finance Operations (CUMO)	Concern Universal	05/03 – 01/07	£2,450,000
	c) Malawi Forestry Support Programme	Department of Forest	10/02 – 12/05	£4,900,000
	d) Targeted Inputs Programme	Government of Malawi	06/03 – 09/04	USD 11,100,000
	e) Inputs for Assets Programme	CARE	10/03 – 01/04	£2,470,000
	f) Preparatory Support to agriculture statistics and food security information systems in Malawi	FAO		USD 819,250
The European Union	a) 39. 4 <sup>th</sup> Micro-Projects Programme			EUR 35,000,000
	b) 3 <sup>rd</sup> Micro-Projects Programme			EUR 21,000,000
	c) Social Forestry, Training and extension	FD, MOIFS	11/97 – 03/03	EUR 5,405,500
	d) Improvement of Farming Systems Through the Promotion of Smallholder Farmer Cooperatives in Central Region	COSPE/ MALEZA		EUR 1,144,704
	e) Mulanje Integrated Food Security Project	GTZ		EUR 500,000
	f) Mangochi Food Security and Land Care Project			EUR 198,1974
	g) Malawi Food Security Project	World Vision UK		EUR 2,999,966
	h) Livestock Promotion and Training Activities Pilot Project			EUR 680,323
	i) Food Security Improvement Through Economic Diversification in Malawi	CESTAS		EUR 866,224
	j) Dedza Food Security Improvement Project	Concern Universal		EUR 2,757,155

Name of Donor	Name of Project	Implementing Agency / Partner Institution	Time frame	Estimated Cost
	k) Njala Yatha Food Security Project	Concern Universal		EUR 1,385,532
	l) Rehabilitation, Upgrading, Crop Diversification and Marketing of Ngolow-into Self-Help Irrigation Scheme	COSPE		EUR 600,117
	m) Kajikhomere Kulima Concept Project	GTZ		EUR 320,000
	n) Food Security Project in Lilongwe East and Zomba South	INTER AIDE		EUR 1,166,351
	o) Smallholder Dairy Development Project	SHMPA		EUR 994,043
	p) Support to the Land Reform Process	MoLHS	1.5 years, due to start	EUR1,900,00
	q) Nutritional Emergency Support	WFP		EUR 2,269,733
Food and Agriculture Organisation (FAO)	a) Design and legislation of livestock identification and recording system.		04/03 – 03/04	USD 163,000
	b) Special Program for Food Security	African Development Bank	11/01 – 12/04	USD 1,582,823
	c) Training of irrigation officers in planning, design and implementation of smallholder irrigation		01/03 – 01/05	USD 363,485
Deutsche Gesellschaft fur Technische Zusam. (GTZ)	a) Community-based management of dry forests in the SADC region			USD 1,460,000
	b) Agroforestry for sustainable rural development		2004 - 2006	USD 400,800
Icelandic International Development Agency (ICEIDA)	c) Support of fisheries communities		2003 - 2004	USD 798,288
	d) Support to Bunda College of Agriculture		01/00 – 12/05	USD 850,000
IFAD	a) Rural Livelihood Development		since 2003	USD 3,000,000
	b) Smallholder Flood Plains Development Projects	Irish Trust Fund	Since 2003	USD 13,644,330
Government of Japan	a) Sasakawa Globe Fund 2000			
JICA	a) Bwanje Valley Irrigation Scheme			
	b) Watershed rehabilitation and a village natural resources management plan		2002 - 2004	USD 1,000,000
	c) Lobi Horticulture Appropriate Technology Project	JOVC		USD 633,600
NORAD	a) SADC Biodiversity Support Programme	MoNREA	01/02 – 12/06	NOK 15,000,000
	b) Support to Bunda College of Agriculture		2001 - 2004	USD 1,200,000
	c) National Smallholder Association of Malawi (NASFAM) strategic Development Programme 2001 – 6 Phase 2	NASFAM	2003 - 2006	NOK 28,000,000
Rockefeller Foundation	A) CNFA – Agro-dealership Development Project			USD 1,200,000
	b) African Center for Fertilizer Development			USD 272,250
USAID	a) IFDC – Agriculture Input Markets System Project			USD 4,980,800
	b) Cassava Industry Promotion Project	IITA/ SARRNET		USD 957,350
	c) Agricultural Recovery Through Seed Distribution and Production	CARE		

<b>Name of Donor</b>	<b>Name of Project</b>	<b>Implementing Agency / Partner Institution</b>	<b>Time frame</b>	<b>Estimated Cost</b>
	d) Community Partnership for Sustainable Resource Management in Malawi	DAI		USD 5,285,772
	e) Revitalizing Malawian Dairy Industry Programme	Land O'Lakes		USD 5,643,972
	f) National Association of Smallholder Farmers in Malawi	NORAD		USD 6,300,000 NOK 28,000,000
World Bank	a) Emergency Drought Recovery Programme	MOIFS		USD 50, 000,000
	b) Mulanje Mountain Conservation Trust			USD 6,750,000
	c) Improving Livelihoods Through Public Works Programme	DFID, CARE		USD 21,000,000

## **APPENDIX 2. Institutions Visited and People Met**

### **Government Agencies**

*Ministry of Agriculture, Irrigation and Food Security*

Jeff Luhanga, Controller of Agricultural Extension and Technical Services

*Ministry of Agriculture, Irrigation and Food Security*

*Department of Agricultural Extension Services*

C.M. Kanyenda, Director

R.J.S. Tolani, Deputy Director of Agricultural Extension Services

B.P. Chikabadwa, Chief Agricultural Extension Services Officer

S. Kankwamba, Chief Agricultural Communication Officer

M. B. Lwanda, Nutritionist

R.J.S. Tolani, Deputy Director – EMS

B.P. Chikabadwa, Chief Agricultural Extension Officer – EMS

J. Nkhoma, Assistant Chief Agricultural Extension Officer

Msowoya Minis, Principal Planning Officer

F.L. Kayuni, Assistant Chief Agricultural Officer (Agress)

T. Magombo, Assistant Chief Agricultural Extension Officer (agrobased income generating activity)

*Ministry of Agriculture, Irrigation and Food Security*

*Department of Animal Health and Livestock Development*

W.G. Lipita, Director

Mr. Zimba, Chief Livestock Officer

*Ministry of Agriculture, Irrigation and Food Security*

*Department of Agricultural Research Services*

Dr. Alfred Mtukuso, Director

*Ministry of Agriculture, Irrigation and Food Security*

*Department of Irrigation*

Mr Sandram Maweru, Director

*Ministry of Agriculture, Irrigation and Food Security*

*Department of Land Resources*

Mathews J. Manda, Deputy Director

*Ministry of Agriculture, Irrigation and Food Security*

*Malawi Agricultural Sector Investment Programme (MASIP)*

Ian Kumwenda, Agricultural Economist

Willie Ehret, Consultant (GTZ)

*Ministry of Agriculture, Irrigation and Food Security*

Department of Animal Health and Livestock Development

Mathews J. Manda, Deputy Director, Land Resources Conservation

*Ministry of Natural Resources and Environmental Affairs*

*Department of Fisheries*

Orton M. Kachinjika, Chief Fisheries Officer  
Steve J. Donda, Fisheries Socio-Economist

*Ministry of Lands, Housing and Surveys*

Paul Mphwiyo, Deputy Director of Policy and Planning

*Ministry of Water Development*

Arnon B. Chirwa, Deputy Director of Water Resources (surface water)

*Ministry of Industry, Science and Technology*

Henry F. Mbeza, Director of Science and Technology

*Ministry of Trade and Private Sector Development*

N.H. Kumwembe, Principal Secretary  
Macleod Tsilizani, Director of Enterprises and Cooperatives (Acting Director of Private Sector)  
Jollam I.A. Banda, Principal Economist  
M. Munthali, Assistant Director of Trade

*Ministry of Research and Environmental Affairs*

*Department of Environmental Affairs*

Ralph P. Kabwaza, Director

*Ministry of Economic Development and Planning*

Mr Musonde

*Decentralisation Secretariat*

Mrs Mjojo

*Bunda College of Agriculture, University of Malawi*

Emmanuel Kaunda, Vice Principal  
James Banda, Programmes Coordinator  
W.A.B. Msuku, Head, Crop Sciences Department  
V.H. Kabambe, Senior Lecturer, Department of Crop Sciences  
E.G.J. Vitsitsi, Lecturer in Soil and Water Engineering

**Non-government Organisations**

*Concern Universal*

Samson Hailu, Country Director  
Senard Mwale, Programme Manager, Ntcheu Sustainable Livelihoods Programme  
Girward Zimba, Project Manager, Smallholder Floodplains Development Project

*World Vision*

Mulugeta Abebe, National Director

*CARE International*

Staff



*Action Aid*

Francisco Sarmiento

*Harvest Help / Find your Feet*

Harris Mfunne

*Malawi Union of Savings and Credit Cooperatives LTD (MUSCCO)*

Anthony Mtali Ngwira, Assistant Business Development Manager

Bentry Mkandawire, Business Development Manager

Hillary Jalafi, Acting Finance and Administration Manager

Finley Kandaya, Project Officer

*Natural Resources College (NRC)*

Feston Kaupa, Executive Director

Samuel Bota, Director of Programmes and Training

*Land O'Lakes, Inc.*

Esmie T. Mataya, Dairy Technologist

Peter G. Ngoma, Monitoring and Evaluation Officer

Austin Ngwira, Country Coordinator

Felix Jumbe, Marketing and Business Development Specialist

*National Smallholder Farmers' Association of Malawi (NASFAM)*

Anna Cathy Kyumba, Director of Finance and Administration

Dyborn Chibonga, Chief Executive Officer

Betty Chinyamunyamu, NASCENT Director

Simon Ostermann, Consultant (USA)

**Foreign and International Agencies**

*The United Nations World Food Programme (WFP)*

Lola Castro, Deputy Country Director/Head of Programme

*Food and Agriculture Organisation of the United Nations (FAO)*

M. Mazlan Jusoh, FAO Representative in Malawi

Alick G. Nkhoma, Assistant FAO Representative

*European Union, Delegation of the European Commission to the Republic of Malawi*

Raniero Leto, Head of Section, Rural Development and natural Resources

Dominique Blariaux, Programme Manager, Food Security

*DFID, Department for international Development, UK*

Ms Leigh Stubblefield

*JICA*

Mr Mkandawire

*The World Bank*

Francis Mbuka

*International Centre for Research in Agroforestry (ICRAF)*

Jacob Nyirongo, Training Coordinator

Judith de Wolf, Social Scientist

Festus Akinnifesi, Senior Tree Scientist/Country Representative

*International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)*

Emmanuel S. Monyo, Principal Scientist (breeding)

Joseph Rusike, Special Project Scientist (economics)

Oswin Madzonga, Scientific Officer (agronomy)

Harvey Charlie, Scientific Officer (breeding)

Albert Chamango, Scientific Officer (economics)

*IFDC*

Muwuso Kennedy Chawinga

Charles Mataya (PhD)

Juan M Estrada (PhD)

Lawrence L Hammond

### **APPENDIX 3. Literature Consulted**

- ADF. 2004. National livestock development project: Project completion report. African Development Fund, Agriculture and Rural Development Department, North, East and South Regions (ONAR). 27 pp.
- AfNet. 2004. Breaking the unholy alliance of food insecurity, poverty and environmental degradation in selected agro-ecological zones of Ethiopia, Madagascar and Malawi: Empowering farmers with soil, water and nutrient enhancing productivity technologies: A project proposal submitted to The Norwegian Ministry of Foreign Affairs. The African Network for Soil Biology and fertility (AfNet) on behalf of Norwegian Center for Soil and Environmental Research (Jordforsk) and national research and development institutions in Ethiopia, Madagascar and Malawi. 36 pp.
- Akinnifesi, F.K., Kwesiga, F. and Makumba, W. 2004. "Fertilizer trees" and Malawi's new food security initiative: A policy briefing on the potential of "fertilizer trees." World Agroforestry Centre, ICRAF Policy Brief No. 1. 8 pp.
- BCA. 2004. Bunda College Development Programme: Poverty reduction in Malawi using agricultural research and outreach (PRIMARO). Volume I Main Proposal Document and Volume II Annexes. Bunda College of Agriculture. Lilongwe, Malawi.
- Chabala, C. 1997. Malawi: Agriculture & cooperative sectors (sectoral analysis and possibilities for development assistance). Swedish Cooperative Centre, Field Office, Zambia. 13 pp.
- DAESS. 2005. Briefing notes for the department. Ministry of Agriculture, Irrigation and Food Security, Department of Agricultural Extension and Support Services. Lilongwe, Malawi. 13 pp.
- Devereux, S. 2002. State of disaster: Causes, consequences and policy lessons from Malawi. An ActionAid report commissioned by ActionAid Malawi. 33 pp.
- Dorward, A. 2003. Modelling poor farm-household livelihoods in Malawi: Lessons for pro-poor policy. Centre for Development and Poverty Reduction, Imperial College London, Wye Campus. 98 pp.
- Dorward, A. and Kydd, J. 2002. Locked in & locked out: Smallholder framers and the new economy in low-income countries. 13<sup>th</sup> International Farm Management Congress, Papendal July 7 – July 12. 16 pp.
- Dorward, A. and Kydd, J. 2002. The Malawi 2002 food crisis: The rural development challenge. Centre for Development and Poverty Reduction, Imperial College Wye. 10 pp.
- Dorward, A. and Kydd, J. 2003. Work in progress: Policy analysis for food security, poverty reduction and rural growth in Malawi. Centre for Development and Poverty Reduction, Imperial College London. 44 pp.
- Dorward, A., Morrison, J., Wobst, P. Lofgren, H. and Tchale, H. 2004. Modelling pro-poor agricultural growth strategies in Malawi: Lessons for policies and analysis. African Development and Poverty Reduction: The Macro-Micro Linkage, Forum Paper 2004.
- Douglas, M.G., Mughogho, S.K., Saka, A.R., Shaxson, T.F. and Evers, G. 1999. An investigation into the presence of a cultivation hoe pan under smallholder farming conditions. Malawi Government, Ministry of Agriculture and Irrigation.
- Fafchamps, M. and Gabre-Madhin, E. 2001. Agricultural markets in Benin and Malawi: The operation and performance of traders. Policy Research Working Paper 2734. The World Bank, Development Research Group, Rural Development. 68 pp.
- Frankenberger, T., Luther, K., Fox, J. and Mazzeo, J. 2003. Livelihood erosion through time: Macro and micro factors that influenced livelihood trends in Malawi over the last 30 years. CARE Southern and Western Africa Regional Management Unit (SWARMU). 55 pp.

- Garcia, R.J. and Øygard, R. 2000. Macroeconomic policy, regulatory reform, and trade liberalization in the 1990s: The case of Malawi. Department of Economics and Resource Management, Agricultural University of Norway, Ås. 6 pp.
- GoM. 1999. Review of Malawi agricultural policies and strategies. Ministry of Agriculture and Irrigation. 193 pp.
- GoM. 2000. Agricultural extension in the new millennium: towards pluralistic and demand-driven services in Malawi. Policy document. Ministry of Agriculture and Irrigation. Lilongwe.
- GoM. 2002. Malawi poverty reduction strategy paper: Final draft. Government of Malawi. 114 pp.
- GoM. 2005. Briefing notes for the Department. Department of Agricultural Extension and Support Services. Ministry of Agriculture.
- GoM. Undated. HIV/AIDS in the agricultural sector: policy and strategy, 2003-2008. Prepared by the Ministry of Agriculture, Irrigation and Food Security and Family Health International. Lilongwe. 37 pp.
- Grimstad, S. 2000. Naturressurser og primærnæringer i Malawi. Innspill til Norads landstrategi for Malawi. Noragric, Agricultural University of Norway, Ås. 15 pp.
- Hemmati, M. and Gardiner, R. 2002. Gender equity briefing paper: Gender equity and sustainable development. Towards Earth Summit 2002. Social Briefing No. 2. 16 pp.
- IFAD. 1999. Republic of Malawi: Country strategic opportunities paper. Africa II Division, Programme management Department, International Fund for Agricultural Development. Doc No. 54532. 15 pp.
- IFDC, DAI and MTL. 2000. An action plan for developing sustainable agricultural input supply systems in Malawi. Volume I – Main report. Malawi Agricultural Sector Investment Programme (MASIP), Ministry of Agriculture and Irrigation.
- Jaffee, S. 1997. Malawi agriculture: Recent structural transformation and future prospects. Background paper for the Malawi Growth Prospects Study. World Bank, East and Southern Africa Agriculture Division. 31 pp.
- Kaarhus, R. 2004. Competence and capacity for agricultural development in Malawi. Noragric Report No. 22. Noragric, Agricultural University of Norway. 56 pp.
- Kachule, R. and Dorward, A. 2005. Report on a survey of farmer organisation members and non-members. Farmer Organisations for Market Access, Agricultural Policy Research Unit, Bunda College of Agriculture and Imperial College London. 31 pp.
- Kwapata, M. 2005. Enhancing food security and poverty reduction among the rural poor communities through promotion of mushroom production and marketing in Malawi. Bunda College of Agriculture. Lilongwe, Malawi.
- Kwapata, M. 2005. Integrated catchment and riverine rehabilitation project: Concept paper. Bunda College of Agriculture. Lilongwe, Malawi.
- Kwapata, M. 2005. Malawi horticultural sector development for wealth creation and food security: A project proposal. Bunda College of Agriculture. Lilongwe, Malawi.
- Kydd, J. Dorward, A. and Vaughan, M. 2002. The humanitarian crisis in southern Africa: Malawi. Submission to the International Development Committee. <http://www.sarpn.org.za/documents/d0000392/index.php>.
- Kydd, J. Dorward, A., Morrison, J. and Cadisch, G. 2002. Agricultural development and pro poor growth in Sub Saharan Africa: Potential and Policy. ADU Working Paper 02/04, Imperial College of Science, Technology and Medicine, Imperial College Wye. 18 pp.
- Levy, S. and Barahona, C. 2002. 2001-2002 Targeted Inputs Programme (TIP): Main report of the evaluation programme. Ministry of Agriculture and Irrigation (Malawi) and the Department for International Development (UK).

- MAI. 2000. National irrigation policy and development strategy. The Republic of Malawi, Ministry of Agriculture and Irrigation. 23 pp.
- MASIP 2002. Agricultural sector priority constraints, policies and strategies framework for Malawi. MASIP Coordinating Unit, Lilongwe, Malawi. 78 pp.
- MASIP. 1999. Review of Malawi agricultural policies and strategies. Government of Malawi, Ministry of Agriculture, Irrigation and Food Security. 176 pp.
- MEPD. 2004. Malawi economic growth strategy. Volume I. Summary. Ministry of Economic Planning and Development. Lilongwe, Malawi. 23 pp.
- MEPD. 2004. Malawi economic growth strategy. Volume II. Main report. Ministry of Economic Planning and Development. Lilongwe, Malawi. 109 pp.
- MEPD. 2004. Malawi economic growth strategy. Volume III. Action Plans. Ministry of Economic Planning and Development. Lilongwe, Malawi. 78 pp.
- Mloza-Banda, H.R. 2005. Community based agro-processing initiative. Bunda College of Agriculture. Lilongwe, Malawi.
- MNREA. 2003. Department of fisheries strategic plan 2002-2007. The Republic of Malawi, Ministry of Natural Resources and Environmental Affairs. 13 pp.
- MNVAC. 2002. Malawi: Emergency food security assessment report. Malawi National Vulnerability Assessment Committee in collaboration with the SADEC FANR Vulnerability Assessment Committee. 27 pp.
- MRCs. 2005. Integrated food security project for Salima District: Project proposal. Malawi Red Cross Society. Lilongwe, Malawi.
- NEPAD, CAADP and FAO. 2005. Government of Republic of Malawi: Support to NEPAD-CAADP implementation: Volume I of V: National Medium Term Investment Programme. New partnership for Africa's development (NEPAD), Comprehensive Africa Agriculture Development Programme (CAADP) and Food and Agriculture Organization of the United Nations, Investment Centre Division. 24 pp.
- NEPAD. 2002. Comprehensive Africa Agriculture Development Programme. New partnership for Africa's development (NEPAD).
- NRC. 2005. Report presented to the agricultural study mission on the implementation of the Norwegian plan of action for agriculture in Malawi on 21<sup>st</sup> April 2005 at NRC. Natural Resources College, Malawi.
- Øygaard, R., Garcia, R., Guttormsen, A.G., Kachule, R., Mwanaumo, A., Mwanawina, I., Sjaastad, E. and Wik, M. 2003. The maze of maize: Improving inputs and output market access for poor smallholders in southern African region, the experience of Zambia and Malawi. Department of Economics and Resource Management, Agricultural University of Norway. 85 pp.
- Reeves, H. and Baden, S. 2000. Gender and development: concepts and definitions. Paper prepared for the DFID for its gender mainstreaming intranet resource. Bridge (development – gender) Report No. 55. Institute of Development Studies. 38 pp.
- RUFORUM. 2005. Draft 10year strategic plan: Fostering innovativeness and adaptive capacity of universities to develop and sustain high quality in training. Regional Universities Forum for Capacity Building in Agriculture (RUFORUM). 53 pp.
- Sen, K. and Chinkunda, A. 2002. Economic reforms and rural livelihoods in Malawi. LADDER Working Paper No. 20. Policy Research Programme, Department for International Development (DFID), UK. 25 pp.
- Smith, L.E.D. and Urey, I. 2002. Agricultural growth and poverty reduction: A review of lessons from post-independence and green revolution experience in India. Department of Agricultural Sciences, Imperial College at Wye. 98 pp.

- Snapp, S., Kanyama-Phiri, G., Kamanga, B., Gilbert, R. and Wellard, K. 2002. Farmer and researcher partnerships in Malawi: Developing soil fertility technologies for the near-term and far-term. *Expl. Agric.* 38:411-431.
- Sundstøl, F. 2004. Poverty reduction strategies and relevant participatory learning processes in agricultural higher education. *Noragric Report No. 21B*, Agricultural University of Norway. 10 pp.
- Sydnes, A., Sandnes, A., Øygard, R. and Tviland, M. 1997. Norway – Malawi development cooperation: A review of opportunities in the agricultural sector. Report from the NORAD Fact Finding Mission to Malawi October 21 to November 5, 1997. Norad, Oslo and Noragric, Ås. 29 pp.
- Tostensen, A. and Nyirenda, R. 2005. Norwegian support to Bunda College of Agriculture — Phase II: An evaluation. Chr. Michelsen Institute, Bergen. 65 pp.
- UN. 1998. Towards vision 2020: United Nations development assistance for poverty eradication in Malawi. United Nations, Development Assistance Framework. 32 pp.
- USAID/Malawi. 2000. Country strategic plan 2001-2005. Draft version. USAID/Malawi, Lilongwe. 108 pp.
- WB. 1996. Partnership for capacity building in Africa: Strategy and program for action. A report of the African Governors of the World Bank to Mr. James D. Wolfensohn, President of the World Bank Group, Washington DC.
- WB. 1998. Malawi impact evaluation report. Report No. 17898. 48 pp.
- WEHAB. 2002. A framework for action on agriculture. World Summit on Sustainable Development, Johannesburg, WEHAB Working Group. 31 pp.
- Wobst, P., Lofgren, H., Tchale, H. and Morrison. 2004. Pro-poor development strategies for Malawi: An economy-wide analysis of alternative policy scenarios. Department for International Development of the United Kingdom. 44 pp.
- Zeller, M., Diagne, A. and Mataya, C. 1997. Market access by smallholder farmers in Malawi: Implications for technology adoption, agricultural productivity, and crop income. Food Consumption and Nutrition Division, International Food Policy Research Institute (IFPRI). Washington DC. 21 pp.

## APPENDIX 4. Terms of Reference

---

# Implementation of the Norwegian Plan of Action for Agriculture in Malawi

## *Terms of Reference for the study of the agriculture sector*

---

### 1.0 Brief overview of the agricultural sector

#### 1.1 *Economic importance of agriculture*

Agriculture is the engine of economic development in Malawi. It contributes about 36% of value added to the GDP and also contributed approximately 90% of the foreign exchange earnings in 2003. The growth since 1997 has come mainly from smallholder production, which represents around 31-32% of total GDP, the estates and large-scale producers representing 7-9% of GDP. In terms of exports, agriculture continues to be the dominant sector of the economy accounting for over 80-85% between 2000 - 20001.

The agriculture sector is estimated to employ approximately 85% of the workforce. Tobacco buys the production of approximately 375,000 smallholder growers as well as employing people direct on larger farms and in handling/marketing. Sugar directly employs around 17,000 workers whilst tea employees 42,000 workers. However, the bulk of agricultural employment is subsistence farmers that supplement their subsistence crops by selective growing of cash crops.

The agricultural sector has a dual structure comprising the estate and smallholder subsectors. The total area under estates is approximately 30,000 hectares. The estates produce export crops such as tobacco, tea, sugar, and groundnuts. The smallholder subsector is primarily subsistence oriented and provides about 85% of domestic food production. The land area available for agriculture by smallholder farmers is approximately 1.7 million hectares and average farm size can be as low as 0.1 hectares in the southern region, 5-10 ha in the northern and 10-15 ha in the central region.

Malawi agriculture is characterised by low and stagnant yields particularly in maize production. The low agricultural production has been influenced by among other things: poor access to inputs; inefficient markets and marketing systems; limited agricultural financing; low technology development and adoption; inadequate agro-processing for value adding; low livestock population and productivity; weak policy and institutional framework; dependency on rain fed agriculture; weak infrastructure; and land degradation.

#### 1.2 *Summary of agricultural policies and programmes*

The mission of the agricultural sector is to promote economic growth by raising farm incomes, employment and household food security through the development of partnerships and promotion of private sector investment for increased agricultural productivity, diversification, commercialization and the sustainable use of natural resources. The Agricultural and Livestock Development Strategy and Action Plan (ADLSAP) of 1995 continues to be the main policy for the implementation of agricultural programmes. Despite the existence

of these policies agricultural production appear to be fragmented and uncoordinated resulting in poor performance of most agricultural projects. It was upon the realisation of this poor performance that the Government is implementing the Agricultural Sector Investment Programme (MASIP) with a view to consolidate national policies and strategy for the agricultural sector and enhance government's capacity to implement programmes.

Since the 1960s the government has initiated and implemented a number of programmes some of which include the Targeted Input Programme (TIP), Integrated Rural Development Programme, Rural Development Programmes, Agricultural Productivity Investment Programme (APIP) and the Poverty Reduction Strategy Plan which recognises agriculture as the key specific sectoral source of pro-poor growth. Parallel to these programmes the government also since 1981 started implementing Structural Adjustment Programme (SAP) which was aimed at among other things stabilising the economy, accelerating agricultural growth, diversifying the export base.

Despite these programmes, policies and strategies low agricultural productivity continue to be experienced. The low production is thought to be caused by among other things: poor access to inputs; inefficient markets and marketing systems; limited agricultural financing; low technology development and adoption; inadequate agro-processing for value adding; low livestock population and productivity; weak policy and institutional framework; dependency on rain fed agriculture; weak infrastructure; and land degradation. In recognition of these constraints, the government through the Poverty Reduction Strategy Plan, is intervening through the following areas:

- Increased availability of inputs through improved technologies and value addition to marketing. These interventions are targeted at farmer's clubs, associations and co-operatives.
- Increased community-based participation in natural resources management in order to ensure conservation and sustainable utilisation of natural resources as an additional off-farm source of income.
- Creating an enabling environment for Micro, Small, Medium Scale Enterprises (MSMEs) to flourish.

The PRSP completed in April 2002 contains 4 main pillars: sustainable pro-poor growth with a special focus on agriculture; improvement of human capital; development of safety nets particularly for the most vulnerable groups; and development of good governance. As cross cutting issues Gender, HIV/AIDS, Environment and Science & technology were highlighted. Most of these core elements of the PRSP relate in various ways to agriculture and natural resource management. This reflects the strong focus on agricultural development in national policies of Malawi, and the expectations that the agricultural sector is one of the main vehicles in poverty reduction.

The donor community has renewed its support for agricultural development in Malawi. The African Development Bank (ADB), the European Commission (EC), DFID, the USAID, the World Bank appear to be major donors in the agricultural sector. Areas being supported range from small scale irrigation, food security, microfinance, and support to farmers' organisation. Currently the Norwegian support to agriculture is channelled through the Smallholder Farmers Association of Malawi (NASFAM) and Bunda College of Agriculture. Support to NASFAM is mainly to strengthen smallholder farmers' ability to increase on-farm and off-farm incomes and to encourage an increased role in Malawi's rural development by smallholder farmers. The support to Bunda College of Agriculture aims to improve the performance of Bunda College in teaching and learning; and in research and out-



reach. In addition to this, the support also focuses on food security and poverty reduction giving much emphasis on farmer participation in research and outreach (i.e. demand driven research and outreach).

## **2.0 Terms of Reference**

### *2.1 Background*

Norway in May 2004 launched a plan of action for promoting agricultural development in developing countries. The decision to promote agriculture in Norway's development corporation is based on the premise that agriculture is vital for economic development and poverty reduction since through agriculture food supply, employment and sustainable livelihood of the poor people can be achieved. The decision was also made on the realisation that almost 80% of the rural poor rely on the natural resource base and agriculture for livelihood. The plan of action therefore attempts to lay the foundation for economic growth, food security and sustainable livelihood for the people who depend on agriculture.

Malawi together with Ethiopia were selected pilot countries to implement the Norwegian plan of action for agriculture. In principle implementation of the action plan in Malawi will largely be through support to areas prioritised in the PRSP some of which include; improved access to agricultural inputs; improved agricultural production through research and extension services; improved access to domestic, regional and international markets; small-scale irrigation schemes and drainage; production of specific crops; improved livestock production; farm mechanisation; improved institutional and policy framework; gender and hiv/aids mainstreaming. The support shall however attempt to integrate or address the following priority areas of the plan of action:

- Policies and reforms for poverty oriented agricultural development.
- Food security.
- Strengthening women's rights and their participation in agriculture development.
- Promotion of the sustainable use of natural resources.
- Strengthening basic services and poor people's right of use and property rights to land and water.
- Strengthen education and research.
- Promotion of private sector development.

### *2.2 Purpose of the study*

The purpose of the study is to provide an objective assessment of the agriculture sector in relation to current policies and programmes; identify gaps, opportunities and areas of mutual interests for all stakeholders and assess the role of different stakeholders such as the Ministry of Agriculture, the NGOs, the Ministry of Finance, multilateral and bilateral donors in agricultural production. To achieve this broad objective the study will address some of the following issues:

- a) provide an overview of the existing programmes (including financing mechanisms) and policies in the agricultural sector.
- b) determine the extent to which existing policies, reforms, programmes and strategies are oriented to poverty reduction.
- c) women being responsible for 80% of agricultural production and also being the most marginalised group, the study will assess and recommend measures to improve their access to resources such as land, credits and other agricultural inputs.
- d) study key players involved in agriculture and current linkage mechanisms that encourage close collaboration and assess how the existing linkages could be strengthened to

facilitate implementation of agricultural programmes. This assessment should include e.g. public sector, research institutions, extension institutions, NGOs and private sector players

- e) assess and recommend best practices on HIV/AIDS mainstreaming in agriculture, and assess implications of the HIV/AIDS pandemic for agriculture. This may include references to e.g. labour availability, adaptation of production systems, consequences for agricultural authorities and training institutions etc.
- f) Assess the links between agriculture and health and suggest possible mechanisms for linking public health issues and agricultural development
- g) Assess the implications for agriculture of the decentralisation policy in Malawi, and identify constraints and opportunities related to capacity building, institutional development and governance issues in the agricultural sector
- h) assess and analyse risks, constraints and suggest mitigation strategies for effective implementation of agricultural programmes in Malawi.
- i) taking into consideration activities of other donors assess and identify measure or activities that would contribute to the improvement of the condition of agricultural development (e.g. capacity building, microfinance, private sector development etc) and determine opportunities for Norwegian support.
- j) study and review past, present and pipeline projects and programmes and identify gaps, opportunities and an analysis of the relevance and feasibility of Norway supporting another agricultural programme in addition to NASFAM and Bunda College of Agriculture.
- k) Identify the potential for the agricultural sector to contribute to the fulfilment of the Millennium Development Goals (MDGs), and to the development indicators linked to the MDGs

### **3.0 Tasks to be performed**

The team will be required to consult various documents and stakeholders from government departments, the donor communities, NGOs, the private sector for background information about the agriculture sector in Malawi.

Implementation of agricultural programmes is a collaborative affair and as such the team will be required to consult a cross section of stakeholders ranging from the donor community (DFID, USAID, EU, WB, ADB, JICA), NGOs (e.g. CARE International, Concern Universal); Government departments (Ministry of Finance, Economic Planning and Rural Development, Ministry of Agriculture), training institutions (such as Bunda College of Agriculture, Natural Resources College and Norwegian Agricultural University), and farmers' organisations e.g. NASFAM, Farmers Union of Malawi.

### **4.0 Output**

The study will give inputs to a strategic plan and a comprehensive agricultural programme that will guide Norway to implement the plan of action for agriculture in Malawi. The report may be guided by the following structure:

- Executive Summary.
- Introduction.
- Overview of the agricultural sector.

- Overview of existing programmes, strategies and policies and how they relate to poverty reduction
- Overview of present and pipeline projects.
- HIV/AIDS and gender mainstreaming in agriculture.
- Summary of key stakeholders in agriculture.
- Proposals for possible elements of a Norwegian funded programme in agriculture in Malawi, based on the analysis of factors a-k above. The rationale for each element in the proposed programme should be argued in relation to national priorities of Malawi, the inputs of other donors and the Norwegian Plan of Action on Agriculture in Norwegian development policy.

### **5.0 The team**

The study will be undertaken by a team of four national and international experts with a good knowledge of the Malawi agricultural sector. (The Experts from the Swedish Cooperative Centre in Harare have expressed interest to participate in the study at no cost)

### **6.0 Time schedule and workplan**

The study will be undertaken during April and May 2005. The team will be expected to produce a summary of findings and recommendations for presentation to the embassy on April 29<sup>th</sup>, and to a meeting of stakeholders on the 27<sup>th</sup> or 28<sup>th</sup> of April. The first draft of the report will be submitted for comments by 9<sup>th</sup>. The final report shall be submitted not later than May 30<sup>th</sup> 2005.

The review shall be conducted within a period of 27 days (approximately 5 days planning, 12 days field work, 2 days for travel and 8 days report writing). During this, period field visits to Malawi will be undertaken for consultations with key stakeholders.

(04.04.05)